

How Jakarta's Traffic Affects Labor Market Outcomes for Women and People with Disabilities

Results from a Baseline Survey

Final Report



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The Australia Indonesia Partnership for Economic Governance (AIPEG) is a facility to strengthen the evidence-base for economic policy in support of the Indonesian government. The work is funded by the Australian government as part of its commitment to Indonesia's growth and development.

This report has been prepared in a collaboration between AIPEG, the Australian Department of Foreign Affairs and Trade (DFAT), Survey Meter and Rand Corporation.



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In September 2016, AIPEG commissioned SurveyMeter and RAND to conduct a baseline survey to assess the role of public transport and extent of transport problems currently encountered by women that may influence female labour force participation.

Preface

For more than two decades, female labor force participation (FLFP) in Indonesia has been low, at around 51 percent, compared to an 84 percent labor force participation rate for males. Indonesia's FLFP is also low compared to other countries at similar levels of economic development. There is currently insufficient knowledge about how to overcome barriers to FLFP and a substantial need for careful studies that identify the extent to which potential barriers hinder FLFP for women in Indonesia.

One possible barrier to greater FLFP in cities is urban transport costs. In Jakarta, roads are badly congested, particularly during peak commuting times, and the city may have some of the worst traffic in the world (Castrol, 2015). Large urban transport or commuting costs increase the time it takes for women to perform any daily activities that take place outside the home. If public transport investments reduce commuting costs, they could generate time savings that could increase female labor force participation, expand urban mobility, and make females more productive in their daily lives.

The Australia Indonesia Partnership for Economic Governance (AIPEG) and the Indonesia Infrastructure Initiative (IndII) are aiming to both add substantively to the field of knowledge on how improvements to public transportation systems may affect female labor force participation (FLFP) in Indonesian cities, and also to identify policy reforms that can improve the situation. IndII has supported the DKI Jakarta government on several activities in relation to the TransJakarta BRT Corridor 6 (Ragunan – Kuningan) improvement program, including a redesign of 14 kilometres of busway upgrades including lanes, barriers, stations, intersections and walkway access points for passengers, to be later constructed and funded by DKI Jakarta Government. A key pillar of the IndII program was to address gender and disability concerns in public transport.

To improve understanding of the relationship between urban transport costs and FLFP in Jakarta, appropriate baseline data need to be collected and examined. In September 2016, AIPEG commissioned SurveyMeter and the RAND Corporation to conduct a baseline survey to assess the extent of transport problems currently encountered by women and people with disabilities that may influence their labor market outcomes. The central objective for the evaluation was to examine whether planned improvements on BRT Corridor 6 may contribute to improving FLFP in Jakarta, as well as the comfort and safety of riders with disabilities. It is intended that the surveys will establish baseline data; when combined with future surveys, they may enable an impact assessment of the Corridor 6 improvement program on FLFP and other gender and disability-related objectives. A quantitative understanding of these impacts is essential for formulating policy advice in this area and to build the evidence base for future policy.

This final project report describes SurveyMETER and RAND's approach to this consultancy service and the outputs. First, the report discusses how urban transport costs may affect female labor force participation in Indonesia and DKI Jakarta in particular, based on a

review of the literature. Second, the report provides an overview of the transport situation in Jakarta. Next, the report describes a theory for how the BRT Corridor 6 redesign may improve labor market outcomes for women, and it lays out a set of hypotheses that the research approach and survey data collection were designed to test. Next, the report provides an overview of the design and implementation of the surveys, and describes the logistics of the field work. The report then presents summary statistics on the collected data and findings from the surveys that describe female labor market outcomes, transportation and commuting outcomes, and the interaction between FLFP, commuting costs, and the quality of public transport services. Finally, the report provides an evaluation strategy for monitoring the effects of the Corridor 6 BRT improvements on FLFP in the future.

This research was conducted through a collaboration between SurveyMETER and the RAND Corporation. SurveyMETER is a non-governmental research institution, based in Yogyakarta, Indonesia, that was founded to help meet the rising demand for accurate and reliable information. For more information, visit www.surveymeter.org. The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. For more information, visit www.rand.org.

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Women are not the only group that experiences transport barriers; people with disabilities also face many difficulties in accessing public transport and participating in the labor market.

Executive Summary

Background

For more than two decades, female labor force participation (FLFP) in Indonesia has been low, at around 51 percent, compared with male labor force participation of 84 percent. This FLFP rate is one of the lowest among countries at a comparable stage of development, and the gap between male and female participation is the widest in East Asia.

Currently, there is insufficient knowledge about how to overcome barriers to higher FLFP, and a need for careful studies that identify the extent to which potential barriers—such as transport problems and commuting costs—hinder Indonesian women from working. Women face several constraints when making decisions about whether or not to participate in the labor market and about how many hours of work to supply. Because time is limited, women making these choices face trade-offs, and they must balance the returns to working (e.g. wages and other non-monetary benefits) against the opportunity costs of foregone home production, lost leisure time, or time away from children. For women in congested urban areas like Jakarta, transport improvements may create time savings that dramatically reduce the costs of participating in the labor market.

Women are not the only group that experiences transport barriers; people with disabilities also face many difficulties in accessing public transport and participating in the labor market. Most public and general facilities are not built to accommodate the needs of disabled people, and the absence of facilities friendly to those with disabilities hinders their mobility. To improve public transport services, we need to identify the needs of people with disabilities and better understand the challenges they face.

The Australia Indonesia Partnership for Economic Governance (AIPEG) and the Indonesia Infrastructure Initiative (IndII) are aiming to add substantively to the field of knowledge on how public transport improvements may affect FLFP in Indonesia. IndII supported DKI Jakarta in two urban public transport improvement programs between 2012 and 2016. One component focused on supporting improvements to TransJakarta, which included a package of design measures for BRT Corridor 6 (Ragunan-Kuningan) to re-design and produce construction tender documents for 14 kilometres of busway upgrade including lanes, barriers, stations, intersections, and walkway access points for passengers to be later constructed and funded by DKI Jakarta Government. The BRT Corridor 6 project aims to improve busway performance, including expanded passenger capacity, better access, safety, comfort, and faster bus average speeds. It is hoped that the project, when implemented, will both increase demand for the TransJakarta BRT service and also ensure that the BRT achieves minimum service standards, especially in terms of reliability, average speed and headway. The upgrades also include better accommodations for people with disabilities.

AIPEG commissioned researchers at SurveyMETER and the RAND Corporation to conduct baseline surveys to determine the extent of transport problems currently

encountered by women and people with disabilities in relation to their labor force participation. This data collection effort represents one of the first attempts to simultaneously collect a rich set of labor market outcomes together with measures of urban mobility—including patterns of regular travel within the city, modes of transit, commuting times, and vehicle ownership. The surveys gather data for more than 1,000 respondents for household survey, 500 respondents for rider survey, and 90 people for in-depth interviews. Separately, Focus Group Discussions were also held with a disabilities community group. The fieldwork for these quantitative and qualitative surveys took place in January-March 2017.

Main Findings

Despite being offered several transport-related reasons for not participating, such as “high commuting costs” or “poor access to transport”, most women in the sample said that the primary reason why they were not searching for work was either because of the need to care for children or to perform housekeeping duties. However, many of the women we surveyed seemed to be “time poor”, expressing complaints that there were not enough hours in the day to accomplish all of their housekeeping, shopping, and other family-related obligations. If the BRT Corridor 6 improvements dramatically lower commuting costs, this could relax those time constraints and lead to significant increases in FLFP.

Transport-related factors played a significant role in the specific jobs that people choose. In our sample, 31 percent of the women who have ever turned down a job did so because of transport constraints, while 64 percent said that a job’s location was the decisive factor when choosing whether or not to accept an offer of employment. If women choose jobs entirely based on their location, they may be badly matched to jobs that are not using their skills or engaging their interests. These mismatches may contribute to high turnover, low productivity, and generally poor labor market outcomes, and they could also lead women to work more intensively in the informal sector. Reducing commuting costs could create improve job matches for women, increasing formal sector employment, raising wages, improving productivity, and reducing turnover.

Although most households own at least one private vehicle for commuting (typically a motorcycle), women from those households do not necessarily have access to that private vehicle for their regular travel needs. If the household only has one vehicle, it is typically used by the husband, and when women come from poorer households, they are generally less likely to be using private vehicles for commuting purposes. Women from poorer households can be largely dependent on public transportation for their regular travel needs even if the household owns a private vehicle.

Women from the poorest backgrounds are also less likely to regularly travel beyond their neighborhood. Women’s regular travel purposes appear to be closely associated with their traditional roles, including housekeeping and caring for children. Only 31 percent of women identified going to work as their main reason for regularly travelling. Nearly half of the women in our sample reported to be travelling regularly for shopping and around one fifth

said that they travel regularly for family-related reasons such as dropping children at school. Because they travel to many different destinations rather than simply commuting to and from work, women typically face higher urban transport costs than men.

People with disabilities have considerably lower rates of labor force participation, and when they do participate, they are more likely to be looking for work (unemployed). Forty-two percent of men with disabilities and 32 percent of women with disabilities are labor-force participants, compared with 61 percent for the rest of the population in the survey. A number of people with disabilities reported that the distance they need to travel to and from work has an impact on their decision making. Many are currently working only part time or are in informal employment.

Getting around DKI Jakarta is particularly challenging for people with disabilities; the existing public transport system does not adequately cater for their needs. Busy streets, a lack of suitable crossing facilities, and poorly designed pedestrian pavements present major barriers to public transport access. Many individuals with disabilities require assistance when travelling. Because most modes of public transit do not meet their needs, it is hard for them to navigate their door-to-door travel on their own.

The door-to-door journey is a key consideration in the planning of suitable transport facilities for people with disabilities. If one of the links is not traversable, their door-to-door journey becomes impossible. People with disabilities tend to take multiple modes of transport (much more than other people surveyed) or use online transport (e.g. Grab, Go-JEK). Very few people with disabilities use the BRT. The difficulties that people with disabilities face restricts their mobility and ability to access employment opportunities and other services.

Improving perceptions of public transport may increase the number of Jakartans using it and ensure that improvements intended to increase access for women and disabled people are effective. Comfort, safety and security are viewed the most important attributes of public transport services. TransJakarta and online transport modes are viewed as the safest transport modes. However, long waiting times, crowding, unreliable schedules, and slow speeds are issues for the BRT service and many people think that the BRT does not conveniently serve their door-to-door travel needs. There appear to be serious issues relating to poor personal security and safety on non-BRT buses.

Next Steps

To measure impact of the intervention, follow-up surveys should be conducted to measure the changes in the baseline variables by difference-in-difference methodology. The follow-up surveys can be conducted for up to three years after implementation of the improvements. This report deliberately presents initial findings from the surveys and welcomes further study using these data. The data and questionnaires of these surveys are made available to the public for further research and analysis, in order for researchers and policymakers to better understand labor market outcomes and commuting patterns for women in DKI Jakarta.

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Finally, we would like to extend our gratitude to all respondents for their hospitality, time, and cooperation in participating in the study.

Abbreviations

ADB	Asian Development Bank
AIPEG	Australia Indonesia Partnership for Economic Governance
BRT	Bus Rapid Transit
DKI	Daerah Khusus Ibukota (Special Capital Region)
FLFP	Female Labor Force Participation
GDP	Gross Domestic Product
ILO	International Labor Organization
IndII	Indonesia Infrastructure Initiative
JICA	Japanese International Cooperation Agency
KJC	PT Kereta Commuter Jabodetabek
KUAT	Komunitas untuk Untuk Advokasi Aksesibilitas (Community Advocating for Accessible Transport)
LFP	Labor Force Participation
RT	Rukun Tetangga (sub-division of kelurahan, local neighborhood)
SES	Socioeconomic Status
WB	World Bank



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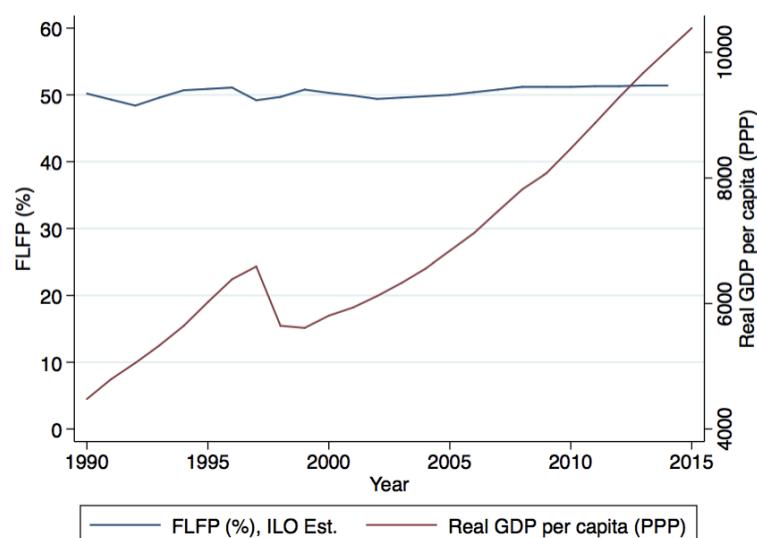
Jakarta has one of the most dangerous transportation systems for women in the world, according to a recent Reuters/YouGov poll, and many women experience groping, leering, catcalls, and touching at the TransJakarta Bus Rapid Transit (BRT) system, all of which are exacerbated during crowded peak hours (Reuters, 2015)

1. Introduction

In Indonesia, female labor force participation (FLFP) is significantly lower than male labor force participation, and it is also low relative to other countries at comparable stages of development. According to the 2016 World Development Indicators, in 2014, 51.4 percent of Indonesian women aged 15 and above participated in the labor force (either working or looking for work), only slightly higher than 50.2 percent in 1990 (see Figure 1.1).¹ This is low by international standards, and striking in light of the country's rapid increase in economic growth and per-capita income over the last 20 years (except for a period of decline in the late 1990s due to the Asian Financial Crisis). In contrast, the male labor force participation rate is much higher at 83.7 percent and has increased from 81.1 percent over the same period (Allen, 2016; Chowdhury, 2009).

The Global Gender Gap Report (2015) prepared by the World Economic Forum identifies inequality in economic participation and opportunity for women as the most significant gender inequality challenge for the country. Today, nearly 86.3 million Indonesian working aged females do not work outside the home, and this may represent a significant waste of human capital and productive resources (AIPEG, 2015).

Figure 1.1. Female Labor Force Participation and Per Capita GDP, Indonesia



SOURCE: World Bank Development Indicators (2016). The FLFP ILO Estimate is for all females aged 15 or more (left axis). Real GDP per capita is reported in constant 2011 international purchasing power parity (PPP) adjusted dollars (right axis). Although we focus on the ILO estimate, similar trends in labor force participation can be also found using national SAKERNAS data (Allen, 2016; Schaner and Das, 2016).

¹ At the time of writing, these figures are based on the most recent vintage of the World Development Indicators dataset, released on March 2017. Because they are up to date, they differ slightly from those reported in AIPEG (2015).

Currently, there are major gaps in our knowledge about what explains low female labor force participation in Indonesia, and the extent to which different policies may improve labor market outcomes for women. The Monash study, commissioned by AIPEG in 2015, indicated that transport was a possible barrier to FLFP in Indonesia. In Jakarta in particular, roads are badly congested, particularly during peak times, and the city is thought to have some of the worst traffic in the world (Castrol, 2015). Large urban transport or commuting costs increase the time it takes for women to perform any daily activities that take place outside the home. If public transport investments reduce commuting costs, they could generate time savings that could increase female labor force participation, expand urban mobility, and make females more productive in their daily lives.

While studies have shown that in aggregate, economic development and urbanization tend to be associated with greater economic independence for women, urban women often face profound disadvantages in their mobility and active participation in labor market for several reasons. First, female travel demands are more complex, because they typically play a greater role in childcare, shopping, and many other aspects of household production. If women use public transport, these complex trips require them to get on and off of transit at multiple destinations, pay multiple fares, and travel longer distances, sometimes during off-peak hours. This is in contrast to typical commuting trips for men, who are more likely to primarily travel between their home and their workplace during peak hours (Tacoli and Satterthwaite, 2013). Because most public transportation is principally routed and scheduled to serve commuting trips to work only, it is often not geared towards women's multiple social roles (Peters, 2002).

Second, women's transit trips may be more dangerous since many women may have to walk through, or wait in, unsafe, isolated areas when using public transit, particularly at off peak times. This increases the likelihood of falling victim to robbery, sexual harassment, or other physical violence. Jakarta has one of the most dangerous transportation systems for women in the world, according to a recent Reuters/YouGov poll, and many women experience groping, leering, catcalls, and touching at the TransJakarta Bus Rapid Transit (BRT) system, all of which are exacerbated during crowded peak hours (Reuters, 2015). Not surprisingly, women prioritize safety over efficiency in their respective travel decisions (in contrast to men), and support transit safety measures, including exclusive seating areas for women and improved station lighting (ADB, 2013; WB, 2014, Asrianti, 2008).

These factors imply that women face greater total costs of using public transport than men: in addition to monetary costs, they also carry significant emotional and psychological costs. This limits their mobility and constrains them in a variety of ways, including making it harder to reach workplaces, attend schools, perform tasks related to household production, or enjoy leisure activities (SPDC, 2014). As megacities like Jakarta continue to experience traffic congestion, which increases the physical and economic distances between residential areas and workplaces, the growing travel times to work and the monetary costs of transport may continue to constrain the ability of females to participate in the labor market.

Several policy initiatives have been implemented to improve safety and mobility for women by promoting gender-neutral transport design. For instance, Jakarta's commuter rail

operator, PT Kereta Commuter Jabodetabek (KCJ), now provides transport cars reserved exclusively for women. PT Transportasi Jakarta, which operates the TransJakarta Bus Rapid Transit (BRT) system, has also provided special areas on buses reserved for female passengers. Despite these encouraging developments, there is still more work to do, and many activists are still calling for change. Indonesia's One Billion Rising Movement, a global movement to end rape and sexual violence against women, is demanding more safety for women in transportation, prompted by several cases involving sexual harassment in public transport (Latadmin, 2015).

People with disabilities represent another group whose urban mobility is severely limited. People with disabilities are not well served by the public transportation system in DKI Jakarta. Poor sidewalks, inaccessible infrastructure around the TransJakarta BRT stations, and the lack of regular non-BRT bus stations all do not meet the accessibility needs of both women and people with disabilities. As a result, the latter in particular are relatively more likely to use private vehicles for commuting, instead of relying on public transit (Kawaguchi and Wakamatsu, 2012).

The Indonesia Infrastructure Initiative (IndII) supported TransJakarta and the DKI Jakarta government from 2012 to end 2016 in order to raise the standard of public transport services through its TransJakarta Improvement Program. Inputs on the inadequacies of the existing public transit system in DKI Jakarta were solicited from women's groups and disability groups. IndII supported the DKI Jakarta Government in a BRT improvement program on BRT Corridor 6 (Ragunan – Kuningan), which concluded in December 2016, to re-design and produce construction tender documents for 14 kilometres of busway upgrades, including lanes, barriers, stations, intersections and walkway access points. The BRT Corridor 6 project aims to improve busway performance, including expanded passenger capacity, better access, safety, comfort, and faster bus speeds. It is hoped that the project, when fully implemented by the DKI Jakarta government, will both increase demand for the TransJakarta BRT service and also ensure that the BRT achieves minimum service standards, especially in terms of reliability, average speed, and headway. The upgrades also include better accommodation for people with disabilities.²

To date, we lack rigorous evidence on the effectiveness of different policy options to reduce challenges of women and people with disabilities in using public transportation. This is partly because high quality data on both labor market outcomes and commuting decisions are not routinely collected, and because establishing the causal effect of increased safety and mobility improvements is empirically challenging, as most of these policies are not randomly assigned, and it is difficult to come up with a useful control group. To develop a clearer

² Note that IndII also provided advisory support to DKI Jakarta on a wider bus reform strategy, long-term strategic advice and recommendations including: bus fare scales and structures, suitability of existing and proposed terminals, measures to facilitate mobility inclusion, bus operator training program, bus service operating manual, depot/maintenance facility requirements and locations, specifications for the e-ticketing system, vehicle specifications, database/ information systems and advice on necessary changes to regulations.

understanding of how urban transport costs may affect FLFP in Jakarta, appropriate baseline data needs to be collected. This project represents a first step in addressing this gap.

Purpose and Scope of the Commission

In September 2016, AIPEG commissioned SurveyMETER and the RAND Corporation to conduct baseline surveys to determine the role of public transport and extent of transport problems currently encountered by women that may influence FLFP. The main purpose of the evaluation was to assess whether planned improvements on BRT Corridor 6 may enhance FLFP in Jakarta, as well as the comfort and safety for the population with disability. It is intended that the surveys will collect baseline data. When combined with future surveys, these data can be used to carry out an impact assessment of the BRT Corridor 6 improvements on gender and disability objectives. A quantitative understanding of these impacts is essential for formulating policy advice in this area and to build the evidence base for future policymaking.

The information sought from the surveys was to establish to what extent current public transport services in Jakarta serve FLFP; to determine the existing level of service quality; and to identify expected improvements that will contribute to increasing FLFP and improving other female labor market outcomes. The survey scope also includes an aim to determine the current situation of urban mobility for people with disabilities and their use of public transport (particularly BRT and non-BRT bus services).

Purpose of the Final Report

This final report represents the major deliverable for the final phase of the project. Its primary goal is to summarize the entire body of work conducted through the commission, including the review of literature, hypothesis development, the design and implementation of the individual and rider surveys and surveys for people with disabilities, and a preliminary analysis of the baseline data we collected.

This baseline survey study was achieved in three phases. The first phase consisted of reviewing literature and secondary data on female labor force participation and transportation of women and people with disabilities in Indonesia, with particular focus on DKI Jakarta. This step informed planning for sampling and designing the survey, and it also supported the development of hypotheses to be tested in future rigorous evaluations. The second phase involved data collection in the field, and the third phase focused on an analysis of the baseline data and interpretation.

Report Structure

This report is organized as follows:

- Chapter 2 provides a discussion of the role of commuting costs on decisions affecting female labor force participation in Indonesia and DKI Jakarta in particular, based on a review of the literature.

- Chapter 3 provides an overview of transportation in Jakarta and describes limitations of the existing public transport system, including TransJakarta BRT buses and traditional non-BRT buses.
- Chapter 4 describes our theory for how the Corridor 6 redesign may improve labor market outcomes for women, and it lays out a set of hypotheses that the research approach and survey data collection were designed to test.
- Chapter 5 provides an overview of the implementation of the household, individual, and rider surveys. It also describes the logistics of the survey, including data entry and quality assurance for data collection.
- Chapter 6 summarizes the labor market outcomes collected in the household and individual surveys.
- Chapter 7 describes the transport behavior as measured in the individual surveys and correlates that transport behavior with labor market outcomes.
- Chapter 8 provides an overview of the rider survey data, focusing on satisfaction with the TransJakarta BRT system and non-BRT bus system.
- Chapter 9 provides an analysis of the labor market and travelling behavior of people with disabilities.
- Chapter 10 reviews the findings.
- Chapter 11 sets out an evaluation monitoring strategy for the BRT corridor 6 improvements.

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The World Economic Forum's Global Gender Gap Report consistently identifies inequality in economic participation and opportunity as Indonesia's most significant gender inequality challenge.



2. Female Labor Force Participation and Commuting Costs

In this chapter, we first provide a model for how females decide whether or not to participate in the labor market, and use this to think through how reductions in urban transport costs may increase FLFP. We then describe other factors that influence FLFP and labor market performance, including age, marital status, and the presence of small children at home. Some of these factors will be used to identify women who are on the margins of labor force participation, and those for whom improvements in urban transport costs may alter their labor market outcomes.

This chapter is based on a review of academic literature on FLFP in Indonesia in general and in Jakarta in particular. In addition to reviewing this literature, we also reviewed a number of reports by IndII, AIPEG, JICA, ADB and others relevant to the situation in Indonesia and to DKI Jakarta in particular. We also reference regular survey data collected by the Indonesian Government and by the Japanese International Cooperation Agency (JICA) for Jakarta.

A Model of Female Labor Force Participation

In this section, we describe the different channels through which commuting costs may impact female labor force participation. To do so, we outline a simple model in which women make decisions about whether or not to participate in the labor market and, if they choose to participate, how many hours they decide to work. Females make these labor market choices while simultaneously choosing how to allocate their time to a variety of other tasks. This model of how women spend their time is based on a rich literature in labor economics (e.g. Becker, 1965, 1981; Rosenzweig, 1984), but unlike much of that literature, we explicitly incorporate the role of commuting costs in female's labor market decisions (e.g. Redding and Turner, 2015).

We assume that women can spend their time in the following different ways:

1. *Working*, including:
 - a. Working for a wage in either formal (more often) or informal sector
 - b. Working in self-employment (often informal)
 - c. Traveling to work and back home
2. *Household production*, which includes household chores, time spent buying groceries, preparing meals, cleaning, taking care of children, etc.
3. *Leisure*, which is time neither spent on working nor on other household production tasks

Note that when household production or leisure activities take place outside the home, these activities also incur transport costs and require time allocated to urban travel. Broadly speaking, urban transport or commuting costs include:

4. *Commuting or travel times*, which can be thought of as lost time spent in transit

5. *Direct monetary costs*, including bus fares, fees for taxis, or vehicle operating costs if driving, and
6. *Non-monetary costs*, which could include the stress or frustration of sitting in traffic, psychological costs of sexual harassment while commuting, or the social costs of violating traditional norms of staying at home, among others.³

Because time is limited, when women make time allocation choices, they face tradeoffs. They must balance the returns to labor (e.g. including wages and other non-monetary benefits of working) against the opportunity costs of foregone home production, lost leisure time, or time away from children, as well as other social costs (Becker, 1981). That is, the opportunity costs of working include time that could have been spent on other tasks, including leisure or household production activities. Women decide to participate in the labor market if the benefits from doing so are greater than the costs.

Note that when women make these time allocation choices, they do so in the context of the needs of their entire household. They take into account a variety of factors, such as the number of dependents the family has to care for, its total wealth, or different social preferences regarding the role of women in the workplace. Therefore, the cost-benefit calculation that determines female labor force participation is made at the level of the household, rather than at the level of the individual (Elborgh-Woytek et al., 2013).

The Role of Transport Costs in Labor Market Decisions

Large urban transport or commuting costs increase the time it takes for women to perform any daily activities that take place outside the home. As such, these transport costs can greatly constrain the activities of potential female workers on the labor market. Relaxing these constraints by improving the transport environment could increase female labor force participation. Moreover, to the extent that women play a greater role in childcare, shopping, and many other aspects of household production, reducing urban travel costs and expanding urban mobility can generate large time savings and make women more productive in their daily lives.

Female labor force participation decisions depend on access to employment opportunities. As cities like Jakarta continue to grow, the supply of new jobs increases in urban centers, but urban transportation systems have often not kept up with the rapid pace of growth (Turner, 2012). Consequently, in rapidly growing urban areas like Jakarta, jobs and residential locations are rapidly becoming physically separated, increasing congestion, travel times, and transport costs. These effects are magnified for working women, given their competing time demands due to their double burden of earning a living and caring for the family (ADB, 2013; WB, 2010).

Most women do not have access to a private vehicle for regular use, apart from those who are highly educated or who reside in high-income households. This makes women

³ The idea that commuters waste time when travelling to work is represented in a clever mathematical way in the model developed in Redding and Turner (2015). In their model, commuters pay an iceberg transport cost on their labor supply, and their time “melts” away as they travel to work.

particularly dependent on walking, taxi services, or public transport (ADB, 2013; WB, 2010; Widarti, 1998; AIPEG, 2015). When women rely on public transport, their roles as income earners and childcare providers often require them to get on and off at multiple stops, pay multiple fares, and travel during off-peak hours. This magnifies the challenge of using public transport, given the added costs and the fact that during off-peak hours, bus or train services do not operate as regularly.

Lack of access to reliable public transport has been identified as a particular constraint to female labor force participation (ADB, 2015a; ADB, 2015b). Economic theory argues that high transport costs may make workers refuse jobs they would have taken otherwise (Coulson et al., 2001), or search for them less (Wasmer and Zenou, 2002; Ortega, 2000). Thus, women may often be restricted to accepting jobs which are not too far from home, have limited hours, or are less demanding than other jobs for which they are qualified (Kercheval et al., 2012). Travel time constraints may also make it more difficult to attend work regularly and arrive on time.

In a recent review of policies to improve the functioning of labor markets in developing countries, McKenzie (2017) argues that for increasing labor market participation, “the most promising interventions appear to be ones that help workers access different labor markets, overcoming sectoral and, especially, spatial mismatches.” Spatial mismatches occur when two similarly skilled individuals that live in different locations have very different employment opportunities.

Transport constraints are an important cause for spatial mismatches between workers and employment opportunities, and in a congested commuting environment like DKI Jakarta, these mismatches may be very common. To the extent that public transport improvements, such as the proposed Corridor 6 BRT upgrades, improve urban mobility and lower travel times and transport costs, they may reduce the spatial mismatch between skilled workers and their potential employers (Turner, 2012). This suggests that reducing commuting costs could create better potential matches for women, increasing participation and also leading to higher wages, greater productivity, and reduced turnover.

Public Transport Safety and FLFP

Safety on public transport is also a major concern for women and could play a significant role in labor force participation decisions (ADB, 2015a, ADB, 2015b). In addition to a lower probability of owning a car compared to men (ADB, 2013), urban transport for women may be more dangerous since they may have to walk through, or wait in, unsafe, isolated areas and at off-peak times to use public transit. That is because most public transportation is principally routed and scheduled to serve commuting trips to work only, and it is not geared towards women’s multiple social roles (Peters, 2002). This increases the likelihood of falling victim to robbery, sexual harassment, stalking, or other physical violence.

Also, women, especially younger women and girls, often experience verbal or physical harassment on public transport. This ranges from low-level discomfort to overt groping, leering, catcalling, or touching, all of which is exacerbated during crowded peak hours (ADB,

2015a). For these reasons women prioritize safety over efficiency in their respective travel decisions (in contrast to men). This leads women to change their travel behavior, such as taking alternative mode choices that afford some privacy (e.g., taxi). While these other modes are more expensive and potentially limited to wealthier individuals, when faced with safety concerns, some women may simply choose to not participate in the labor market. For such women, safety measures on public transport, such as exclusive seating areas for women and improved station lighting, may be particularly beneficial (ADB, 2013; WB, 2014; Asrianti, 2008).

Other Labor Market Determinants

Although transport improvements could have a considerable effect on the labor market situation for women, there are still many factors that affect female labor market decisions that are not likely to respond to transport improvements.⁴ These include:

- **Education:** Most empirical evidence in Indonesia supports a strong relationship between education and labor force participation, and the relationship is often non-monotonic and U-shaped (e.g. Jones, 1994; Widarti, 1998). Indonesian women with tertiary education are most likely to work, generally doing formal work for a wage, while women with less than primary education are the next most likely to work, generally in lower-skilled jobs. Women with either junior or senior secondary education are the least likely to work (AIPEG, 2015; Schaner and Das, 2016). An explanation for this U-shaped relationship is that less educated women may be working out of necessity, while highly-educated women have greater employment opportunities or may find large non-pecuniary benefits to working.
- **Marriage:** In Indonesia, several studies have found that compared to single women, married women are less likely to work, all else equal (AIPEG, 2015; Widarti, 1998, Ferdihanusetyawan and Aswichahyono, 2001; Manning, 1998; Ogawa and Atker, 2007).
- **Household Income and Socioeconomic Status (SES):** When total household income or SES is low, women are more likely to work out of necessity, despite their often low labor market returns (Smith et al., 2002; Fallon and Lucas, 2002). As SES and household wealth increases, the need to participate in the labor market declines.
- **Children:** Caring for young children makes it more difficult for women to work. Widarti (1998) finds that when married women have children below the age of five at home, they tend to reduce their labor supply, and this effect held for all education groups. Once children have reached school age, married women seem to again be just as likely to work as their unmarried childless peers. These findings have been echoed in several Indonesian labor market studies (e.g. Setyonaluri, 2013; Schaner and Das, 2016; Cepeda, 2013). The fact that women exit the labor market after they have

⁴ Note that female labor force participation is an equilibrium outcome, resulting from the matching of labor supply to labor demand. Because we only observe equilibrium outcomes, it is difficult to know whether a low female labor force participation rate comes from constraints on the supply side (e.g. social norms, high commuting costs) or if it comes mostly from restrictions on the demand side (e.g. wage discrimination between men and women, minimum wage policies, required work schedules) or environmental factors (e.g. social norms, sexual harassment). We focus on factors affecting labor supply here; factors affecting labor demand have been reviewed by AIPEG (2015) and Schaner and Das (2016).

children, and re-enter when those children grow older generates a U-shaped relationship between age and FLFP.

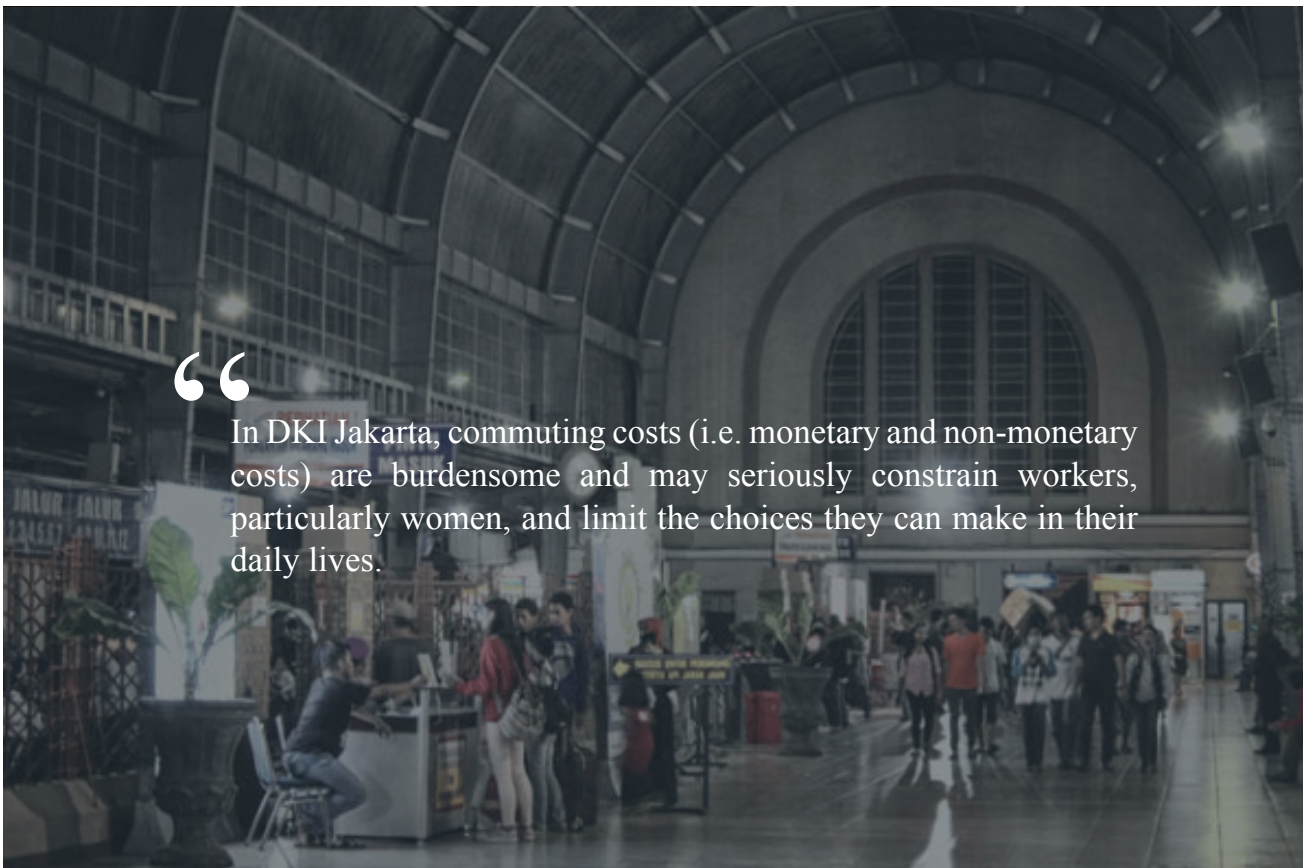
- **Socio-Cultural Norms:** In Indonesian cities, many women still face expectations that they will play a major role in housekeeping and childcare, and these social norms increase the cost of labor force participation. However, as women in urban areas grow more educated, their opportunities to work expand, and these effects may grow less important over time.
- **Legal Barriers:** Indonesian laws and institutions often deny women equal property rights, their ability to be acknowledged as heads of households, and this limits their access to employment (AIPEG, 2015). A number of laws in Indonesia address the issue of gender equality at work, such as law governing minimum wages, as well as maternity or miscarriage leave. However, they are often not enforced, and when they are, may even hurt their employment (Suryahadi et al., 2003). For instance, sometimes due to the nature of female employment (e.g., low paid, unskilled or seasonal workers), which is often oversupplied, women can be dismissed rather than afforded their three months' maternity leave (AIPEG, 2015; ADB, 2006).

Given these pervasive labor supply factors, many of which are not likely to be immediately changed by public transport improvements, it is difficult to say ex-ante whether improvements to urban transport costs will have a large effect on female labor market outcomes. Much depends on the size of the population of women who are “at the margins” of the labor force participation decision. Women without small children, from households with medium-levels of wealth or SES, and who have medium-levels of education may be on the margins of supplying labor to the market, and these women could see significant gains in employment if urban transport costs are reduced. Our data collection activities, described in later chapters, try to gauge the size of this population of potential workers.

In the next chapter, we describe the context of the urban transport environment in Jakarta. This chapter discusses Jakarta's high levels of congestion, the high rates of motor vehicle ownership, and limitations of the existing public transport system that make it difficult for female commuters.

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In DKI Jakarta, commuting costs (i.e. monetary and non-monetary costs) are burdensome and may seriously constrain workers, particularly women, and limit the choices they can make in their daily lives.



3. Transportation in Jakarta

In this chapter, we review facts about the transportation environment in DKI Jakarta and the greater Jabodetabek metropolitan region. In doing so, we draw on the extensive body of work carried out by IndII on the transport situation, including Radford (2016). We also present summary statistics from comprehensive transport surveys of the Jabodetabek metropolitan region, conducted by the Japan International Cooperation Agency (JICA) in 2002-2004 (SITRAMP study) and 2010-2012 (JUTPI/ JAPTraPIS study). The 2010 CTS survey contains vehicle ownership information and trip characteristics for nearly 179,000 households, amounting to a 3 percent sample of the entire population. We also use data from the 2000 and 2010 population censuses, all of which are collected by Indonesia's national statistical agency, Badan Pusat Statistik (BPS). Although these statistics are informative, they are somewhat dated, particularly because there have been changes to transportation environment in DKI Jakarta.

Traffic Congestion in Jakarta

Jakarta is the economic and political center of Indonesia. Located on the northwest coast of Java, the special capital area (*Daerah Khusus Istimewa Jakarta*, or DKI Jakarta) was home to 9.6 million people in 2010, and is very densely populated (over 14 thousand people per km²). DKI Jakarta is linked to a greater metropolitan region, which includes the districts and municipalities of Bogor, Bekasi, Depok, and Tangerang. Together, this metropolitan area is known as Jabodetabek and is home to over 30 million people, making it the second most populous urban area in the world.

Commuting in Jakarta can be frustrating and unpredictable, because the road network is badly congested, particularly during peak times. From new data on vehicle starts, stops, and idling times collected using in-vehicle sensors, Castrol (2015) constructed an index to measure traffic congestion in 78 cities worldwide. They found that Jakarta had the worst traffic in the world. The cost of this congestion was estimated to be up to \$600 million annually (Pacific Consultants International and Almec Corp, 2004).⁵

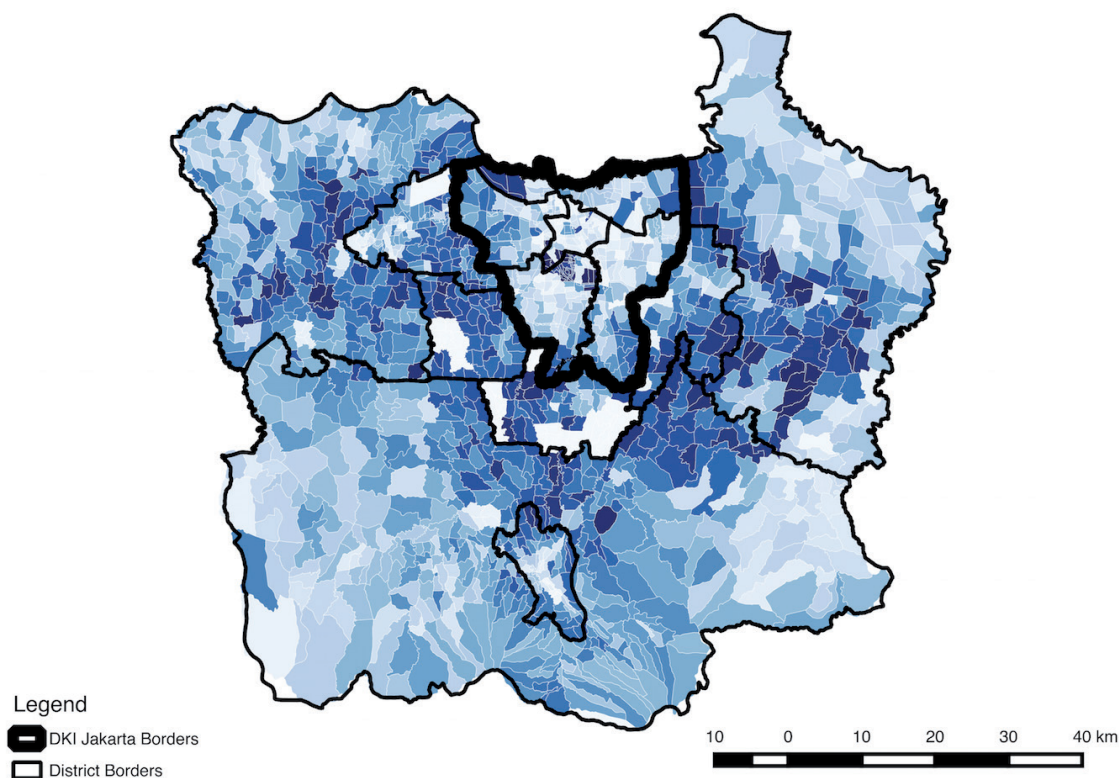
There are several sources of traffic congestion in the city, including rapid population growth, rapid increases in vehicle ownership that have influenced commuting mode choices, and inadequacies in public transport systems. We discuss each of these in turn.

⁵ Note that the DKI Jakarta government has made plans to introduce policies such as electronic road tolling to combat congestion. Other schemes include the odd-even licence plate scheme introduced in late 2016 which is implemented on three roads in central Jakarta - Jl. Thamrin, Jl. Sudirman and Jl. Gatot Subroto – in the morning and evening peaks. This replaces 22-years of a 3-in-1 HOV scheme to reduce congestion. Hanna, Kriendler, and Olken (2017) demonstrate that when the DKI Jakarta government ended this HOV vehicle restriction in April 2016, delays rose considerably and led to worse traffic throughout the city.

Population Growth

From 2000 to 2010, the Jabodetabek metropolitan region experienced tremendous population growth, with a growth rate of 3.6 percent per year annually. Figure 3.1 depicts percent changes in the population across *kelurahan* (neighborhoods), with darker areas corresponding to faster growth. This figure shows that population growth in the city has tended to be more pronounced in the peripheral regions of the city, symptomatic of urban sprawl. As sprawl has increased, this has increased the spatial separation of residential and workplace locations. Most of the jobs in Jabodetabek are located in DKI Jakarta, and as workers move farther and farther away from the city center, this exacerbates congestion and commuting costs (Turner, 2012).

Figure 3.1: Spatial Distribution of Population Growth in Jabodetabek (2000-2010)



SOURCE: Author's calculations, using 2000 and 2010 population census data (from BPS). DKI Jakarta borders appear in dark black, and district borders are shown by the thin black lines. Each *kelurahan* is shaded according to its population growth between 2000 and 2010, with darker areas corresponding to faster growth. The map is oriented so that North is up.

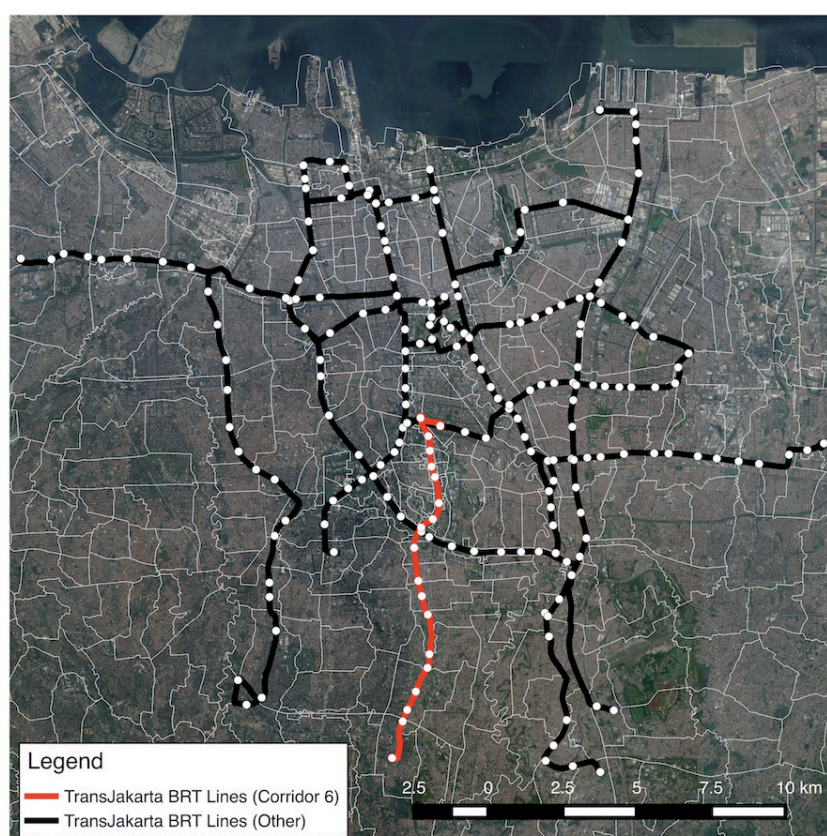
Vehicle Ownership and Mode Choice

Residents of DKI Jakarta have a variety of different commuting mode options, but most of these are road-based. Private transport options include cars, motorcycles, and taxi-services. Taxi-services include standard car taxis, motorcycle taxis (known as *ojek*), three-wheeled motor taxis (motor-rickshaws known as *bajaj*), and pedicabs (typically cycle-based rickshaws). Public transport options include trains (most notably served by the Jabodetabek

commuter heavy rail system), traditional public buses (including large buses, operated by Metromini and Kopaja, and small minibuses, known as angkot and mikrolet), and the TransJakarta BRT system (Radford, 2016).

The TransJakarta BRT system began operations in January 2004 and was the first BRT system in Southeast Asia. TransJakarta currently has 12 operating corridors and more than 200 stations, all within DKI Jakarta. A map of these stations is shown in Figure 3.2; Corridor 6, the major focus of our survey work, is shown in red. The BRT services run mostly on designated busways along major corridors in Jakarta, stopping only at designated bus shelters. These services are operated by a number of different operators contracted by PT Transportasi Jakarta (TransJakarta), a Government owned private company.

Figure 3.2: TransJakarta BRT Network (Corridor 6 in Red)



SOURCE: Authors' calculations and Google Satellite images. Dots indicate station locations. The map is oriented so that North is up.

Non-BRT bus services are provided by a mix of large city and express buses, medium buses, and smaller angkot operating along fixed routes governed by a licensing or route permit system which is issued by the Public Transport Operations Division of Dinas Perhubungan (DisHub). These buses are owned by co-operatives or other companies and rented out to individual drivers. There are no service obligations on these services, which tend to pick up and set down at passengers and operate without fixed service schedules. Throughout the report, we refer to these traditional public buses as “Non-BRT buses”.

Table 3.1 presents information on the share of DKI Jakarta residents that choose these different public and private modes of transportation as their primary mode.⁶ These figures are based on a 2010 Commuter Travel Survey (CTS) which was conducted as part of the JUPTI/JAPTraPIS study.⁷ The table presents statistics separately for males and females, and for commuters and non-commuters.

Table 3.1: Primary Mode Choice, DKI Jakarta Residents (2010)

Mode	Males		Females	
	Percent of Commuters (1)	Percent of Non-Commuters (2)	Percent of Commuters (3)	Percent of Non-Commuters (4)
BRT Riders	5.7	6.3	5.5	6.3
Non-BRT Bus Public Transport*	18.7	29.9	26.3	23.5
Train	4.9	5.1	5.1	4.6
Private Car	7.1	4.1	9.6	5.3
Private Motorcycle	61.9	51.8	50.3	58.1
Taxi / Ojek / Bajaj / Pedicab	1.6	2.9	3.2	2.2

Source: 2010 CTS Data. Non-BRT Public Transport includes large AC bus, large non-AC bus, Medium bus (metromini, kopaja), minibus (Angoket, mikrolet), and three wheel (Bemo). These statistics refer to all individuals aged 15-59 who live in DKI Jakarta. Columns (1) and (3) include those who self-report their main activity as working permanently or temporary, while Column (2) and (4) includes those who self-report their main activity as being a housewife, retired or jobless.

For DKI Jakarta residents, Table 3.1 shows that the most common primary mode, with an over 50 percent mode share for males and females, was private motorcycles. In recent years, motorcycles have become more affordable with new loan schemes, and in a congested environment, motorcycles offer commuters a way to weave through traffic that can allow them to reduce travel times. From the 2010 CTS data, nearly 80 percent of households in 2010 owned at least one motorcycle.⁸ From 2000 to 2010, the number of registered motorcycles more than quadrupled, and because of the recent expansion in access to credit, this growth in ownership has taken place across the income distribution. Vehicle ownership clearly influences commuting patterns, with motorcycle owners and car-owners vastly preferring to use these vehicles when commuting, instead of turning to other modes (Yagi et al, 2012).

The rise in motor vehicle ownership, particularly motorcycles, has substantially reduced the share of commuters who use public transport. In 2010, Table 3.1 shows that less than 30 percent of DKI Jakarta commuters in 2010 used the traditional public bus system, less than 6 percent used trains, and less than 6 percent used the TransJakarta BRT system. However,

⁶ The primary mode is defined as the mode used most intensively in commuting, but for non-commuters, it represents the most frequently selected mode for shopping, household chores, or other daily activities.

⁷ The authors have permission from JICA to access and use the 2002 and 2010 commuter surveys, and a number of papers from various organizations and academic researchers have cascaded from these information.

⁸ In comparison, only 13 percent of DKI Jakarta households owned one or more cars.

female commuters tended to be somewhat more reliant on public transit than male commuters, particularly the non-BRT bus system.

While these mode choice statistics are informative, they are somewhat dated, and recent years have seen significant changes in Jakarta's market for urban transport options. In particular, over the past few years, online or app-based transport services have seen explosive growth. Motorcycle and car companies, such as UBER, Grab, and Go-JEK, now offer their customers rides and shopping and delivery services. Many of these companies use smart phone apps, which leverage the GPS devices embedded in these phones to assign drivers to customers and calculate expected costs.

The growth in app based transport services is driven by several factors, including the rise of smart phones, cheaper costs than traditional public transportation operators, and the demand for convenience. Many of these app-based services dramatically reduce search costs, including the time it takes to find or hail a taxi driver, and the time costs of shopping for groceries or picking up take-out from a restaurant. As such, as incomes continue to rise in urban areas of Indonesia, the demand for these services should continue to grow, and this will continue to reduce demand for public transport.

Inadequacies in the Public Transport System

Apart from vehicle ownership patterns and the rise of other modes of transport, there are several inadequacies in the existing public transport system that reduce the demand for its transport services. Safety, security, appropriate physical design, and affordability are critical considerations in designing urban public transport services, particularly with respect to gender concerns. Our review of the literature has identified a number of issues with the existing public transport system, particularly how it meets the needs of females and riders with disabilities.

Safety

Safety remains a major concern for women who use public transport in Jakarta (UNHabitat, 2013). According to a Thomson Reuters Foundation and YouGov poll conducted in 2014, Jakarta has the fifth most dangerous transport system in the world for women. Several factors affect the safety of the existing public transit system, including poor driver behavior (particularly on non-BRT buses), lack of safe access to and from bus-stops and terminals, poor street lighting, and an absence of security cameras (Radford, 2016).

Affordability

Many users have complained about the high fixed cost of e-money/tap card to ride BRT, and anecdotal evidence suggests that when the e-money/tap card system was fully implemented, there was a sharp drop off in ridership, particularly among lower income individuals. Although the TransJakarta BRT charges a flat fare of IDR 3,500 per trip (as of April 2017), in order to ride the system, individuals need to purchase an e-money/tap card of IDR 20,000 (as of April 2017).

Because women typically have multiple entries and departures during their day, they must pay fares each time they ride, and their transport costs are therefore higher. The patchwork of multiple non-BRT bus operators and different systems means that when riders get off of one bus and onto another, they are charged separate fares each time.

Poor Schedule Information

For BRT and non-BRT bus users, transport providers do not provide good information about when buses are supposed to arrive, particularly at stations and bus stops. Uncertain waiting times make it difficult to rely on and plan for using these different systems. Better information about when busses are supposed to arrive, how long they will take, etc. would be useful for all passengers and could increase demand for public transport.

Poor Bus Physical Design, Inadequate Physical Station Infrastructure and Sidewalks

TransJakarta BRT shelter infrastructure does not meet the accessibility needs of women and people with disabilities. BRT stations are located in the center of the road carriageway, with busways on the inside lanes. To get to the BRT station, pedestrians must navigate elevated platforms that connect sidewalks to the station platform. In many cases, the only way to reach these elevated platforms is to use stairs, limiting accessibility for people who have trouble walking. For wheelchair users, there is often a gap between the bus and the platform when buses pull up to the station, requiring users to have assistance getting on and getting off. Although TransJakarta has made strides by reserving areas in the bus for women only, this separate section sometimes tends to be more crowded and generates frustration among passengers.

The sidewalks around the stations are also poorly developed, so access to and from the surrounding area is poor. The poor condition of Jakarta's sidewalks, and the lack of connectivity between sidewalks and residential and commercial locations throughout the city, limits the usability of the BRT system. This constrains all riders, but it likely inhibits women and the disabled even more. As a result, people with disabilities are relatively more likely to use private vehicles for commuting, instead of relying on public transit (Kawaguchi and Wakamatsu, 2012).

Unlike TransJakarta BRT, there are no service obligations for non-BRT bus routes. As route permits are issued without tender or obligations, there is currently little control or monitoring in place for these bus operations with a consequence that the quality of service is poor. There are impacts on the bus quality, supporting infrastructure quality, and service operations quality. Much of the existing bus fleet is very old, with high floors requiring many steps to access the bus. The buses also have poorly designed seating configurations that may limit their ability to be used by disabled passengers, and also impact on women's security and safety.

IndII's Urban Public Transport Support to DKI Jakarta

IndII supported DKI Jakarta in two urban public transport improvement programs between 2012 and 2016. One component focused on supporting improvements to TransJakarta, which included a package of design measures for BRT Corridor 6 for the DKI Jakarta Government to implement. These improvements aim for BRT Corridor 6 to achieve its minimum service standards, increase operational capacity, reduce travel times, and reduce commuting costs. The second component was a package of reform measures to the non-BRT bus system to improve its management, governance, operation, and service quality.

TransJakarta BRT Corridor 6 Design Package

IndII facilitated a design package of improvements to the southern portion of TransJakarta BRT Corridor 6. This corridor is a major north-south corridor on the TransJakarta network, spanning 14 km and connecting residential areas around Ragunan to major commercial and employment centers in Kuningan. The package included:

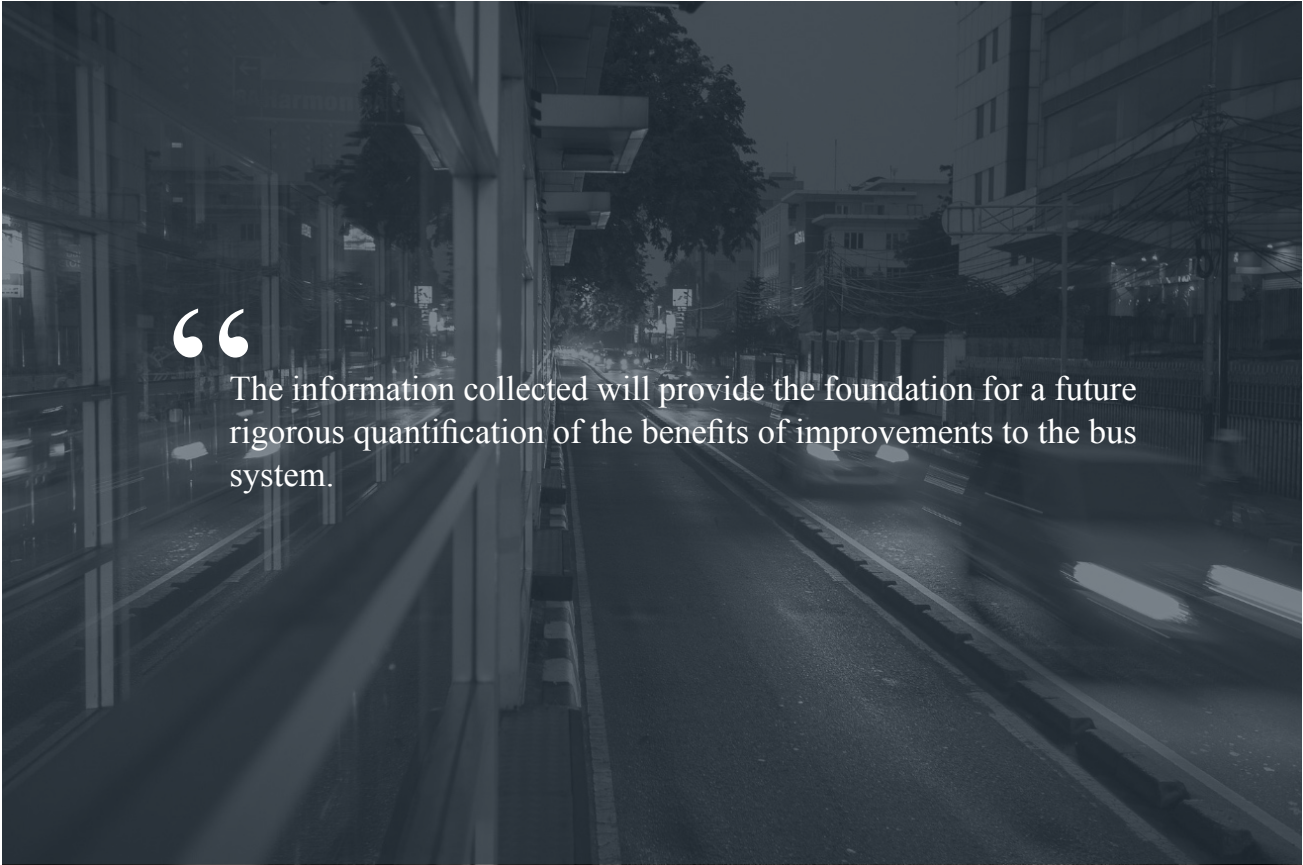
1. Re-design of the passenger infrastructure (shelters, footbridges, and terminal buildings) with designs and engineering plans to achieve the following goals:
 - Maximize operational capacity to meet regulated Minimum Service Standards, including:
 - 7-15 minutes maximum wait time for passengers;
 - 50 km/h average speed of the bus peak and non-peak;
 - 30-45 seconds - set down/pick up at the station;
 - 27 degrees maximum temperature in the shelters;
 - 2-4 square meters per passenger (non-peak and peak)
 - Easy access for wheelchairs and people with disabilities (incl. vision impaired, elderly and pregnant women).
2. Provide 'signature' designs that identify the busway as a public modern transport mode in the city.
3. Redesign of the busway infrastructure to improve bus priority and to provide better access for passengers (considering intersections, U-turns, passing lanes, footpaths).
4. Improve the provision of timetables and information related to when busses are expected to arrive and depart.
5. Better station lighting to improve the safety and security of pedestrians.
6. A redesign and redevelopment of the large terminal at Ragunan.

Non-BRT Bus Reform Program

IndII facilitated a recommended package of regulatory and policy reform measures aimed at achieving better-regulated, safer, more efficient, scheduled services. In 2014, the Governor of Jakarta, Basuki "Ahok" Tjahaja Purnama, endorsed a package of inter-related measures to address some of the shortfalls of the non-BRT bus system. However, these proposals have yet to be implemented. Proposed improvements include:

- Reform of the non-BRT bus and mikrolet sector to replace the existing informal structure, dominated by individual owners, with one consisting of larger formal companies, operating in accordance with international best practices.

- Replacement of all existing buses and mikrolets with an appropriate mix of suitably specified vehicles, with most small vehicles replaced by full-sized city buses conforming to international best practices.
- Introducing an equitable fare structure that will enable most, if not all bus services to cover their costs in full without subsidy.
- Restructuring the network of bus routes to provide more convenient services, with minimal need for interchange and fully coordinated with other modes.
- Introduction of a network-wide, all-mode integrated electronic ticketing system.
- Provision of adequate infrastructure, principally bus depots and workshops, terminals and roadside bus stops at appropriate locations on every route.
- Provision of adequate user information on all services, using all available media.



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The information collected will provide the foundation for a future rigorous quantification of the benefits of improvements to the bus system.

4. Theory of Change and Working Hypotheses

From review of the literature on the determinants of FLFP in Indonesia (Chapter 2), a key finding was that certain types of women might be at the margins of supplying labor to the market. For these women, significantly reduced commuting costs may make it easier for them to find work, keep those jobs, and continue to meet other household obligations. However, other women may not be at the margins of labor force participation; they may be too old, they may not have inadequate skills, or they may be too consumed with childcare responsibilities. For those women, reductions in urban transport costs should have no effects on labor market outcomes. To design a survey that will adequately assess how the TransJakarta BRT Corridor 6 upgrades will affect FLFP, we developed a theory of change for how transport improvements should affect labor market outcomes. This theory of change naturally leads to a series of testable hypotheses which form the basis for our survey design.

In this chapter, we present a simple theory of change for how public transport improvements, specifically those for TransJakarta BRT Corridor 6, may improve labor market outcomes for women and the disabled. Supported by the existing literature and the model for labor force participation described in Chapter 2, we describe how public transport improvements may induce certain types of labor supply responses. We also hypothesize why certain individuals may be more likely to exhibit these responses than others, and we present the key hypotheses our survey is designed to test.

Theory of Change

Our theory of change for how improvements to the quality of public transport in DKI Jakarta will impact FLFP is based around a few key channels through public transport improvements reduce urban transport costs, and how those reductions in urban transport costs reduce the opportunity costs of working. These are:

1. Improving the physical and operational aspects of public transport will improve journey times and access, reduce journey variability and delays, and contribute to reducing commuting costs.
2. Improving journey quality and comfort will reduce the total costs of urban transport.
3. Improving safety and security in access to and travel on public transport will reduce commuting costs.
4. Making public transport more affordable will contribute to reduced commuting costs.
5. Reducing commuting costs, broadly defined, will reduce the opportunity cost of working.
6. With lower opportunity costs of working, some women, particularly those on the margins of a labor force participation decision, will decide to enter/reenter the work force. Women in lower socio-economic income groups and those with lower levels of educational attainment are most likely to be on the margins of supplying labor.
7. Women who are already in the labor force can improve their employment situation with lower opportunity costs of working. This can happen through transitioning from

informal to formal employment, engaging in longer work hours, earning more, having better opportunities for promotion, or finding jobs with higher pay or that are better suited to their qualifications.

In the next section, we present a series of working hypotheses, based specifically on the planned improvements for BRT Corridor 6. These hypotheses informed the structure and content of the surveys we develop, as described in the next chapter.

Working Hypotheses

Hypothesis 1: Corridor 6 Improvements Will Reduce Commuting Costs

As described in Chapter 2, we expect that the redesign of Corridor 6 will decrease a variety of monetary, temporal, and non-monetary commuting costs. Although this is implicit in our evaluation of the program, it is important to test this hypothesis empirically. Studying changes in these outcomes will also help us understand what are the pathways through which Corridor 6 interventions influenced FLFP. However, even if there are no gains to FLFP directly, such efficiency and time-saving improvements will be greatly beneficial for the system as a whole and are worth studying and documenting in their own right.

We hypothesize that redesigning Corridor 6 will reduce many different components of commuting costs for BRT riders, including monetary, temporal, and non-monetary costs. First, by improving the BRT running lane and by redesigning stations to increase capacity, Corridor 6 should become more efficient, reducing the time it takes to go from one point to another. Second, the published timetables on bus schedules and up-to-date information on bus services and routes will allow women to make more effective commuting plans. To the extent that bus service becomes more regular, this will also help riders save time.

- ***Hypothesis 1.1:*** Corridor 6 improvements will decrease commuting times for riders.

Next, we also anticipate that the Corridor 6 improvements will reduce the non-monetary costs of commuting. Better lighting, improved CCTV monitoring, and better designs of shelters should reduce the incidence of sexual harassment and decrease the psychological costs of riding the BRT.

- ***Hypothesis 1.2:*** Corridor 6 safety improvements will improve passengers' sense of safety.
- ***Hypothesis 1.3:*** Corridor 6 safety improvements will decrease feelings of discomfort.
- ***Hypothesis 1.4:*** Corridor 6 safety improvements will decrease the incidence of sexual harassment.

Finally, as females increasingly substitute into using the BRT, instead of using more expensive modes of transport, such as taxis, they may also experience monetary savings.

- ***Hypothesis 1.5:*** Corridor 6 improvements will decrease direct monetary costs of commuting due to decreased use of more expensive alternative transport modes.

Finally, we anticipate that the Corridor 6 improvements will influence women's transport behavior and perceptions of public transport. Some of the hypotheses that we will test are:

- **Hypothesis 1.6:** Corridor 6 improvements will increase the regular use of public transport, either for going to work, or when shopping, eating out, dropping off children at school, or other activities.
- **Hypothesis 1.7:** Corridor 6 improvements will increase number of women that travel outside their RT in general and for specific trip purposes due to decreased commuting costs.
- **Hypothesis 1.8:** Corridor 6 improvements will decrease the number of motor vehicles owned and their use due to decreased commuting costs.

Hypothesis 2: Corridor 6 Improvements will Increase Overall FLFP

By reducing commuting costs (broadly defined), the Corridor 6 improvements should change female labor force participation in DKI Jakarta in several ways. First, reducing commuting costs will free up a substantial amount of time, monetary, and psychological resources for women. This may allow them to change their *employment status*, by entering the labor market and starting a new job (i.e., extensive margin). It may also allow them to work longer hours than they did before (i.e., intensive margin). Improved safety and gender-specific improvements to public transportation may also extend hours by making it easier for women to come home after dark.

- **Hypothesis 2.1:** BRT Corridor 6 improvements will increase the probability of employment due to decreased commuting costs.
- **Hypothesis 2.2:** BRT Corridor 6 improvements will increase the numbers of hours of work due to decreased commuting costs.

Women may also alter the *types of jobs* they choose after the Corridor 6 improvements take place. When it gets easier to venture farther from home, women may be more likely to work in the formal sector, and they may be more likely to reduce time spent on household tasks or informal businesses that they may operate in their home. This is because the Corridor 6 improvements may reduce transport costs to formal wage jobs, especially in services, which are available in the metropolitan city center. The time savings from Corridor 6 improvements may also make them more likely to take full-time jobs. Additionally, due to improved travel safety and transparent bus schedules, women will be less likely to take alternative, possibly longer routes to work, and this may enable them to come to work on time, and more regularly. Finally, for all these reasons, females may end up taking more demanding, high-level roles at work, for which they are better qualified.

- **Hypothesis 2.3:** Corridor 6 improvements will increase the probability of formal employment due to decreased transport costs.
- **Hypothesis 2.4:** Corridor 6 improvements will increase the probability of full-time employment due to decreased transport costs.
- **Hypothesis 2.5:** Corridor 6 improvements will increase the probability of regular and punctual job attendance due to decreased transport costs.
- **Hypothesis 2.6:** Corridor 6 improvements will increase the probability of getting promoted or the probability of working in a job that represents a better skill match.
- **Hypothesis 2.7:** Corridor 6 improvements will decrease the probability of being overqualified for a job due to decreased transport costs.

Hypothesis 3: The Impact of Corridor 6 Improvements Will Vary for Different Types of Females

Some women in DKI Jakarta may not be on the margins of labor force participation. This could be for a variety of reasons, such as their household structure (e.g. married with young children at home), age, or socioeconomic status. Labor demand conditions may also play an important role in keeping women out of the labor market (e.g., formal employers are unwilling to hire new mothers since they are required to pay for 6 weeks of maternity leave, as discussed in Schaner and Das, 2016), and if these are dominant in Jakarta, Corridor 6 improvements may do little to impact women's labor force participation. However, we expect that there are a large number of women who could be on the margins of such a labor force participation decision, and these are exactly the women for whom changes in commuting costs could make a difference.

Based on our literature review on key determinants of FLFP and of the transportation system in Chapter 2, we have identified several subgroups of women who are most likely to be affected by reductions in urban transport costs. Our data indicates that the distance between one's home and a bus station plays an important role in determining transport mode choice. Since women often do not have alternatives to public transport (besides walking), we expect that women who are located in walking distance to Corridor 6 will increase their use of the BRT system. This may result in changes in labor outcomes, specified above.

- **Hypothesis 3.1:** Those located within walking distance to Corridor 6 stations are most likely to increase bus ridership after transport improvements are applied.
- **Hypothesis 3.2:** Those located within walking distance to Corridor 6 stations are most likely to change their labor force participation after transport improvements are applied due to increased bus ridership and related decreased transport costs.

Decreased incidence of sexual harassment may impact young females' decisions to ride buses the most. Because younger women are more likely to be unmarried and less likely to have children to care for, they may be relatively more responsive to changes in gender-specific transport improvement.

- **Hypothesis 3.3:** Younger women (age 15-34) are most likely to respond to transport improvements in Corridor 6 (due to safety improvements).

We also expect women who have completed either junior or senior/vocational school and who belong to lower-to-middle class income groups to be most responsive to changes in Corridor 6. As discussed in Chapter 2, these groups of women are at the bottom of U-shapes in the relationship between education and FLFP or the relationship between household income and FLFP. While women from lower income groups work out of necessity and may put less weight on transport-related factors in their decision to work, the opposite may hold for women in lower-to-middle income class. For them, other factors, such as travel safety, comfort, commuting time or other transport costs may have a stronger impact in their cost-benefit calculus when deciding how much labor to supply. This group is also more likely to be located within walking distance to Corridor 6 stations; some of the poorest areas are located far outside station catchment areas.

- **Hypothesis 3.4:** Women from low or middle income households are most likely to respond to the Corridor 6 transport improvements.
- **Hypothesis 3.5:** Women with junior or senior/vocational educational attainment are most likely to respond to the Corridor 6 transport improvements.

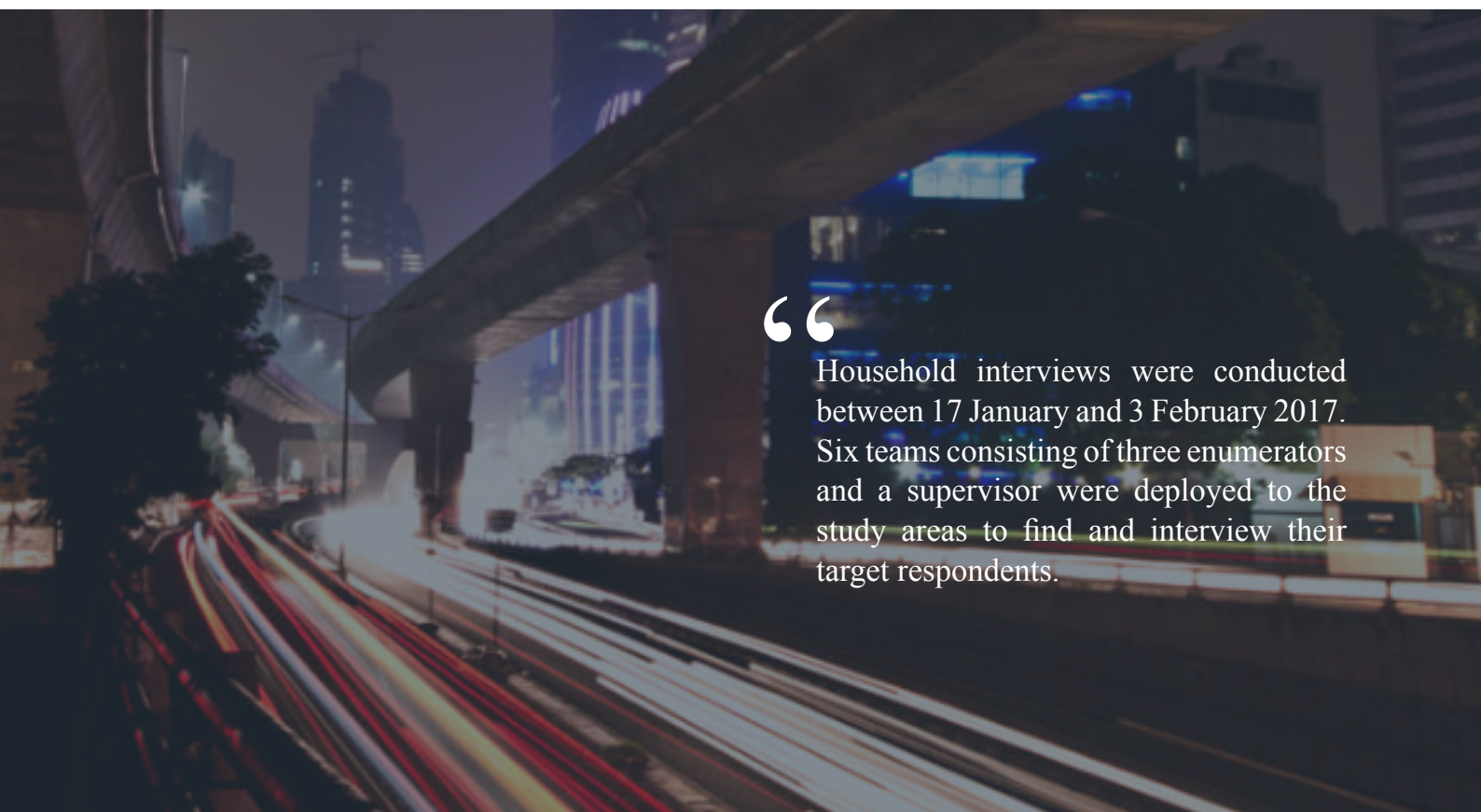
The impact of commuting cost reductions on women with small children is a-priori ambiguous. On one hand, some women with small children may be unwilling to supply labor, regardless of improvements to the BRT system. On the other hand, if BRT improvements enable mothers to access both formal and informal childcare more easily, or save women's time when performing other activities, such as dropping off and picking up children from school or doing groceries, these women could increase their LFP.

- **Hypothesis 3.6:** We expect that women with small children will respond to Corridor 6 improvements differently than women without small children.

Public Transport and the Disabled

Improvements in Corridor 6 may impact the disabled. On one hand, they may be affected because of their limited use of private vehicles and thus stronger dependence on public transportation. On the other hand, they may be relying on other transport forms, such as online transport modes, to the extent that Corridor 6 improvements will not change their use of public transport. It is likely that the effects will vary by the disability type and its severity. Corridor 6 improvements may impact the disabled differently depending on the type of disability they have (e.g., visual, hearing or some other functional limitation), and how severe their disability is. For instance, better BRT station maps and screens that display bus arrival times may help those with hearing disabilities, while space reserved for wheelchairs or better station access for wheelchairs may be more helpful for those with mobility impairments. At the same time, people with very severe disabilities may not respond to the transport improvements. Therefore, how the Corridor 6 BRT improvements affect people with disabilities is an empirical question.

- **Hypothesis 4.1:** Corridor 6 improvements will impact the use/perception of/satisfaction with public transportation by the disabled due to decreased commuting costs.
- **Hypothesis 4.2:** Corridor 6 improvements will change travel patterns of the disabled due to lower commuting costs, possibly by lowering the use of online transport modes.
- **Hypothesis 4.3:** The impact of Corridor 6 improvements on people with disabilities vary by the type of disability and its severity.



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Household interviews were conducted between 17 January and 3 February 2017. Six teams consisting of three enumerators and a supervisor were deployed to the study areas to find and interview their target respondents.

5. Survey Design and Fieldwork

To evaluate how the BRT Corridor 6 improvements will impact labor market outcomes for females and people with disabilities, and to assess baseline levels of satisfaction with transport services provided by TransJakarta, four new surveys were designed and fielded. The first survey, the household survey, was administered to 1,064 households living in DKI Jakarta, asking questions about socioeconomic status, household size, and physical household characteristics. The second survey, the individual-level survey, was administered to 1,040 females and 40 disabled individuals in these households, and was used to assess baseline labor market outcomes, commuting behavior, and severity of disability status. The third survey, the BRT rider survey, was administered to 500 BRT riders, asking questions about levels of satisfaction with their TransJakarta experiences and soliciting recommendations for improvements to the system. Finally, the household and individual-level surveys—which were quantitative in nature—were complimented with qualitative surveys that were more open ended, designed to better understand the context behind the survey responses.

These surveys were designed collaboratively by SurveyMeter, RAND, and AIPEG. To assess baseline labor market indicators and commuting behavior, these surveys were fielded in three different survey areas: the BRT Corridor 6 catchment area, the BRT non-Corridor 6 catchment area, and the non-BRT bus areas. By following individuals in these areas over time and comparing changes in their responses, our survey design should be able to estimate the causal impact of the Corridor 6 upgrades on female and disabled labor market outcomes. If people move to new locations in the next survey wave, the surveyor will be able to visit their old housing units and interview the new individuals who live there; this will enable us to assess how the Corridor 6 BRT improvements affected neighborhood change.

This chapter provides an overview of our survey approach, including how we defined survey areas, sampled individuals from those areas, and designed the survey, including pre-testing and modifying the questionnaires. We also describe how the surveys were implemented and quality assurance. Detailed discussion on the selection of location, sampling frame, listing procedure, and random selection of the respondents are discussed in Appendix A: Baseline Study Plan and Survey Design.

Household Survey Design

The household survey was designed to collect detailed quantitative information on individual labor market outcomes for a representative sample of women aged 15-65 that live within 5 km of a BRT station in DKI Jakarta. Questions asked included not only measures that can be used to calculate standard indices of unemployment and labor force participation, but also more detailed and nuanced response items, such as whether the current job is a good match for one's skills, the factors play that play a role in choosing a job, and reasons why

individuals accept or decline job offers or were fired. Importantly, the goal in designing these questions was to examine how transport-related factors, such as location or commuting times, played a role in participation and how well jobs match an individual's skills.

This detailed module on labor market outcomes was combined with a module to assess commuting behavior. Respondents were asked to provide a detailed sketch of their regular travel behavior during a typical week, where travel means leaving their local neighborhood (*rukun tetangga*, or RT). Information collected included departure times, modes chosen, and the number and duration of stops (if, for example, an individual dropped off their child at school before heading to work).

At the individual level, demographic indicators were also collected, including age, marital status, and educational attainment. To identify disabled respondents, detailed information was collected to measure functional limitations in performing several different daily activities. These questions were asked in separate module on disability in the household survey, which was only administered to individuals who self-identified as having some disability.⁹ Beyond just measuring disability status, this module also provides questions on how their disability limits them and whether their needs are being adequately met by public transportation.

Household-level data on the demographic profile of all household members, information on household income, and measures of housing quality were also collected. Combined with the individual-level information, this will allow testing of several hypotheses laid out in Chapter 3. More importantly, the information collected in this baseline provides the foundation for a future rigorous quantification of the benefits of improvements to the bus system. Although the public release data files do not contain any identifying information, the confidential data include highly detailed information on the sample, such as cell phone numbers, physical addresses, and email addresses. This can be used, in future work, to follow up with respondents in a few years, and ask them to respond to a similar survey. Moreover, the surveyor can also visit the same locations where the surveys were conducted, to see if improvements to the BRT system induced changes in housing quality, new construction, or gentrification as different individuals move into the affected areas.¹⁰

Study Population and Sampling Framework

The target population of the household survey was women aged 15-65 and people with disabilities aged 15-65 who reside in the selected study areas, regardless of their labor market participation and their use of BRT.¹¹ By design, the household survey focused intensely in the area around the catchment areas of the BRT corridors; this survey area is called the BRT Corridor 6 survey area. However, to provide a comparison group representing women who

⁹ For the purpose of this study, we have defined a person with disability as someone who has difficulties in performing daily activities without help due to physiological, physical, or cognitive disabilities. However, in our in-depth interviews and FGDs, we limit our respondents to those with physiological disabilities. We acknowledge that other groups with disability also deserve attention and may be a focus of other future studies.

¹⁰ The final individual and household-level questionnaires can be found in Appendices B through E.

¹¹ Appendix A describes our approach to stratified random sampling of the survey participants.

would be largely unaffected by the BRT Corridor 6 improvements, and to better understand changes in commuting and labor force participation for non-BRT riders, we also collected additional data in two different survey areas: (1) non-BRT *kelurahan* and (2) non-Corridor 6 BRT *kelurahan*. Table 5.1 provides an overview of the target sample sizes, numbers of RT, and numbers of household and individual respondents for each of these three study areas.¹²

Table 5.1: Target Sample Sizes for the Household Survey

	BRT Corridor 6	BRT Non-Corridor 6	Non-BRT	Total
Number of <i>kelurahan</i>	8	4	4	16
Number of RT	40	20	20	80
Number of households	537	265	265	1067
Number of female respondents	520	260	260	1040
Number of disabled respondents	20	10	10	40

As described in Chapter 4, the working hypothesis is that commuting cost reductions may be most effective for women who are on the margins of labor force participation, such as women from low and lower middle-income households.¹³ Even though the sample is not stratified by income status nor did we oversample low-middle income households, we did collect data on socio-economic status, so that future analysis can stratify by income status, for example.

Study Areas

To carry out the household survey, we began by selecting 16 different *kelurahan*, where enumerators would be conducting interviews. All *kelurahan* were chosen from the District of South Jakarta, and the *kelurahan* were grouped into 3 different study areas: (1) the *BRT Corridor 6 Area*, consisting of *kelurahan* within 1 km of the South Corridor 6 shelters; (2) the *Non Corridor 6 BRT Area*, consisting of areas within 1 km of other BRT shelters, and (3) the *Non-BRT Bus Area*, consisting of areas that are farther from BRT shelters but also in South Jakarta. Table 5.2 provides a summary for our approach to selecting *kelurahan* for the study. The first column of this table lists the study area, and the second column describes the universe of *kelurahan* that constitute this study area. The third column details the Sampling Approach, and the fourth column indicates the number of selected *kelurahan*.

¹² In Indonesia, all villages are divided into *rukun warga* (RW), and these RW are subsequently divided into *rukun tetangga* (RT). Each RT consists of a collection of households.

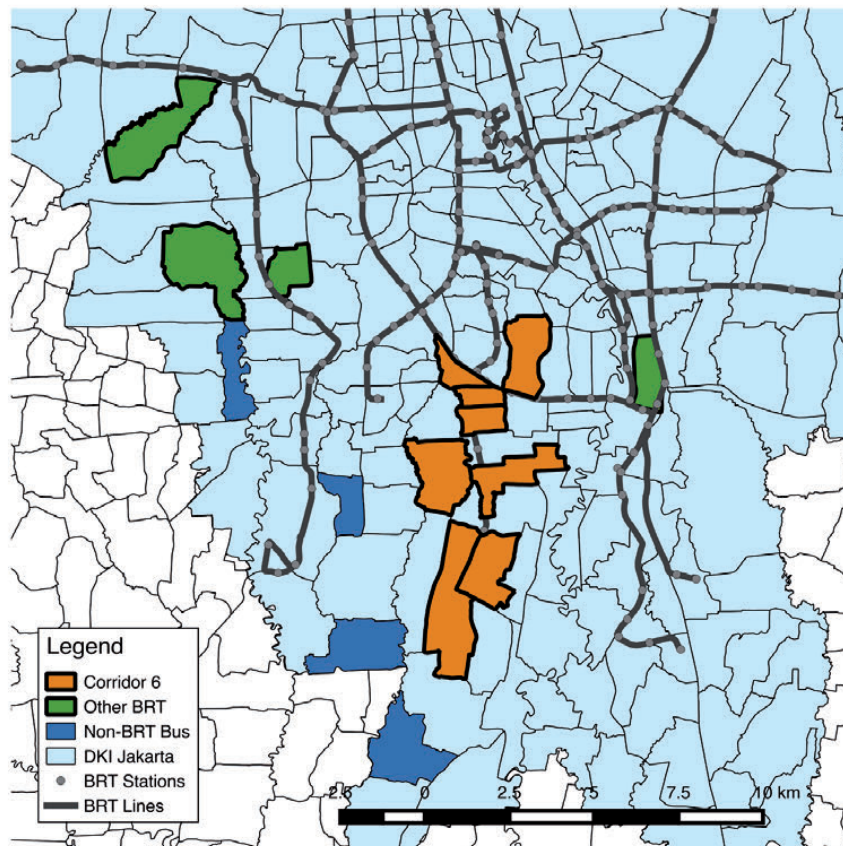
¹³ Because of this, we considered completely excluding high-income individuals from the sample, but following a series of discussions with AIPEG and IndII, we decided not to actively exclude high-income households. However, for practical concerns, we did not survey households in luxurious compounds or high-income apartment buildings, where many high-income individuals reside.

Table 5.2: *Kelurahan* Selection Summary

Study Area	Universe	Sampling Approach	Number of <i>Kelurahan</i> Selected
Corridor 6	All DKI Jakarta <i>kelurahan</i> with at least some portion of their area within 1 km of the South Corridor 6 shelters. (N = 15)	Random selection	8
Non Corridor 6 BRT	All DKI Jakarta <i>kelurahan</i> that are within 1 km of any other BRT shelter, excluding South Corridor 6 and North Corridor 6 (N = 169)	Non-random, based on similarity between Corridor 6 <i>kelurahan</i> .	4
Non-BRT Bus	All DKI Jakarta <i>kelurahan</i> that are not within 1 km of the South Corridor 6 shelters but are also in South Jakarta City (N = 50)	Non-random, based on traditional bus ridership use	4

In Appendix A, we provide more detail on exactly how the 16 *kelurahan* in our study were selected. Figure 5.1 shows where the selected *kelurahan* are located, by survey area.

Figure 5.1: All Selected *Kelurahan* for Study, DKI Jakarta



SOURCE: Authors' calculations, using the 2010 BPS shapefile of *kelurahan* in DKI Jakarta. Non-Corridor 6 BRT selected *kelurahan* appear in dark green, while non-BRT *kelurahan* appear in dark blue.

Selecting RT, Listing Households, and Sampling Households and Individuals

After selecting *kelurahan* for the study, we used a procedure to randomly sample RTs from each selected *kelurahan*. Because maps of the RT inside each *kelurahan* were not readily available, we used geospatial software and digital *kelurahan* maps to randomly generate points within each *kelurahan*. We then randomly selected those points based on their distance to the BRT station. In December 2016, before fielding the household survey, SurveyMETER teams used GPS devices to visit these selected points, determined the RTs that those points were located in, confirmed that those RTs were suitable for survey work, and conducted an exercise to list all households in the selected RTs.

For each selected RT, based on information from RT head or RT activist, we conducted a listing of the households that both lived in each RT and contained either a female aged 15-65 or a disabled person aged 15-65. This listing exercise was a “mini-census”, created by completing a quick 1-2 pages questionnaire. Information collected in the listing questionnaire determines whether eligible females live in the household, whether or not they are working, or/and whether or not there are disabled persons in the household.¹⁴ In total, we attempted to interview 6,980 households for the listing exercise, but only 5,718 households were willing to respond to the survey, yielding an overall response rate of 81.9 percent.¹⁵

After listing households in each of the selected RTs, we randomly selected households from this list using a sampling procedure in the CAPI software. For each randomly selected household, the listing data was used to randomly select one female within the household that matched the age criteria (18-65 years old). Then, we revisited households and attempted to conduct the household and individual-level interviews. However, some households refused to participate or were not home when we tried to interview them, so they were replaced with another household. Overall, we made 1,440 attempts to contact households, but only 1,064 successfully responded, leading to an overall household response rate of 73.89 percent.¹⁶

Process to Identify and Sample Respondents with Disabilities

For our survey of disabled individuals, we sought to interview 50 respondents (men and women).¹⁷ We used a three-stage process to identify respondents with disabilities. First, when we conducted the listing exercise for female respondents at the RT level, we also asked a

¹⁴ In addition, the listing form includes questions about whether the households know of any other eligible households in the RT with at least one eligible female or person with disability in the household. This listing process was conducted because we expected that RT heads would not be able to provide up to date, accurate information about who lives in the RT. We also tried unsuccessfully to obtain the sampling frame from the 2010 Census from BPS.

¹⁵ More details on the listing procedure can be found in Appendix A and Appendix F.

¹⁶ Details on the selection of females and respondents with disability to interview, as well as non-response, can be found in Appendix F.

¹⁷ Extrapolating from the recent study by Kawaguchi and Wakamatsu (2012) with a sample of 1,500 respondents, based on our target sample size of households, we expected to find around 40 persons with disability to interview. To make sure we reach our target of 50 respondents anticipate a situation where we found fewer than 40 respondents, during the listing exercise, we asked whether there are people with disabilities in the RT, and include the names as potential respondents.

screening question to find disabled household members, based on our working definition of disability status.¹⁸ If a household was known to have a disabled member, we asked briefly about the type of disability, and when visiting the household for the survey, we confirmed this disability status with the head of household. When we meet the individual, the survey evaluates whether the individual indeed has a disability. This is done visually but also by confirming with the individual directly or by talking to another household member/caretaker.

In some cases, the randomly selected female households also contained a disabled person who would then be added to the list of disabled persons. When we randomly drew the sample for respondents with disability, 10 of the 52 disabled respondents we ended up interviewing were from households where we also interviewed a female member.

Final Sample Results

Household interviews were conducted between 17 January and 3 February 2017. Six teams consisting of three enumerators and a supervisor were deployed to the study areas to find and interview their target respondents. The final sample sizes of non-disabled females and disabled individuals (males or females) for the household survey appears in Table 5.3. Roughly half of the sample is from the BRT Corridor 6 *kelurahan*, while 25 percent is from the BRT Non-Corridor 6 *kelurahan*, and the final 25 percent is from the Non-BRT Bus *kelurahan*.

Table 5.3: Final Sample Sizes, Household Survey

Panel A: BRT Corridor 6			
Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
Ragunan	63	4	67
Jati Padang	65	2	67
Bangka	66	2	68
Tegal Parang	64	6	70
Mampang Prapatan	64	2	66
Kuningan Barat	64	5	69
Kalibata	63	5	68
Menteng Dalam	63	5	68
Total	512	31	543
Panel B: Non-Corridor 6 BRT			
Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
Cipinang Cempedak	63	7	70
Srengseng	65	0	65
Kembangan Utara	65	4	69
Sukabumi Utara	64	3	67

¹⁸ As discussed in Chapter 4, we defined a person with disability as someone who has difficulties in performing daily activities without help due to physiological, physical, or cognitive disabilities.

Total	257	14	271
Panel C: Non-BRT Bus			
	Total Non-Disabled Females	Total Disabled	Total Interviews
Kelurahan Name			
Ciganjur	65	3	68
Pondok Labu	65	3	68
Gandaria Selatan	64	0	64
Ulujami	65	1	66
Total	259	7	266
TOTAL SAMPLE SIZE	1028	52	1080

In the household survey, interviews were designed to be completed in no more than 90 minutes. Efforts were made during survey design to make sure that all of the data we collected would be useful, while keeping the interview from running too long. The data showed that on average, the survey took around 69 minutes. Interviews with employed respondents tend to be slightly longer since there were more questions that they needed to answer.

Rider Survey Design

The Rider Survey was designed to obtain information about customer satisfaction with the BRT system and to solicit feedback on desired improvements to the system. As a baseline survey, the data collected would enable us to observe changes in riders' perceptions of the quality of public transport services over time, and to provide the foundation for evaluating changes in riders' experiences, attitudes, and expectations towards public transportation. Given the length of the interview and the focus on bus ridership, only limited information about respondents' backgrounds were collected. However, the survey did capture many demographic characteristics, such as age, education, employment, monthly income, and total individual expenditures.

The Rider Survey was administered to passengers of both BRT and non-BRT buses. The survey was conducted on buses in Corridor 6, corresponding to the same shelters that serve the *kelurahan* selected for the BRT Corridor 6 survey area of the household survey, on buses in Corridor 3, 8, and 10, which correspond the non-Corridor 6 *kelurahan* in the household survey, and on passengers of non-BRT buses that overlap with Corridor 6. The latter group corresponds to the non-BRT *kelurahan* in the household survey.

Target Population, Sampling Framework and Study Locations

The target population was 500 passengers of the BRT buses in Corridor 3, 6, 8, and 10 and also the non-BRT buses that overlap Corridor 6 buses. We further restricted survey respondents to be aged 15 to 65, and we only surveyed individuals who reside in DKI Jakarta. Survey responses can be easily gender-disaggregated, as we interviewed equal numbers of men and women. Table 5.4 below shows the number of target respondents by gender and location.

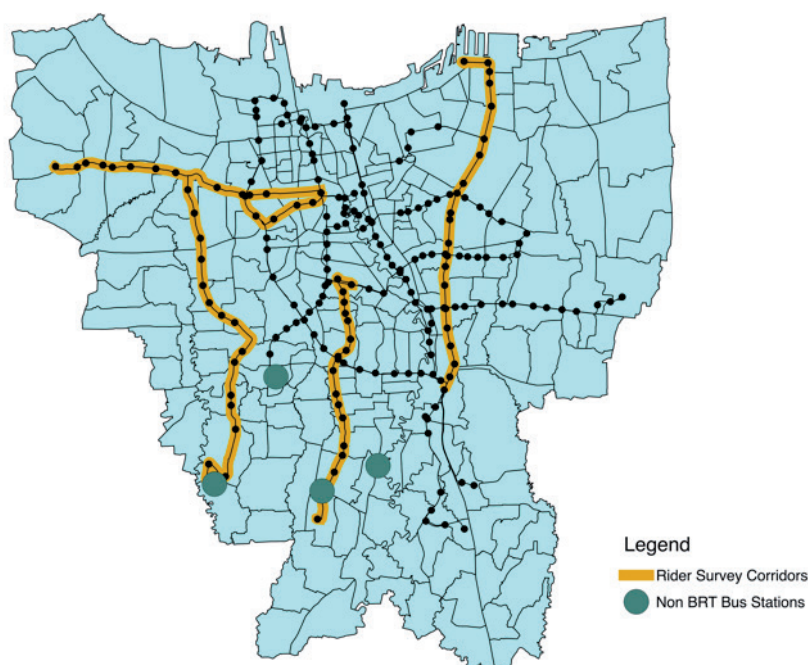
Table 5.4: Target Respondents by Gender and Location

Corridor	Interview location	Female	Male
BRT 6	On the bus	100	100
BRT 3, 8 10	On the bus	100	100
Non-BRT buses	Bus shelters and bus stops	50	50
All		250	250

Figure 5.2 shows where the rider survey was conducted. The yellow lines show the BRT corridors where we conducted our survey. Corridor 6, the main focus of this study is the corridor running North-South in the center. Corridor 3 is the corridor going West-East and intersects with Corridor 8 going North-South, and Corridor 10 is the corridor in the eastern part of Jakarta.

The teal-colored dots are locations where we interviewed the passengers for the non-BRT buses. These are the Lebak Bulus, Blok M, and Pasar Minggu terminals, and two bus stops at around Jl. Pertanian in South Jakarta (represented as one dot in the image below).

Figure 5.2: Study Locations for the Rider Surveys



Implementation: TransJakarta Rider Survey

The Rider Survey on TransJakarta buses was fielded between 21-25 February 2017. The survey was carried out by 12 enumerators who were deployed on different buses in the

selected routes.¹⁹ All enumerators were issued ID cards by TransJakarta that allow them to move freely between shelters and buses. The IDs were useful not only for identifying the enumerators to bus drivers and shelter managers, but also for obtaining consent from respondents.²⁰

The Rider Survey on BRT buses was conducted in four different times of day: morning peak hours, between 6 to 9 AM, morning off-peak hours between 9 AM to noon, afternoon off-peak hours between 1 PM and 3.30 PM, and afternoon/evening peak hours between 4.30 PM and 7 PM, with the goals of capturing different types of riders throughout the day. No one was interviewed between 7 PM and until the time when most of the BRT routes stop operating at 10 PM, so the survey is limited in terms of what it can say about the evening or late-night use of the BRT.

When conducting the survey, enumerators were instructed to take a position within a few seats of the door. There was not a protocol for randomly selecting the passengers to be interviewed (for example, to interview the n -th person that came on board the bus). Rather, the enumerators were instructed to interview the person sitting or standing close to them. When the interview was over, they were instructed to find another person to interview. Each enumerator had a certain number of target respondents in each of the four time slots.

Before the interview started, a few filter questions were asked to eliminate respondents who were not DKI Jakarta residents or respondents who would only be on the bus for very short time, since the interview could take up to 20 minutes. Informed consent was obtained and the interviews were conducted using tablets.

There was not any systematic way to record non-response in the Rider Survey; this would have required collecting data on all started and refused interviews, which was deemed to be too cumbersome by the enumerators. However, during the debriefing, the enumerators reported that in general people were willing to be interviewed, especially during the second and third time slots (off-peak hours). During the morning peak hour, packed buses made interviews more challenging. During the off-peak hours, more non-regular users of BRT were on board and thus ineligible to be interviewed.

Implementation: Non-BRT Bus Rider Survey

For non-BRT buses, the rider Survey was conducted on 27-28 February 2017. As discussed above, this part of the survey was conducted in bus terminals and bus stops. Permissions to conduct interviews in terminals were obtained from *UP Terminal* (Bus Terminal Management Unit) under *Dinas Perhubungan* (Transportation Office) of DKI Jakarta Province.

In bus terminals (Blok M, Pasar Minggu, and Lebak Bulus), enumerators were told to position themselves close to where the buses that overlap with Corridor 6 stops to drop off and pick up passengers. In bus stops, interviews were conducted with those waiting for the bus. Similar to the survey on BRT buses, the interviews were also conducted in four different

¹⁹ As explained in the Final Survey Design report, interviews with BRT passengers were much more effective when they were conducted in buses rather than in bus shelters where people were always on the move.

²⁰ Note that TransJakarta shelter managers and drivers were briefed by TransJakarta about the survey a week before the fieldwork started.

times of day. The morning peak hours proved to be the most challenging time slots since people were in a rush to go to work.

Final Sample Results

Table 5.5 shows the sample sizes of the Rider Survey by gender and time of interview. The Rider Survey was intentionally designed to be a short interview of no more than 30 minutes. The data shows that on average, the survey took around 18 minutes. The interviews conducted in Corridor 6 buses took a little bit shorter (16.6 minutes) while interview in non-BRT buses on average took almost 20 minutes.

Table 5.5: Rider Survey: Sample Sizes by Location and Time of Interview

Location and time of interview	Male	Female
Corridor 6 BRT buses		
06:00-08:59	25	25
09:00-11:59	25	25
13:00-15:30	25	25
16:30-18:59	25	25
Non-Corridor 6 BRT buses		
06:00-08:59	26	26
09:00-11:59	24	24
13:00-15:30	24	24
16:30-18:59	26	26
Non-BRT bus shelters/bus stops		
06:00-08:59	13	13
09:00-11:59	12	8
13:00-15:30	13	15
16:30-18:59	12	14
Total	500	500

Qualitative Surveys

Semi-Structured Interviews of Women (Employed and Unemployed)

For a sub-sample of the household survey respondents, a semi-structured qualitative survey instrument was administered. This instrument was designed to elicit contextual information on the constraints that women face in Jakarta and better tell the story behind the empirical findings. A variety of topics were considered, including labor market experiences, commuting choices, and the interaction between transport constraints and labor force participation. The instruments were pre-tested several times in the study locations with the final revision conducted after the quantitative survey has been completed. We selected 80 candidates for the female in-depth interviews that encompassed the different types of respondents and interviewed 50 of them. We also conducted in-depth interviews with 40

disabled persons. The selection of the specific individuals for qualitative responses was not random, as the survey was used to study different types of respondents based on their employment status, transportation use, socio-economic status, using the information collected from the quantitative household survey.

Our semi-structured interviews with disabled persons focused on the same topics as the in-depth interviews with non-disabled females, including labor market experiences and commuting choices. However, we also focused more closely on how disability status affects both commuting and labor market decisions, and tried to better understand the limitations of the existing public transport system in meeting the needs of individuals with disabilities.

Focus Group Discussions (FGD) with Disability Working Group KUAT

Before conducting the household survey, SurveyMeter and AIPEG held a meeting with IndII's Disability Working Group (KUAT). The meeting was aimed to provide feedback for us to improve the disability section in the survey instrument and to inform the in-depth interview guideline, discuss their current knowledge and attitudes toward public transportation, challenges encountered by the physically disabled in accessing public transportation, as well as their expectation on improvements. The discussion was very useful to help revise our approach in identifying respondents with disability and to revise the survey instruments. Final revision was conducted after the quantitative survey has been completed. We conducted a second FGD with KUAT on March 20, after the survey data were collected. This second FGD was used to complement the in-depth interview and strengthen our understanding on the issues of disability, transportation, and labor market participation.

Final Sample Results

In-depth interviews were conducted between 21 February and 6 March 2017. The team began by conducting the interview with respondents in the Corridor 6 *kelurahan* between 21-27 February, and then moved on to the non-Corridor 6 and non-BRT *kelurahan* in the second week of the qualitative survey. Table 5.6 shows the final sample of the interviews.

The interviews were conducted throughout the day, depending on the availability of the respondents. Most interviews with employed females were conducted after work, with some starting as late as 9 PM. The length of the interview ranged from 90 minutes to 2 hours.

Table 5.6: Sample Sizes of Qualitative Surveys, by Survey Area

Panel A: BRT Corridor 6			
Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
Ragunan	6	4	10
Jati Padang	4	2	6
Bangka	5	2	7
Tegal Parang	4	6	10
Mampang Prapatan	3	2	5
Kuningan Barat	2	6	8

Kalibata	3	5	8
Menteng Dalam	3	5	8
Total	30	32	62

Panel B: BRT Non-Corridor 6

Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
Cipinang Cempedak	5	4	9
Srengseng	3	0	3
Kembangan Utara	2	2	4
Sukabumi Utara	0	0	0
Total	10	6	16

Panel C: Non-BRT Bus

Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
Ciganjur	2	1	3
Pondok Labu	2	1	3
Gandaria Selatan	3	0	3
Ulujami	3	0	3
Total	10	2	12
TOTAL SAMPLE SIZE	50	40	90

Quality Assurance

The household and rider surveys were conducted using CAPI system where interviewers directly entered respondents' answers into a laptop (in the household survey) or tablet (in the rider survey). The data entry programs have incorporated various checks including skip patterns, interview completeness, and response consistency. In the field, the team supervisors were responsible for maintaining high quality of data through spot checking the completed interview, verifying the interview to the respondent, and observing selected interviews. Throughout the field work, supervisors were in constant communication with the Data Manager at the central office who was monitoring and checking the data quality of all data sent to the central office in Yogyakarta.

At the central office, the Data Manager monitored and checked all data received from the field for completeness of the information. The data were then re-checked and cleaned by independent data specialists. This process involved a team of experienced data cleaners and editors and was coordinated and managed by the Data Manager, under the supervision of the Project Leader.

An aerial photograph of a city, likely Singapore, showing a dense urban landscape. In the foreground, a large, modern building with a curved glass facade is visible on the left. The middle ground is filled with a mix of high-rise buildings and lower-density residential areas with red-tiled roofs. The background shows a hazy skyline of more skyscrapers under a cloudy sky. A quote is overlaid on the left side of the image.

“

We identified various socio-economic and demographic factors that influence the decision of women to participate in the labor market.

6. Data Analysis: Female Labor Market Characteristics

The household and individual-level surveys provide new, detailed labor market indicators and rich measures of socio-economic characteristics for the 1,028 females in the sample. These statistics were used to produce a baseline assessment of the overall rates of female labor force participation (FLFP)²¹, unemployment²², and other labor market outcomes for our sample. To assess the impact of future transport improvements, like the BRT Corridor 6 upgrades, on FLFP, we can monitor the labor market behavior of individuals in our sample and compare changes in these indicators for individuals in affected areas to changes in these indicators for individuals in different survey areas.

Overall, we found that our sample of DKI Jakarta residents had an FLFP rate of 61.6 percent. The vast majority of this participation rate reflects actual employment; only 7.3 percent of participating females reported that they were unemployed. For women that were employed, nearly two thirds were working full time, and one in four females were part time workers. The unemployment rate²³ for our sample was quite low (4.5 percent), but by construction, it ignores people who are not participating, and does not adequately present the full picture of the female labor market.

Our survey results also confirm many of the drivers of FLFP that were identified in the literature. We observe an inverse U-relationship between FLFP and women's socio-economic status (SES) status with women from medium SES group being less likely to work or search for work. Marital status and childrearing also affect FLFP; women who are married and have a young child at home are substantially less likely to be employed, and if they do work, spend fewer hours working.

When asked to select the most important reason why women are not working or searching for work, most women chose childbearing and housekeeping. Interestingly, although we offered respondents the option of selecting several transport related reasons for not searching for work, such as "commuting costs are too high", or "limited / no access to public transport", no individuals selected these reasons. This suggests that overall, transport improvements may not be the most important reasons for not working, but they may still play a role in other labor market outcomes.

²¹ We define a labor force participant as someone between 15-65 years old who either worked in the week prior to survey, or was searching for work in the past month, or is not searching because she is discouraged because she feels it is impossible to find a job. The working-age population used in this report slightly differs from the BPS's that uses the population aged 15 years old and above.

²² We define unemployed as someone between 15-65 years old who did not have any job but is looking for work actively during the survey week, or is not searching because she is discouraged as she feels it is impossible to find a job.

²³ The unemployment rate is defined as the number of unemployed as a percentage of the labour force. This definition follows the one used by BPS.

Index of Household Socio-Economic Status (SES)

The household module of our survey records socio-demographic information for the 1,064 households that were sampled in the Corridor 6 survey area ($N = 536$), the non-Corridor 6 BRT area ($N = 265$), and the non-BRT bus survey area ($N = 263$). However, in our individual-level surveys, we only recorded information for females living in these households that are 15-65 years old ($N = 1,056$).

From the literature reviewed in Chapter 2, we identified various socio-economic and demographic factors that influence the decision of women to participate in the labor market. To measure these factors, our household survey collected information on multiple indicators that each capture different aspects of wealth, such as housing quality, vehicle ownership, educational attainment and household income. Our survey also collected additional household demographic information, including the age of females and their children, the relationship of the female respondent to the main householder, and household structure and size.²⁴

To measure SES, we first aggregated the socio-economic indicators into a single, summary index, using the principal component analysis (PCA). Variables included in this index are house ownership, motor vehicle ownership, access to water, sanitation, electricity usage, housing quality (e.g., roof, floor and outer-wall materials), and dwelling size and type (e.g., single or multiple unit). The index also includes household size and both food and non-food expenditures in the last week.²⁵

This SES index measures household wealth as a single, continuous variable; higher values correspond to households that have relatively greater SES. Based on this index, we further group households into terciles of SES. Throughout the report, we refer to those in the top tercile as the high SES households, those in the second tercile as the medium SES households, and those in the lowest tercile as the low SES households.²⁶

Note that the SES terciles do not reflect an objective measure of affluence. Instead, the SES index reflects the extent to which some individuals in our sample are relatively better off than others. To illustrate this, Table 6.1 shows the relationship between SES index and total expenditures, expenditures per capita, and average years of schooling of adults.²⁷ In this table, the first column lists the variables summarized, while the second reports the overall

²⁴ For more details on these variables, as well as a discussion of descriptive statistics, see Appendix G.

²⁵ Principal component analysis (PCA) is a statistical procedure that converts a set of observations of variables into a set of values of linearly uncorrelated variables, using an orthogonal transformation of the data. These linearly uncorrelated variables are called principal components, and the transformation is defined so the first principal component has the largest possible variance (accounting for as much of the variability in the data as possible). We use the first principal component of the variables described above to construct the SES index. For other applications of this principle components analysis, as well as greater details on how to implement this procedure, see Deaton (2003) and Rutstein and Johnson (2004).

²⁶ Due to concerns about making inference from small sample sizes, our analysis uses terciles of SES instead of quintiles or deciles.

²⁷ Household expenditures and expenditures per-capita were derived from questions about weekly food expenditures and monthly non-food expenditures. Expenses for individual items were aggregated to form a total household measure.

mean and standard deviation (in parentheses) of the variable listed in the row title. The next three columns report the mean and standard deviation separately for each of the different SES levels the sample.

As shown in Table 6.1, the average household spent over Rp 6 million on food and non-food expenses in the last month, but in per-capita terms, this average is only Rp 1.6 million. The latest data from Susenas 2015 show that the average per-capita expenditure is Rp 1.7 million for DKI Jakarta and Rp 1.1 million for urban areas in Indonesia (BPS 2017).²⁸ Compared to Susenas, the average per-capita expenditure in the sample is quite similar to Susenas. As SES increases, both total expenditures and expenditures per capita also increase. However, high SES households in our sample only spend on average Rp 2 million per capita per month, while low SES households spend an average of 1.2 million per capita per month, more than twice the poverty line of Rp 520,690.²⁹ Moreover, as SES increases, houses have slightly more people and average years of schooling increases, but even low SES households have an average of 9.9 years of schooling, equivalent to some senior high school.

Table 6.1: Household Expenditures and Years of Schooling by SES

	Overall	Low SES	Medium SES	High SES
Total Expenditures (Millions of Rp)	6.1 (5.5)	4.2 (2.0)	5.5 (3.1)	8.6 (8.2)
Expenditures Per Capita (Millions of Rp)	1.6 (1.3)	1.2 (0.8)	1.5 (1.1)	2.0 (1.8)
Years of Schooling (adults 18+)	10.8 (3.0)	9.9 (3.1)	10.7 (2.8)	11.9 (2.9)
Number of Household Members	4.2 (1.7)	3.8 (1.5)	4.1 (1.5)	4.7 (1.8)
<i>N</i>	1,064	355	355	354

NOTE: This table reports means and standard deviations (in parentheses) of total household expenditures, expenditures per capita, and household size across the 1,064 households in our sample. Means in the overall column are based on 1,064 household observations, while means in the SES columns are based on 355, 355, and 354 observations, respectively.

Individual-Level Demographic Characteristics

In Table 6.2, we provide basic summary statistics on the individual-level demographic characteristics for the 1,028 non-disabled females surveyed in our data collection. The average age of a female survey participant is 37.4 years with about 10.6 years of schooling. Almost 80 percent of the women surveyed were married, and most were also spouses of the household head (73 percent). Only some 7 percent of females interviewed were the

²⁸ The data can be downloaded from <https://www.bps.go.id/linkTabelStatis/view/id/940>. The link is accessed on May, 26 2017.

²⁹ Note that at the DKI Jakarta poverty line of approximately Rp 560,000 per-capita expenditures per month, approximately 5 percent of the sample is defined as poor, and 9 percent of low SES households are defined as poor. As SES increases, the poverty rate falls substantially, as expected.

household heads themselves. Less than 16 percent of the sample consists of female children of household heads.³⁰

Over 35 percent of the sample consists of females that have at least one child younger than 5 years old. Many of these women spend a considerable deal of time caring for their children; women who care for their children spend nearly 10 hours per day caring for them.

From the SES breakdown in columns 2-4, SES is positively correlated with age and education, but negatively correlated with marital status, hours spent on child care (for females who have children younger than 12). This could be related to the fact that women from low SES have more younger children to care for: the share of women who have three or more children below age of 12 is slightly higher among women from low SES (11 percent) compared to higher income groups (8 percent and 9 percent for women from medium and high SES, respectively).

Table 6.2: Individual Demographic Characteristics, Females

	All	Low SES	Medium SES	High SES
Age	37.4 (11.6)	36.3 (10.9)	36.9 (11.2)	39.1 (12.4)
Years of Schooling	10.6 (3.9)	9.4 (3.9)	10.4 (3.6)	11.9 (3.9)
Married (%)	79.1	80.7	81.4	75.1
Household Head (%)	7.2	8.3	7.1	6.1
Spouse of HH head (%)	72.8	77.6	76.6	64
Child of HH Head (%)	15.7	10.9	12.4	23.7
Child Less than 5 Years (%)	35.6	37.6	39.9	29.2
Hours spent on childcare (per day)	9.9 (4.9)	10.3 (4.9)	10.2 (4.8)	9.2 (4.9)
N	1,028	348	338	342

NOTE: This table reports means and standard deviations (in parentheses, where appropriate) of various individual-level demographic characteristics for females in our sample. The sample is restricted to the 1,028 non-disabled females interviewed as part of our survey.

Female Labor Force Characteristics

In Table 6.3, we report statistics on the labor market situation for the non-disabled females in our sample. The first row reports statistics on labor force participation, where participation is defined as equal to one if either that person worked last week, or had been searching for work in the past month, or is not searching because they are discouraged, meaning that they feel it is impossible to find a job.³¹

³⁰ Approximately 6 percent of females in our sample have some other relationship to the household head. These relationships include being sisters, daughter-in-laws, or nieces of the household head.

³¹ This definition of labor force participation follows one used by BPS in its assessment of labor market conditions. It is similar to the ILO definition of labor force participation, except that discouraged workers are

In our sample, over 61 percent of females are labor force participants.³² This is significantly larger than the 54.5 percent FLFP statistic for DKI Jakarta reported by BPS from their February 2016 SAKERNAS survey, and it probably reflects the fact that we sampled individuals living in relatively more affluent areas than the general DKI Jakarta population as a whole. Statistics may also differ due to the fact that SAKERNAS measure of FLFP refers to women aged 15 and over, while our sample is limited to those that are between 15-65 years old.³³ The vast majority of this participation rate reflects employment, with 92.7 percent of participating females reporting that they were employed last week (Row A), and only 7.3 percent of participating females reporting that they were unemployed (Row B).

Table 6.3: Female Labor Force Participation and Unemployment

	All	Low SES	Medium SES	High SES
Labor Force Participation Rate	61.6	61.5	59.2	64.0
... A. <i>Employed Last Week (%)</i>	92.7	93.0	94.5	90.9
..... A1. Full Time Workers (%)	62.1	64.5	59.8	61.8
..... A2. Part Time Workers ³⁴ (%)	37.9	35.5	40.2	38.2
..... A3. Working Multiple Jobs (%)	17.5	16.5	16.4	19.6
..... A4. Self Employed Workers (%)	36.8	36.0	39.5	35.2
..... A5. Hours Normally Worked per Week	38.8	39.7	36.5	40.2
... B. <i>Unemployed Workers</i>	7.3	7.0	5.5	9.1
Unemployment Rate	4.5	4.3	3.3	5.8
Non-Participation Rate	38.4	38.5	40.8	36.0

NOTE: This table reports the female labor force participation rate, unemployment rate, and non-participation rate in for the 1,028 non-disabled females in our sample. Labor force participation is defined as working, unemployed, or discouraged from working (see Footnote 9 above). In rows A1-A5, we report the share of the employed, participating work force that is full-time, part-time (defined as working more than 8 and less than 40 hours a week), working multiple jobs, self employed, and hours worked (for those who are working).

Of those who were employed last week, 62.1 percent of females reported working full time (Row A1), and 37.9 percent of females were part time workers (Row A2). The share of part-time workers varies slightly across all SES groups: among workers from the lowest SES tercile, 36 percent of them are working part-time, compared to 38-40 percent of women coming from medium and top SES terciles.

Less than 18 percent of participating females worked multiple jobs (Row A3), and approximately 37 percent are self-employed workers (Row A4). The typical worker works an

not considered part of the labor force. In practice, our sample contains only 4 discouraged workers (out of 1,028, or 0.39 percent), so observed summary statistics will be similar across definitions.

³² Henceforth, we use “working or searching for work” and LFP interchangeably.

³³ BPS (2016) Indikator Pasar Tenaga Kerja Indonesia, August 2016, Table 7. A similar FLFP statistic is also reported in Table 2.1 from the 2014 SUSENAS for Jakarta Selatan, the district covered in our survey.

³⁴ We also calculated statistics for a part time worker that works less than 35 hours per week, as defined by the BPS. 40.4 percent of those employed last week were working part time: 37.5 percent among those from low SES, 42.4 among those from medium SES, and 41.38 among those from high SES.

average of 39 hours per week (Row A5), though the variation in hours worked is large, reflective of the relatively large proportion of the sample that works part time. The final rows of the table report the unemployment rate for the sample (4.5 percent) as well as the non-participation rate. The unemployment rate for our sample is quite low, but because unemployment as a measure ignores people who are not participating, it does not adequately present the full picture of the female labor market.

Female Labor Force Characteristics by SES and Age Group

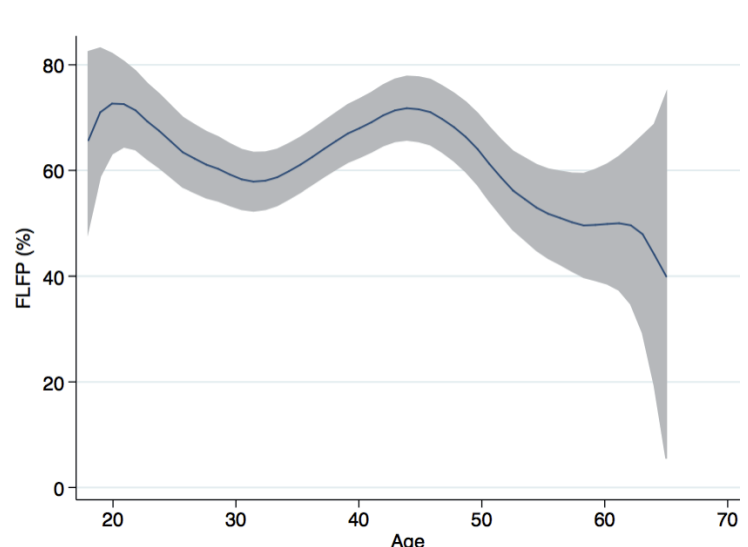
The findings from our household survey data are in line with the drivers of FLFP as identified in the literature review, that is, labor force participation is particularly affected by socio-demographic factors, such as SES, marital status, or having young children. We find that in our survey data, nearly two thirds of women without children below the age of five participated at the labor market (66.1 percent) compared to those that have at least one child younger than five (53.3 percent). Moreover, 67 percent of non-married women participated in the labor market, compared to only 60.1 percent of the married ones. The share of non-married women searching for jobs in the previous month is also larger than the share of married women searching for work (14.8 percent compared to 5.7 percent, respectively).

Marital status and caring for young children below 5 also affect labor supply decisions at the intensive margin as well: women with young children stay at work for fewer hours (35.4 hours per week) compared to those without children (40.3 hours per week). Women with young children are also more likely to work part time (44.3 percent compared to 35.2 percent) and only work a single job (only 13.6 percent work multiple jobs, compared to 19.2 percent).

In Figure 6.1, we report estimates of the relationship between FLFP and age, which supports the hypotheses that child-rearing plays a large role in the decision to work.³⁵ While our results are based on cross-sectional data, they agree with the cohort analysis using the longitudinal data by Schaner and Das (2016). We observe that more than 65 percent of women participate in the labor market in their early twenties, however their LFP declines soon after during their child-rearing age, and it rises again after children grow older, peaking in their early 40s. Indeed, majority of women in our sample with at least one child that is younger than 12 are between 25 and 35 years old. After the mid 40s, labor force participation declines, presumably as individuals begin to retire. Female labor force participation also varies by SES status, as discussed in the literature reviewed in Chapter 2.

³⁵ This figure plots the non-linear relationship using a local polynomial regression, a non-parametric estimation technique.

Figure 6.1: Non-Linear Relationship between FLFP and Age

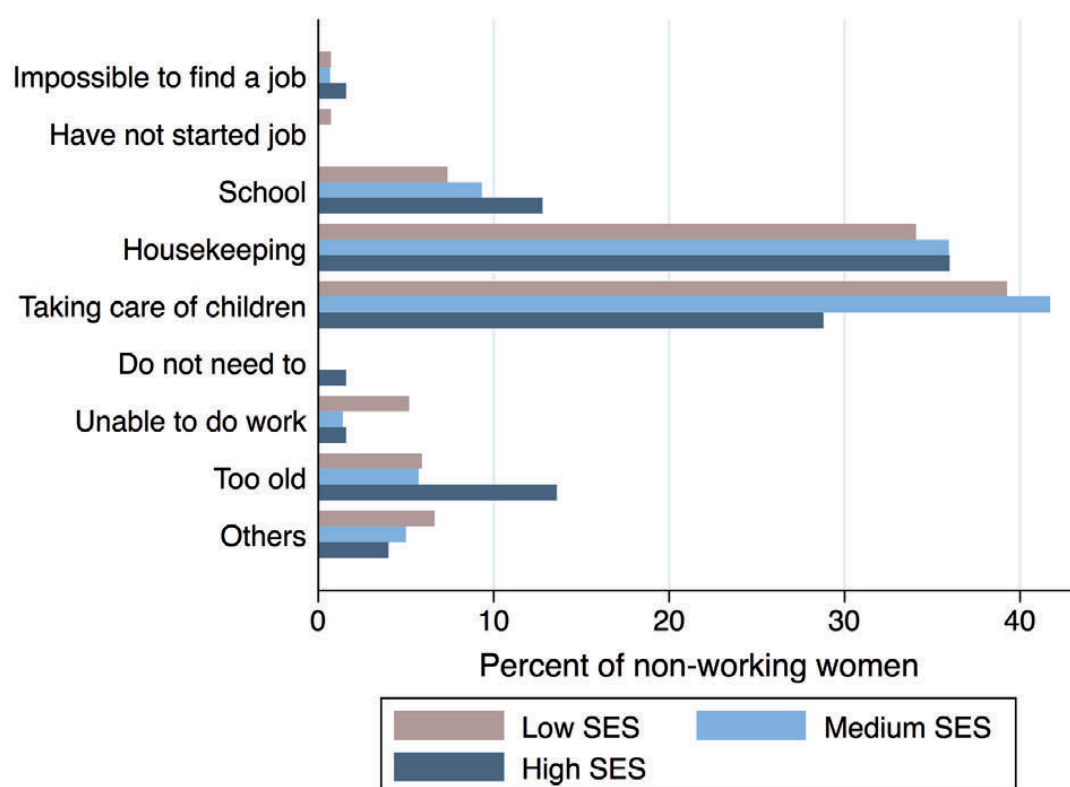


Note: This figure shows the association between age and FLFP for women aged 18 and older. The figure is plotted using local polynomial regression, with a rule of thumb bandwidth. 95 percent confidence intervals are delineated by the grey bands.

Reasons for Not Looking for Work

In our sample, 38.4 percent of women are not seeking work, meaning that they are not active participants in the labor market. In Figure 6.2, we plot the shares of females who report different reasons for not participating by SES tercile. In the survey, we asked women who were not seeking work to choose a single reason that best explains this choice. Most women said that they are out of the labor force because they are either housekeeping (35.3 percent) or taking care of their children (36.8 percent). Housekeeping as the reason for not seeking work does not vary substantially across socio-economic status, but care of children matters more for women from low and medium SES. Indeed, for the low and medium SES terciles, women aged 25-40 make up the largest share of women not seeking work (53 and 48 percent, respectively), compared to 30 percent of women in this age-group from the highest SES. Instead, for high SES women, women older than 50 represent the largest share of women not seeking work: 35 percent compared to 16 in other two income groups. To this end, the proportion of high SES females who report not looking for work because they are too old is twice as high as the other SES terciles. Such correlations between reasons for being out of the labor force and age are consistent with the U-shaped relationship between FLFP and age presented in Figure 6.1 above.

Figure 6.2: Reasons for Not Looking for Work, by SES



Note: This figure reports the percent of non-working females who self-report different reasons for not looking for a job by SES tercile. The overall sample size is 399. “Unable to do work” means that they feel that they cannot physically participate in the labor market, due to disabilities or other health concerns.

We asked women who are neither working nor searching for work to pick a single most important answer for why they were not looking for work. They were offered several transport related options for not searching for work, such as “available jobs are far from home”, “commuting costs are too high”, or “limited / no access to public transport”. However, none of these respondents selected these options as their primary reason for not working or looking for work.

This may suggest that commuting costs are probably not the most significant factor in female decisions to enter the labor market. However, while commuting costs may not be the most important factor in driving participation, they could still play an important, but perhaps more nuanced role, compared to other factors, such as social expectations and norms. Our in-depth interviews agree with this reasoning (an example is provided in Box 6.1).

Box 6.1: In-Depth Interview on LFP, Child Care, and Urban Transport Costs

Nova (not her real name), 25 years old, lives with her husband and a small child in a rented house in Pasar Minggu area. After graduating senior high school, she moved to Jakarta in 2010 and worked as a waiter in a number of small restaurants before moving to work in a restaurant chain that has outlets in Kuningan and Pasar Baru. After she got married she felt that she was increasingly asked to work in different outlets and different shifts, including the

night shift. She resigned from her job when she was pregnant in 2012. These days Nova is a homemaker. When she needs to travel, she would mostly take the *angkot* except when she goes to Blok M then she would take the BRT. Her husband is a regular BRT user but sometimes had to take the online *ojek* when he is in hurry.

Nova said she wanted to work but someone needs to take care of their child. Back in the village, there is family who would help care for the child. In fact, her family wants her to work but Nova does not want to be separated from her child. She said her husband does not encourage her to work but would let her work if she wants to. If she had to work now, she prefers to work close to home or even from home, and she would much prefer look for jobs that are close to where they live now than move closer to the new job. Before she was married she once turned down a job because it was too far, but she also quit from a job close to where she lived because the pay was too low. She would seriously look for a job when their child is older and her husband's income is no longer enough for them.



“

Interestingly, not all working women reported regularly traveling to work; if they were employed in the informal sector, they could often work at home without commuting.

7. Data Analysis: Urban Mobility and Labor Market Outcomes

Our survey represents one of the first attempts to simultaneously collect a rich set of labor market outcomes together with detailed information on urban mobility, including patterns of regular travel within DKI Jakarta, modes of transit, commuting times, and vehicle ownership. As such, this baseline survey, especially when combined with a similar follow-on survey, will be well positioned to contribute meaningfully to our understanding of how the costs of commuting affect labor market outcomes for women.

In this chapter, we review characteristics of urban transport decisions for women in our sample, and the role that transport plays in female labor market outcomes. As in other studies, our surveys find very high rates of private vehicle ownership, particularly motorcycles, and this greatly reduces demand for public transport. However, at the same time, over 20 percent of women from low SES households do not have access to a private vehicle and use public transport intensively. This suggests that public transport improvements could greatly affect the labor market situation for lower income women.

We also find evidence suggesting that the low quality of BRT and non-BRT bus services deters women from using these services. Public transport is seen as slow and inconvenient, requiring transfers and long waiting times compared with private transport options that offer a more convenient and comfortable door-to-door travel experience.

In Chapter 6, we found that whilst transport related factors may not be the most important factor in driving labor market participation, they could still play an important, but perhaps more nuanced role, compared to other factors, such as social expectations and norms. Our findings in this chapter suggest they may have important labor market effects for women who choose work. We find that nearly 13 percent of working women reported that limited access to transport impacts their total hours worked—half of whom said that they have to leave work early—and 31 percent of women who have ever declined a job offer did so because of transport related reasons. A job's location is also one of the most important factors determining why a woman might take a particular job. The survey also suggests that access to public transport plays a more important role for selecting jobs among women from low and medium SES (22 and 25 percent) compared to women from high SES (18 percent). Clearly, transport-related factors play a role in determining whether an individual takes a particular job and how many hours they work, and this has important implications for the impacts of public transport improvements.

Private Vehicle Ownership

Owning private vehicles, especially motorcycles, is common in DKI Jakarta. High private vehicle ownership contribute to reducing demand for public transit. Table 7.1 presents the household vehicle ownership by SES of households in our survey. 89 percent of households owned at least one private vehicle, and this was often a motorcycle. Although we asked about

vehicle ownership, the survey did not include follow up questions regarding the level of personal access to that vehicle. Despite this, our data confirms that even when a household owns private vehicles, not all women from that household had access to it.

Table 7.1: Vehicle Ownership by SES (Percent)

Private Modes	Number Owned	All	Low SES	Medium SES	High SES
Number of motorcycles owned	0	13	22	9	6
	1	46	53	51	35
	2	31	22	33	39
	3+	10	3	7	20
Number of cars owned	0	87.3	98	94	70
	1	11.2	2	6	26
	2	1.0	0	0	3
	3+	0.5	0	0	1
Percentage of households that do not own a private vehicle		11	22	7	4
Percentage of households owning only one vehicle		43	53	51	24
N (Households)		1,056	354	350	352

Note: This is the percentage of women by vehicle ownership status. The proportion of car and motorcycle ownership presented in the table is not mutually exclusive. That is, a household may have both car and motorcycle and the ownership is counted in both rows of motorcycle and car.

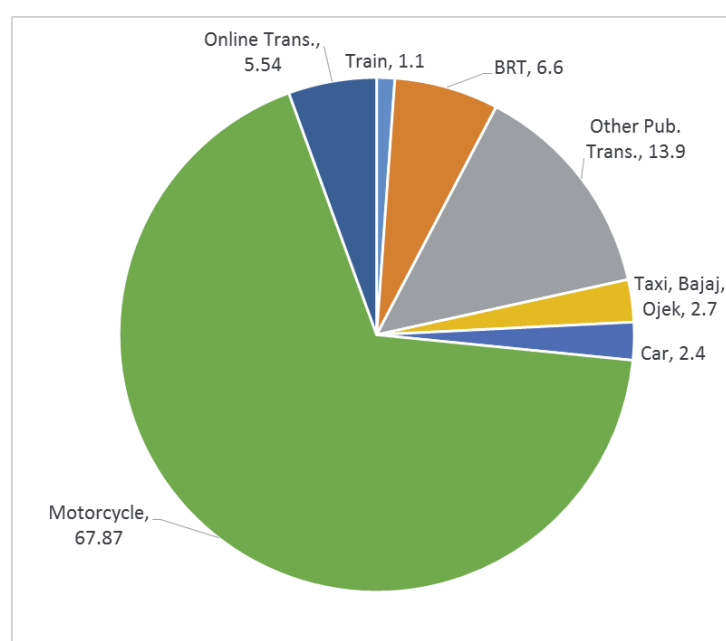
As expected, private vehicle ownership is positively correlated with greater SES. Table 7.1 also shows that 22 percent of women from the lowest SES group did not have access to private vehicle, compared to only 4 percent of women from the highest SES group. This suggests that lower SES women are more likely to be reliant on other forms of transit, and possibly public transportation, for meeting their regular travel needs.

Main Modes Used for Regular Travel

High rates of vehicle ownership lead to high rates of regular private vehicle use. Figure 7.1 shows that according to our survey, almost 70 percent of regular trips were made by private vehicles, the majority of which were made using motorcycles. Around 21 percent of trips were taken by public transport, including BRT (7 percent), non-BRT bus (14 percent), and train (1 percent). The remaining 10 percent of regular travel is largely by on-line transport modes and informal modes.³⁶

³⁶ Note that we exclude walking and cycling travel data from these figures.

Figure 7.1: Modes of Transport (Motorized Modes) Used for Regular Travel (%)



Note: The percentage is in terms of weekly motorized trips. The unweighted total weekly trips from the household survey is 4,302 trips and the weighted weekly total trip is 11,678, including walking. The proportion above only account for motorized trips, that is, 71.9 percent of the weighted weekly total trip.

However, lower SES women travel less by private transport than higher SES women, making them more dependent on public transport for their mobility needs. Table 7.2 presents the main mode chosen for regular trips by SES group. While private motorcycle is still the major mode used for all groups, lower SES women use public transport more than higher SES women. Around 20 percent of low and medium SES women travel by non-BRT bus compared with only 6 percent in the high SES group. Moreover, low SES women also use the BRT more than higher SES women. These results are comparable with those from the JICA funded JAPTRAPIS study (2010-2012) which found that around one third of people in low income groups in Jakarta commuted by public transport, but only 14% of those in highest income group commuted by public transport.³⁷

Table 7.2: Mode of Motorized Transport by SES (Percent)

Mode	Low SES	Medium SES	High SES
Train	0.4	1.4	1.4
BRT	8.7	6.2	5.5
Other Pub. Trans.	20.2	17.8	6.2
Taxi, Bajaj, Ojek	2.4	3.5	2.2
Car	0.0	0.9	5.2
Private Motorcycle	63.9	65.2	72.8
Online Public Transport	4.4	5.0	6.7

³⁷ When comparing results from this study, note that the JAPTRAPIS study used income thresholds, while we use SES groupings (described in more detail in Chapter 6).

Mode	Low SES	Medium SES	High SES
Weekly Weighted Trips	2,287	2,749	3,360

Note: The percentage is in terms of weekly motorized trips. The unweighted total weekly trips from the household survey is 4,302 trips and the weighted weekly total trip is 11,678, including walking. Other public transport cover non BRT buses consisting of Patas, Metromini, Kopaja, and angkot. The proportion above only account for motorized trips, that is, 71.9 percent of the weighted weekly total trip.

Public Transport Availability

Despite the generally low use of public transport, women recognize that there are public transportation alternatives readily available to meet their regular travel needs. However, they do not want to take public transportation for a number of reasons relating to their perceived quality and accessibility.

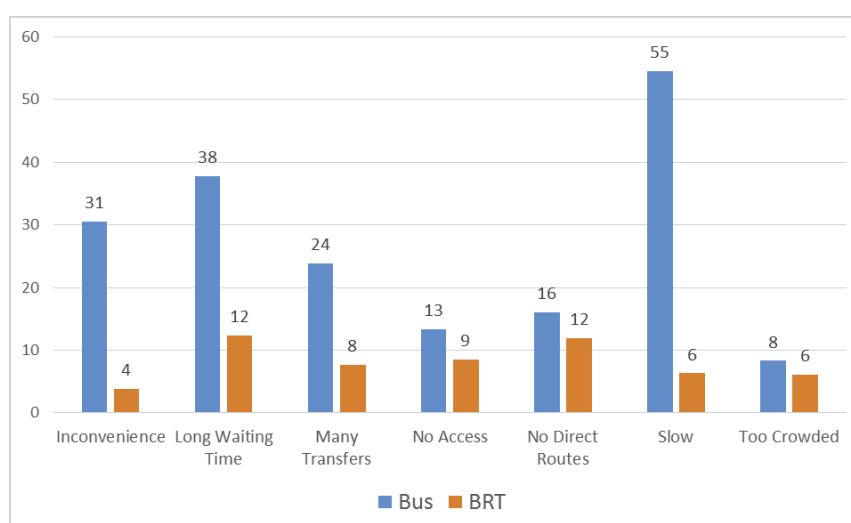
The survey asked women who regularly use private modes whether public buses, both BRT and non-BRT buses, were available to them as alternative modes. From our survey, 99 percent of all women who took regularly used private transport modes said that there was an alternative public transport mode—either BRT or non-BRT bus—available that they could have used instead. Nearly 84 percent of women using private modes reported that non-BRT buses are available alternatives, at least for one of their regular travels. This suggests that access to the non-BRT bus networks is readily available.

However, only 31 percent said that the BRT was a viable alternative. The quality of the door-to-door journey, particularly the lack of a convenient or comfortable journey to and from the BRT station appears to reduce the perceived accessibility to the service. Figure 7.2 shows that public transport tends to be seen as slow and inconvenient, requiring transfers and long waiting times compared with private transport. Concerns expressed focused largely on both the quality of access to/from public transport and poor public transport service quality, all of which increase the costs of travel. In order to better compete with private or online transport modes, which currently offer a more convenient and comfortable experience, the quality of the whole door-to-door public transport journey needs to improve.

For women who regularly use private transport, 55 percent said that the slowness of BRT buses is the main reason why they prefer private vehicles over non-BRT bus. Long waiting times for buses to arrive and inconvenience are the other two reasons highly mentioned.³⁸ Two widely cited reasons for not using the BRT are long waiting times and lack of direct routes/ need to multiple transfers, which are 12 percent each. People typically place a greater value or cost on their time when it is spent waiting and on transfers than the time they spend travelling in the vehicle.

³⁸ The survey listed 34 reasons. To simplify the analysis, however, we focused only on the seven highest reasons mentioned by respondents.

Figure 7.2: Main Reasons for Not Using Public Buses (BRT and Non-BRT) (%)



Note: the figure represent the main reasons for not using public bus stated by women who use private modes. While the survey provided up to 32, for brevity we only present top 7 reasons. The denominator is women who use private vehicle for at least one of their regular travel.

Travel Characteristics

Table 7.3 presents estimates of the average time a person spent while travelling each week, the average distance travelled and the average cost incurred, based on our survey data. On average, women in our sample spend around 4.4 hours per week travelling and they travel an average of 77 km per week.³⁹ While weekly travel time across SES groups is relatively similar, even when we look at average weekly travel time per trip or per journey, women from the highest SES group travel farther and spend longer times in transit. Table 7.3 shows that women in Jakarta spend around IDR 30,000 per week for travelling. (See Box 7.1 for a discussion of how transport costs are calculated). While women from the lowest SES household spend around IDR 21,500, the travel cost of women from the highest SES is almost double.⁴⁰ This may not be surprising as women from the highest SES group travel farther and thus their weekly travel cost is also higher.

Table 7.3: Travel Characteristics

	All	Low SES	Medium SES	High SES
Travel Time per week (hours)	4.4	4.3	4.1	4.9
Travel Distance per week (km)	77.0	57.8	68.4	102.8
Travel Cost per week (IDR '000)	30.4	21.5	26.4	42.5
Average weekly travel time per journey (hours)	0.6	0.6	0.6	0.6
Travel only within RT (%)	20.0	25.0	17.0	17.0

³⁹ The summary statistics include both to work and return trips.

⁴⁰ Our estimates of transport costs include taxi/ojek/bus fares, as well as estimated fuel costs. The estimates do not include any vehicle maintenance costs or parking charges, so they are not a full transport cost estimate, and as such, these figures should be interpreted with caution. See Box 7.1 for more details.

N	1,056	354	350	352
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Note: summary statistics for travel time, distance and cost are calculated from the sample of respondents with at least one regular travel.

Women spend a great deal of time and money for traveling to work and school. In Table 7.4, we break down travel characteristics by travel purpose. Women in our sample spend around 5.6 hours for work-related traveling per week and 5.4 hours for travelling to school per week, on average. These trip purposes are associated with both the longest travel distances and the highest travel costs. Interestingly, there is not much difference in the weekly total cost of travel between working and schooling. For other purposes, women tend to travel less than two hours per week, except for family care, medical purpose and job search.

Box 7.1 Measuring Travel Costs

The transport module of our survey collects information on travel characteristics such as destinations, modes used, distances, and costs. Regarding travel costs, respondents were asked their transport costs for each transfer/stop. Transport cost of respondents using public transportation is rather straightforward. That is, transport costs were based on respondents' reported fares they were charged. On the other hand, the travel cost of private vehicle users is quite complicated to measure. Ideally, the transport cost of private vehicle users should take into account all-borne costs associated with transportation such as, cost of maintenance, fuel cost, parking cost or highway/toll cost. However, respondents mostly reported their estimates of the cost of fuel as the only travel cost, and did not include other travel-associated costs. Thus, the reported travel cost for private vehicle users is likely to be underestimated. However, the data can still provide a useful approximation for the cost of traveling incurred by women.

Various transport studies suggest that women typically can have multiple stops or transit for a single travel purpose. For example, a woman may drop children to school on her way to work. To obtain a more complete picture of trip patterns, we asked questions to identify the extent to which women undertook trips with multiple stops for different purposes, which we call a *trip chain*. In our previous example, if a woman regularly drops her kids off at school before going to work—i.e. the travel pattern is home to school, and then, school to work—she has what we call a *complex trip chain*. On the other hand, a *simple trip* is defined as a trip from the origin to the destination (i.e. home to work), without intermediate stops.

Column 5 of Table 7.4 shows that for most purposes, the regular travel reported by women in our sample tend to be simple trips, but for work, school, and family care trips, they are more likely to be complex, involving one or more in-between stops for other purposes.

Table 7.4: Weekly Travel Characteristics by Purpose

Travel Purpose	Tot. Time spent Travelling (hours)	Tot. Travel Distance (Km)	Tot. Travel Cost (IDR '000)	% with simple trips (%)	N
Work	5.6	55.6	37.9	82.0	322
School	5.4	54.8	32.5	87.0	60
Shopping	1.1	9.0	6.8	92.0	394
Social Activities	1.0	11.0	10.8	92.0	135
Family Care	2.7	24.3	12.2	78.0	201
Eating out	0.9	7.6	7.0	91.0	116
Leisure	1.5	17.1	15.8	88.0	238
Medical	2.1	18.1	24.1	86.0	14
Job Search	2.5	22.0	7.0	100.0	2

Note: the travel purpose is not mutually exclusive. The observation for each travel purpose is women that reported having regular travels for the corresponding travel purpose.

Women who do not Travel Regularly

Women travel for a variety of reasons, many of which are closely associated with their traditional social roles, including housekeeping and caring for children, but also with the status of their participation in the labor market. Our travel data captures self-reports of typical travel behavior, where travel is defined as leaving one's own RT; note that the survey does not record information on regular travel that takes place within one's home RT (see Box 7.2 below).

However, one interesting finding from the survey was that around 20 percent of women report that they *do not* regularly travel outside their RT. We find that the highest proportion of women traveling only within their communities comes from low SES households (25 percent); however, the proportion of women travelling locally from medium and high SES groups is also high (17 percent). That such a large proportion of women do not regularly leave their RT is surprising, especially given the amenities available in DKI Jakarta and the surrounding areas. This could be explained by the fact that women simply do not need to leave their RT and can meet their needs locally, but it could also reflect constraints, isolation, and barriers to mobility that public transport improvements could address.

Box 7.2: What does the survey mean by "Regular Travel"?

The transportation module of the household survey was not intended to be a trip diary but rather to record characteristics of the main regular trips made by an individual. This definition raises a number of survey design issues for future study. Regular travel here is defined as any recurring travel that is taken at least once a month; however, this appears to have been misinterpreted, as there appears to be a considerable under-reporting of trips made. In addition, regular travel made inside a respondent's own RT was not defined as "travel" and thus not recorded in the data. Only trips made by motorized transport appear to have been collected and

walking trips (or indeed by bicycle) appear to have been excluded as a 'regular' trip. During the fieldwork, particularly through qualitative surveys, we found that many trips are made within the RT largely for local activities such as community meetings, Quran recitation, or other local social activities. Thus the survey underreports local travels. Second, although the survey asked whether respondents have regular travels for 9 travel purposes, the survey collected detailed information on only up to three travels ranked as the most regular travel within a week. Finally, limiting detailed information to only three regular trips may exclude important information from respondents that have more than three regular trips.

Box 7.3: Transport Behavior of a Female Worker from Jati Padang

Indri (not her real name), aged 27, lives with her husband in the Jati Padang area. She works in the Sudirman area, and her husband works in Senayan area. Her husband drops her at work each day but she takes the BRT home. They leave home at 5.00 AM in the morning and it takes them about 30 minutes to get to her place of work. It takes 1 hour and 45 minutes for her to get home. To get home, she takes the Corridor 1 BRT, transfers to Corridor 6, gets off at Jl. Pertanian and continues home via *angkot*. She sometimes takes overtime at work but she will not do it if it is later than 8 PM because she wants to be able to be home before her son goes to bed. Indri said that she does not mind to work a little bit far from home but only if she can take a ride with her husband to save money. When her husband is not available to take her to work, she often takes on-line *ojek* since it is convenient.

Indri and her husband have a young son. When she and her husband are working, Indri's parents, who live nearby, take care of their son. She does not trust a stranger to take care of their child, and besides, her parents provide free child care. Indri said she quit her job when she had the son, but after 1.5 years she was able to work again in the same company. She said she needs to work because their young family needs the income. Before she was married, she had been working and is used to providing for herself. She said that these days, it is difficult for a high school graduate like her to have a job so she wants to keep working while there's a job available. Her husband does not mind as long as she is able to balance work and family. Indri said if they ever have a second child, she may think about quitting work all together.

Mobility, Job Choice, and the Intensive Margin of Labor Supply

Overall, the results presented so far suggest that commuting costs can be burdensome for commuting females. Working females spend, on average, over an hour a day commuting to and from work. Long commute times seriously constrain female workers in DKI Jakarta, cutting into their leisure time and making it difficult to do household chores, go shopping, and care for their children.

Table 7.5 reports descriptive statistics on how commuting costs affect hours worked, job choice, and the intensive margin of labor supply. As seen in Panel A, almost half of the sample (44 percent) accepted a job despite transport related constraints, such as access to public transport, high transport costs and travel time to work, among others. Nearly 13 percent of working females report that limited access to transport impacts their total hours

worked—half of whom say that they have to leave work early—and 31 percent of women who have ever declined a job offer did so because of transport related reasons.

Table 7.5: Transport Related Reasons for Job Choice and Hours Worked

Panel A: Hours, Job Choice, Quits (Percent)	All	Low SES	Medium SES	High SES
Access to transport impacts hours worked	12.7	10.3	11.6	16.1
Ever accepted a job despite transport constraints	43.8	50.0	50.0	40.0
Ever quit a job for transport related reasons	10.2	7.0	11.1	12.4
Ever changed a job for transport related reasons	7.6	2.8	6.0	13.8
Declined a job for transport related reasons	31.3	25.8	33.2	35.0
Panel B: Reasons for Taking a Job (Percent)	All	Low SES	Medium SES	High SES
... Wage	81.7	83.6	79.4	82.0
... Occupation	54.7	53.5	54.3	56.2
... Working Schedule	30.2	30.5	29.1	30.9
... Location	64.4	65.7	62.8	64.5
... Public Transport Access	21.6	22.1	25.1	18.0
... Private Transport Access	6.2	5.6	4.0	8.8
... Other	12.1	14.6	11.1	10.6
N	637	214	202	221

NOTE: Panel A reports percentage of women whose job market decisions were influenced by transport-related constraints by SES. Panel B lists percentages of respondents naming each of the listed reasons as one of the three most important reasons for taking the job by SES. For more detailed information, please refer to Appendix C and D “the survey questionnaires”

In Panel B, we present information on how transport-related factors affect the acceptance of a job. Different reasons for accepting a job are listed in the rows of the table. We report the percentages of respondents naming each of these reasons as one of the three most important reasons why a job was selected. This panel shows that a job’s location ranks second in importance: over 64 percent of working females report that location is one of the top three reasons for taking the job. Access to public transport also plays a more important role among women from low and medium SES (23 and 25 percent) compared to women from high SES (18 percent) – for them, access to private access matters more (9 percent compared to around 5 percent from other SES groups). Finally, wage is slightly more important for women from the lowest SES (84 percent) compared to around 80 percent of women from other SES groups.

Table 7.6 shows that for women with young children, job location and transport-related reasons matter slightly more compared to women without them. For instance, nearly 14.4 percent of working women with a child below the age of 5 have quit their job for transport-related reasons, while only 8.3 percent of women without a young child have quit because of transport related reasons. Similarly, 11 percent of working women with a child below the age of 5 changed their job because of transport related reasons, but a similar figure for women without a young child is only 6.2 percent. Moreover, Panel B shows that 68 percent of women with young children accepted their job primarily because of where it was located, and

over a quarter because of its access to public transport, compared to 63 percent and 20 percent of women without young children, respectively.

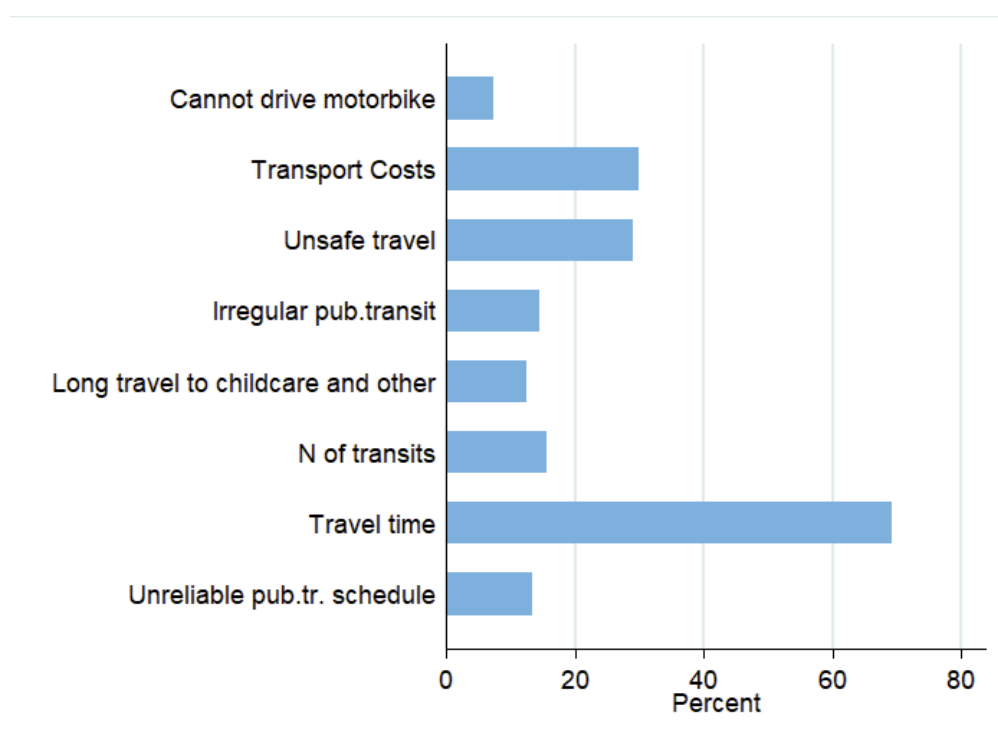
Table 7.6: Transport Related Reasons for Job Choice, by Young Child Status

Panel A: Job Choice (Percent)	No child < 5 years old	With child < 5 years old
Access to transport impact your work hour	12.6	12.9
Ever accepted the job despite transport constraints	40.7	47.6
Ever quit the job because of transport reasons	8.3	14.4
Ever changed the job because of transport reasons	6.2	10.8
Declined a job because of transport reasons	29.7	35.1
Panel B: Reasons for Taking a Job (Percent)		
... Wage	80.7	84.0
... Occupation	55.6	52.6
... Working Schedule	29.2	32.5
... Location	62.8	68.0
... Public Transport Access	19.5	26.3
... Private Transport Access	6.0	6.7
... Other	12.9	10.3
N	435	194

NOTE: Panel A reports percentage of women whose job market decisions were influenced by transport-related constraints by SES. Panel B lists percentages of respondents naming each of the listed reasons as one of the three most important reasons for taking the job by SES.

While job location and transport-related reasons play a significant role when taking the job, once a job is secured, transport related reasons are relatively unlikely to dissuade a worker from keeping it. 10.2 percent of female workers have ever quit their job due to transport related reasons (see Table 7.5). Figure 7.3 shows that among this 10.2 percent of women who quit their job for transport-related reasons, high travel time plays a major role in this decision, followed by high transport costs, and insecure travel.

Figure 7.3: Transport Related Reasons for Quitting a job, by SES



Note: This figure reports the percent of working women who have ever quit their job due to transport-related reasons by SES. The sample of these women is 97 or 9 percent of the full sample.

The impact of travel times is also underscored by the fact that when people change jobs, they tend to search for jobs with lower travel times; for instance, the average travel time to work for women who changed jobs decreased from 38 minutes to 15 minutes, and distance to work decreased from 6 kilometers to their previous job to around 3 kilometers to their current job.

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Women who have regular travel to work, family care and leisure are more likely to have a positive attitude over BRT bus.



8. Data Analysis: Perceptions of Public Transport

To develop successful bus operations, the factors that influence decisions to use public transport need to be understood. This chapter presents gender-differentiated evidence on perceptions of public transport services in Jakarta based on the views of both regular and infrequent riders of both BRT and non-BRT buses. To present these findings, we rely on data from several sources: (1) individual surveys of females and people with disabilities, (2) qualitative semi-structured household interviews, and (3) the rider survey of 500 public transport users living in DKI Jakarta, conducted at BRT stops and at non-BRT bus terminals.

Perceptions, levels of satisfaction, and the importance of different attributes of BRT and non-BRT buses differ by SES and by trip purpose. This points to the fact that public transport systems needs to manage different needs of different types of users. Women whose households are located far from BRT shelters tend to use BRT services less frequently and have lower satisfaction. Higher educated women tend to have lower levels of satisfaction with the non-BRT bus. Yet, women regularly traveling for shopping and social activity have a more positive attitude toward the non-BRT bus.

There appear to be issues about the quality of public transport provision in DKI Jakarta. Nearly 85 percent of people are indifferent or unsatisfied with non-BRT buses services in DKI Jakarta.⁴¹ Comfort, safety, and security are viewed as the most important deficiencies for the non-BRT bus service.

In-depth interviews suggest that the TransJakarta BRT is perceived to be the safest mode of transportation, followed by the application-based private transport modes and the Commuter Line trains. However, long waiting times and crowded buses are key issues for BRT riders, as well as unreliable schedules and slowness. People who are not regular BRT riders similarly consider that the BRT does not conveniently serve their door-to-door travel needs, and they complain about slow speeds, complicated payment systems, and crowding during peak transit times.

We observe considerable criticism regarding personal security and safety on non-BRT buses, including threats of pickpocketing, as well as muggings, and sexual harassment. Reckless driver practices on non-BRT buses are mentioned often as well. Non-BRT bus services are viewed as particularly unsafe – reckless and inconsiderate driver behavior and threats from buskers – uncomfortable, as well as inconvenient and slow.

Analysis of Rider Surveys

Analysis of the socio-economic and socio-demographic data from the rider surveys is presented in Appendix I. For the BRT Corridor 6 rider surveys, more than half of the male respondents (56 percent) were from the high income tercile. For women in BRT Corridor 6,

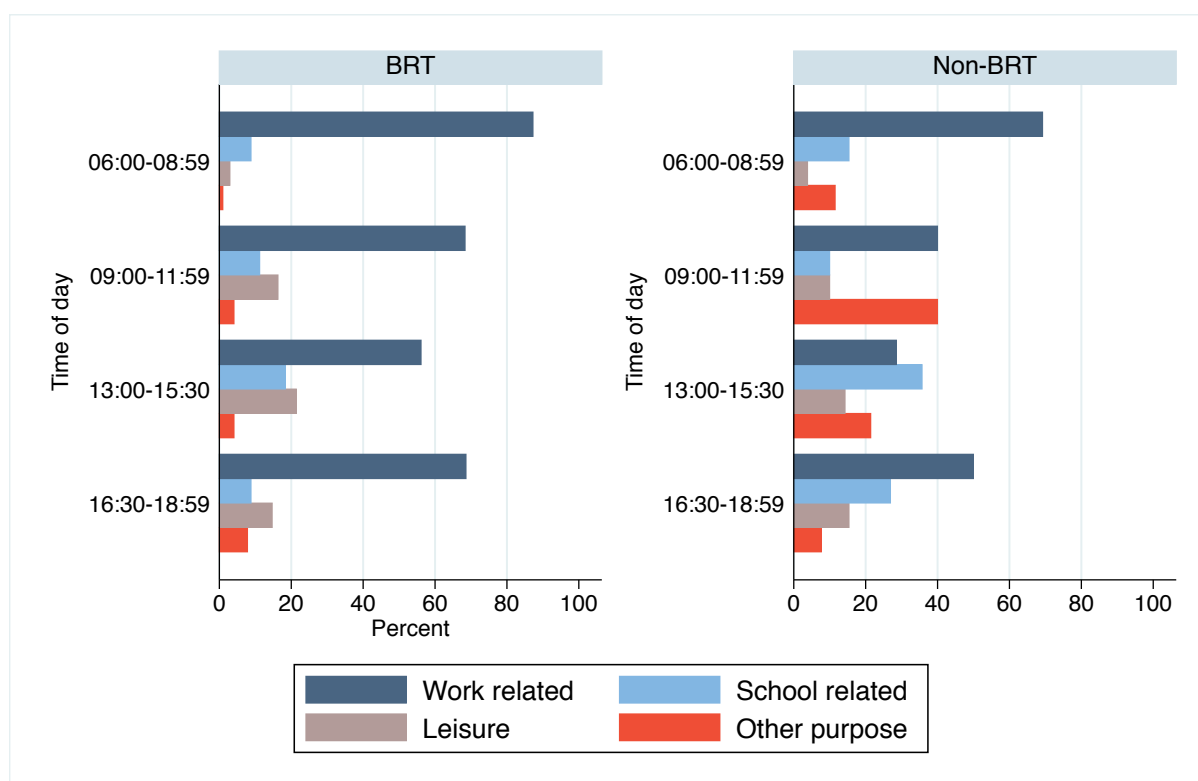
⁴¹ Other surveys suggest that around 50% of people are indifferent or unsatisfied with the BRT services.

the distribution was more even: 38 percent were from the high income tercile, 27 percent from the medium, and 35 percent from the low income tercile. In comparison, 61 percent of regular non-BRT bus users who also regularly used the BRT were from the low income tercile, and only 6 percent were from the high income tercile.⁴²

Travel Purpose

As shown in Figure 8.1, most respondents of the BRT rider survey were travelling for work-related purposes, either to or from work, or on work related business. However, non-BRT riders had more varied purposes. Relatively more people were travelling on non-BRT buses for school. Possible explanations for these results could be that the BRT Corridors selected for the survey served major business areas, and students use less expensive modes of public transport. The BRT corridors surveyed, particularly BRT Corridor 6 serves major business centers, while the non-BRT bus routes tend to run through the residential areas and directly serve the schools. The largest group of female non-BRT bus riders were full-time students.

Figure 8.1: Travel Purpose by Type of Bus and Time of Day

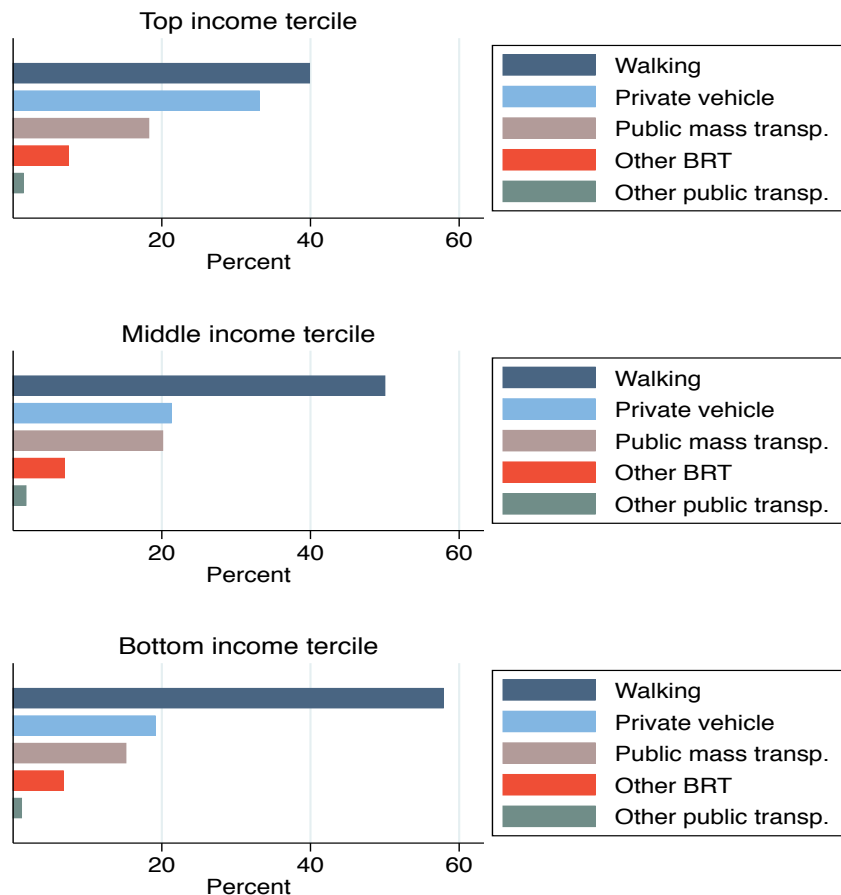


⁴² This difference in socio-economic status between users of BRT and non-BRT bus is also apparent in educational attainment. College-educated individuals were the largest groups among Corridor 6 BRT riders. High school graduates were the largest groups surveyed in the other BRT Corridors and on the non-BRT buses.

Travel Characteristics

Most BRT riders arrived at the BRT shelter on foot (Figure 8.2). A large proportion also came by private vehicle: around 20 percent of those in medium and low income terciles and around 30 percent of those from the high income tercile. Less than 10 percent transferred from another BRT. Very few people transferred from another public transport mode.

Figure 8.2: How Did You Get to the BRT Shelter Today?



Perceptions of BRT Buses by Different User Groups

To understand perceptions of the BRT system, we first asked non-BRT riders about why they do not regularly use the BRT. People who were not regular BRT riders think that the BRT system does not conveniently serve their door-to-door travel needs. Nearly 60 percent of rider survey participants from the non-BRT bus corridor who do not regularly use the BRT listed the lack of direct routes as the main reason for that decision. They also generally felt that BRT was too slow (25 percent), and that the buses were too crowded (24 percent).

Around 10 percent of the respondents also cited that the payment system was too complicated and limited regular use. To ride on the TransJakarta BRT system, individuals must use e-money/tap cards issued by different banks. From the in-depth semi-structured

interviews, people felt that both the fixed cost of the BRT tap cards (around IDR 20,000) and the administrative fees (IDR 2,000) that are charged when riders want to use cash to top-up the cards are expensive.

However, people do think the BRT is reasonably clean (no smoking or eating on the bus is allowed), and they value the fact that it mostly has air conditioning, a segregated seating area for women, and also that TransJakarta officers are on duty to provide information and assistance, if needed. Despite issues with the payment system, the travel cost per journey (IDR 3,500 full-fare and IDR 2,000 reduced fare in early morning before 7 AM) was seen as reasonable. The BRT is viewed as more cost-efficient compared to other public transport options.

When asking the same questions to regular BRT riders, we found that long waiting times and crowding on the buses were key challenges. Unreliable schedules and slowness are also criticisms of the BRT. Other complaints included unreliable schedules, buses being too slow, too few buses, no direct routes, and no easy access to stations. Box 8.1 summarizes individual perceptions from selected in-depth interviews.

Box 8.1: Perceptions of the BRT Bus System

- **Female, unemployed, married, 24 years old:** “I rarely travel far, hence I do not use the ‘busway’ much. I have to take *angkot* (local minibus) for about 5 minutes then walk for about 1 km to reach TransJakarta’s nearest shelter. I think TransJakarta is safe since there are officers both in shelter and in the bus. If I need to cross the road, there is also a pedestrian bridge. However, some of these bridges are too meandering and steep. It’s tiring to use these bridges...We have to pay IDR 20,000 for the BRT tap card, but I would prefer to pay IDR 10,000 instead of IDR 20,000. I don’t mind with the extra cost (of IDR 2,000 for top up), but the minimum recharge is IDR 20,000 which is too costly for me. It would be better to have options like IDR 10,000 or IDR 15,000 (for top up).”
- **Female, working, married, 32 years old:** “At 5.15 AM, the (BRT bus going to) Ragunan is the first one to arrive. I must arrive at the office by 6 AM. I walk to Jati Padang (BRT) shelter which takes about 10 minutes. It takes about 30 minutes to travel on the BRT bus from Jati Padang to Semanggi. The BRT is packed every morning around that hour. Usually, I see the same passengers since they share similar route and schedule. If the BRT bus is late, all passengers will also be late to reach their destination. On Saturday and Sunday, I do not take BRT to work because it starts at later: 5.30AM on a Saturday and 6 AM on a Sunday. The BRT is full, especially during peak hours. Around 8AM only a few passengers are on the BRT, but from 4 pm to 7 pm the bus is full. Outside of these hours, the bus only has a few passengers.”

Perceptions of Non-BRT Buses by Different User Groups

To investigate perceptions of non-BRT buses, we asked regular BRT riders several questions about whether they are regular non-BRT bus riders, and if not, why. Regular BRT users who are not regular users of non-BRT buses viewed non-BRT bus services as inconvenient and slow, and also that driving practices are unsafe. These views are echoed in

many of in-depth interviews about non-BRT buses. For instance, respondents described drivers as reckless, and that they felt traveling on non-BRT buses was uncomfortable due to loud music, heat, or poor air quality due to passengers' smoking. However, they do like the flexibility of the non-BRT bus, and in particular that it can stop anywhere.

Even among regular non-BRT bus users, the main complaints are similar: inconvenience, unsafe vehicles, and reckless driving practices. Regular riders of non-BRT buses have similar complaints as infrequent non-BRT bus riders, but they use the non-BRT buses anyway because for them there are no easy access to BRT stations and no direct routes. Regular non-BRT bus users also complain that the fare is too expensive. From in-depth interviews, some complain about paying for a new fare for each transfer and because it is difficult to receive exact change for cash payments. Box 8.2 summarizes individual perceptions of the non-BRT bus system from selected in-depth interviews.

Box 8.2: Perceptions of the Non-BRT Bus System

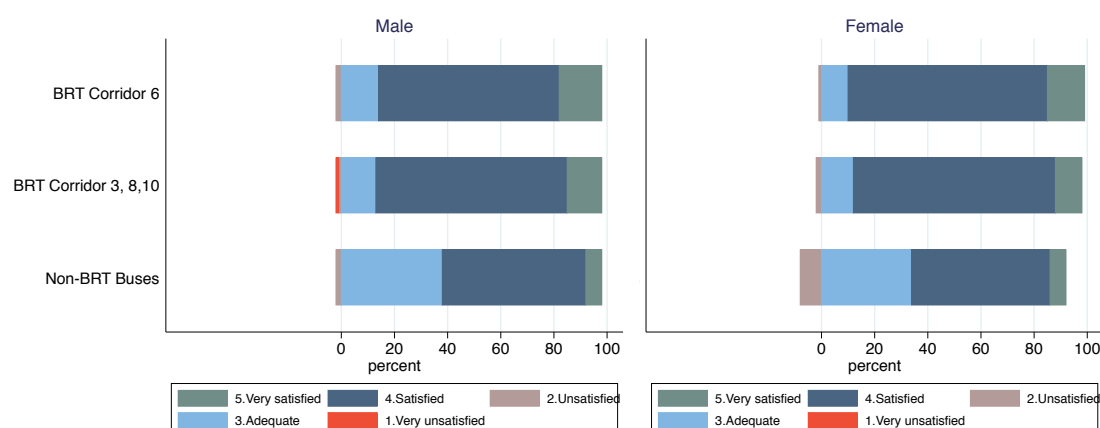
- **Woman, working, 32 years old (regular BRT user):** "Sometimes I use angkot (local minibus) but the bus is slow because of traffic, and because there is no AC, the ride is very warm and uncomfortable. The majority of drivers are also sloppy. I also sometimes use Kopaja (one of non-BRT bus operators), but the Kopaja drivers often speed to stay ahead. When I go to Blok M with Kopaja M75, I need to wait at the red light as there is no designated shelter for Kopaja."
- **Woman, working, 42 years old (regular BRT user and non-BRT bus user):** She views Kopaja (one of non-BRT bus operators) is not secure as there are so many pickpockets and snatchers around who openly run their crime on Kopaja. The Kopaja driver and the driver's assistant usually can do nothing about the crime. The bus is not comfortable because it doesn't have air conditioning. Often the bus smells and noisy inside. Sometimes, it can also cost more money than TransJakarta BRT. Most of the time Kopaja drivers also do not give back our change when we pay fares.
- **Woman, student, 17 years old, regular non-BRT bus user:** Angkot (the local minibus) is the most frequently used mode of transportation she takes to go to school, even though the drivers are often reckless. They often pick up and drop off passengers anywhere, not only at bus stops. During school hours, when a lot of students need transportation, they drive even more carelessly. Sometimes, the driver would ask her to get off and move to another angkot, because he would like to make a U-turn to take more students. She often experiences similar treatment when she takes the Metromini (one of non-BRT bus operators); once she even had to change the bus three times before she reaches her school. This means going to school often takes much more time than it needs. On top of that, sometimes the angkot and the Metromini would wait until they are full before they depart. She thinks the non-BRT buses (e.g. Metromini and Kopaja) are generally unsafe. They are also inconvenient: the buses are, hot, dirty, and sometimes street performers get on the bus to sing and force passengers to give them money. Drivers are reckless, they often speed, and there is always a competition with other drivers to get passengers.

Service Satisfaction (Rider Survey)

Figure 8.3 shows that when asked about satisfaction with the current BRT ride they were on, over 80% of BRT riders stated that they were satisfied or very satisfied. However, only around 60% of non-BRT bus users said that they were satisfied with non-BRT bus services. The responses from men and women were similar. One explanation for the high level of customer satisfaction on the BRT services could be that respondents were trying to avoid saying “unsatisfied” to the interviewers who wore the TransJakarta-issued IDs.

In 2014, the Bus Rapid Transit and Pedestrian Improvements Project in Jakarta carried out under the United Nations Environment Programme (UNEP), with funding provided by the Global Environment Facility (GEF), assessed passenger attitudes on the TransJakarta BRT. The study found that overall, 43 percent of users said they were ‘satisfied’ with the service, 39 percent said it was ‘adequate’ and 17 percent said they were ‘dissatisfied’.⁴³ On one hand, this reinforces our view that the level of satisfaction on BRT services reported of over 80% to our surveyors was overly optimistic. On the other hand, much have changed since 2014, including a number of routes that were added, so satisfaction may have improved.

Figure 8.3: Are You Satisfied with The Current Ride?



While most of the respondents reported to be satisfied with their current ride during the interview, their general satisfaction with the BRT service is high as well: around 72 percent of BRT riders said they were satisfied and 17% very satisfied with the BRT service in general. In contrast, only 15 percent of the non-BRT bus riders were satisfied or very satisfied, around a half of them was indifferent, and more than a third was unsatisfied with the service.

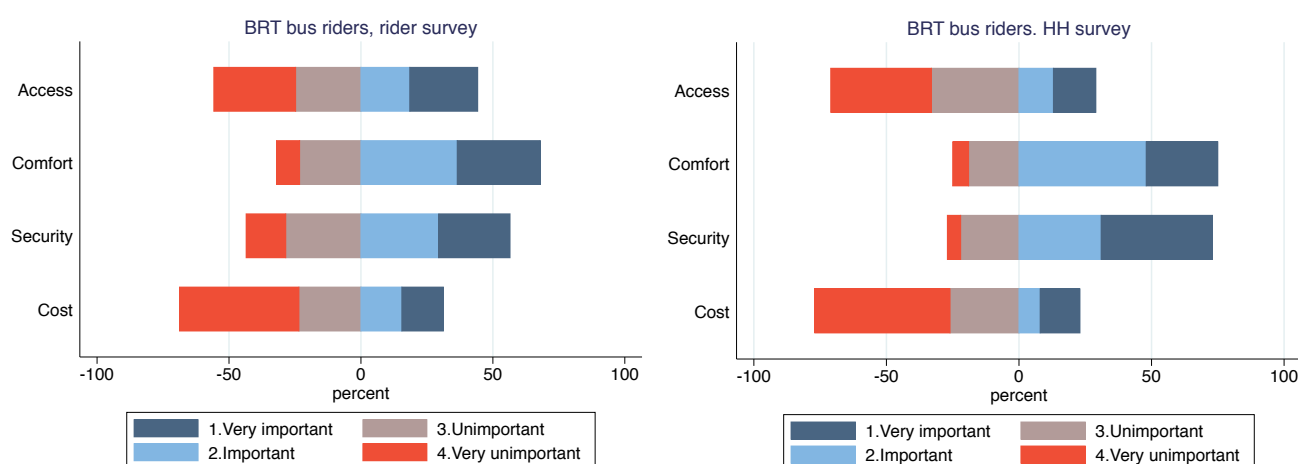
Relative Importance of Public Transport Attributes

⁴³ Sayeg and Lubis, Terminal Evaluation of the UNEP/ GEF Project Bus Rapid Transit and Pedestrian Improvements Project in Jakarta, 2014

Comfort, safety, and security are viewed as the most important attributes of public transport in DKI Jakarta. The in-depth interviews suggest that TransJakarta was perceived to be the safest mode of public transportation, followed by online, app-based transport modes and the Commuter Line trains. There appear to be serious issues relating to personal security and safety on non-BRT buses, including threats of pickpocketing, as well as muggings, and sexual harassment. Reckless driver practices on non-BRT buses are also cited frequently.

Respondents of both the rider and the household surveys were asked about how much they value different attributes of BRT. We grouped the attributes into four groups: access, comfort, security, and cost.⁴⁴ In Figure 8.4, we compared the answers from BRT users from the rider survey with the answers of people who do not regularly use BRT from the household survey.

Figure 8.4: Importance of different attributes of BRT

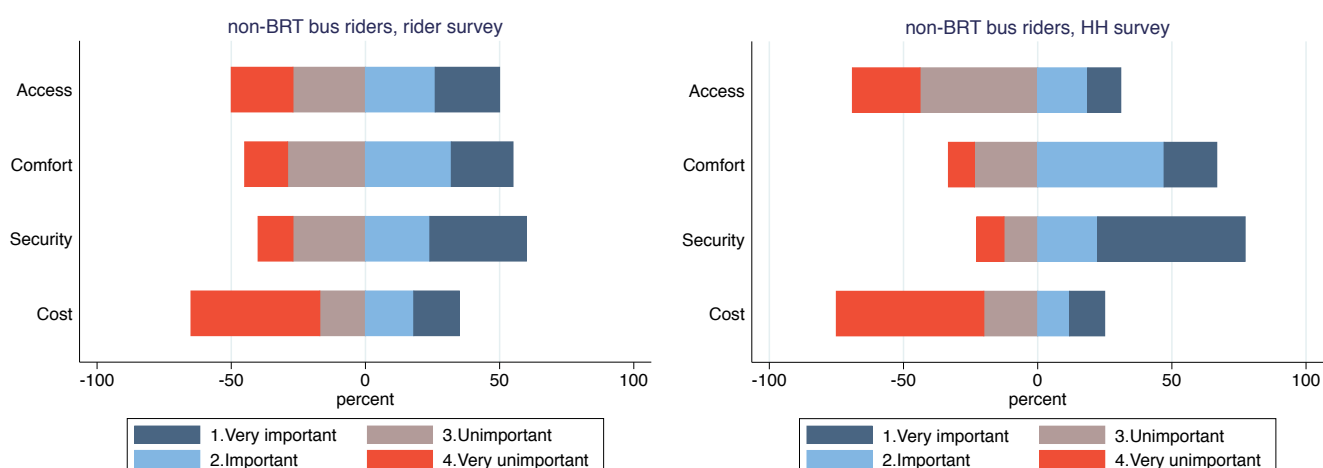


The BRT riders value comfort the most (67 percent), followed by security and safety of the BRT (56 percent). Overall journey and access quality are important to nearly half of the respondents. A third of BRT riders are sensitive to the BRT fare. Among the non-users, comfort seems to be the most important attribute of the BRT, reported by 73 percent of respondents, followed by safety and security (71 percent). Overall journey and access quality of the BRT is not as important to the majority of non-users. Cost is important to around a fifth of non-users.

When respondents were asked about the importance of different attributes of non-BRT buses, safety and security were ranked the highest (Figure 8.5). Cost was relatively unimportant.

⁴⁴ “Access” refers to overall journey time and access, which include: time/speed, ease of access to stations, ease of payment, directness of route, convenience, waiting time, punctuality and so on. “Comfort” refers to attributes such as cleanliness, air-conditioning, overall quality of the buses. “Safety” refers to safety and security to/from the bus station, safety at the bus platform/station, and on the bus. “Cost” refers to availability of integrated fare and the cost of getting a ride itself.

Figure 8.5: Importance of different attributes of non-BRT buses



Box 8.3 TransJakarta is perceived as safer than non-BRT buses

The in-depth interviews suggest that TransJakarta is still perceived to be the safest modes of public transportation, followed by apps-based online public transportation and the Commuter Line trains. Threats of pickpocketing is the most frequent security risk cited by respondents, as well as muggings, and sexual harassment. More than one respondents reported to have witnessed mugging in non-BRT buses. A respondent told this story: *"I have seen passengers being pickpocketed on a crowded bus and I witnessed a woman being mugged under knife-point by a gang of 3 to 4 people. They rode the bus pretending to be buskers and take out a knife in front of everybody. Other passengers, bus driver, and his assistant did not do anything. Everybody was scared. The men then jumped off the bus and only then that people offered to help."*

Respondents think that these crimes are less likely to happen in BRT buses and the Commuter Line where only passengers and authorized persons are allowed on the bus/train and people cannot easily get on and get off the bus/train. However, overcrowded BRT buses and trains still make it easier for pickpocket and sexual harassment to occur.

Policy Recommendations

From the combined quantitative and qualitative data collection, as well as the focus group discussions, Table 8.1 presents suggested improvements for women that they feel would be essential for greater ridership of the TransJakarta BRT System.

Table 8.1: Suggested Improvements to the TransJakarta BRT System for Women

Key Issues faced by Women	Suggested Improvements to BRT
Lack of direct routes/ multiple transfers required	Women cited that the BRT routes do not offer convenient door-to-door access and it is required to walk some distance (about 10 minutes or 1 km is often cited) and/or to take other modes such as motorcycle taxi, angkot or Kopaja/ Metromini bus to the shelter or to reach the final destination.
Lack of easy access to the BRT stop	Sometimes there is no footway to get to/from the BRT shelter. The door to

door journey takes much longer than by private motorcycle or online transport.

BRT performs best when working together as part of wider integrated public transport system, with a high degree of connectivity with other public transport modes, which will enhance the overall efficiency of all public transport services by providing the end user with a high degree of flexibility in making a trip. In this context, TJ has been introducing many more feeder bus services over recent years. However, it appears that many women interviewed were not aware of feeder bus services to and from their local BRT halte. Better socialisation of new feeder bus services within the local communities served by these routes.

Enhancing connectivity between BRT and fixed-route non-BRT bus can improve the travel experience by reducing travel times and increasing overall accessibility to travel destinations. It is noted that non-BRT bus stops are usually adjacent to BRT halte. Also taxis and m/c taxis wait at the BRT halte for passengers transferring to reach their final destination. However, TJ may seek further expansion of feeder bus services and routes. Defining a vision for the BRT service including feeder services will help to guide strategic decisions about the appropriate levels of capital investment, service design principles, principles and planning governing decisions on feeder bus services and other matters. The implementation of a new mass transit system (LRT and MRT) will make defining a new vision for the TJ BRT system an imperative.

Feeder bus services are the conventional approach to dealing with the 'first mile/ last mile' problem of public transport journeys. Consider engagement with smart transport applications UBER/ Go-JEK/ Grab Bike for innovative solutions for providing these first mile/. Last mile services.

Consider how TJ could engage with other city agencies to improve pedestrian access to and from the halte.

Reduce waiting times

Long waiting times (15-20 minutes wait is frequently cited) and unpredictability of BRT is a major deterrent, particularly as other modes such as online on-demand motorcycle taxi (e.g. Go-JEK) offer a more convenient service.

Improve bus operations with improved scheduling of services. Buses often bunch waiting to get to the halte or get stuck in traffic congestion where there is no dedicated running lane for the BRT. Indll supported TJ in 2016 on improvement of bus operations on BRT Corridor 11 with hands on capacity development of the Control Room staff in service planning/ monitoring and bus scheduling.

It is understood that GPS is already installed on TJ BRT buses. The information can be fed to new information systems installed at the halte to inform of bus arrival times/ waiting times.

Make payments easier and more affordable

Some people view the e-money/tap card purchase cost to be expensive, particularly if they only ride infrequently. However, the travel cost per journey (IDR 3,500 full-fare and IDR 2,000 reduced fare in early morning before 7 AM) is seen as reasonable. The BRT is viewed as more cost-efficient compared to other public transport options.

Many women in low SES are particularly dependent on public transport. They also tend not to travel frequently outside of their RT. The fixed costs for the E-card is seen by many of these women to be very expensive. In addition, the minimum recharge of IDR 20,000 and the administrative fee of IDR 2,000 are both seen as being too much.

Consider reducing or eliminating fixed costs and admin fees for the E-card. Consider reducing the minimum recharge value permissible.

Consider integrated fares between feeder buses and BRT. It is understood that tap in / tap out will be introduced on the BRT, in which case distance based charging and other charging structures may be considered.

Women may undertake multiple journeys in a day in their role of housekeeping, caring, working and so on. Consider implementing a maximum day fare cap – in some other countries this is aimed at being around the same price as for 3-4 journeys.

The E card will need to be modified to accommodate changes in fare structure/ integrated fares. It is understood that TJ have been investigating new card technology.

BRT buses are too crowded.

Unpredictability, slow running, delays and bunching of BRT buses contributes greatly to the overcrowding on individual buses and in the halte.

Improve bus operations and scheduling of services for smoother running and greater predictability. After that, assessments can be made as to whether services need to be enhanced on particular routes to cater for particular peak demands. Consider service planning standards in informing these decisions.

A photograph of a person sitting on a wooden bench. The person is wearing a light-colored long-sleeved shirt, a plaid belt, and tan trousers. They are holding a white cane with both hands in their lap. The cane has a red tip. The person is sitting on a wooden bench with vertical slats. The background shows some greenery and a paved area. The image is partially covered by a semi-transparent dark blue rectangle on the right side and a solid green vertical bar on the left side.

“

Many express dissatisfaction with the existing public transport system, and the difficulties that disabled individuals face with respect to public transit restricts their mobility.

9. Data Analysis: Travel Characteristics and Transport Needs of People with Disabilities

Getting around Jakarta is very difficult for people with disabilities, and the existing public transport system does not meet their needs. Many people with disabilities require assistance when travelling, because busy streets and poorly designed sidewalks are challenging for them to navigate. Many express dissatisfaction with the existing public transport system, and the difficulties that disabled individuals face with respect to public transit restricts their mobility. As a consequence, people with disabilities are less likely to travel outside of their RT than other people. When they do travel, they tend to make use of online transport modes (e.g. UBER, Go-JEK) much more often than non-disabled travelers, presumably because these services do a better job of catering to their demands than the existing bus systems.

One potential consequence of their limited mobility is that people with disabilities tend to have considerably lower rates of labor force participation than the rest of the population. When they do participate, they are more likely to be searching for work, and hence, are unemployed, rather than currently working. There is also some limited evidence suggesting that they are more likely to be only working part time or in the informal sector.

This chapter describes the socio-demographic and labor force participation characteristics of the people with disabilities in the sample. It also discusses their regular transport behavior, their levels of satisfaction with the current public transport system, and their views on mobility needs in terms of improving public transport.

Demographic and Socio-Economic Characteristics

Our study focused on disabled individuals that had physical difficulties in performing daily activities, although we acknowledge that other disabled groups also deserve attention and may be a focus of other studies in the future.⁴⁵ Table 9.1 describes demographic and socio-economic characteristics of the 28 disabled females and 24 males interviewed in the household survey, compared with the average characteristics of the 1,028 other females surveyed.⁴⁶ By construction, the distribution of SES terciles is uniform among the 1,028 non-disabled females surveyed, but the disabled males and females interviewed are mainly from medium tercile SES households. They are also on average older, have lower levels of schooling, and tend to be less likely to have small children at home.

⁴⁵ The procedure through which we selected individuals with disability for our survey is described in Chapter 5. Although we measure disability as a binary indicator in this chapter, various continuous measures of disability status are described in Appendix K: Measuring Disability Status.

⁴⁶ Because of our small sample sizes, it is important to note that many of these differences may not be statistically significant.

A majority of disabled females (71 percent) and disabled males (67 percent) require assistance when travelling, and this possibly explains why the rates of only regularly travelling within their own RT are much higher compared to the general population. A large proportion of disabled females (36 percent) and disabled males (58 percent) claim that their disability is temporary, but this is self-reported.

Table 9.1: Demographic and Socio-Economic Characteristics of Disabled and Non-Disabled

	Overall	Other Surveyed Population (1,028 females)	Disabled Females	Disabled Males
Average Age (years)	38	37	44	51
Married (%)	79	79	50	88
Years of Schooling	10	11	6	6
Child Less than 5 Years (%)	35	36	14	13
SES (Low Tercile) (%)	33	34	21	29
SES (Medium Tercile) (%)	34	33	43	54
SES (High Tercile) (%)	33	33	36	17
Only Regularly Travel within RT (%)	21	19	68	54
Require Travel Assistance (%)		N/A	71	67
Temporarily Disabled (%)		N/A	36	58
N	1,080	1,028	28	24

NOTE: This table reports means of several demographic and socio-economic characteristics of the overall individual sample (column 1), non-disabled females (column 2), disabled females (column 3), and disabled males (column 4).

Disability and Labor Force Participation

People with disabilities have considerably lower rates of labor force participation, and when they do participate, they are more likely to be searching for work (unemployed). Table 9.2 shows that the labor force participation for the disabled population sampled is considerably lower compared with the rest of the population in the survey. While males have an 80 percent LFP rate in DKI Jakarta, males with disabilities only had a 42 percent LFP rate. Females with disabilities only had a 32 percent FLP rate, compared with a 62 percent LFP rate in our sample of non-disabled females. Additionally, much of the participation rates for people with disabilities comes from searching for work, rather than actually working.

Table 9.2: Labor Force Participation by Disability Status

	Non- Disabled Females	Disabled Females	Disabled Males
Labor Force Participation Rate	62	32	42
Of Whom:			
... A. Employed Last Week	93	89	80

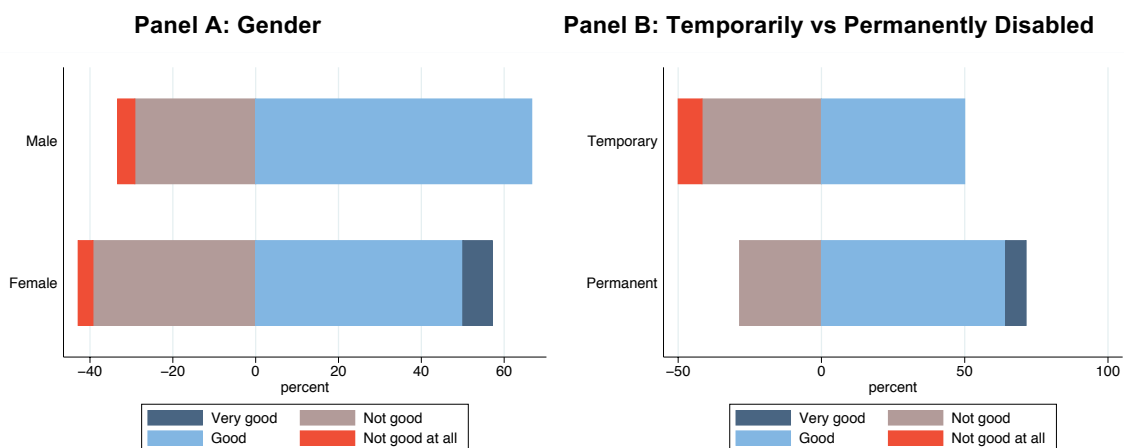
..... A1. Full Time Employee	62	63	43
..... A2. Part Time Employee	38	38	57
..... A3. Self Employed	37	44	70
... B. Unemployed	7	11	20
Unemployment Rate	5	4	13
Non-Participation Rate	38	68	58
Number in Sample	1,028	28	24

NOTE: This table reports the labor force participation rate, unemployment rate, and non-participation rate in for disabled and non-disabled respondents in our sample. Labor force participation is defined as working, unemployed, or discouraged from working (see Footnote 9 in Chapter 6). In rows A1-A3, we report the share of the employed, participating work force that is employed full-time, part-time, and self employed.

Disability and Transportation

Disabled individuals tend to be only moderately dissatisfied with the public transport system; around 30 percent of disabled males and 40 percent of disabled females expressed dissatisfaction (Figure 9.1, Panel A). However, less than half of the people with disabilities we interviewed regularly travel outside of their RT. Interestingly, people with temporary disabilities express significantly more dissatisfaction with the public transport system than people with permanent disabilities (Figure 9.1, Panel B). One hypothesises to explain these findings is that when someone becomes temporarily disabled, their frame of reference shifts, and they begin to realize that the transport system doesn't work. However, over time, as disabilities become permanent, people get used to the general unsatisfactory nature of the system and acquiesce to the status quo.

Figure 9.1: Does Current Public Transport System Meet Your Needs?



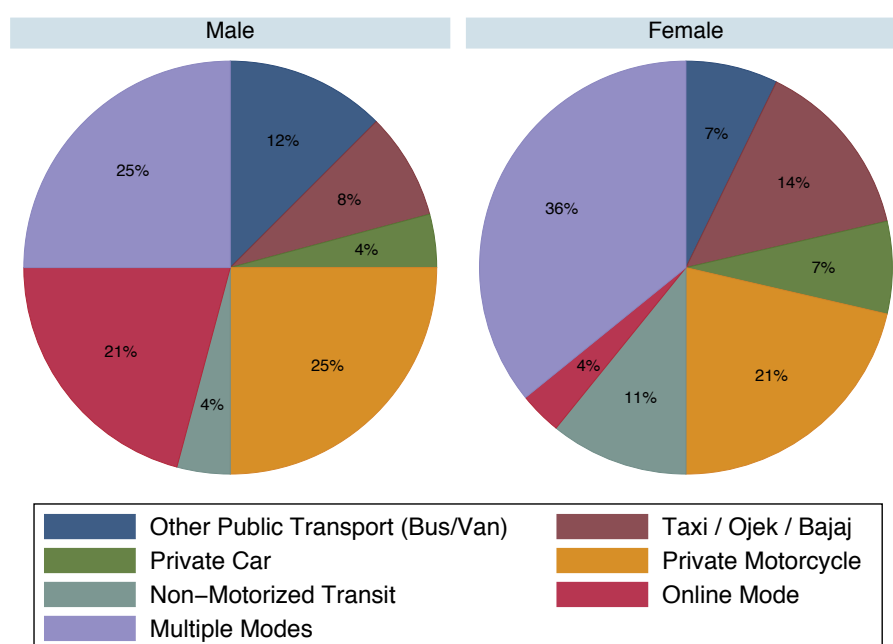
Note: Based on 2017 baseline survey data.

Main Modes of Travel

Despite only moderate levels of dissatisfaction with the public transport system, very few people with disabilities ride BRT or non-BRT buses. About one-third of disabled travelers use a private vehicle, and many use multiple modes to travel (Figure 9.2). Disabled males in particular use commonly use online transport modes (e.g. Go-JEK, Uber, or Grab). These

mode choice results are similar in some respects to the 2010-2012 JICA funded JAPTRAPIS transport study for Jakarta, which included a transport equity survey of 200 people with disabilities in Jakarta to understand their daily travel behaviors and needs in transport. The study found that about 50 percent high income people with disabilities commuted by car, while about 50 percent in middle income households commuted by motorcycle. However, most disabled people from low-income households have no alternative to using non-motorized transport.⁴⁷ The results indicated that affordable public transport may increase mobility for people with disabilities, including access to jobs and the labor market. That said, the rise of online transport modes seems to be filling a gap in this market, particularly for higher-income people with disabilities, and this is certainly encouraging, but still, less than half of people with disabilities regularly travel beyond their RT, so isolation and a lack of mobility could still be an issue.

Figure 9.2: Main Mode Choices



Note: Based on 2017 baseline survey data. $N = 20$.

Barriers to Travel by Public Transportation

In Jakarta, getting around is very difficult to people with disabilities. Figure 9.3 shows the different types of barriers to travelling by public transportation (BRT and non-BRT bus) identified by the disabled respondents. Panel A shows that overwhelmingly accessibility barriers to and from public transport stops are important—road traffic, inability to cross streets safely, and poor condition of sidewalks. Public transport also does not adequately cater for their needs, and many complained that people do not give up their seats to priority

⁴⁷ See Kawaguchi and Wakamatsu (2012) for more information.

groups. Panel B shows that for those who are temporarily disabled individuals, the lack of public assistance is a major barrier in their travels.

Box 9.1 Addressing Different Needs of People with Disabilities

Navigating public transportation in Jakarta is a huge challenge for people with disabilities. A focus group discussion with members of KUAT, a civic society advocacy group on accessible transportation, whose members are activists of disability organizations, revealed a number of important points. *First*, it is important to recognize the significantly different challenges faced by people with different types of disability in using public transportation. Attempts to improve accessibility of public transportation need to cater each group and address the different needs of each group. *Second*, networking among disabled persons seems to improve mobility as well as employment. Those who were members of disability organizations seem to be more mobile and more likely to have gainful employment. *Third*, while conditions are improving, currently the accessibility of infrastructure for public transportation is still far from ideal: from uneven curbs, gaps in platform, unreliability of schedules; some of which seem to require relatively low marginal cost to provide. *Fourth*, until mass public transportation is more accessible, public transportation with online apps such as online motorcycle or car taxi increasingly seem to be the mode of choice among the disabled due to their accessibility and their door-to-door service.

There are other barriers expressed in the in-depth interviews, relating to the poor quality of public transport services. In particular, there is considerable concern about personal safety and security on non-BRT bus (Box 9.2).

Box 9.2 Views by Disabled Respondents on Non-BRT Bus

"The bus has a high floor and I need help to enter."

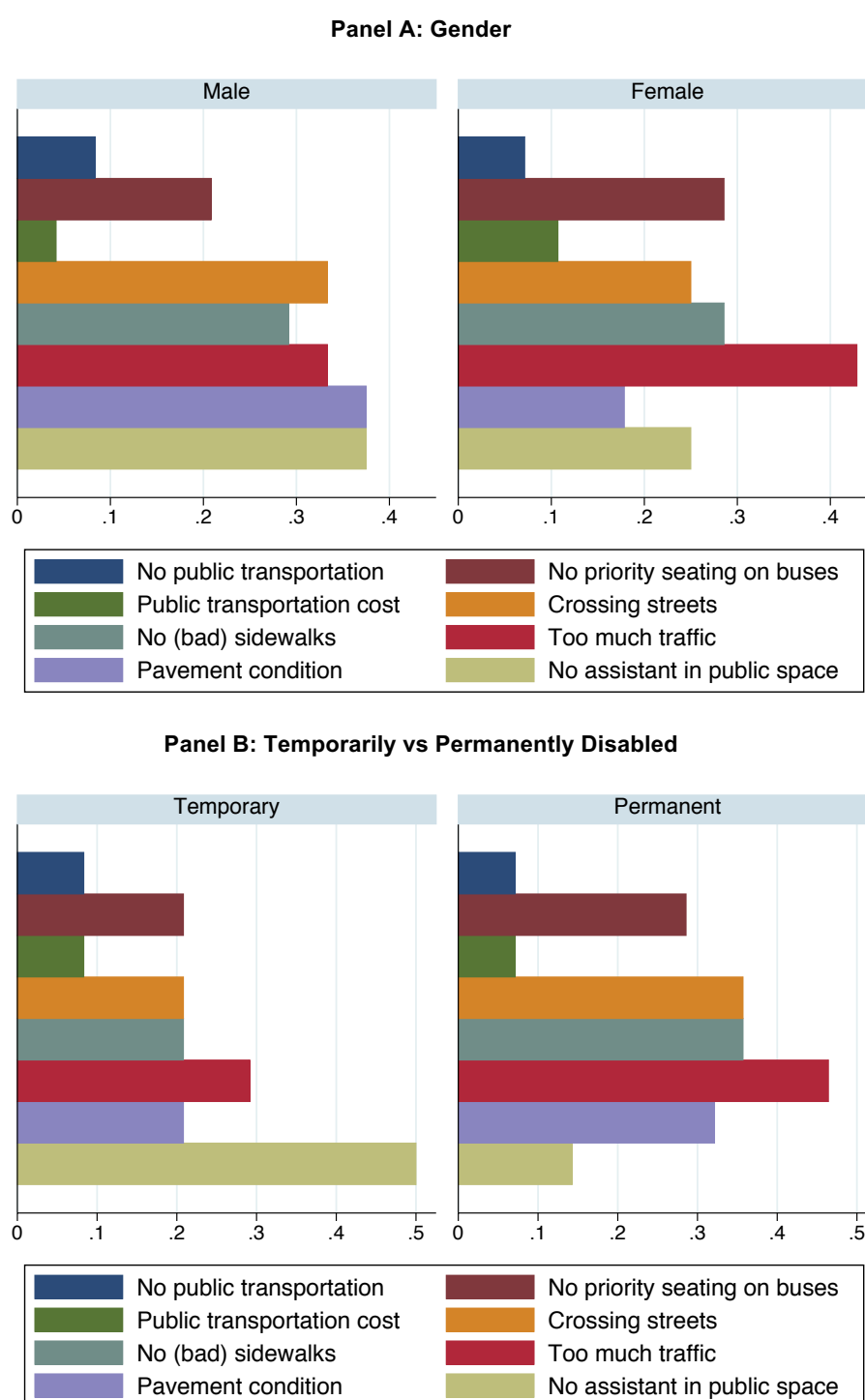
"As a woman, I always feel insecure, fearful and anxious, especially when bringing children or grandchildren but even when I go alone. Drivers often speed and they are sometimes drunk."

"I often hear about pickpocketing, I'm so scared. I've also heard about people who come home from work at 12 o'clock at night to ride public transportation and are threatened with a sharp weapon, and had to give her wallet to pickpocket. The driver usually just stays quiet because they do not dare interfere. Sometime, the driver want us to sit near him because he wants the passengers to be safe and not mugged by a knife. In the bus terminal, sometimes children steal but no one dared to speak out about it."

Another respondent experienced pickpocketing when riding on Metromini, At the time the bus was full and overcrowded. The conductor and the driver could not help even when they know it is happening, so they just kept quiet.

"When riding Kopaja to Tanah Abang, money in my pocket often missing."

Figure 9.3: Experience Any Barriers to Getting Where You Need to Go?



Note: Based on 2017 baseline survey data.

Issues with the TransJakarta BRT System for People with Disabilities

From the in-depth semi-structured interviews, many of the respondents with disability do not use the BRT and are not keen to use the BRT. The main reasons include not only the distance between their house and the bus stop/shelter, but also difficulty in accessing the BRT stops/ shelter with the need to climb stairs and long walks along the walkways. They feel the

bus is crowded and people with disabilities are not always able to get a seat even though there is notification for people to give up their seats for priority passengers.

TransJakarta station managers and staff are trained on how to assist the blind and visually impaired passengers. To accommodate the hearing impaired, station windows are now not tinted, clear of stickers, and staff are trained to make eye contact with passengers who come to ask for assistance.⁴⁸ However, respondents reported that attendants are not always on hand to provide assistance to let people with visual and hearing difficulties know which bus to get on. Sometimes speakers on the bus does not work so they do not know where to get off when they are on the bus. People cannot always hear the attendants on the bus calling out the stops. All this contributes to an unsatisfactory experience, although there is acknowledgement that generally there are officers at the shelter who can provide direct assistance.

Box 9.3 Woman with Hearing and Speech Impairment, 27 Years Old

A major constraint on public buses that she cannot hear the staff announcing the arrival of bus stops where, especially on the BRT, drivers are talking very fast. Another issue is that her house is not close to the BRT and she needs to ride a motorcycle from the house to the BRT shelter. The fare for this ride is IDR 5,000, although she added that the cost of travel was not an issue. *"Then I have to climb the bridge, have to go up and down and it's tiring,"* she said, and this makes her reluctant to use the BRT again. Now she no longer uses the BRT.

Online transport is much easier, because usually she gets a driver who can understand her situation and he speaks more slowly so she can understand. Online transport has greatly helped her travel mobility. Usually a lot of online transport drivers understand and they will contact her via text message only. She says *"I ask them via SMS, do not call, SMS only. I am deaf."* Later the online transport driver replies via SMS. *"All their drivers usually know about my situation and want to help."* She explained.

TransJakarta has sought to improve access to the BRT system and has introduced a TransJakarta concession card for people with disabilities. In 2016, a TransJakarta care service (TransCare) was established to collect people and help them transfer to the bus shelter. However out of the 52 disabled respondents, only one disabled person (who was permanently disabled) used TransJakarta BRT regularly. Only two people with disabilities had a free TransJakarta BRT card, but neither chose the BRT as their main mode of getting to where they needed to go. The one regular BRT rider did not have a TransJakarta concession card for disabled individuals. Most of the respondents were unaware of the TransJakarta concession card and felt that information about it had not been socialized in their community. One person who had a card said that they had to wait more than four months to receive their card, although a temporary one was issued which could be shown to the officer who would tap to open the entry gate to the BRT station.

⁴⁸ Early in 2017, TransJakarta introduced the TransJakarta Care program, which provides pick-up services for people with disabilities from their homes to their final destinations.

Some people had heard about TransJakarta Care, but now one knew what kind of transport it was. Most did not know how to call TransJakarta to book this service, and most were not interested in using it because they felt that other modes were more efficient.

The Rise of Online Transport and Mobility Needs of People with Disabilities

Online transport is used by many disabled respondents and is viewed as meeting their needs in terms of door-to-door comfort, time, cost, security and service quality. Overall, 11.5 percent of disabled respondents used online transport modes, such as Uber and Go-JEK, as their main mode of transit. However, Figure 9.2 (above) shows that most of this ridership comes from males; only 3.5 percent of disabled females used online modes, while 20.8 percent of disabled males used online modes. Although these statistics are based on small samples and should be viewed with caution, this suggests that app-based transport service providers, like Grab, Uber, and Go-JEK, have more work to do to encourage greater ridership among female passengers, such as offering greater safety and security measures.

Box 9.4 summarizes views of online transport from people with disabilities who use them and praise them for their convenience, efficiency, and comfort.

Box 9.4 Views of Online Transport from People with Disabilities Interviewed

“I can never use TransJakarta BRT. I want Grab because it’s faster and will stay waiting at home.”

“Online transport is very helpful to travel; a lot of drivers want to understand the disabled.”

‘If disabled use online transport, it’s more comfortable because they can pick up to front of the house, and the cost is efficient.’

“By using motorcycle applications online, passengers can be monitored via GPS. Children do not worry even if I go alone because it can be monitored via GPS.”

Policy Recommendations

From the combined quantitative and qualitative data collection, as well as the focus group discussions, Table 9.3 presents suggested improvements by people with disabilities that they feel are essential for greater ridership of the BRT and non-BRT buses:

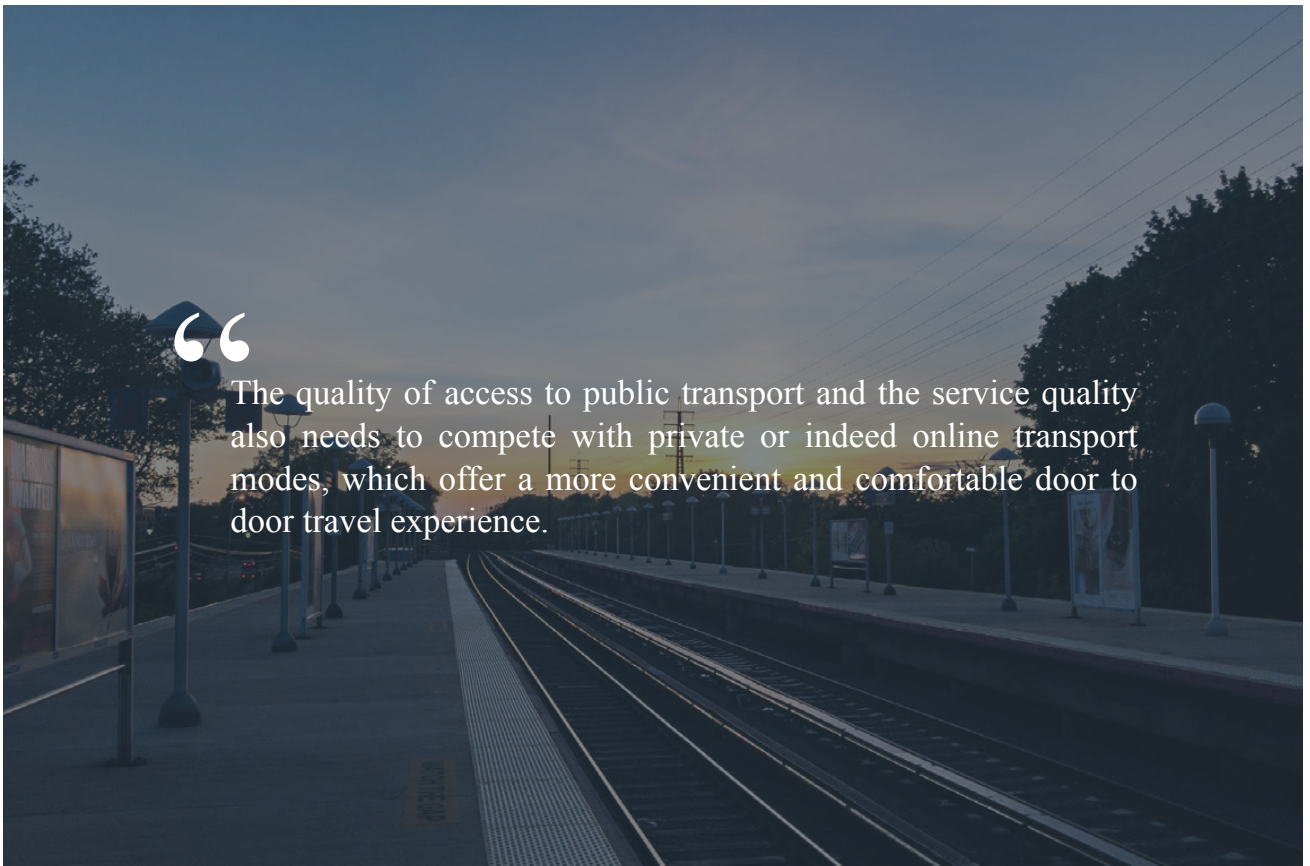
Table 9.3: Suggested Improvements to BRT and Non-BRT Buses for People with Disabilities

Transport Mode	Suggested Improvement
BRT	Provide shuttle bus services to the BRT stop/ shelter The bus stop should be easily accessible and not too high or requiring stairs. There should be an escalator reaching the height of the bus stop. There should be level sections / interludes on the stairs. Special places for people with disabilities to queue at the stop/ shelter and more officers on hand to provide assistance Handles and rails for people with disabilities to hold onto at bus stop Information to be communicated in a way that people with visual and hearing impairments can understand

	Better socialization of cards and other services to and from the BRT that are targeted at the disabled.
Non-BRT Buses	Have a bus that can cater better for people with disabilities Rejuvenation of the bus fleet and improve cleanliness and make it more comfortable Drivers should be more considerate (patient, polite and not rush their passengers). They should not start to move before passengers have fully entered or exited the bus. Improve safety and security.

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The quality of access to public transport and the service quality also needs to compete with private or indeed online transport modes, which offer a more convenient and comfortable door to door travel experience.



10. Discussion of Findings and Reforming Hypotheses

This report began by synthesizing findings from the literature on female labor market outcomes and transport constraints in DKI Jakarta. From the research we reviewed and the existing data we summarized, we developed a theory of change for how labor market outcomes for females might be influenced by improvements to public transportation. This theory of change enabled us to formulate a series of testable hypotheses for how the DKI Jakarta Government's planned improvements to BRT Corridor 6 may reduce commuting costs (broadly defined), encourage greater female labor force participation, and have different effects for different types of females and disabled individuals.

To begin the process of testing those hypotheses, we designed and fielded a new baseline survey of females and disabled individuals in DKI Jakarta. Our baseline survey represents one of the first attempts to combine a rich portrait of individual labor market experiences in a developing country megacity with detailed data on commuting patterns, vehicle ownership, mode choice, and other transport behavior. As such, this novel baseline data improve our understanding of the relationship between commuting costs and female labor market outcomes in urban areas in Indonesia. When combined with a similarly structured follow-on survey, to be undertaken after the planned improvements for BRT Corridor 6 are fully realized, the data collected for this baseline should enable researchers to estimate causal relationships between reduced commuting costs, greater female labor force participation, and other labor market outcomes.

Although our data are only a single cross-sectional snapshot of the labor market and commuting situation, and although many of the responses are hypothetical in nature, we have already uncovered a number of policy relevant findings from our research. This chapter reviews these findings and offers some preliminary directions for further policy consideration. It also revisits our initial hypotheses and reformulates them in light of the new data we collected.

Urban Mobility and Use of Existing Bus Services in Jakarta

Nearly 90 percent of households in the sample own at least one private vehicle, which is typically a motorcycle, but women whose households own a private vehicle do not necessarily have access to those private vehicles for their regular travel needs. If the household only has one vehicle, it is typically used by the husband, and when women come from poorer households, they are generally less likely to be using private vehicles for commuting purposes. Many women—particularly those from low SES households—can be largely dependent on public transportation for their regular travel needs even if the household owns a private vehicle, or indeed as it appears, they travel less and more often within their RT/ local neighborhood instead. However, women from the lowest SES are less likely to regularly travel beyond their RT.

Younger women, more educated women, and women who are in the labor force are more likely to travel regularly beyond their community. Married women and higher SES women are more likely to use private vehicles than public buses. Public transport is seen as slow and inconvenient, requiring transfers and long waiting times compared with private transport options (mainly motorcycle). The quality of access to public transport and the service quality also needs to compete with private or indeed online transport modes, which offer a more convenient and comfortable door-to-door travel experience.

Comfort, safety and security are viewed the most important attributes for public transport services. TransJakarta and online transport modes are viewed as the safest transport options. However, long waiting times, crowding, unreliable schedules, and slow speeds are issues for the BRT service and many people think that the BRT does not conveniently serve their door-to-door travel needs. There appear to be serious issues relating to poor personal security and safety on non-BRT buses.

As DKI Jakarta residents continue to experience income gains, this will increase the pressure for private vehicle ownership, especially if the public transport situation is not improved. Public transport needs to compete with transport modes that offer more convenient, comfortable, safer, faster, and more cost-efficient services. Therefore, not only does there need to be consideration about what is required to improve the operation and physical attributes of the actual BRT or non-BRT bus services and their immediate infrastructure, but there also needs to be improvements to the wider surrounding infrastructure such as pedestrian access ways (e.g. suitable road crossing facilities, good quality pedestrian pavements) and the provision of inter-connectivity between other public transport services to offer a more seamless door-to-door operation.

Commuting Costs and Female Labor Market Outcomes

Female labor force participation in Indonesia tends to be constrained by traditional gender roles. Women tend to exit the labor force when they have children, or when they marry, because it becomes difficult for them to juggle their time performing multiple tasks in the household, such as caring for children and doing household chores. Because of this, when we asked women about the reasons for their decisions to not participate in the labor market, most women *did not* say that transport-related factors affected their decisions. Despite being offered several transport-related reasons for not participating, such as “high commuting costs” or “poor access to transport”, most women said that the main reasons why they were not searching for work were because of the need to care for children or perform housekeeping duties.

Although our baseline data cannot allow us to make causal claims about the role of transport-related constraints, these results cast serious doubt on whether the BRT Corridor 6 improvements would encourage greater FLFP. That said, given the pervasive congestion in Jakarta and its oppressive nature, individuals may not be fully cognizant of how the transport situation affects them. Many women we surveyed did seem to be “time poor”, expressing complaints that there were not enough hours in the day to accomplish all of their

housekeeping, shopping, and other family-related obligations. If the BRT Corridor 6 improvements dramatically improve system functionality, reduce waiting times, and lower commuting costs, these improvements could relax those time constraints and lead to significant increases in FLFP.

On the other hand, among women who were actually working, our baseline data did show that transport-related factors played a significant role in the specific jobs that people chose. A job's location was the decisive reason for whether or not a job offer was accepted for nearly two thirds of workers in the sample. If women choose jobs entirely based on their location, they may be badly matched to jobs that are not using their skills appropriately or engaging their interests. These spatial mismatches may contribute to high turnover, low productivity, and generally poor labor market outcomes.

In a recent review of policies to improve the functioning of labor markets in developing countries, McKenzie (2017) argues that for increasing labor supply, "the most promising interventions appear to be ones that help workers access different labor markets, overcoming sectoral and, especially, spatial mismatches." Spatial mismatches occur when two similarly skilled individuals that live in different locations have very different employment opportunities. Transport constraints are an important cause for spatial mismatches, and in a congested commuting environment like DKI Jakarta, these mismatches may be very common. Commuters in our sample spend more than an hour per day traveling to and from work, and more than 7 percent of women in our sample changed jobs for transport-related reasons. These constraints may also be the highest for lower SES households, who are less likely to have access to private vehicles and rely more heavily on the public transport system. This suggests that reducing commuting costs could create better job matches for women who decide to participate, leading to higher wages, greater productivity, and reduced turnover.

Public Transport and the Mobility Needs of People with Disabilities

People with disabilities are far less likely to travel outside of their RT/ local environs than people without disabilities. Their lack of mobility limits their social interactions. Getting around DKI Jakarta is particularly challenging for the people with disabilities. The existing public transport system does not adequately caters for their needs, and busy streets, inadequate crossing facilities, and poorly designed pedestrian pavements present major barriers in accessing public transport. Many individuals with disabilities require assistance when travelling, because conditions are difficult for them to navigate their door-to-door travel on their own. The difficulties they face to access and make use of public transportation automatically restricts their mobility and ability to access employment opportunities and other services.

The door-to-door journey is a key consideration in the planning of suitable transport facilities for people with disabilities. If one of the links is not traversable, their door-to-door journey becomes impossible. This may be evidenced in that when people with disabilities use public transport, they tend to take a multiple number of public transport modes (much more than those reported by other people surveyed) or use online transport modes (e.g. Grab, Go-

JEK). Very few use the BRT system. BRT stops and shelters are generally not designed to meet the needs of disabled passengers; entry points into stations sometimes require navigating steep stairs, and when they arrive at stations, bus floors are often not properly aligned to stations. The more recent growth of the online transport market has allowed people with disabilities to travel more because these services meet their needs far better than BRT and non-BRT bus in terms of door-to-door comfort, time, cost, security and service quality.

A potential consequence of mobility constraints is that disabled individuals tend to have considerably lower rates of labor force participation than the rest of the population. A number of people reported that the distance they need to travel to and from work has an impact on their decision making. Some people with disabilities that we interviewed are currently working only part time or are employed informally. Public transport improvements like the planned upgrades to BRT Corridor 6, should promote greater rider satisfaction for disabled passengers, and to the extent that mobility constrains LFP, they should improve labor market outcomes for people with disabilities.

Existing Quality of Services Provided by Bus Services in DKI Jakarta

People who were not regular users of the BRT system report that a lack of direct routes to their destination, a lack of easy access to bus stations, crowded buses, and long waiting times are the main reasons that discourage them from using the BRT. Long waiting time and crowded buses are also the main factors disliked by BRT users much more than other factors. Satisfaction seems to be high among users and does not differ much by gender or by income tercile. On the other hand, non-BRT buses are avoided and disliked for two main reasons: convenience and safety. Almost 40 percent of users are dissatisfied with non-BRT buses, and dissatisfaction increases with income.

Public perceptions of public transportation, particularly BRT and non-BRT buses, help shed light on expectations placed on each and on improvements that need to be prioritized to address those demands and expectations.

Reforming the Hypotheses

As discussed in Chapter 6, many of the factors affecting female labor force participation that have been identified in the literature (see Chapter 2), such as age, education, marital status, household income, and having a young child at home, are also correlated with female labor force participation as measured in our data. As such, hypotheses 3.3-3.6 (from Chapter 4), which focus on how individual-level characteristics may mediate the impact of transport-related improvements on female labor force participation, should continue to be valid hypotheses to test after collecting data on individuals in future survey rounds.

Mode Choice

Our data collected rich information on the modes used for individuals who regularly travel. Different modes tend to be used for different purposes, and as Corridor 6 improves, we would expect to see more individuals substituting into public transport modes and away

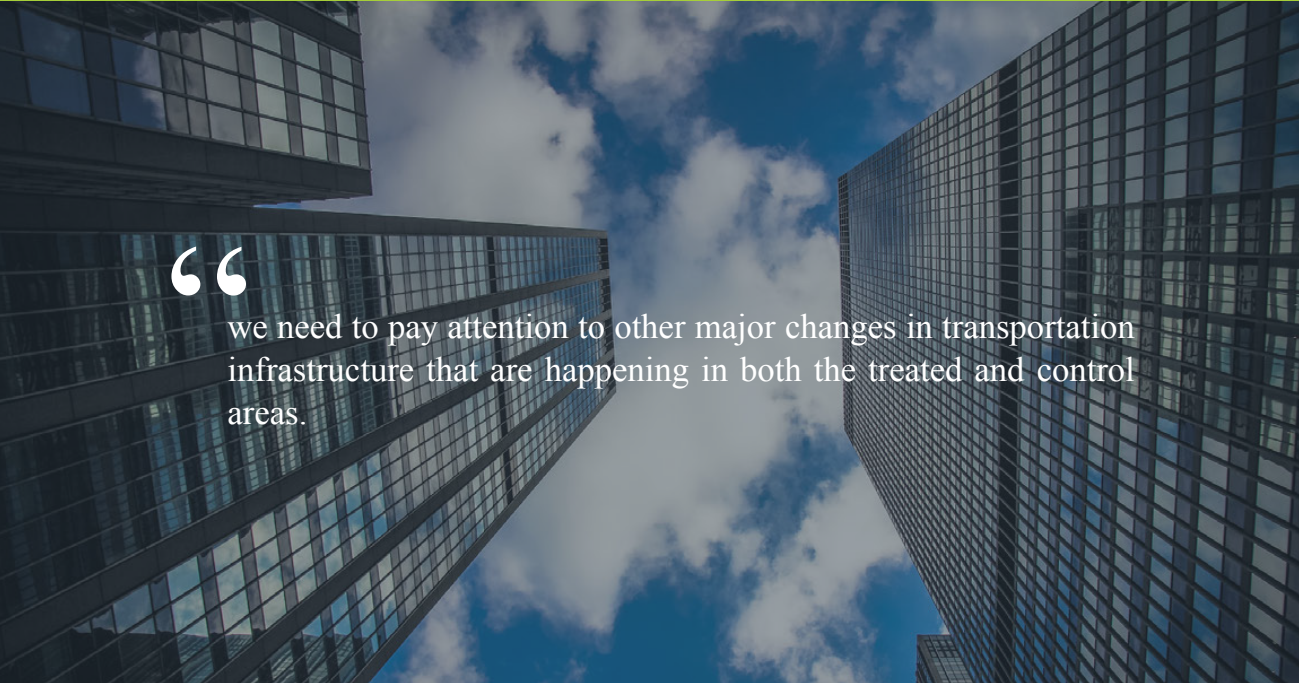
from private travel modes for their regular travel. This was a hypothesis that we had not fully formulated when we began the baseline data collection, but we do so now:

- **Hypothesis 5.1:** Individuals who had previously been more likely to use private transport modes for commuting to work will use public transport modes more regularly after Corridor 6 is improved.
- **Hypothesis 5.2:** Individuals who had previously been more likely to use private transport modes for commuting to school will use public transport modes more regularly after Corridor 6 is improved.
- **Hypothesis 5.3:** Individuals who had previously been more likely to use private transport modes for leisure activities and other purposes will use public transport modes more regularly after Corridor 6 is improved.

Regularly Travelling Outside the RT

One of the more surprising findings from our data collection was the high rate of women who do not regularly leave their RT. Approximately 20 percent of the females we interviewed said that they do not regularly take trips outside of their own RT for work, shopping, or leisure activities. In a city like Jakarta with its vast consumer and leisure opportunities, this seems quite surprising. One hypothesis that we had not anticipated is that if transport costs fall, maybe individuals who did not regularly travel outside of their RT may be more willing to do so.

- **Hypothesis 5.4:** Individuals who previously did not regularly travel outside of their RT may do so after Corridor 6 is improved.



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we need to pay attention to other major changes in transportation infrastructure that are happening in both the treated and control areas.

11. Post-implementation Monitoring

This chapter on post-implementation monitoring describes the plan to utilize difference-in-difference methodology to compute the changes in key variables. The ex-post data of the variables are to be collected through follow-up surveys. The plan is explained in greater detail in the technical appendix to this chapter in Appendix K.

Because neither the BRT Corridor 6 improvements nor the non-BRT bus service improvements are randomized, it is best to use of individual level panel data and difference-in-differences (DID) methodology for estimating the causal effects of public transport improvements on FLFP and related outcomes.⁴⁹ In short, DID approach would be applied to compare the change in female outcomes of interests in treated areas (i.e. either BRT or bus-improvement catchment areas) to changes in female outcomes of interests in control areas (i.e. non-BRT catchment areas or areas without bus-improvements) before and after the intervention.

For this estimation strategy to produce valid causal instruments, the change in outcomes for control areas should provide a credible counterfactual for what would have happened to outcomes in treated areas if those areas had not received treatment. That is, outcomes in both areas before the intervention should follow a parallel trend. This assumption can be tested for some of the outcomes (especially transport-related outcomes) using alternative datasets (for instance, comparing JICA BRT ridership data at the *kelurahan* level with our baseline data). Throughout, several potential confounders would be controlled; as listed and described below.

More specifically, the planned regression model for estimation is:

$$Y_{it} = \alpha_d + \gamma_t + \beta Treated_{dt} + X'_{it}\theta + \varepsilon_{it} \quad ,$$

where Y_{it} denotes individual level outcome of interest; a *dependent variable*. α_d and γ_t stand for location and time (i.e. before and after the intervention) indicator variables. $Treated_{dt}$ is a binary variable that equals 1 in treated areas (*kelurahan*) after the intervention and 0 otherwise. X_{it} is a vector of controls, that is *independent variables*, measured before and after the intervention at the individual level, and ε_{it} is an error term. When outcome variable will be a binary variable, we will apply logistic regression, and when a count variable, we will apply the Poisson regression. In both cases, marginal average effects will be reported. When the outcome is a continuously measured variable, OLS will be used. Throughout, when estimating the average treatment effect of the program, robust standard errors would be reported, clustered at the *kelurahan* level.

⁴⁹ Such approaches are commonly used in the program evaluation literature when panel data are available and treatment is not randomly assigned (Imbens and Wooldridge, 2009).

Table 11.1 shows the indicators we will study to test the hypothesis of whether or not the BRT Corridor 6 improvements will encourage greater FLFP. These are different choices of dependent variables, Y_{it} , in the regression equation above.

Table 11.1 Outcome Variables

Variable Title	Description	Method of Collection	Period
FLFP Indicator	Binary variable that equals 1 if a woman is a labor force participant or not	Baseline / Follow-Up Survey	Last week
Currently Working Indicator	Binary variable that equals 1 if a woman is currently working	Baseline / Follow-Up Survey	Last week
Multiple Jobs Indicator	Binary variable that equals 1 if a woman has multiple jobs	Baseline / Follow-Up Survey	Last week
Unemployment Indicator	Binary variable that equals 1 if a woman is unemployed or not (1- currently working)	Baseline / Follow-Up Survey	Last week
Full Time Employment Indicator	Binary variable that equals 1 if a woman if employed full-time (i.e., normally works 40+ per week).	Baseline / Follow-Up Survey	Last week
Normal Number of Hours Worked	Number of hours worked normally (continuous)	Baseline / Follow-Up Survey	Last month
Hours Spent on Child Care	Number of hours spent on childcare (continuous)	Baseline / Follow-Up Survey	Daily
Salary	Monthly salary (in Rupiahs)	Baseline / Follow-Up Survey	Monthly
Commuting Time	Travel time to current/previous workplace in hours	Baseline / Follow-Up Survey	Daily

Variable Title	Description	Method of Collection	Period
Commuting Distance	Distance to current/previous workplace	Baseline / Follow-Up Survey	Daily
Response to Whether Transport Affects Hours Worked	Binary variable that equals 1 if transport affects worker's hours of work	Baseline / Follow-Up Survey	Last Month
Response to Whether Transport Affects Working Time	Binary variable that equals 1 if transport affects women's ability to work overtime/night shifts/leaving work early	Baseline / Follow-Up Survey	Last Month
Sector of Employment Indicators	A series of binary variables that equals 1 if a woman is self-employed / government / casual / private / unpaid family worker	Baseline / Follow-Up Survey	Last Month
Job Satisfaction	Job satisfaction grade (1-4, 1 is very satisfied, 4 is very unsatisfied)	Baseline / Follow-Up Survey	Last Month
Compensation Satisfaction	Binary variable that equals 1 if a woman is satisfied with compensation at work	Baseline / Follow-Up Survey	Last Month
Perceived Skill Match	Binary variable that equals 1 if a woman thinks job matches her skills	Baseline / Follow-Up Survey	Last Month
Roles of Transport-Related Factors in Switching Jobs	Binary variable that equals 1 if a woman has quit/declined/changed/accepted her job due to transport constraints	Baseline / Follow-Up Survey	Last Month
Factors Related to Switching Jobs	Binary variables equals 1 for one of the reasons to decline/quit/changed her job	Baseline / Follow-Up Survey	Last Month

Control variables, including indicators for gender, age, marital status, disability, and child rearing will be included in X_{it} , in the regression equation above.⁵⁰ When conducting sub-sample analysis, we will only estimate the relationship between treatment and outcomes for particular individuals with certain characteristics (e.g. such as restricting the sample to only include unmarried women, or women in specific age brackets).

As final note, in writing up the DID analysis we need to pay attention to other major changes in transportation infrastructure that are happening in both the treated and control areas. This include the construction of MRT, LRT, as well as implementation of transportation policy such as ERP. Econometric strategies are available to help mitigate these issues.

⁵⁰ Note that many time-invariant controls will simply be absorbed by the fixed effects in the regression equation.

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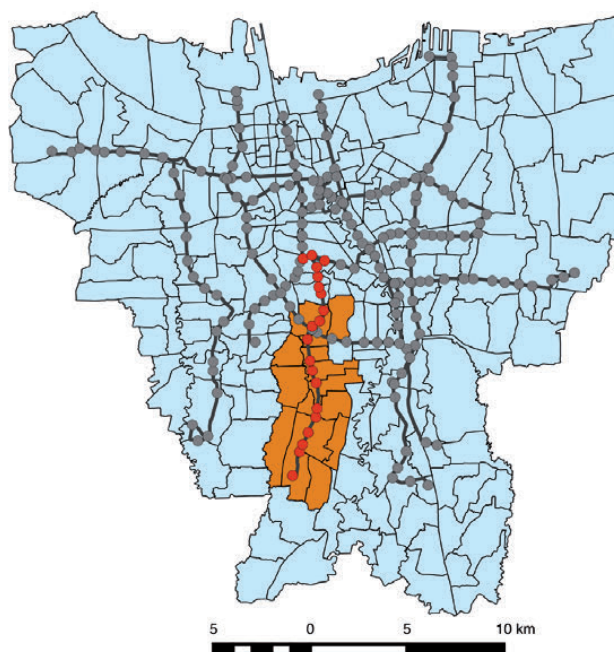
Appendix A. Baseline Study Plan and Survey Design

This appendix discusses how the Household Survey was designed and how the fieldwork was conducted. It discusses our approach for randomly selecting *kelurahan* in the Corridor 6 study area, the non-corridor 6 BRT study area, and the non-BRT bus areas of our study. Based on our target sample size and households interviewed per *kelurahan*, we chose 8 *kelurahan* for Corridor 6 BRT, 4 *kelurahan* for non-Corridor 6 BRT, and 4 non-BRT bus *kelurahan* (see Table A.1). We first describe our procedure for *kelurahan* selection, and then we describe how we will visit *kelurahan* and select RT for the listing procedure. Finally, we discuss the listing procedure, response rates, and overall sample sizes.

Defining the Corridor 6 Study Area

We first searched for *kelurahan* that have at least some portion of their area within 1 km of the South Corridor 6 BRT shelter in our study. A map of this Corridor 6 BRT study area appears in Figure A.1, with *kelurahan* located within 1 km of the Corridor 6 BRT shelters depicted in orange. The map also contains the locations of TransJakarta bus shelters (in grey), busway lines (in black), and the Corridor 6 BRT bus shelters (in red).

Figure A.1: Corridor 6 BRT Study Area, DKI Jakarta



SOURCE: Authors' calculations, using the 2010 BPS shapefile of *kelurahan* in DKI Jakarta.

Table A.1 presents a list of the 15 *kelurahan* in this study area. The *kelurahan* are all in South Jakarta City, and they span 5 different *kecamatan* (sub-districts): Pasar Minggu, Mampang Prapatan, Pancoran, and Tebet, and Setiabudi.

Table A.1: List of Kelurahan in Study Area (South Corridor 6 BRT)

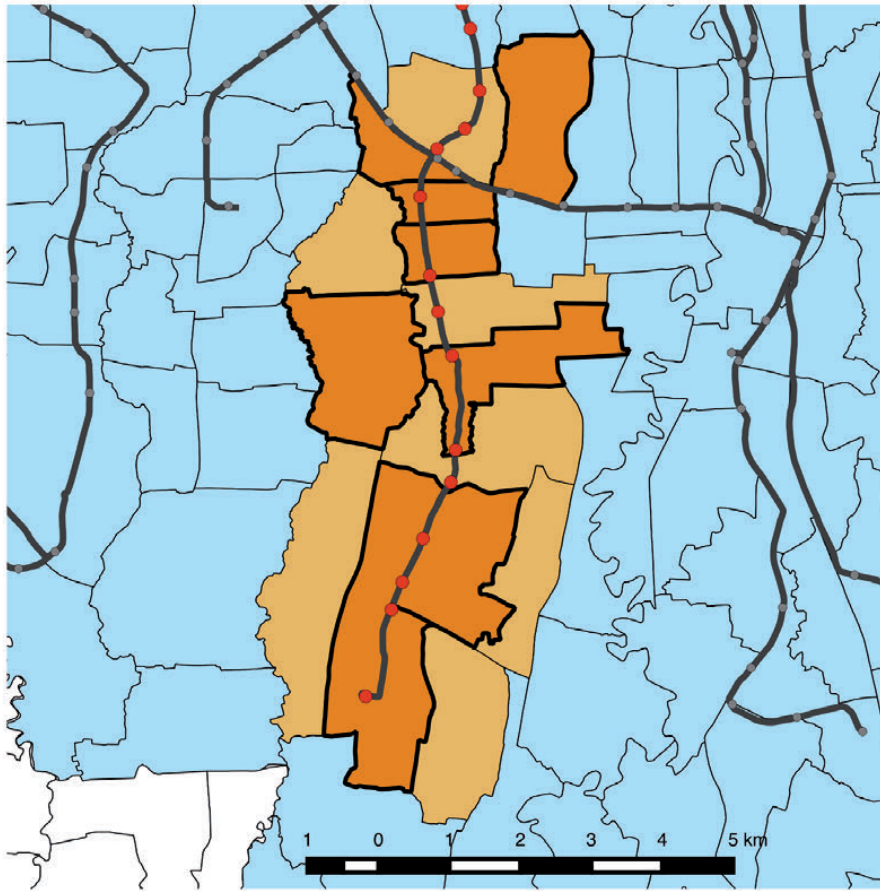
BPS Code (2010)	Kelurahan Name	Kecamatan Name	Closest BRT Shelter(s)
3171020001	Cilandak Timur	Pasar Minggu	SMK 57 (K6-3)
3171020002	Ragunan	Pasar Minggu	Ragunan (K6-1) Departemen Pertanian (K6-2) [Borders] SMK 57 (K6-3) [Borders] Jatipadang (K6-4) [Borders]
3171020003	Kebagusan	Pasar Minggu	Ragunan (K6-1) Departemen Pertanian (K6-2)
3171020004	Pasar Minggu	Pasar Minggu	Departemen Pertanian (K6-2) SMK 57 (K6-3) Jatipadang (K6-4)
3171020005	Jati Padang	Pasar Minggu	Departemen Pertanian (K6-2) [Borders] SMK 57 (K6-3) [Borders] Jatipadang (K6-4) [Borders]
3171020006	Pejatan Barat	Pasar Minggu	Pejaten (K6-5)
3171070001	Bangka	Mampang Prapatan	Imigrasi (K6-8)
3171070002	Pela Mampang	Mampang Prapatan	Mampang Prapatan (K6-10) Kuningan Timur (K6-11)
3171070003	Tegal Parang	Mampang Prapatan	Duren Tiga (K6-9)
3171070004	Mampang Prapatan	Mampang Prapatan	Mampang Prapatan (K6-10)
3171070005	Kuningan Barat	Mampang Prapatan	Kuningan Timur (K6-11)
3171080001	Kalibata	Pancoran	Buncit Indah (K6-6) Warung Jati (K6-7)
3171080003	Duren Tiga	Pancoran	Imigrasi (K6-8)
3171090001	Menteng Dalam	Tebet	Kuningan Timur (K6-11)
3171100002	Kuningan Timur	Setiabudi	Kuningan Timur (K6-11)

Source: BPS Shapefiles from the 2010 Household Census. Orange highlighted rows reflect the results of the selection procedure described below.

Random Sampling of *Kelurahan* within the Study Area (Corridor 6 BRT)

Next, we randomly selected 8 of the 15 *kelurahan* within this study area. We chose these *kelurahan* randomly, by sorting the data using STATA's uniform number generator. The results of this random selection appear in Figure A.2, with the selected *kelurahan* in dark orange, and are the highlighted rows of Table A.1.

Figure A.2: Selected *Kelurahan* in Corridor 6 Study Area



SOURCE: Authors' calculations, using the 2010 BPS shapefile of *kelurahan* in DKI Jakarta. Selected *kelurahan* appear in dark orange.

Selecting the Other BRT *Kelurahan*

Next, we chose 4 *kelurahan* that were outside of the Corridor 6 study area but were also close to another BRT shelter. To do so, we first restricted our sample to the set of *kelurahan* in DKI Jakarta that were less than 1 km to a non-Corridor 6 BRT shelter. From this sample, we also excluded the 15 *kelurahan* in the Corridor 6 study area, and any other *kelurahan* that was within 1 km of *any* Corridor 6 shelter (including the northern shelters, which could benefit from efficiency improvements in South Corridor 6). Finally, we excluded other *kelurahan* within the City of South Jakarta (to minimize the potential for spatial spillovers). This gave us a list of 169 *kelurahan* (out of a possible 261 *kelurahan* in DKI Jakarta).

One approach to selecting 8 *kelurahan* from these possible 169 would be simple random sampling, just as we randomly selected the Corridor 6 *kelurahan*. However, simple random selection is problematic because it could result in a comparison group that would be very different from the Corridor 6 areas. To isolate the causal impact of any Corridor 6 improvements, we really want to compare people who are in this catchment area to similar people who are not but are still close to a BRT shelter; many areas in this universe are higher and lower income, have different ridership patterns, etc.

Because of this concern, instead of randomly selecting the Non-Corridor 6 BRT *kelurahan*, we deliberately choose *kelurahan* in a way that minimized the differences between these *kelurahan* and the *kelurahan* we randomly selected above, based on observable characteristics. These characteristics included demographic variables from the 2010 census (e.g. the total population, female employment shares, average values of female education), variables from the JICA 2010 data (e.g. mode shares, income levels, which are not reported in the census), and variables from the SMERU poverty map dataset.⁵¹ The characteristics we used, as well as their values for the Corridor 6 study area *kelurahan*, can be found in Table A.2.

Table A.2: Observable Characteristics for Selected Corridor 6 Kelurahan

	Ragunan	Jati Padang	Bangka	Tegal Parang	Mampang Prapatan	Kuningan Barat	Kalibata	Menteng Dalam
Physical Characteristics								
Min. Distance to South Corridor 6 BRT Shelter (Meters)	33.33	0.00	400.00	0.00	0.00	289.41	0.00	561.23
JICA HTS (2010)								
Mode Choice: TransJakarta BRT share	0.03	0.02	0.04	0.01	0.01	0.02	0.01	0.00
Mode Choice: Train share	0.01	0.00	0.01	0.01	0.00	0.02	0.00	0.00
Mode Choice: Other Public Transport Share	0.28	0.25	0.21	0.17	0.15	0.12	0.16	0.23
Mode Choice: Taxi / Ojek / Bajaj Share	0.00	0.02	0.03	0.03	0.00	0.00	0.00	0.02
Mode Choice: Private Car Share	0.10	0.04	0.05	0.03	0.07	0.00	0.09	0.04
Mode Choice: Private Motorcycle Share	0.58	0.65	0.61	0.73	0.76	0.79	0.66	0.69
Mode Choice: Non-Motorized Transit Share	0.00	0.01	0.03	0.01	0.00	0.06	0.00	0.00
Share w/ Monthly Income (> 1 million Rp)	0.06	0.06	0.14	0.03	0.12	0.00	0.05	0.01
Share w/ Monthly Income (1-1.5 million Rp)	0.17	0.18	0.17	0.18	0.18	0.16	0.09	0.09
Share w/ Monthly Income (1.5-2 million Rp)	0.15	0.22	0.15	0.24	0.20	0.51	0.27	0.21
Share w/ Monthly Income (2-3 million Rp)	0.23	0.23	0.26	0.30	0.28	0.30	0.27	0.24
Share w/ Monthly Income (3-4 million Rp)	0.14	0.13	0.14	0.16	0.13	0.00	0.12	0.21
Share w/ Monthly Income (4-5 million Rp)	0.10	0.07	0.03	0.04	0.00	0.01	0.10	0.12
Share w/ Monthly Income (5-6 million Rp)	0.05	0.05	0.03	0.01	0.01	0.00	0.05	0.03
Share w/ Monthly Income (6-8 million Rp)	0.02	0.01	0.02	0.01	0.04	0.01	0.05	0.05
Share w/ Monthly Income (8-10 million Rp)	0.06	0.04	0.00	0.01	0.00	0.00	0.00	0.02
Share w/ Monthly Income (10-12.5 million Rp)	0.01	0.01	0.00	0.02	0.03	0.00	0.01	0.02
Share w/ Monthly Income (12.5-15 million Rp)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Share w/ Monthly Income (15-17.5 million Rp)	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Share w/ Monthly Income (17.5-20 million Rp)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Share w/ Monthly Income (20-22.5 million Rp)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

⁵¹ In general, we prioritized characteristic from the 2010 household census over the JICA HTS data, because these statistics are based on a complete enumeration of individuals and not based on a survey. So, when both variables appeared in different datasets, the 2010 census data variables were used instead of variables from another dataset. However, the 2010 census data has no information on mode choice, income, or poverty status, so we relied on the JICA HTS data and SMERU Poverty Map data in those cases.

Share w/ Monthly Income (25-25 million Rp)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Share w/ Monthly Income (> 25 million Rp)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Census (2010)								
% of females w/primary as highest attained	17.47	18.98	22.61	18.67	17.32	23.13	18.48	18.47
% of females w/ high school highest attained	22.65	23.48	26.54	22.49	21.75	26.47	21.86	22.04
% of females w/ bachelor degree as highest	9.74	10.79	9.35	7.22	11.12	4.57	9.24	10.28
% of pop. recently migrated from w/in province	19.41	16.88	19.56	13.99	21.35	18.37	16.44	18.66
% of pop. recently migrated from another province	18.34	16.18	18.92	13.30	19.90	17.61	15.55	17.81
% of females who are self employed	11.50	11.64	10.29	11.95	14.45	16.64	10.82	11.61
% of females self employed with temp. workers	21.14	21.46	18.88	25.42	18.74	19.99	21.71	20.07
% of females employers with permanent workers	2.84	1.08	3.81	2.58	2.09	2.79	2.41	2.11
% of females who are employees	93.66	93.16	88.19	86.69	90.16	85.62	89.00	90.73
% of females who are casual workers	40.58	46.46	51.85	45.80	38.67	29.15	33.98	38.75
% of females who are unpaid family workers	43.37	38.76	39.08	47.34	42.64	46.68	67.03	60.20
# of females employed in manufacturing	157	72	95	111	90	71	552	249
# of females employed in electricity & gas	28	11	2	16	18	5	29	21
# of females employed in construction	74	64	27	27	40	29	99	95
# of females employed in trade	1504	1444	902	1224	1031	878	1536	1613
# of females employed in hotel and restaurant	504	287	346	316	505	355	692	575
# of females employed in transportation & storage	78	59	25	42	56	22	116	98
# of females employed in info. & communication	189	173	102	130	388	68	167	214
# of females employed in finance & insurance	472	425	154	371	345	198	518	625
# of females employed in educational services	394	445	202	348	268	95	490	409
# of females employed in health services	310	206	113	118	189	44	229	260
# of females employed in other services	2488	2622	1901	961	887	584	1736	2381
# of females employed in other industries	150	162	145	222	61	128	139	301
SMERU Poverty Map (2010)								
Number of RT	108	101	66	66	74	48	133	139
Number of RW	11	10	5	7	7	5	10	13
Number of HH	13406	12343	7755	11312	6517	4722	14045	13051
Avg HH per RT	124.13	122.21	117.50	171.39	88.07	98.38	105.60	93.89
Poverty Rate (%)	11.93	26.79	38.84	31.99	29.04	30.77	18.67	20.31
Gini	0.99	0.58	0.89	0.49	0.99	1.00	0.78	0.50
Poverty Severity Index (%)	0.70	2.46	4.50	3.17	3.41	2.87	1.08	1.94
Poverty Gap Index	2.31	6.70	11.14	8.33	8.24	7.64	3.57	5.12

SOURCE: Authors' calculations, using the 2010 census data, JICA HTS data (2010), and data from the SMERU Poverty Map (2010).

Let $\mathbf{x}_j$ denote an $(M \times 1)$ vector of z -scores of these observable characteristics for *kelurahan j*.⁵² For each *kelurahan j* in the universe of other BRT *kelurahan*, we defined a criterion function as follows:

⁵² A z -score is the value of the characteristic, minus the sample mean, divided by the sample deviation. We used z -scores in this procedure to normalize the characteristics, rather than their raw levels, so that no single

$$D_j = \frac{1}{6} \sum_{k=1}^6 d(\mathbf{x}_j, \mathbf{x}_k) , \quad (1)$$

where the sum $k = 1$ to 6 ranges over the 6 *kelurahan* in the randomly selected Corridor 6 study area, and $d(\mathbf{x}_j, \mathbf{x}_k)$ is a distance metric. We use the Euclidean distance metric in this procedure:

$$d(\mathbf{x}_j, \mathbf{x}_k) = \sum_{m=1}^M (x_j^m - x_k^m)^2 , \quad (2)$$

where x_j^m denotes the m th component of vector $\mathbf{x}_j$, and the sum ranges over all components of the vector.

The results of this selection procedure appear in Figure A.3, and the names of the selected *kelurahan* appear in Table A.3. These *kelurahan* represent the 4 *kelurahan* that are “closest” to the Corridor 6 *kelurahan*, where “closest” is defined on the space of observable characteristics. They are also chosen in a way that makes them far enough from the Corridor 6 area so that they should not directly benefit from the planned efficiency improvements to the treated Corridor 6 shelters.⁵³

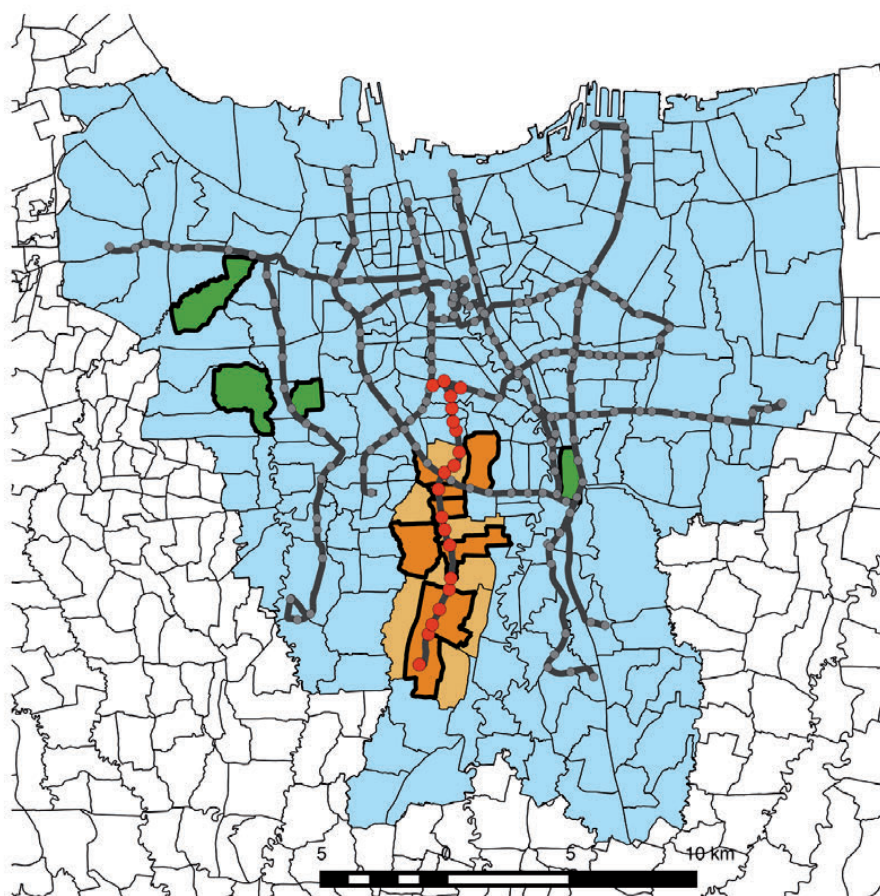
Table A.3: List of Selected Kelurahan in the Other BRT Study Area

BPS Code (2010)	Kelurahan Name	Kecamatan Name	Closest BRT Shelter(s)
3172060002	Cipinang Cempedak	Jatinegara	Cipinang Kebon Nanas (K10-17) Penas Kalimalang (K10-18) Cawang Sutoyo (K10-19)
3174010002	Srengseng	Kembangan	Pos Pengumben (K8-11) Kelapa Dua Sasak (K8-12)
3174020002	Sukabumi Utara	Kebonjeruk	Pos Pengumben (K8-11) Kelapa Dua Sasak (K8-12)
3174010006	Kembangan Utara	Kembangan	Taman Kota (K-3)

characteristic would dominate the selection approach. The means and standard deviations of these characteristics were calculated from the DKI Jakarta set of *kelurahan*.

⁵³ This approach will be useful for future treatment effect estimation procedures which could use propensity-score matching to compare individuals “treated” by the Corridor 6 improvements to individuals not directly treated. A key concern in propensity score estimation is that there is sufficient overlap between treated and non-treated groups; by selecting *kelurahan* that are observationally similar, it is more likely that the overlap condition is more likely to hold.

Figure A.3: Corridor 6 Study Area and Non Corridor 6 BRT Study Area, DKI Jakarta



SOURCE: Authors' calculations, using the 2010 BPS shapefile of *kelurahan* in DKI Jakarta. Non-Corridor 6 BRT selected *kelurahan* appear in dark green.

Selecting the Non-BRT Bus *Kelurahan*

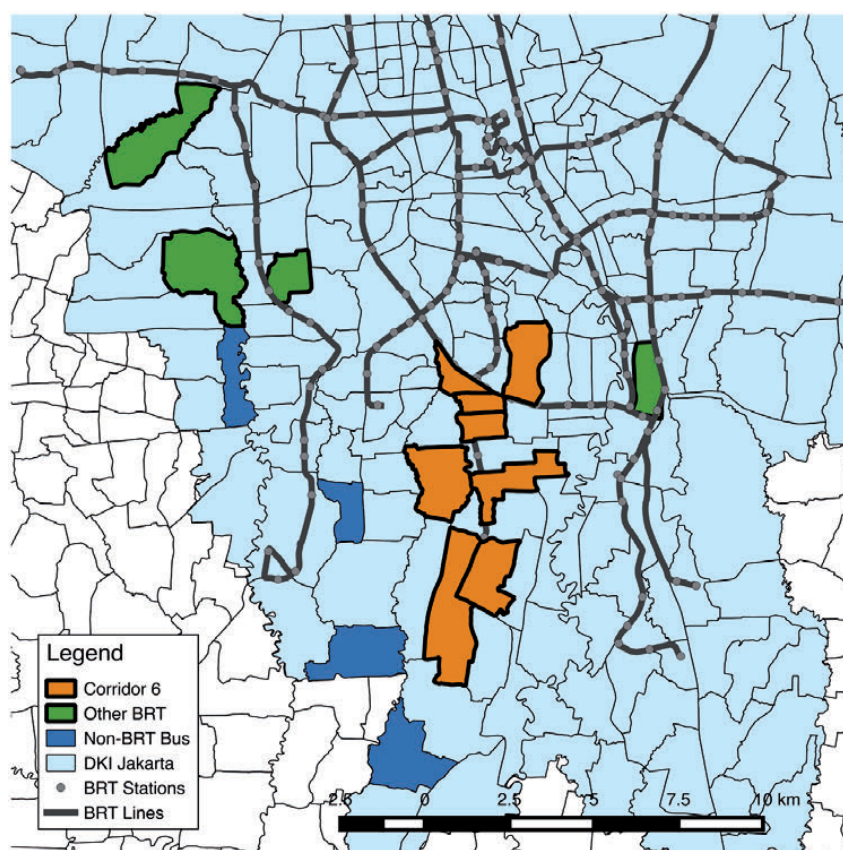
Next, we chose 4 *kelurahan* that were located in South Jakarta but outside of the BRT areas, served by non-BRT buses that overlap with Corridor 6, and had high use of the traditional non-BRT bus system, based on 2010 JICA data. Out of those, we chose the 4 *kelurahan* with the highest share of ridership in the non-BRT public bus system for the “Non-BRT Bus” sample. These *kelurahan* are listed in Table A.4. The *kelurahan* are: Ciganjur, Jagakarsa, Pondok Labu, and Ulujami, all in South Jakarta.

The selection also means that for the Rider Survey, we will likely be interviewing respondents in the Blok M Terminal, Pasar Minggu Terminal, or Lebak Bulus Terminal and bus stops along those routes (e.g Kopaja S66, Metromini S75).

Table A.4: List of Selected *Kelurahan* in the Non-BRT Bus Study Area

BPS Code (2010)	Kelurahan Name	Kecamatan Name
3171010003	Jagakarsa	Ciganjur
3171030002	Cilandak	Pondok Labu
3171030004	Cilandak	Gandaria Selatan
3171030003	Pesanggrahan	Ulujami

Figure A.4: All Selected *Kelurahan* for Study, DKI Jakarta



SOURCE: Authors' calculations, using the 2010 BPS shapefile of *kelurahan* in DKI Jakarta. Non-Corridor 6 BRT selected *kelurahan* appear in dark green, while non-BRT *kelurahan* appear in dark blue.

Summary of *Kelurahan* Selection

Table A.5 provides a summary for our approach to selecting *kelurahan* for the study. The first column of this table lists the study area, and the second column describes the universe of *kelurahan* that constitute this study area. The third column details the Sampling Approach, and the fourth column indicates the number of selected *kelurahan*.

Table A.5: Kelurahan Selection Summary

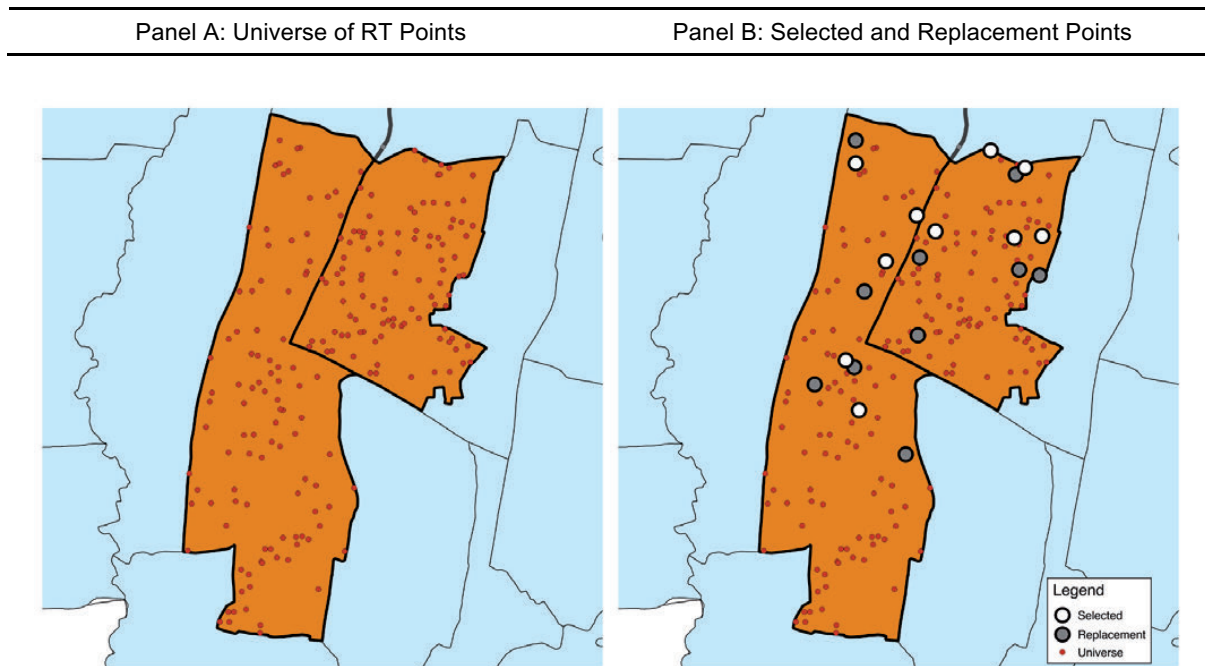
Study Area	Universe	Sampling Approach	Number of Kelurahan Selected
Corridor 6 BRT	All DKI Jakarta <i>kelurahan</i> with at least some portion of their area within 1 km of the South Corridor 6 shelters. (N = 15)	Random selection	8
Non Corridor 6 BRT	All DKI Jakarta <i>kelurahan</i> that are within 1 km of any other BRT shelter, excluding South Corridor 6 and North Corridor 6 (N = 169)	Non-random, based on similarity between Corridor 6 <i>kelurahan</i> .	4
Non-BRT Bus	All DKI Jakarta <i>kelurahan</i> that are not within 1 km of the South Corridor 6 shelters but are also in South Jakarta Province (N = 50)	Non-random, based on traditional bus ridership use	4

Selecting RT and Visiting *Kelurahan*

After selecting our sample of *kelurahan*, the next task is to randomly select 5 RT within each *kelurahan*. Because it was not easy to obtain maps of RT from each *kelurahan* in our sample, and because of our desire to stratify the RT selection by distance to the closest BRT shelter, we developed the following approach for selecting RT:

1. Using the 2010 BPS shapefile of *kelurahan* in DKI Jakarta, we first randomly generated 100 location points within each *kelurahan*. location points and the GIS codes of those points on the map. Figure 2.6, Panel A, provides an example for two *kelurahan*, Ragunan and Jati Padang, in our Corridor 6 sample.
2. For each of the 100 location points within each *kelurahan*, we calculated the distance between that point and the nearest BRT shelter.
3. We grouped each location point into distance bins, based on quartiles of the distance distribution. In other words, the closest 20 percent were grouped into bin 1, the next closest 20 percent were grouped into bin 2, etc.
4. Within distance bins, we randomly chose two location points, one that is “selected” and the other that is a “replacement”. Because there are 5 distance bins in each *kelurahan*, this gives us 5 selected location points and 5 replacement points per *kelurahan*.

Figure A.5: Location Point Selection Diagram: *Kelurahan Ragunan* and *Kelurahan Jati Padang*



SOURCE: Authors' calculations, using the 2010 BPS shapefile of *kelurahan* in DKI Jakarta. This figure depicts the universe of RT points (Panel A) and the points we selected from this universe for Kelurahan Jati Padang and Kelurahan Ragunan.

In principle, if residential locations were spread uniformly across space, this would be an ideal RT selection mechanism. In practice, we were concerned that some of these location points would not be useable; for instance, we may have randomly selected a location in a public cemetery, or inside a large shopping mall. To remedy this concern, after our first pass at the selection algorithm described above, we overlaid the location points on top of satellite imagery from Google maps to ensure that the points we selected were located in residential areas. If one of our location points was unusable, we replaced it with a new one randomly selected from the original list.⁵⁴

After doing our best to minimize errors with the location points, we transmitted the GPS latitude and longitude coordinates to the field teams in Jakarta. Using this information, they proceeded as follows:

1. The team visited the selected *kelurahan* and used the GPS information to visit the exact locations on foot.
2. When they arrived at the location point, they determined what RT they are in, either by asking people nearby or by reading address signs.
3. The RT visited becomes a selected RT and the team proceeded to conduct the household listing in the RT.
4. The team repeated this process for the next 4 location points until they have selected all the required 5 RTs.

⁵⁴ For instance, when we initially selected RT points for Kelurahan Ragunan, one of the selected points was in the Ragunan Zoo. We replaced this with an alternative randomly selected point.

If it turns out that a location point is not usable, the team chooses a replacement location point (taking care to ensure that replacement points fall in the same distance bin as the selected points they are replacing).

Our approach to selecting RT departed from an earlier plan, discussed in the Inception Report, where we had planned to visit *kelurahan* offices and either obtain RW maps, ask the *kelurahan* officials to help us draw RW boundaries, or go RW heads and ask them to draw RT maps, etc. In preliminary field visits, we found that many *kelurahan* offices were not organized enough to provide us with current RT maps, and this approach worked well in the field.⁵⁵

Listing of Households within RT

For each selected RT, based on information from RT head or RT activist, we conducted a listing of the households that live within each RT containing a female aged 15-65 or a disabled person aged 15-65. This listing exercise was a “mini-census”, created by conducting a quick 1-2 page questionnaire. The listing questionnaire determines whether eligible females live in the household, whether or not they are working, or/and whether there are disabled persons in the household. In addition, the form includes questions about whether the households know of any other eligible households in the RT with at least one eligible female or disabled person in the household. This listing process was conducted because we expected that RT heads would not be able to provide up to date, accurate information about who lives in the RT. In total, we listed 5,718 households from which we would randomly sample our households.

Surveying Females and Disabled Persons within Households

After conducting the listing exercise, we used the random sampling procedure in our CAPI software to randomly sample households within *kelurahan*. For each randomly selected household, we used the listing data to randomly select one female within the household that matched the age criteria (18-65 years old). Then, we revisited households and attempted to conduct the household and individual-level interviews. However, some households refused to participate or were not home when we tried to interview them, so they were replaced with another household. Overall, we made 1,440 attempts to contact households, but only 1,064 successfully responded, leading to an overall household response rate of 73.89 percent. Table A.6 summarizes this household response rate by *kelurahan* and survey area.

⁵⁵ An even easier approach would have been to make use of the RT/RW sampling frame used by BPS in fielding the census. However, despite our best efforts, we could not succeed in getting BPS to agree to share their sampling frame data with us.

Table A.6: Household Survey Response Rate, by Kelurahan and Survey Area

Panel A: Corridor 6				
BPS Code (2010)	Kelurahan	Total HH Survey Attempts	Total HH Survey Responses	HH Response Rate
3171020002	Ragunan	76	67	0.882
3171020005	Jati Padang	71	66	0.930
3171070001	Bangka	113	68	0.602
3171070003	Tegal Parang	98	69	0.704
3171070004	Mampang Prapatan	86	65	0.756
3171070005	Kuningan Barat	80	69	0.863
3171080001	Kalibata	86	65	0.756
3171090001	Menteng Dalam	83	67	0.807
	Overall	693	536	0.773
Panel B: Non-Corridor 6 BRT				
BPS Code (2010)	Kelurahan	Total HH Survey Attempts	Total HH Survey Responses	HH Response Rate
3171010003	Ciganjur	102	67	0.657
3171030002	Pondok Labu	88	66	0.750
3171030004	Gandaria Selatan	87	64	0.736
3171040003	Ulujami	89	66	0.742
	Overall	366	263	0.719
Panel C: Non-BRT Bus				
BPS Code (2010)	Kelurahan	Total HH Survey Attempts	Total HH Survey Responses	HH Response Rate
3172060002	Cipinang Cempedak	101	66	0.653
3174010002	Srengseng	84	65	0.774
3174010006	Kembangan Utara	78	68	0.872
3174020002	Sukabumi Utara	118	66	0.559
	Overall	381	265	0.696

On the whole, our highest response rates to the household survey were from the Corridor 6 BRT area, with an overall response rate of 77.3 percent. As in the listing survey, our lowest response rates were found in the Non-BRT bus areas, with an overall response rate of only 69.6 percent.

Process to Identify and Sample Respondents with Disabilities

We sought to interview 50 disabled respondents (males and females) in the survey. We used a three-stage process to identify respondents with disabilities. First, when we conducted the listing for the female respondents at the RT level, we also use the opportunity to ask a screening question to find any disabled household member, using our working definition of disability. If a household was known to have a disabled household member, we asked the RT which broad categorization the individuals belong to. We then visit the household and confirm with the household head (or whoever answers the household book) whether there are members with disability, again using the same definition. When we meet the individual, the survey evaluates whether the individual indeed has a disability. This is done visually but also by confirming to the individual directly or by talking to another household member/caretaker.

In some cases, the randomly selected female households also contained a disabled person who would then be added to the list of disabled persons. When we randomly drew the sample for respondents with disability, 10 of the 52 disabled respondents we ended up interviewing were from households where we also interviewed a female member.

Appendix B. Household Survey Questionnaire: Household Book

HHID:

CONFIDENTIAL

**Survey to Assess the Role of Bus-Related Policy Interventions
in Female Labour Force Participation Rate and mobility of the disabled in Jakarta
(BASELINE)**

BOOK 1: HOUSEHOLD

SECTIONS: SC, AR, KR, KS, HR, CP

Respondent is the Head of household/spouse of head of household or a HH Member 18 years or older who is knowledgeable about characteristics of household members

COV00x.	HOUSEHOLD INTERVIEWED?	1. Yes 3. No ➔ C1
COV01x	Household Location	1. Corridor 6 BRT 2. Non-corridor 6 BRT 3. Non-BRT bus

COV00x. Informed consent

Good morning/afternoon/evening,

My name is _____. I am from SurveyMeter, an independent research organization based in Yogyakarta. We are currently conducting the fieldwork for Baseline Survey to Assess the role of Bus-Related Policy Interventions in Female Labour Force Participation and mobility of the disabled in Jakarta, a survey project conducted with collaboration with RAND Corporation. We will start by reading the informed consent form and then ask whether you would be willing to participate in the survey. You can ask questions at any time.

The aim of this survey is to add substantively to the field of knowledge on how transport infrastructure impacts female labour force participation (FLFP) and urban mobility of the disabled in Indonesia, and to identify public transport policy reforms that can improve the situation. The aim of the surveys is fourfold (ref TOR):

- To determine how women are using existing bus (BRT and non BRT bus) services in DKI Jakarta, and how these services are facilitating or constraining women's access to employment opportunities and hence female labour force participation;
- To determine how people with disabilities mobilise i.e. access services and facilities, and their use of existing bus (BRT and non-BRT bus) services in Jakarta
- To determine the existing (perceived) level of public transport service quality; and
- To determine what type of improvements could contribute to increasing female labour force participation in Jakarta and also to increased mobility of people with disabilities; mainly along BRT corridor 6, where a range of improvements is already planned for implementation.

We will interview you to collect information on your household's characteristics. Next, we will also conduct interview with a female householder aged 15-65 years old. The interview is completely voluntary and all survey information will be kept confidential. This will be done solely for the purpose of confirming your identity in the follow up survey. Your personal information, including name, address, phone number, and other information that can be used to identify you will not be disclosed. The researcher will keep your information in confidence until it is destroyed, and your information will not be used or disclosed during this period.

If you have any questions about this study, you may contact SurveyMETER at email address: sm@surveymeter.org or phone +62-274-4477464 and fax: +62-274-4477004.

Interviewer's Statement

"I have informed the respondent about the background, goals, procedure, risks and benefits of the survey, given him/her enough time to read the informed consent and discuss with others, and answered all questions related to the survey; I have informed the respondent that he/she can contact the SurveyMETER, when having problems about the survey and provided the accurate contact information. I have informed the respondent that he/she can withdraw from the survey anytime. I have informed the potential respondent that he/she can get a copy of this informed consent with signatures of mine."

☐ Signed by the interviewer. Interviewer name: _____ day/month/year

Respondent's statement:

"I have been read the informed consent and I agree to participate in": ☐ **questionnaire survey**

SECTION AR (LIST OF HOUSEHOLD MEMBERS)

NOTE: SOME INFORMATION WILL BE PRELOADED. INTERVIEWER NEEDS TO UPDATE THE INFORMATION WHEN NECESSARY.

SAMPLING INFORMATION		CODE
SC01.	MUNICIPALITY (KABUPATEN/KOTA): 1. PRELOADED	
SC02.	SUBDISTRICT (KECAMATAN): 1. PRELOADED	
SC03.	VILLAGE (DESA/KELURAHAN/NAGARI): 1. PRELOADED	
SC04.	NAME OF CAPI SUPERVISOR : _____	
SC05.	NAME OF INTERVIEWER : _____	
SC06.	Name of Head of the Household: 1. PRELOADED	_____
SC07.	Household Address (include house number): 1. PRELOADED	_____
SC08.	RT / RW: 1. PRELOADED	
SC09.	TELEPHONE NUMBER:	A. Home . B. Cellphone , belonging to _____ C. Cellphone , belonging to _____ W. NA
SC10.	Email Address:	_____
SC11.	Special notes on household address/location (distance, building on the same street): 1. PRELOADED	_____
SC12.	Route to respondent's house : 1. PRELOADED (Start from the closest TransJakarta shelter)	_____
SC13.	HOUSEHOLD GPS RECORD (directly connected to computer)	a. LATITUDE : ° , b. LONGITUDE: ° , c. ELEVATION: . METER ABOVE SEA LEVEL d. ACCURACY : METER

HOUSEHOLD (RT):	is a person or group of people who occupy a part of or an entire building and who usually live together and eat from the same kitchen. What is meant by eating from one kitchen is that the arrangement to fulfill daily necessities is jointly managed.
-----------------	--

SECTION AR (LIST OF HOUSEHOLD MEMBERS)

HEAD OF THE HOUSEHOLD (KRT):	is a person among the group of householders who is responsible for satisfying daily necessities of the household or a person who is regarded/assigned as the head of the household
HOUSEHOLDER (ART):	is anyone who usually lives in the household, whether she/he is at home during the survey or is temporarily absent. A householder who has been away for 6 or more months, and a householder who has been away for less than 6 months but plans to move out/be away for 6 or more months is not regarded as a householder. A guest who has stayed in the household for 6 or more months or a guest who has stayed in the household for less than 6 months but plans to stay for 6 or more months is regarded as a householder. (THE NAME OF A HOUSEHOLDER IS TO BE WRITTEN ON ONE LINE ONLY.)

AR00xx. We would like to know the names of all the people who live in this household. Please list all the people that stay here, eat and cook together in the household.

(NOTE WITH REFERENCE TO THE ROSTER: THE NAMES THAT ARE RECORDED HERE ARE ONLY THE PEOPLE WHO USUALLY STAY IN THIS HOUSEHOLD: ADULTS, CHILDREN, AND INFANTS. LIST THE HOUSEHOLD HEAD, THE WIFE OF THE HOUSEHOLD HEAD, THEIR CHILDREN (BIRTH, STEP, ADOPTED), PARENTS, IN-LAWS, SIBLINGS, SIBLINGS IN-LAW, GRANDCHILDREN, GRANDPARENTS, AUNTS AND UNCLES, NIECES AND NEPHEWS, COUSINS, BOARDERS, AND SERVANTS (NON-FAMILY MEMBERS).

≤ WRITE THE NAME OF HOUSEHOLD MEMBERS AND ASK QUESTION AR00 – AR02 FOR ALL LINES → CONTINUE TO AR00a-AR00d

SECTION AR (LIST OF HOUSEHOLD MEMBERS)

AR00x: TOTAL NUMBER OF LINES USED

AR00	AR01	AR02	AR03	AR04	AR05	AR06	AR07	AR08
No. of HHM(PID)	NAME OF HOUSEHOLD MEMBER	Relationshi p to household head now	Sex	Birth date	Age now	Marital Status	Highest Level of Schooling Attended by HHM	Highest grade ever completed by HHM ?
01				/ / Day / Month / Year				
02				/ / Day / Month / Year				
.				/ / Day / Month / Year				

Code AR02:

- 01. Household head
- 02. Husband/Wife
- 03. Child (biological)
- 04. Child (non-biological)
- 05. Son/daughter-in-law
- 06. Parents

- 07. Parent – In-law
- 08. Sibling
- 09. Brothers/Sister-In-law
- 10. Grandchild
- 11. Grandparent
- 12. Uncle/Aunt

- 13. Nephew/Niece
- 14. Cousin
- 15. Servant
- 16. Others Family , _____
- 17. Not Family

Code AR03:

- 1. Male
- 3. Female

Code AR06:

- 1. Not married
- 2. Married
- 3. Separated
- 4. Divorced
- 5. Widow/er
- 6. Cohabitate

AR07		AR08	
01. No/Not yet in school	17. School for the disabled	00. DIDN'T COMPLETE 1ST CLASS AT THAT LEVEL	
02. Elementary school	60. College D1, D2, D3	01. 1	
03. Junior high - general	61. University S1	02. 2	
04. Junior high - vocational	62. University S2	03. 3	
05. Senior high - general	63. University S3	04. 4	
06. Senior high - vocational	72. Islamic Elementary School (Madrasah Ibtidaiyah)	05. 5	
11. Adult Education A	73. Islamic Junior High School (Madrasah Tsanawiyah)	06. 6	
12. Adult Education B	74. Islamic Senior High School (Madrasah Aliyah)	07. GRADUATED	
13. Open University	90. Kindergarten	96. NO/ NOT YET IN SCHOOL	
14. Pesantren	98. DON'T KNOW	98. DON'T KNOW	
15. Adult Education C	95. OTHERS		

AR00a.	Is there any child/baby who live here but has not been listed	Yes 1→ No 3	PUT IN ROSTER, AR01
AR00b.	Is there any other person like a servant, friend or boarder who has not been listed?	Yes 1→ No 3	PUT IN ROSTER, AR01
AR00c.	Is there another person who usually lives here, but is away for less than 6 months?	Yes 1→ No 3	PUT IN ROSTER, AR01
AR00d.	Is there another person who has stayed for at least 6 months or less than 6 months but intended to stay here for at least 6 months?	Yes 1→ No 3	PUT IN ROSTER, AR01

SECTION AR (LIST OF HOUSEHOLD MEMBERS)

AR00	AR09	AR10	AR11	AR12	AR13	AR14	AR15
No. of HHM(PID)	Did [...] work in the last 12 months?	What were the total work-related earnings of [...] in the last month?	What were the total earnings unrelated to work in the last month?	What was [...]'s primary activity during the past week?	Do you consider person [...] is disabled?	Types of disability?	Interview Status
01	☐	1. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	1. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐	1.Yes 3. No →AR15	☐ ☐	☐
02	☐	1. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	1. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐	1.Yes 3.No →AR15	☐ ☐	☐
03	☐	1. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	1. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐	1.Yes 3.No →AR15	☐ ☐	☐

Kode AR09. 3. No → AR11 1. Yes	Code AR12 01. Working/helping to earn income 02. Job searching 03. Attending school 04. Housekeeping	05. Retired 06. At home/don't work 07. Sick/disabled 98. DON'T KNOW
---	--	--

AR13x We would like to know whether this household member [...] is disabled. Person with disability that we mean is someone who has difficulties in performing daily activities without help from other person or tools due to physiological, psychological, or cognitive disabilities.

Code AR14 : A. Visual disability B. Hearing disability C. Speech disability D. Arm disability E. Leg disability F. Finger disability G Other Physical disability	H. Intellectual disability I. Mental disorder V Others _____	Code AR15. CAPI CEK 1. Female Aged 15-65 Years or disabled individual (AR14>1) and aged 15-65 years old. 3. Others
---	--	--

SECTION KR (HOUSEHOLD CHARACTERISTICS)

The following questions pertain to your household features.

KR01. What is the ownership status of this house?	Self-owned 01 → KR03 Occupying 02 → KR03 Rented/contracted 05 Other 95 → KR03
KR02. What is the rent of this house?	Rp/yearly 1 Rp/monthly 2 DON'T KNOW 8 ⇒ KR04
KR03. How much monthly/yearly rent would you pay if you were renting this house?	Rp. yearly 1 Rp. Monthly 2 DON'T KNOW 8
KR04. Does this household utilize electricity?	Ya 1 Tidak 3
KR05. How much power is used?	1. 450 W 5. 3.500 W 2. 900 W 6. 4.400 W 3. 1.300 W 7. 6.600 W or more 4. 2.200 W
KR06. What is the main water source for drinking for this household?	AQUA/AIR MINERAL, ETC. 10 PIPE WATER 01 WELL/PUMP (ELECTRIC, HAND)..... 02 WELL WATER..... 03 SPRING WATER..... 04 RAIN WATER..... 05 RIVER/CREEK WATER..... 06 POND/FISHPOND 07 WATER COLLECTION IN BASIN 08 OTHER:..... 95

KR07. What kind of toilet do the majority of householders use?	Own toilet with septic tank..... 01 Own toilet without septic tank..... 02 Shared toilet 03 Public toilet..... 04 Creek/river/ditch (without toilet)..... 05 Yard/field (without toilet)..... 06 Sewer 07 Pond/fishpond 09 Animal stable..... 10 Sea/lake 11 Other: 95
KR08. ESTIMATE THE SIZE OF THE HOUSE IN SQUARE METERS	Square meters

KR09. MAIN FLOORING TYPE USED IN THIS HOUSE	CERAMIC / MARBLE / GRANITE / STONE.....01 TILES / TERRAZZO 02 CEMENT / BRICKS.....03 LUMBER / BOARD.....04 BAMBOO.....05 DIRT 06 OTHER.....95
KR10. MAIN MATERIAL USED IN THE OUTER WALL OF THIS HOUSE	MASONRY (CEMENT/PREFABRICATED BRICKS)..... 01 LUMBER/BOARD/PLYWOOD 02 BAMBOO/WOVEN/MAT 03 OTHER..... 95
KR11. MAIN ROOF TYPE OF THIS HOUSE	CONCRETE 01 WOOD 02 METAL PLATES..... 03 ROOF TILES/SHINGLES..... 04 ASBESTOS 05 FOLIAGE / PALM LEAVES/GRASS/BAMBOO 06 OTHER..... 95

SECTION KR (HOUSEHOLD CHARACTERISTICS)

KR12.	TYPE OF	
RESIDENTIAL	DWELLING	
		SINGLE UNIT SINGLE LEVEL 01
		SINGLE UNIT MULTIPLE LEVELS 02
		DUPLEX SINGLE LEVEL 03
		DUPLEX MULTIPLE LEVELS 04
		MULTIPLE UNIT SINGLE LEVEL 05
		MULTIPLE UNIT MULTIPLE LEVELS 06
		HOUSE ON STILTS..... 08
		HIGH RISE/APARTMENT BUILDINGS 09
		HOUSE-STORE UNITS 10
		OTHER..... 95
		BOARDING HOUSE SEPARATED FROM OWNER'S
		HOUSE 11
		BOARDING HOUSE MIXED WITH OWNER'S HOUSE
	12	
		LOW-COST APARTMENT
	13	

SECTION KS (CONSUMPTION)

Now I would like to ask how much money was spent for food and non-food items during the past month.

NON-FOOD ITEMS (KS2TYPE)		KS01a. During the past week, what was the total expenditure to purchase [...]? [in the last 7 days]	
00	Food and non-food (dine in/out, cooked/uncooked)		____.____.____ Rp.
		KS01b. What were the total expenditures by all household members for [...] during the past month, namely since date [...] one month ago?	
A1.	Electricity		____.____.____ Rp.
A2.	Water		____.____.____ Rp.
A3.	Fuel Household		____.____.____ Rp.
A4.	Telephone (including vouchers and mobile starter pack)		____.____.____ Rp.
A5.	Household items and Personal toiletries Including laundry soap, cleaning supplies, anti-mosquito sprays and the like ; Including soap, shaving supplies, cosmetics and the like		____.____.____ Rp.
A6.	Recreation and Entertainment Including movies, theater, outings, sport equipment, newspapers, magazines and the like		____.____.____ Rp.
A8.	Arisan		____.____.____ Rp.
A9.	Value of non-food items given to others/other parties outside the household on a regular basis (including debtrepayment)		____.____.____ Rp.
A10.	Home loan installment for currently inhabited house		____.____.____ Rp.
A11.	House/boarding rent		____.____.____ Rp.
A12.	Education		____.____.____ Rp.
A13.	Health		____.____.____ Rp.
A14.a	Public transportation for working		____.____.____ Rp.
A14.b	Public transportation for schooling		____.____.____ Rp.

SECTION KS (CONSUMPTION)

A14.c	Public transportation for other		____.____.____ Rp.
A14.d	Transportation (private vehicle) for working		____.____.____ Rp.
A14.e	Transportation (private vehicle) for schooling		____.____.____ Rp.
A14.f	Transportation (private vehicle) for other		____.____.____ Rp.
A14.g	Maintenance and repair costs for private vehicles		____.____.____ Rp.

SECTION HR (HOUSEHOLD ASSETS)

We would like to know about vehicles owned by you or members of the household.

HR01	Total number of vehicles in this household: (including private/for private use transportation, office/operational vehicle, rented, self-used for business (exclude vehicle being rented out/operated by other people, e.g. public transport, taxi,etc)	
	1. Sedan, <i>Kijang</i> , Minibus,etc	
	2. Pick-up, Box, Truck, etc	
	3. Motorcycle	
	4. Bicycle	
	5. Other	
HR02	Total number of vehicles in this household for business: (including vehicle being rented out/operated by other people, such as taxi, kopaja, etc. or rental vehicle (by self or other people)	
	1. Taxi, <i>Angkot</i> , Sedan, <i>Kijang</i> , Minibus, etc.	
	2. Pick-up, Box, Truck, etc.	
	3. Small/large bus	
	4. <i>Bajaj</i> , <i>bemo</i>	
	5. Motorcycle	
	6. Bicycle	
	7. Other	
HR03	CAPI CHECK : OWN MOTORCYCLE (HR01.3 >0 / HR02.5 > 0)	1. Yes 3.No → SEKSI CP
HR04	For the motorcycle that you currently have/last purchased, when did you buy it?	/ Month / Year
HR05	Did you buy it with..?	1. Cash 2. Loan

SECTION HR (HOUSEHOLD ASSETS)

C1.RESULT OF INTERVIEW OF BOOK II	C2.REASON CODE FOR ANSWER "3"/"2" ON C1	C4. SUPERVISOR MONITORING		
1. Completed → C4 2. Partially completed 3. Not completed	1. Respondent was not at home/not available 2. Respondent was seriously ill 3. Respondent refused (to be interviewed) 5. Other:		Yes	No
		a. Observed	1	3
		b. Edited	1	3
		c. Verified	1	3

CP1 WHO ELSE (OTHER PERSONS) BESIDES RESPONDENT WAS PRESENT DURING THE INTERVIEW? ANSWER MAY BE MORE THAN ONE. A. NO ONE B. A CHILD 5 YEARS OLD OR UNDER C. A CHILD OLDER THAN 5 YEARS OLD D. HUSBAND/WIFE E. AN ADULT, A HOUSEHOLDER F. AN ADULT, NOT A HOUSEHOLDER	CP2. WHAT IS YOUR EVALUATION OF THE ACCURACY OF RESPONDENT'S ANSWERS? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD	CP3. WHAT IS YOUR EVALUATION ON SERIOUSNESS AND ATTENTIVENESS OF THE RESPONDENT? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD
NOTE:		

Appendix C. Household Survey Questionnaire: Individual Book

INTERVIEWER :

HHID: PID

CONFIDENTIAL

Survey to Assess Bus-Related Policy Interventions to Improve Female Labour Force Participation Rate in Jakarta
(BASELINE)

BOOK 2: INDIVIDUAL

SECTION: TK, CC, TR, CR, P, KK, IK, CP
Respondent is a HH Member: Female, Age 15-65 Years
(Interview Status =1)

COV00x.	RESPONDENT INTERVIEWED?	1. Yes 3. No → C1
COV01x	Respondent Location	4. Corridor 6 BRT 5. Non-corridor 6 BRT 6. Non-BRT bus

SECTION TK (EMPLOYMENT)

COV00x. Informed consent

Good morning/afternoon/evening,

My name is _____. I am from SurveyMeter, an independent research organization based in Yogyakarta. We are currently conducting the fieldwork for Baseline Survey to Assess Bus-Related Policy Interventions to Improve Female Labour Force Participation in Jakarta, a survey project conducted with collaboration with RAND Corporation. We will start by reading the informed consent form and ask whether you would be willing to participate in the survey. You can ask about anything that is not clear at any time.

The aim of this survey is to add substantively to the field of knowledge on how transport infrastructure impacts female labour force participation (FLFP) and urban mobility of the disabled in Indonesia, and identify public transport policy reforms that can improve the situation. The aim of the surveys is fourfold (ref TOR):

- To determine how women are using existing bus (BRT and non BRT bus) services in DKI Jakarta, and how these services are facilitating or constraining women's access to employment opportunities and hence female labour force participation;
- To determine how people with disabilities mobilise i.e. access services and facilities, and their use of existing bus (BRT and non-BRT bus) services in Jakarta
- To determine the existing (perceived) level of public transport service quality; and
- To determine what type of improvements would particularly contribute to increasing female labour force participation in Jakarta and also for people with disabilities focused along BRT corridor 6, where a range of improvements is already planned for implementation.

The interview is completely voluntary and all survey information will be kept confidential. Your personal information, including name, address, phone number, and other information which can be used to identify you will not be disclosed. The researcher will keep your information confidentially until it is destroyed, and your information will not be used or disclosed during this period.

If you agree to participate in this study, you will get Rp _____ as a token gift of appreciation for the time you spend with us.

If you have any questions about this study, you may contact SurveyMETER at email address: sm@surveymeter.org or phone 62-274-4477464 and fax: 62-274-4477004.

Interviewer's Statement

"I have informed the respondent about the background, goals, procedure, risks and benefits of the survey, given him/her enough time to read the informed consent and discuss with others, and answered all questions related to the survey; I have informed the respondent that he/she can contact the SurveyMETER, when having problems about the survey and provided the accurate contact information. I have informed the respondent that he/she can withdraw from the survey anytime. I have informed the potential respondent that he/she can get a copy of this informed consent with signatures of mine."

☐ Signed by interviewer. Interviewer name: _____ day/month/year

Respondent's statement:

"I have been read the informed consent and I agree to participate in": ☐ questionnaire survey

SECTION TK (EMPLOYMENT)

COMPLETED FROM ROSTER

NAME OF

RESPONDENT: _____ PID

CAPI CHECK

COV1. RESPONDEN IS: (CAPI CEK)

Head of Household (AR02b=01) 1

Couple Head of Household (AR02b=02).....2

Other Householder 3

TO BE FILLED OUT BY INTERVIEWER FOR INDIVIDUAL BOOK

COV6. Date of Birth: / /

Date | Month Year

COV3. How old are you.? Years

COV4. What is your marital status : Never married 1

Married 2

Separated.....3

Diforce 4

Widow/er 5

COV5. Cellphone A.

B.

W. Y. X.

COV6. email address:

SECTION TK (EMPLOYMENT)

TK01. During the past week, did you do any of these activities?	a. Work for pay	Yes 1	No 3
	b. Attend school	1	3
	c. Housekeeping	1	3
	d. Job searching	1	3
TK02. What was your primary activity during the past week?	Working/trying to work/helping to earn income 01 → TK12 Job searching 02 Attending school 03 Housekeeping 04 Retired 05 Sick/disabled 07 Other 95		
TK03. Do you have a job/business, but were temporarily not working during the past week?	Yes 1 → TK12 No 3		
TK04. Did you work at a family-owned (farm or non-farm) business during the past week?	Yes 1 → TK12 No 3		
TK05. Have you ever worked before?	No 3 → TK12 Yes 1		
TK06. When did you work for the last time?	Month Year		

TK07. Why haven't you worked again since that year? (CIRCLE ALL THAT APPLY. PLEASE SELECT UP TO 3 OPTIONS)	Retirement	A
	Prolonged sickness	B
	Handicap	C
	Marriage	D
	Too old	E
	Have a child	F
	Taking care of children	G
	Family responsibilities	H
	Forbidden	I
	Other family reason	J
	Fired	K
	Cannot find work	L
	Do not want to work	M
	Company closed/moved/bankrupt	N
	Job is far from home	O
Commuting Cost	P	
Access to public transport	Q	
Feel insecure during travel	R	
Other	V	

TK08. Which category best describes the work you did in your last job?	Unpaid family worker 06 Self employed 01 Self-employed with unpaid family worker/temporary worker 02 Self-employed with permanent worker 03 Government worker 04 Private worker 05 Casual worker in agriculture 07 Casual worker not in agriculture 08
TK12. In the past one month, have you been looking for a job?	No 3 → TK14 Yes 1
TK13. How long have you been looking for a job in the past one month?	1. weeks 2. days

SECTION TK (EMPLOYMENT)

TK13a. What activities have you done for your job search?	a. Registered with government job fairs	Yes 1	No 3
	b. Registered with private job fairs	1	3
	c. Registered with school/university job fairs	1	3
	d. Contacted company	1	3
	e. Responded to job ads	1	3
	f. Contacted friends/relatives	1	3
	g. Searched jobs from online job postings websites	1	3
	h. Done nothing		
	→TK15		
TK14. What is the main reason not looking for a job?	Feels impossible to find a job	01	
	Already have a job, but have not started yet...	02	
	Attending school	03	
	Housekeeping	04	
	Taking care of children.....	05	
	Already have a business	06	
	Do not need to.....	07	
	Unable to do work	08	
	Too old	09	
	Available jobs are far from home.....	10	
	Commuting Cost are too high.....	11	
	Limited/no access to public transport	12	
	Feel unsafe during travel.....	13	
	Unreliable bus schedule.....	14	
Other	95		
TK15. In the past 12 months, have you been preparing to set up a business?	No.....	3→TK16K	
	Yes	1	

TK15a What activities have you done in preparing to set up a business in the last 12 months?		Yes	No
	a. Looked for capital	1	3
	b. Looked for place of business	1	3
	c. Arranged for business license	1	3
	d. Done nothing	1	3

TK16k. CAPI CEK :
IF TK05=1 AND TK06 =2014/2015/2016 2→ TK31
IF TK05=1 AND TK06 < 2014 3→ TK59
IF TK05=3 4→ TK59
IF TK02=1 OR TK03=1 OR TK04=1 OR TK05=1..... 1

A. PRIMARY JOB THE JOB WHICH CONSUMES THE MOST TIME	
TK16. Where do you work on your [...] job? (ENTER NAME OF COMPANY/EMPLOYER)	_____ _____ _____
TK16A. What is the address of the company?	_____ _____
TK16AX Address of workplace	3. Same with SC 1. a. Provinsi 1. 3. Same 8 Don't know b. Kab/kota 1. 3. Same 8 Don't know c. Kec 1. 3. Same 8 Don't know d. Desa/Kel. 1. 3. Same 8 Don't know
TK16Ab. What is telephone number of the company?	A. Phone B. Cellphone Belonging to _____ W. NA Y. DK
TK17. What does your company produce?	_____ _____

SECTION TK (EMPLOYMENT)

TK17A. CODE FOR SECTORS	____
TK18. What are your primary duties at your workplace?	_____
TK19. How many people work at your firm?	____, ____ Persons 1→TK21 DON'T KNOW 8
TK20. Is it[...]?	1. 1- 4 people 2. 5-19 people 3. 20-99 people 4. ≥ 100 people
TK21. What was the total number of hours you worked during the past week (on your job)?	____ Hours/Week
TK22. Normally, what is the approximate total number of hours you work per week?	____ Hours/Week
TK22a Does access to transport impact your hours of work?	1.Yes 3. No→TK23
TK22b In what way?	1.Do not take over time work 2. Do not take night shift 3. Have to leave early 5. Others_____
TK23. How long have you worked on this job?	____ Years ____ Months
TK24. Are you a member of a labor union or a business association?	Yes 1 No 3
TK25. Which category best describes the work that you do?	Self employed.....01→ TK27 Self-employed with unpaid family worker/temporary worker.....02→ TK27 Self-employed with permanent Worker 03→ TK27 Government worker 04 Private worker 05 Casual worker in agriculture 07 Casual worker not in agriculture.....08 Unpaid family worker.....06 → TK27a

TK26. Approximately what was your salary/wage during the last month (including the value of all benefits)?	____, ____ , ____ Rp. 1 DON'T KNOW 8 →TK27a
TK27. Approximately how much net profit did you gain last month, after taking out all your business expenses?	Profit (+) ____, ____ , ____ , ____ ____ Rp..... 1 Loss (-) ____, ____ , ____ , ____ ____ Rp..... 2 DON'T KNOW 8↓
TK27a. How satisfied are you with your current job?	Very satisfied 1 Satisfied..... 2 Unsatisfied..... 3 Very unsatisfied 4
TK27b Do you think you are adequately compensated for your current job	No 3 Yes 1
TK27c Is your current job a good match for your skills and interests?	No 3 Yes 1

Now we would like to ask you about the characteristics of your primary job.

TK27d My job requires me to go to many places	1. All/Almost all the time 2. Most of the time 3. Some of the time 4. None/Almost none of the time
TK27e My job requires me to work overtime	1. All/Almost all the time 2. Most of the time 3. Some of the time 4. None/Almost none of the time
TK27f My job involves a lot of stress	1. All/Almost all the time 2. Most of the time 3. Some of the time 4. None/Almost none of the time
TK28. Do you have any additional job?	No 3→TK31 Yes 1

SECTION TK (EMPLOYMENT)

B. ADDITIONAL JOB THE JOB WHICH CONSUMES THE SECOND MOST TIME	
TK29. What does your company produce?	
TK29B. CODE FOR SECTORS	
TK30. Which category best describes the work that you do?	Self employed..... 01 Self-employed with unpaid family worker/temporary worker..... 02 Self-employed with permanent worker 03 Government worker 04 Private worker 05 Casual worker in agriculture..... 07 Casual worker not in agriculture..... 08 Unpaid family worker 06

CODE TK17A and TK29b	
Agriculture, forestry, fishing and hunting 01	Wholesale, retail, restaurants and hotels 06
Mining and quarrying 02	Transportation, storage and communications 07
Manufacturing 03	Finance, insurance, real estate and business services 08
Electricity, gas, water 04	Social services 09
Construction 05	Activities that cannot be classified 10

SECTION TK (Female Employment Information)

Now we would like to ask about your work experience in the last 3 years.

	Job in The last 3 years	2016	2015	2014
TK31.	Did you work//help to earn income for pay in the [...] year ?	No..... 3 → Yes 1	No..... 3 → Yes 1	No..... 3 Yes 1
TK32.	Where do you work on your [...] job? (ENTER NAME OF COMPANY/EMPLOYER)	_____ _____ _____	3. Same 1. _____	3. Same 1. _____
TK33.	What does your company produce?	_____ _____ _____	3. Same 1. _____	3. Same 1. _____
TK34.	EDITOR: CODE FOR SECTOR	____	3. Same 1. ____	3. Same 1. ____
TK35.	What were your primary duties at your workplace?	_____ _____ _____	3. Same 1. _____	3. Same 1. _____
TK36.	Which category best describes the work you did?	____	3. Same 1. ____	3. Same 1. ____
TK37.	Normally, what is the approximate total number of hours you work per week?	____ Hours/Week	____ Hours/Week	____ Hours/Week
TK38.	Approximately what was your salary/wage / net profit for one month (including the value of all benefits in the [....] year ?	____.____.____	____.____.____	____.____.____

CODE TK34

Agriculture, forestry, fishing and hunting..... 01
Mining and quarrying..... 02
Manufacturing..... 03
Electricity, gas, water 04
Construction 05

Wholesale, retail, restaurants and hotels 06
Transportation, storage and communications 07
Finance, insurance, real estate & business services.....08
Social services 09
Activities that cannot be classified..... 10

Code TK36

Self employed..... 01
Self employed with unpaid family worker/temporary worker..... 02
Self employed with permanent worker ... 03
Government worker/employee 04

Private worker/employee 05
Unpaid family worker 06
Casual worker in non-agriculture 07
Casual worker in agriculture 08

SECTION TK (Female Employment Information)

Now we want to ask about job quitting or job termination that you may have experienced in the last 3 years.

TK39. In the last three years, have you been working for salary as private or government employee?	No 3 →TK59 Yes 1
TK40. When you were working for salary in the last three years, have you experienced job termination or quit your job? (NOT INCLUDING MANDATORY RETIREMENT OR END OF CONTRACT)	No 3 →TK59 Yes 1
TK41. How many times in the last three years did you quit your job or experienced job termination? (NOT INCLUDING MANDATORY RETIREMENT OR END OF CONTRACT)	___ times
TK42. When was the last time in the last 3 years you quit your job or experienced job termination? (NOT INCLUDING MANDATORY RETIREMENT OR END OF CONTRACT)	___ / ____ Month Year

Now we want to ask about the last job termination or job quitting as private or government employee.

TK43. Where did you work on your last job? (ENTER NAME OF COMPANY/EMPLOYER)	_____
TK44a. What did the company produce?	_____
TK44.b EDITOR: CODE FOR SECTORS	___
TK45. How many employee did your employer have?	1. 1- 4 people 2. 5-19 people 3. 20-99 people 4. ≥ 100 people 8. DON'T KNOW

CODE TK44b

Agriculture, forestry, fishing and hunting	01	Wholesale, retail, restaurants and hotels
Mining and quarrying	02	06
Manufacturing	03	Transportation, storage and communications
Electricity, gas, water	04	07
Construction	05	Finance, insurance, real estate and business services
		08
		Social services
		09
		Activities that cannot be classified
		10

TK46. How long have you been working there before you stop working?	___ years and ___ months
TK47. How much was your monthly wage/salary for the last month you were on the job?	___, ___, ___ Rp.

SECTION TK (Female Employment Information)

TK48. What was the main reason your job was terminated or you quitted your job?	01. Fired by the company because business was closed down/relocated/restructured
	02. Wage/salary was too low
	03. Transport cost was too high
	04. Feeling insecure to travel
	05. Long travel time to work
	06. Long travel time to housekeeping/childcare
	07. Showing up to work late
	08. Inconvenient working time
	09. Refused being relocated
	10. Prolonged sickness
	11. Marriage
	12. Childbirth
	13. Taking care of children
	14. Other family reason
	15. Unreliable public transport schedule
	95. Other, mention

Now we would like to ask about your job and transportation

TK59	Do you have another home than the one you currently live?	1. Yes 3. No → TK63
TK60	Address of the other home?	a. Province 1. 3. Same 8 Don't know b. District/City 1. 3. Same 8 Don't know c. Sub district 1. 3. Same 8 Don't know d. Village/kel 1. 3. Same 8 Don't know
TK61	How often you go to the other home?	Times 1. Week 2. Month 3. Year

TK62	How much in total do you spend for return trip transport to go to the other home ?	, . Rp
TK63	What is your main reason to live here?	1. ... Close to working place 2. ... Close to busway station/lane 3. ... Cheaper 4. ... More secured 6. Family reasons (accompany husband/parents or have been here since born) 7. Strategic location/convenient (close to school, easy access to public transport) 5. ... Other
TK63X	CAPI Check TK05=3?	3. No 1 Yes → TK70
TK64	Address of workplace	3. Same with SC 1. a. Provinsi 1. 3. Same 8 Don't know 6.NA b. Kab/kota 1. 3. Same 8 Don't know 6.NA c. Kec 1. 3. Same 8 Don't know 6.NA d. Desa/Kel. 1. 3. Same 8 Don't know 6.NA
TK65	Address of previous workplace	a. Provinsi 1. 3. Same 8 Don't know 6.NA b. Kab/kota 1. 3. Same 8 Don't know 6.NA c. Kec 1. 3. Same 8 Don't know 6.NA d. Desa/Kel. 1. 3. Same 8 Don't know 6.NA
TK66	Distance to current workplace	1. , KM 6 NA
TK67	Distance to previous workplace	1. , KM 6 NA
TK68	Travel time to current workplace	1. , Hours 6 NA
TK69	Travel time to previous workplace	1. , Hours 6 NA
TK70	Do you have driving license?	1. Yes 3. No → TK72

SECTION TK (Female Employment Information)

TK71	What type of license?	☐ , ☐ , ☐ , ☐
TK72	Do you usually [...] ? A. Ride a motorcycle B. Drive a car	1. Yes 3. No 1. Yes 3. No
TK73	Are you comfortable riding on a [...] ? A. Motorcycle B. Car	1. Yes 3. No 1. Yes 3. No
TK74	What are the three most important factors you consider when taking a job	Wage/Salary A Occupation B Working schedule C Location D Ease of public transportation from home to workplace E Ease of private transportation from home to workplace F Other V
TK74a	Have you ever declined a job offer because of transport-related reasons?	1. Yes 3. No → TK76
TK75	Why have you declined the job PLEASE STATE UP TO 3 REASONS SHOWCARD	Transportation expenses were too high A Travel time from home-work was too long B No regular public transport was serving the workplace C Too many transits from home to workplace D Felt insecure to travel from home to work E Cannot drive motorcycle/car F Travel for household-related activities and child-care was too long G Unreliable public transport schedule H Other V

TK76	Have you ever quit a job and decided not to work because of transport-related reasons?	1. Yes 3. No → TK78
TK77	Why have you quit the job PLEASE STATE UP TO 3 REASONS SHOWCARD	Transportation expenses were too high A Travel time from home-work was too long B No regular public transport was serving the workplace C Too many transits from home to workplace D Felt insecure to travel from home to work E Cannot drive motorcycle/car F Travel for household-related activities and child-care was too long G Unreliable public transport schedule H Other V
TK78	Have you ever changed a job (currently working) because of transport-related reasons?	1. Yes 3. No → Next Section
TK79	Why have you changed the job PLEASE STATE UP TO 3 REASONS SHOWCARD	Transportation expenses were too high A Travel time from home-work was too long B No regular public transport was serving the workplace C Too many transits from home to workplace D Felt insecure to travel from home to work E Cannot drive motorcycle/car F Travel for household-related activities and child-care was too long G Unreliable public transport schedule H Other V
TK80	Have you accepted a job despite having transportation constraints?	1. Yes 3. No

SECTION CC (Child Care)

CC01	Do you currently have any children 12 and under living at home?	1.Yes 3 NO→TR01
CC02	How many of your children are in each of the following age groups: (Please indicate the number in each age group)	☐ 0 - 18 months ☐ 19 months through 2 1/2 years ☐ over 2 1/2 years through 5 years ☐ 6 years through 9 years ☐ 10 years through 12 years
CC03	Who provides most care for your children?	1. You 2. Your partner/Husband 3. Other children in the family 4. A relative, friend, nanny or caregiver in your home 5. A caregiver outside your home 6. Child care centre 7. Nursery school 8. Kindergarten or school 9. You only work/study while the child is in school 10.You and your partner provide most of the child care yourselves 95.other (Please describe)_____
CC04	How many hours a day do you typically spend to care for your children?	Hours
CC04x	CAPI Check if TK16K=1	1.Yes→CC07 3.No

CC05	Would you accept paid employment outside your home or go to school if adequate child care services were more available and affordable in your community?	1.Yes 3.No
CC06	Would you accept paid employment outside your home or go to school if safe and reliable transport were more available for you?	1.Yes 3.No →Section TR
CC07	Which of the following kinds of child care services have you used?	01. Regulated private home day care 02. Parent/child drop-in program 03. Child drop-off centre for occasional use 04. Paid arrangement with a caregiver 05. Unpaid arrangement with a caregiver 06. A relative/parents 07. Nursery school 08. Toy library 09. Playgroup 10. You→TR01 95. Other (Please describe)
CC08	How many hours a day do your children spend in child care (average per children)	Hours
CC09	How much do you spend for child care last month?	. . RP

SECTION CC (Child Care)

CC09a	Do you find this:	1. Expensive 2. About right 3. Cheap
CC10	In general, how satisfied are you with these arrangements? (Circle one response number)	1 very satisfied 2 somewhat satisfied 3 somewhat dissatisfied 4 very dissatisfied
CC11	Would you consider other paid employment outside your home or go to school if adequate child care services were more available and affordable in your community?	1.Yes 3.No
CC12	Would you consider other paid employment outside your home or go to school if safe and reliable transportation were more available and affordable for you?	1.Yes 3.No

SECTION TR (Commuting Behavior)

Now we will ask you about you travel that you take more often. **Note for interviewer: some types of travels may be linked or connected each other. For example, the respondent may go shopping after office or amid her break time. The interviewer should make sure that the respondent describe all travels**

	TR01	TR02
Purpose/type of travel	Is the following [.] your regular travel?	How frequent is this travel ?
A. Work	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
B. School	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
C. Shopping	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
D. Social activities	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
E. Family care (e.g. taking child to school)	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
F. Eating out	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
G. Leisure	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
H. Medical reason/ check up	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
I. Looking for job	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
V.Others_____	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week

TR01xx. CAPI Check: IF ALL TR01=3 → CR00a

	TR03	TR04
Purpose/type of travel	Please pick up to three most regular travel in the last month?	If you have connected travel types, please describe which types of travel are connected?
A. Work	☐	☐ ☐ ☐ ☐
B. School	☐	☐ ☐ ☐ ☐
C. Shopping	☐	☐ ☐ ☐ ☐
D. Social activities	☐	☐ ☐ ☐ ☐
E. Family care (e.g. taking child to school)	☐	☐ ☐ ☐ ☐
F.Eating out	☐	☐ ☐ ☐ ☐
G. Leisure	☐	☐ ☐ ☐ ☐
H.Medical reason/ check up	☐	☐ ☐ ☐ ☐
I. Looking for job	☐	☐ ☐ ☐ ☐
V.Others_____	☐	☐ ☐ ☐ ☐

SECTION TR (Commuting Behavior)

CAPi Check TR03. Note for interviewer: To fill out TR05 (Link No) in the following table, start asking the first main travel purpose during the last month and assign number “1” to describe the first travel (for example use “1” for Home – Office). Then assign number “2” for Office to Home. If there are linked/connected travel purposes, use sequential numbers (for example “2” for Office-Shopping and “3” for shopping-Home).

Then use the combination of number and letter to describe detailed trips for each travel purpose. The following is an example for detailed trip: assign **1.A** for trip from Home to Bus Shelter A; **1.B** for Bus shelter A to Bus shelter B, and **1.C** for Bus shelter B - Office. So please ask detailed trips.

1. Type/Purpose of travel : _____	2. Type/Purpose of travel : _____	3. Type/Purpose of travel _____

SECTION TR (Commuting Behavior)

TR01A_1.	Main purpose of travel	
TR02A_1	Frequency in a week	
	Code for TR01A Purpose	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6. Eating out 7. Leisures 8. Medical reason/check up 9. Looking for job 95. Other_____

TR05_1 Link No	TR06_1 Purpose	TR07_1 Time of day From - To	TR08_1 Location	TR09_1 Mode	TR10_1 Time	TR11_1 Distance	TR12_1 Fare/ Cost	TR13_1 Level of Satisfaction (1-5)
1		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
1a		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
1b		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
2		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
3		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	

SECTION TR (Commuting Behavior)

TR01A_2.	Main purpose of travel	
TR02A_2	Frequency in a week	
	Code for TR01A Purpose	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6. Eating out 7. Leisures 8. Medical reason/check up 9. Looking for job 95. Other_____

TR05_2 Link No	TR06_2 Purpose	TR07_2 Time of day From - To	TR08_2 Location	TR09_2 Mode	TR10_2 Time	TR11_2 Distance	TR12_2 Fare/ Cost	TR13_2 Level of Satisfaction (1-5)
1		From To - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
1a		From To - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
1b		From To - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
2		From To - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
3		From To - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	

SECTION TR (Commuting Behavior)

TR01A_3.	Main purpose of travel							
TR02A_3	Frequency in a week							
	Code for TR01A Purpose	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6. Eating out 7. Leisures 8. Medical reason/check up 9. Looking for job 95. Other _____						
TR05_3 Link No	TR06_3 Purpose	TR07_3 Time of day From - To	TR08_3 Location	TR09_3 Mode	TR10_3 Time	TR11_3 Distance	TR12_3 Fare/ Cost	TR13_3 Level of Satisfaction (1-5)
1		From : HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
1a		From : HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
1b		From : HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
2		From : HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
3		From : HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	

Code TR09, TR18B			Code TR13
A. Railways B. Trans Jakarta C. Patas AC D. Patas E. Regular Bus (Kopaja, Metromini) F. Medium Bus	H. Angkot I. Taxi J. Bajaj K. Ojek L. Private Car M. Private Motorcycle N. Private Bicycle	O. Company Transport Bus P. School Bus Q. Online transportation (Gojek, Uber) R. Walk	1. Very unsatisfactory 2. Unsatisfactory 3. Indifferent 4. Satisfactory 5. Very satisfactory

SECTION TR (Commuting Behavior)

CAPI Check if TR09_1, TR09_2, and TR09_3 are private transport modes. Ask the following questions

TR14xx	Check CAPI: TR09_1/TR09_2 or TR09_3= L, M, N			1 Yes 3. No → TR17
TR14.	Are you aware of what other alternative forms of transport there are but not chosen?			1 Yes 3. No
TR15.	Can you tell three most important factors in choosing the form of private transportation you normally use for that particular journey over the others available?			
	TR15A. Journey purpose	TR15.B Main mode (private trans.)	TR15C. Reasons (state up to 3 and start with the most important)	
			, ,	
			, ,	
			, ,	
TR16.	What public transport options are available instead for your particular trip and why so you not use them (state up to 3 main reasons for each alternative public transport mode available):			
	TR16A. Journey Purpose	TR16B. Alternative	TR16C. Why not use them? (state up to 3 and start with the most important)	
1		a. Bus 1. Yes → 3. No	, ,	
		b. BRT 1. Yes → 3. No	, ,	
2		a. Bus 1. Yes → 3. No	, ,	
		b. BRT 1. Yes → 3. No	, ,	
3		a. Bus 1. Yes → 3. No	, ,	
		b. BRT 1. Yes → 3. No	, ,	

SECTION TR (Commuting Behavior)

TR17	Do you typically change your main modes when it is raining?		1. Yes 3. No → TR19	
TR18	Please tell us alternative modes that you use when it is raining?			
	TR18A. Journey purpose	TR18B Alternative mode used	TR18C. Reasons (state up to 3 and start with the most important)	TR18D Cost/Fare
	1			. Rp
	2			. Rp
	3			. Rp

	Code for TR15A, TR16A, TR18A	Code 15B	Code for TR15C, TR18C		
	A. Work B. School C. Shopping D. Social activities E. Family care (e.g. taking a child to school) F. Eating out G. Leisure H. Medical reason/ check up I. Looking for job V. Others _____	L. Priv. Car M. Priv. Motorcycle N. Priv. Bike	A. Travel speed B. Cost/fare C. Punctuality D. Accessibility E. Cleanliness in the vehicle F. Noise in the vehicle G. Safety in the vehicle	H. Air pollution in the vehicle I. Ride comfort J. Easy to transfer K. Staff behavior (inc. driver) L. Terminal facilities	M. Crowdedness in the vehicle N. Frequency O. Bus stop facilities P. No of bus stop Q. Information R. Air Conditioning V. Others _____

Code for TR16C	A1 Slow B1 No Access to and from the bus stop/ BRT station C1 Bad pedestrian infrastructure D1 Feeder bus services are unreliable E1 Payment is not easy F1 Too many transfer/transits G1 No direct routes H1 Not convenience I1 Long waiting time J1 Uncertain schedule K1 Low frequency of buses L1 No information on routes M1 Unclean vehicle N1 No AC availability O1 Noise P1 Bad bus stop / BRT quality Q1 Low terminal quality	R1 Low quality of modes for getting to and from the bus stop/ halte/ terminal S1 Small bus stop/halte/terminal T1 Few buses U1 Bad driving behavior A2 No assistant B2 Unsafe journey to and from the bus stop/ BRT station C2 Unsafe at the bus stop/ on BRT platform D2 Safety in the vehicle E2 Buses are too crowded F2 Bad Lighting G2 No special buses for women H2 No dedicated wheelchair space I2 No Integrated fares for multiple journeys J2 Fare is too expensive K2 Fear from harrasment V1 Others _____
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SECTION TR (Commuting Behavior)

Now we are asking about your commuting behavior **one year ago**

TR19	What were your primary modes of transport for your main activity a year ago? PLEASE STATE UP TO 3 MODES. START WITH THE MOST USED	_____ A. Railways B. Trans Jakarta C. Patas AC D. Patas E. Regular Bus F. Medium Bus H. Angkot I. Taxi J. Bajaj K. Ojek L. Private Car M. Private Motorcycle N. Private Bicycle O. Company Transport Bus P. School Bus Q. Online transportation (Gojek, Uber) R. Walk
TR20a	Were they different from what you use today?	1.Yes 3.No→TR23
TR20b	Why did you change?	_____
TR21	How long did it take to get to your primary activity	_____._____._____ HOUR / MINUTE
TR22	How much did it cost for that mode	_____._____._____ Rp

TR23	Do you have a Smartphone	1.Yes 3.No→TR25
TR24a	Do you have online transportation application on your phone?	1.Yes 3.No→TR25
TR24b	What online transportation application do you use?	A. Gojek B. Grab C. Uber D. Taxi online V others_____
TR25	How often do you use this online transportation	1. More than once a day 2. Once a day 3. At least 3-4 times per week 4. At least 1-2 times per week 7. Once a week 8. At least once a month 5. Others_____

SECTION CR (Crimes)

Now we would like to ask about criminal activities that you may have experienced.

	CR00a		CR00b
TYPECR1	Do you feel safe traveling in Jakarta using the following mode of transportation: [....] 1. Very safe ; 3. Not save 2. Safe ; 4. Very not safe		Which one is the less safe?
	A. In the day time	B. At night	
A. Train	☐	☐	1. Bus shelter 2. Inside bus/train
B. General bus	☐	☐	
C. Trans Jakarta	☐	☐	
D. Taxi	☐	☐	
E. Ojek	☐	☐	
F. Online transportation	☐	☐	

We are asking about the following crime occurring in public transport

CRTYPE	A. Pick pocket/ mugging and robbery	B. Verbal harassment	C. Physical sexual harassment	V. Other harassment
CR00. In the past 12 months, have you known any victim of [...]?	No 3 Yes 1	No 3 Yes 1	No 3 Yes 1	No 3 Yes 1
CR01. In the past 12 months have you ever experienced [...]?	No 3 → Yes 1	No 3 → Yes 1	No 3 → Yes 1	No 3 → Yes 1
CR02. How many times did you experience [...]?	☐ ☐ times	☐ ☐ times	☐ ☐ times	☐ ☐ times
CR03. Where it happened [...] ?	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
CR04. When did it occurred last [...]?	☐ ☐ / ☐ ☐ ☐ ☐ Month / Year	☐ ☐ / ☐ ☐ ☐ ☐ Month / Year	☐ ☐ / ☐ ☐ ☐ ☐ Month / Year	☐ ☐ / ☐ ☐ ☐ ☐ Month / Year
CR05. Where did it happened last [...] ?	☐	☐	☐	☐

SECTION CR (Crimes)

CR06. Did you report [..] to the police?	Yes 1 → CR08 No 3	Yes..... 1 → CR08 No..... 3	Yes 1 → CR08 No..... 3	Yes 1 → CR08 No..... 3
CR07. If not why?	☐ ☐ ☐ ☐ Section P	☐ ☐ ☐ ☐ Section P	☐ ☐ ☐ ☐ Section P	☐ ☐ ☐ ☐ Section P
CR08. What was the outcome of police investigation?	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐

Code CR03/ CR05. A. On the road B. In the busway C. In the bus shelter D. On the train E. Train station F. In the others bus G. Terminal V Lainnya_____		Code CR07. A. Don't want to aggravate matters B. Concerned of own safety C. Waste of time D. Need to pay money E. Feel ashamed F. Don't trust the police G. Don't know where to report H. Have no money	Code CR08 A. Still investigating B. Perpetrator caught C. Perpetrator arrested D. Money/goods returned W. No action E. Private settlement
---	--	---	---

SECTION P (Perception on BRT and Public Transportation)

Now we would like to ask about your perception on BRT in Jakarta.

P01	Do you regularly use TransJakarta BRT?	1.Yes→P01c 3.No
P01b	Why not? (please state up to three reasons)	, , →P01d W→ P05a
P01c	Please state up to three things you dislike most about using TransJakarta BRT	, ,
P01d	How you would like these to be improved?	_____
P02	Do you regularly use public bus (e.g Metro Mini, Kopaja, angkot etc) to travel around DKI Jakarta?	1.Yes →P02c 3.No
P02b	Why not? (please state up to three reasons)	, , →P02d
P02c	Please state up to three things you dislike most about using public bus (such as Metro Mini, Kopaja, Angkot etc)	, ,
P02d	How you would like these to be improved?	_____
P03	In general as a BRT rider how satisfied are you with the performance of the TransJakarta BRT in DKI Jakarta?	5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied. 6 Not Applicable
P04	In general as a non-BRT bus rider how satisfied are you with the performance of the public bus in DKI Jakarta ?	5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied. 6 Not Applicable

SECTION P (Perception on BRT and Public Transportation)

Code for P01b, P01c , P02b, and P02c	A1 Slow B1 No Access to and from the bus stop/ BRT station C1 Bad pedestrian infrastructure D1 Feeder bus services are unreliable E1 Payment is not easy F1 Too many transfer/transits G1 No direct routes H1 Not convenience I1 Long waiting time J1 Uncertain schedule K1 Low frequency of buses L1 No information on routes M1 Unclean vehicle N1 No AC availability O1 Noise P1 Bad bus stop / BRT quality	Q1 Low terminal quality R1 Low quality of modes for getting to and from the bus stop/ halte/ terminal S1 Small bus stop/halte/terminal T1 Few buses U1 Bad driving behavior A2 No assistant B2 Unsafe journey to and from the bus stop/ BRT station C2 Unsafe at the bus stop/ on BRT platform D2 Safety in the vehicle E2 Buses are too crowded F2 Bad Lighting G2 No special buses for women H2 No dedicated wheelchair space I2 No Integrated fares for multiple journeys J2 Fare is too expensive K2 Fear from harrassment V1 Others _____ W Never travel
--	---	--

P05.a Please rate the following services in order of importance.	1 is the most important and 4 is the least important	
Service Attributes	TransJakarta	Public bus services
a. Overall Journey Time and Access		
b. Journey Quality and Comfort		
c. Safety and Security		
d. Cost		

SECTION P (Perception on BRT and Public Transportation)

P05.a	To help respondent understand questions on P05, below is some aspects related to the attributes. Overall Journey Time and Access Time/speed Ease of access to and from the bus stop/ BRT station Pedestrian infrastructure Feeder bus services Ease of payment Ease of entering/ exiting the vehicle Ease of transfer Directness of route Convenience Waiting time Punctuality Frequency Information on routes Journey Quality and Comfort Vehicle quality/ cleanliness AC availability Noise Bus stop / BRT quality Bus terminal quality Quality of getting to and from the bus stop/ halte/ terminal Large bus stop/halte/terminal More buses Driving behavior Availability of assistant (e.g., to announce the next stop loudly)	Safety and security Safety and security to and from the bus stop/ BRT station Safety at the bus stop/ on BRT platform Safety in the vehicle Enforcing maximum number of passenger that ensures safety on a bus Lighting Special buses for women Special seating for woman Dedicated wheelchair space Cost Integrated fares for multiple journeys Set up a maximum fare after a number of journeys
-------	--	---

Please evaluate the following public transport by their attributes. How satisfied are you with the following services?

SECTION P (Perception on BRT and Public Transportation)

P05.b1. In the past 6 months, have you used [.] (state up to three main modes)	TransJakarta 1.Yes 3.No→	Patas AC 1.Yes 3.No→	PATAS 1.Yes 3.No→	Regular Bus (e.g. Kopaja, Metromini) 1.Yes 3.No→	Angkot 1.Yes 3.No→	Taxi 1.Yes 3.No→	Bajaj 1.Yes 3.No→	Ojek 1.Yes 3.No→	Online 1.Yes 3.No→
P05b2. How satisfied are you with their services in terms of [.]									
1. Travel speed									
2. Cost/fare									
3. Punctuality									
4. Accessibility									
5. Cleanliness in the vehicle									
6. Noise in the vehicle									
7. Safety in the vehicle									
8. Air pollution in the vehicle									
9. Ride comfort									
10. Easy to transfer									
11. Staff behavior (inc. driver)									
12. Terminal facilities									
13. Crowdedness in the vehicle									
14. Frequency									
15. Bus stop facilities									
16. No of bus stop									
17. Information									

Code for P05b2 : 5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied 6.NA

SECTION P (Perception on BRT and Public Transportation)

Only asked to respondent who use BRT

P06	Have you travelled in Jakarta using BRT Corridor 6 in the last 6 month?	1. Yes 3. No → P13
P07	When did you travel using BRT Corridor 6 in the last 6 month?	/ / Date / Month / Year
P08	For what purpose did you use BRT corridor 6 : PLEASE STATE UP TO 3 OPTIONS	A. Office/work B. School C. Shopping D. Social activities E. Family care (e.g. taking child to school) F. Eating out G. Leisure V. Other
P09	Do you feel safe travelling on BRT Corridor 6?	1. Very safe 2. Safe 3. Not safe 4. Very not safe
P10	Compared to other public transportation in your opinion do think BRT is	1. safer 2. as safe 3. less safe
P11	Prior to using BRT Corridor 6 what type of transport mode did you use	
P12	On average, how long do you typically wait bus in the shelter of BRT Corridor 6	minutes → P14
P13	Have you travelled in Jakarta using BRT?	1. Yes 3. No → Next Section

P14	Do you generally feel that that it is too hot inside the BRT shelters?	1. Yes 3. No
P15	Do you generally feel that BRT shelter provide enough space during peak hours?	1. Yes 3. No
P16	Did you increase your trip using BRT after the policy on separated seating was implemented?	1. Highly increase 2. Increase 3. Same 4. Decrease

Code P11	
A. Railways B. Trans Jakarta C. Patas AC D. Patas E. Regular Bus (Kopaja, Metromini) F. Medium Bus	H. Angkot I. Taxi J. Bajaj K. Ojek L. Private Car M. Private Motorcycle N Private bicycle O. Company Transport Bus P. School Bus Q. Online transportation (Gojek, Uber) R. Walk

SECTION KK (HEALTH CONDITIONS)

Now we would like to know your physical ability in daily activity. **Physical Functioning Measures**

	If you had [...], could you do it:		
KK01. To carry a heavy load (like a pail of water) for 20 meters	1. Easily	3. With difficulty	5. Unable to do it
KK02. To draw a pail of water from a well	1. Easily	3. With difficulty	5. Unable to do it
KK03. To walk for 1 kilometer	1. Easily	3. With difficulty	5. Unable to do it
KK04. To walk for 5 kilometers	1. Easily	3. With difficulty	5. Unable to do it
KK05. To sweep the house floor yard	1. Easily	3. With difficulty	5. Unable to do it
KK06. To bow, squat, kneel	1. Easily	3. With difficulty	5. Unable to do it
KK07. To walk across the room	1. Easily	3. With difficulty	5. Unable to do it
KK08. To stand up from sitting on the floor without help	1. Easily	3. With difficulty	5. Unable to do it
KK09. To stand up from sitting position in a chair without help	1. Easily	3. With difficulty	5. Unable to do it
KK10. To reach or extend your arms above shoulder level	1. Easily	3. With difficulty	5. Unable to do it
KK11. To pick up a small coin from a table	1. Easily	3. With difficulty	5. Unable to do it
KK12. To see, even if wearing glasses	1. Easily	3. With difficulty	5. Unable to do it
KK13. To hear, even if using a hearing aid	1. Easily	3. With difficulty	5. Unable to do it
KK14. To remember or concentrate	1. Easily	3. With difficulty	5. Unable to do it
KK15. To communicate, for example understanding or being understood	1. Easily	3. With difficulty	5. Unable to do it
KK16. CAPI CHECK: ALL KK01-KK15 = 1?	1. YES → KK23	3. NO	

Activities of Daily Living (ADL)

KK17. To dress without help	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK18. To bathe	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK19. To get out of bed	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK20. To eat (eating food by oneself when it is ready)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK21. To control urination or defecation	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK22. To restrain urination or defecation	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it

SECTION KK (HEALTH CONDITIONS)

Instrumental Activities of Daily Living (IADL)

KK23. To shop for personal needs	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK24. To prepare hot meals (preparing ingredients, cooking, and serving food)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK25. To take medicine (taking right portion right on time)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK26. To do household chores (house cleaning, doing dishes, making the bed, and arranging the house)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK27. To shop for groceries (deciding what to buy and pay for it)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK28. To manage your money (paying your bills, keeping track of expenses, or managing assets)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it

SECTION IK (INFORMATION ON REPEAT VISIT)

IK1.	In the future, we will visit this household again. You might not be here at that time. Could you tell us name of friend/family member who can tell us where you are? Name _____ : Address: _____ Telephone number: A. Home - B. Cellphone number: belonging to _____ C. Cellphone number: belonging to _____ W. NA Y.DK		
IK2.	If you move, where do you move to?	1. Move ↓ 1. Not same ↓	6. NOT MOVE → CP 8. DON'T KNOW → CP
	1. Village:	1	3. Same → CP 8. DON'T KNOW
	2. Subdistrict:	1	3. Same → CP 8. DON'T KNOW
	3. District:	1	3. Same → CP 8. DON'T KNOW
	4. Province:	1	3. Same → CP 8. DON'T KNOW
	5. Country:	1	3. Same → CP 8. DON'T KNOW

SECTION CP (INTERVIEW SESSION NOTES)

C1.RESULT OF INTERVIEW OF BOOK II	C2.REASON CODE FOR ANSWER “3”/”2” ON C1	C4. SUPERVISOR MONITORING	
1. Completed→C4 2. Partially completed 3. Not completed	1. Respondent was not at home/not available 2. Respondent was seriously ill 3. Respondent refused (to be interviewed) 5. Other:	a. Observed b. Edited c. Verified	Yes 1 1 1 No 3 3 3

CP1. WHO ELSE (OTHER PERSONS) BESIDES RESPONDENT WAS PRESENT DURING THE INTERVIEW? ANSWER MAY BE MORE THAN ONE. A. NO ONE B. A CHILD 5 YEARS OLD OR UNDER C. A CHILD OLDER THAN 5 YEARS OLD D. HUSBAND/WIFE E. AN ADULT, A HOUSEHOLDER F. AN ADULT, NOT A HOUSEHOLDER	CP2. WHAT IS YOUR EVALUATION OF THE ACCURACY OF RESPONDENT’S ANSWERS? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD	CP3. WHAT IS YOUR EVALUATION ON THE SERIOUSNESS AND ATTENTIVENESS OF THE RESPONDENT? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD
NOTE:		

Appendix D. Household Survey Questionnaire: Disability Book

INTERVIEWER :

HHID: PID

CONFIDENTIAL

**Survey to Assess the Role of Bus-Related Policy Interventions
in Improving Female Labour Force Participation and Mobility of the Disabled in Jakarta
(BASELINE)**

BOOK 2: DISABLED INDIVIDUAL

SECTION: TK, CC, TR, CR, P, KK, D, IK, CP
Respondent is a HH Member: Disabled individual and age 15-65 Years
(Interview Status =1)

COV00.	RESPONDENT INTERVIEWED?	1. Yes 3. No → C1
COV01x	Respondent Location	7. Corridor 6 BRT 8. Non-corridor 6 BRT 9. Non-BRT bus
COV02x	CAPI CHECK: IS RESPONDENT DISABLED? AR13=1 and AR05: 15-65 years old	1. Yes 3. No → C1

SECTION TK (EMPLOYMENT)

COV00x. Informed consent

Good morning/afternoon/evening,

My name is _____. I am from SurveyMeter, an independent research organization based in Yogyakarta. We are currently conducting the fieldwork for Baseline Survey to assess the role of Bus-Related Policy interventions in Female Labour Force Participation and mobility of the disabled in Jakarta, a survey project conducted with collaboration with RAND Corporation. We will start by reading the informed consent form and then ask whether you would be willing to participate in the survey. You can ask questions at any time.

The aim of this survey is to add substantively to the field of knowledge on how transport infrastructure impacts female labour force participation (FLFP) and urban mobility of the disabled in Indonesia, and identify public transport policy reforms that can improve the situation. The aim of the surveys is fourfold (ref TOR):

- To determine how women are using existing bus (BRT and non BRT bus) services in DKI Jakarta, and how these services are facilitating or constraining women's access to employment opportunities and hence female labour force participation;
- To determine how people with disabilities mobilise i.e. access services and facilities, and their use of existing bus (BRT and non-BRT bus) services in Jakarta
- To determine the existing (perceived) level of public transport service quality; and
- To determine what type of improvements could contribute to increasing female labour force participation in Jakarta and also for people with disabilities mainly along BRT corridor 6, where a range of improvements is already planned for implementation.

The interview is completely voluntary and all survey information will be kept confidential. Your personal information, including name, address, phone number, and other information which can be used to identify you will not be disclosed. The researcher will keep your information in confidence until it is destroyed, and your information will not be used or disclosed during this period.

If you agree to participate in this study, you will get Rp _____ as a token gift of appreciation for the time you spend with us.

If you have any questions about this study, you may contact SurveyMETER at email address: sm@surveymeter.org or phone 62-274-4477464 and fax: 62-274-4477004.

Interviewer's Statement

"I have informed the respondent about the background, goals, procedure, risks and benefits of the survey, given him/her enough time to read the informed consent and discuss with others, and answered all questions related to the survey; I have informed the respondent that he/she can contact the SurveyMETER, when having problems about the survey and provided the accurate contact information. I have informed the respondent that he/she can withdraw from the survey anytime. I have informed the potential respondent that he/she can get a copy of this informed consent with signatures of mine."

☐ Signed by interviewer. Interviewer name: _____ day/month/year

Respondent's statement:

"I have been read the informed consent and I agree to participate in": ☐ questionnaire survey

SECTION TK (EMPLOYMENT)

COMPLETED FROM ROSTER

NAME OF

RESPONDENT: _____ PID

CAPI CHECK

COV1. RESPONDEN IS: (CAPI CEK)

Head of Household (AR02b=01) 1

Couple Head of Household (AR02b=02).....2

Other Householder 3

TO BE FILLED OUT BY INTERVIEWER FOR INDIVIDUAL BOOK

COV6. Date of Birth: / /
Day Month Year

COV3. How old are you.? Years

COV4. What is your marital status : Never married 1
Married 2
Separated.....3
Divorced 4
Widow/er 5

COV5. Cellphone A.
B.
W. Y. X.

COV6. email address:

COV7 Sex : 1 Male 3 Female

SECTION TK (EMPLOYMENT)

TK01. During the past week, did you do any of these activities?	<table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>e. Work for pay</td> <td>1</td> <td>3</td> </tr> <tr> <td>f. Attend school</td> <td>1</td> <td>3</td> </tr> <tr> <td>g. Housekeeping</td> <td>1</td> <td>3</td> </tr> <tr> <td>h. Job searching</td> <td>1</td> <td>3</td> </tr> </tbody> </table>		Yes	No	e. Work for pay	1	3	f. Attend school	1	3	g. Housekeeping	1	3	h. Job searching	1	3
	Yes	No														
e. Work for pay	1	3														
f. Attend school	1	3														
g. Housekeeping	1	3														
h. Job searching	1	3														
TK02. What was your primary activity during the past week?	Working/trying to work/helping to earn income..... 01 → TK12 Job searching 02 Attending school 03 Housekeeping 04 Retired 05 Sick/disable 07 Other 95															
TK03. Do you have a job/business, but were temporarily not working during the past week?	Yes 1 → TK12 No 3															
TK04. Did you work at a family-owned (farm or non-farm) business during the past week?	Yes 1 → TK12 No 3															
TK05. Have you ever worked before?	No 3 → TK12 Yes 1															
TK06. When did you work for the last time?	Month Year															

TK07. Why haven't you worked again since that year?	Retirement A Prolonged sickness B Handicap C Marriage D Too old E Have a child F Taking care of children G Family responsibilities H Forbidden I Other family reason J Fired K Cannot find work L Do not want to work M Company closed/moved/bankrupt N Job is far from home O Commuting Cost P Limited access to public transport Q Feel unsafe during travel R Other V
(CIRCLE ALL THAT APPLY)	

TK08. Which category best describes the work you did in your last job?	Unpaid family worker 06 Self employed 01 Self-employed with unpaid family worker/temporary worker 02 Self-employed with permanent worker 03 Government worker 04 Private worker 05 Casual worker in agriculture 07 Casual worker not in agriculture 08
TK12. In the past month, have you been looking for a job?	No 3 → TK14 Yes 1
TK13. How long have you been looking for a job in the past month?	1 weeks 2. days

TK13a. What activities have you done for your job search?	<table border="1"> <thead> <tr> <th></th><th>Yes</th><th>No</th></tr> </thead> <tbody> <tr> <td>i. Registered with government job fairs</td><td>1</td><td>3</td></tr> <tr> <td>j. Registered with private job fairs</td><td>1</td><td>3</td></tr> <tr> <td>k. Registered with school/university job fairs</td><td>1</td><td>3</td></tr> <tr> <td>l. Contacted company</td><td>1</td><td>3</td></tr> <tr> <td>m. Responded to job ads</td><td>1</td><td>3</td></tr> <tr> <td>n. Contacted friends/relatives</td><td>1</td><td>3</td></tr> <tr> <td>o. Searched jobs from online job postings websites</td><td>1</td><td>3</td></tr> <tr> <td>p. Done nothing</td><td></td><td></td></tr> </tbody> </table> →TK15		Yes	No	i. Registered with government job fairs	1	3	j. Registered with private job fairs	1	3	k. Registered with school/university job fairs	1	3	l. Contacted company	1	3	m. Responded to job ads	1	3	n. Contacted friends/relatives	1	3	o. Searched jobs from online job postings websites	1	3	p. Done nothing					
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TK14. What is the main reason not looking for a job?	<table border="1"> <tbody> <tr><td>Feels impossible to find a job</td><td>01</td></tr> <tr><td>Already have a job, but have not started yet ...</td><td>02</td></tr> <tr><td>Attending school.....</td><td>03</td></tr> <tr><td>Housekeeping</td><td>04</td></tr> <tr><td>Taking care of children.....</td><td>05</td></tr> <tr><td>Already have a business</td><td>06</td></tr> <tr><td>Do not need to</td><td>07</td></tr> <tr><td>Unable to do work</td><td>08</td></tr> <tr><td>Too old</td><td>09</td></tr> <tr><td>Available jobs are far from home.....</td><td>10</td></tr> <tr><td>Commuting Cost are too high.....</td><td>11</td></tr> <tr><td>Limited/no access to public transport</td><td>12</td></tr> <tr><td>Feel unsafe during travel.....</td><td>13</td></tr> <tr><td>Unreliable bus schedule.....</td><td>14</td></tr> <tr><td>Other</td><td>95</td></tr> </tbody> </table>	Feels impossible to find a job	01	Already have a job, but have not started yet ...	02	Attending school.....	03	Housekeeping	04	Taking care of children.....	05	Already have a business	06	Do not need to	07	Unable to do work	08	Too old	09	Available jobs are far from home.....	10	Commuting Cost are too high.....	11	Limited/no access to public transport	12	Feel unsafe during travel.....	13	Unreliable bus schedule.....	14	Other	95
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Feel unsafe during travel.....	13																														
Unreliable bus schedule.....	14																														
Other	95																														
TK15. In the past 12 months, have you been preparing to set up a business?	<table border="1"> <tbody> <tr> <td>No</td> <td>3→TK16K</td> </tr> <tr> <td>Yes</td> <td>1</td> </tr> </tbody> </table>	No	3→TK16K	Yes	1																										
No	3→TK16K																														
Yes	1																														
TK15a What activities have you done in preparing to set up a business in the last 12 months?	<table border="1"> <thead> <tr> <th></th><th>Yes</th><th>No</th></tr> </thead> <tbody> <tr> <td>a.Looked for capital</td><td>1</td><td>3</td></tr> <tr> <td>b.Looked for place of business</td><td>1</td><td>3</td></tr> <tr> <td>c.Arranged for business license</td><td>1</td><td>3</td></tr> <tr> <td>d.Done nothing</td><td>1</td><td>3</td></tr> </tbody> </table>		Yes	No	a.Looked for capital	1	3	b.Looked for place of business	1	3	c.Arranged for business license	1	3	d.Done nothing	1	3															
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A. PRIMARY JOB	
THE JOB WHICH CONSUMES THE MOST TIME	
TK16. Where do you work on your [...] job? (ENTER NAME OF COMPANY/EMPLOYER)	_____ _____ _____
TK16A. What is the address of the company?	_____ _____
TK16AX. Address of workplace	3. Same with SC 1. a. Provinsi 1. 3. Same 8 Don't know b. Kab/kota 1. 3. Same 8 Don't know c. Kec 1. 3. Same 8 Don't know d. Desa/Kel. 1. 3. Same 8 Don't know
TK16Ab. What is telephone number of the company?	A.Phone B. Cellphone Belonging to _____ W. NA Y. DK
TK17. What does your company produce?	_____ _____
TK17A. CODE FOR SECTORS	
TK18. What are your primary duties at your workplace?	_____
TK19. How many people work at your firm?	, Persons 1→TK21 DON'T KNOW 8
TK20. Is it[...]?	1. 1- 4 people 2. 5-19 people 3. 20-99 people 4. ≥ 100 people

SECTION TK (EMPLOYMENT)

TK21.	What was the total number of hours you worked during the past week (on your job)?	_____ Hours/Week
TK22.	Normally, what is the approximate total number of hours you work per week?	_____ Hours/Week
TK22a	Does access to transport impact your hours of work?	1.Yes 3. No → TK23
TK22b	In what way?	1.Do not work over-time 2. Do not take night shift 3. Have to leave early 5. Others _____
TK23.	How long have you worked on this job?	____ Years ____ Months
TK24.	Are you a member of a labor union or a business association?	Yes 1 No 3
TK25.	Which category best describes the work that you do?	Self employed.....01 → TK27 Self-employed with unpaid family worker/temporary worker.....02 → TK27 Self-employed with permanent Worker 03 → TK27 Government worker 04 Private worker 05 Casual worker in agriculture.....07 Casual worker not in agriculture 08 Unpaid family worker 06 → TK27a
TK26.	Approximately what was your salary/wage during the last month (including the value of all benefits)?	_____, _____, _____ Rp. 1 DON'T KNOW 8 → TK27a

TK27.	Approximately how much net profit did you gain last month, after taking out all your business expenses?	Profit (+) _____, _____, _____, _____ _____ Rp..... 1 Loss (-) _____, _____, _____, _____ _____ Rp..... 2 DON'T KNOW 8↓
TK27a.	How satisfied are you with your current job?	Very satisfied 1 Satisfied 2 Unsatisfied 3 Very unsatisfied 4
TK27b	Do you think you are adequately compensated for your current job	No 3 Yes 1
TK27c	Is your current job a good match for your skills and interests?	No 3 Yes 1

Now we would like to ask you about the characteristics of your primary job.

TK27d	My job requires me to travel to many places	1. All/Almost all the time 2. Most of the time 3. Some of the time 4. None/Almost none of the time
TK27e	My job requires me to work overtime	1. All/Almost all the time 2. Most of the time 3. Some of the time 4. None/Almost none of the time
TK27f	My job involves a lot of stress	1. All/Almost all the time 2. Most of the time 3. Some of the time 4. None/Almost none of the time
TK28.	Do you have any additional job?	No 3 → TK31 Yes 1

B. ADDITIONAL JOB THE JOB WHICH CONSUMES THE SECOND MOST TIME

SECTION TK (EMPLOYMENT)

TK29.	What does your company produce?	
TK29B.	CODE FOR SECTORS	
TK30.	Which category best describes the work that you do?	Self employed..... 01 Self-employed with unpaid family worker/temporary worker..... 02 Self-employed with permanent worker 03 Government worker 04 Private worker 05 Casual worker in agriculture 07 Casual worker not in agriculture 08 Unpaid family worker 06

CODE TK17A and TK29	
Agriculture, forestry, fishing and hunting 01	Wholesale, retail, restaurants and hotels 06
Mining and quarrying 02	Transportation, storage and communications 07
Manufacturing 03	Finance, insurance, real estate and business services 08
Electricity, gas, water 04	Social services 09
Construction 05	Activities that cannot be classified 10

SECTION TK (Female Employment Information)

Now we would like to ask about your work experience in the last 3 years.

	Job in The last 3 years	2016	2015	2014
TK31.	Did you work/help to earn income for pay in the [...] year ?	No..... 3 ➔ Yes 1	No..... 3 ➔ Yes 1	No..... 3 Yes 1
TK32.	Where do you work on your [...] job? (ENTER NAME OF COMPANY/EMPLOYER)	_____ _____ _____	3. Same 1. _____	3. Same 1. _____
TK33.	What does you company produce?	_____ _____ _____	3. Same 1. _____	3. Same 1. _____
TK34.	EDITOR: CODE FOR SECTOR	____	3. Same 1. ____	3. Same 1. ____
TK35.	What were your primary duties at your workplace?	_____ _____ _____	3. Same 1. _____	3. Same 1. _____
TK36.	Which category best describes the work you did?	____	3. Same 1. ____	3. Same 1. ____
TK37.	Normally, what is the approximate total number of hours you work per week?	____ Hours/Week	____ Hours/Week	____ Hours/Week
TK38.	Approximately what was your salary/wage / net profit per month (including the value of all benefits in the [....] year ?	____.____.____	____.____.____	____.____.____

CODE TK34

Agriculture, forestry, fishing and hunting..... 01
Mining and quarrying..... 02
Manufacturing..... 03
Electricity, gas, water 04
Construction 05

Wholesale, retail, restaurants and hotels 06
Transportation, storage and communications 07
Finance, insurance, real estate & business services.....08
Social services 09
Activities that cannot be classified..... 10

Code TK36

Self employed.....01
Self employed with unpaid family woker/temporary worker.....02
Self employed with permanent worker ... 03
Government worker/employee 04

Private worker/employee..... 05
Unpaid family worker..... 06
Casual worker in non-agriculture 07
Casual worker in agriculture 08

SECTION TK (Female Employment Information)

Now we want to ask about job quitting or job termination that you may have experienced in the last 3 years.

TK39. In the last three years, have you been working for salary as a private or government employee?	No 3 → TK59 Yes 1
TK40. When you were working for salary in the last three years, have you experienced job termination or quit your job? (NOT INCLUDING MANDATORY RETIREMENT OR END OF CONTRACT)	No 3 → TK59 Yes 1
TK41. How many times in the last three years did you quit your job or experienced job termination? (NOT INCLUDING MANDATORY RETIREMENT OR END OF CONTRACT)	___ times
TK42. When was the last time in the last 3 years you quit your job or experienced job termination? (NOT INCLUDING MANDATORY RETIREMENT OR END OF CONTRACT)	___ / ____ Month Year

Now we want to ask about the last job termination or job quitting as a private or government employee.

TK43. Where did you work on your last job? (ENTER NAME OF COMPANY/EMPLOYER)	_____
TK44a. What did the company produce?	_____
TK44.b EDITOR: CODE FOR SECTORS	___
TK45. How many employee did your employer have?	1. 1- 4 people 2. 5-19 people 3. 20-99 people 4. ≥ 100 people 8. DON'T KNOW

CODE TK44b

Agriculture, forestry, fishing and hunting 01	Wholesale, retail, restaurants and hotels
Mining and quarrying 02	06
Manufacturing 03	Transportation, storage and
Electricity, gas, water 04	communications07
Construction 05	Finance, insurance, real estate and
	business
	services
	
	08
	Social
	services
	
	09
	Activities that cannot be
	classified
	
	10

TK46. How long have you been working there before you stop working?	___ years and ___ months
TK47. How much was your monthly wage/salary for the last month you were on the job?	___ , ___ , ___ Rp.

SECTION TK (Female Employment Information)

TK48. What was the main reason that your job was terminated or that you quit your job?	16. Fired by the company because business was closed down/relocated/restructured
	17. Wage/salary was too low
	18. Transport cost was too high
	19. Feeling insecure to travel
	20. Long travel time to work
	21. Long travel tiime to housekeeping/childcare
	22. Showing up to work late
	23. Inconveient working time
	24. Refused being relocated
	25. Prolonged sickness
	26. Marriage
	27. Childbirth
	28. Taking care of children
	29. Other family reason
	30. Unreliable public transport schedule
95. Other, mention	

Now we would like to ask about your job and transportation

TK59	Do you have another home than the one you currently live in?	2. Yes 3. No → TK63
TK60	Address of the other home?	a. Province 1. 3. Same 8 Don't know b. District/City 1. 3. Same 8 Don't know c. Sub district 1. 3. Same 8 Don't know d. Village/kel 1. 3. Same 8 Don't know
TK61	How often you go to the other home?	Times 4. Week 5. Month 6. Year

TK62	How much do you spend in total on traveling from your current home to the other home and back?	, ,
TK63	What is your main reason to live here?	6. Close to working place 7. Close to busway station/lane 8. Cheaper 9. More secured 6. Family reasons (accompany husband/parents or have been here since born) 7. Strategic location/convenient(close to school, easy access to public transport) 10. Other
TK64	Address of workplace	3. Same with SC 1. a. Provinsi 1. 3. Same 8 Don't know 6. NA b. Kab/kota 1. 3. Same 8 Don't know 6. NA c. Kec 1. 3. Same 8 Don't know 6. NA d. Desa/Kel. 1. 3. Same 8 Don't know 6. NA
TK65	Address of previous workplace	3. Same with SC 1. a. Provinsi 1. 3. Same 8 Don't know 6. NA b. Kab/kota 1. 3. Same 8 Don't know 6. NA c. Kec 1. 3. Same 8 Don't know 6. NA d. Desa/Kel. 1. 3. Same 8 Don't know 6. NA
TK66	Distance to current workplace	1. , KM 6 NA
TK67	Distance to previous workplace	1. , KM 6 NA
TK68	Travel time to current workplace	1. , Hours 6 NA
TK69	Travel time to previous workplace	1. , Hours 6 NA

SECTION TK (Female Employment Information)

TK70	Do you have a driving license?	2. Yes 4. No → TK72
TK71	What type of driving license do you have?	☐ , ☐ , ☐ , ☐
TK72	Do you usually [...]? A. Ride motorcycle B. Drive a car	1. Yes 3. No 1. Yes 3. No
TK73	Are you comfortable riding on a: A. Motorcycle B. Car	1. Yes 3. No 1. Yes 3. No
TK74	What are the three most important factors you consider when taking a job	Wage/Salary A Occupation B Working schedule C Location D Ease of public transportation from home to workplace E Ease of private transportation from home to workplace F Other V
TK74a	Have you ever declined a job offer because of transport-related reasons?	2. Yes 3. No → TK76
TK75	Why have you declined the job PLEASE STATE UP TO 3 REASONS	Transportation expenses were too high A Travel time from home-work was too long B No regular public transport was serving the workplace C Too many transits from home to workplace D Felt insecure to travel from home to work E Cannot drive motorcycle/car F Travel for household-related activities and child-care was too long G Inconvenient public transport schedule H Other V

TK76	Have you ever quit a job and decided not to work because of transport-related reasons?	2. Yes 3. No → TK78
TK77	Why have you quit the job? PLEASE STATE UP TO 3 REASONS	Transportation expenses were too high A Travel time from home-work was too long B No regular public transport was serving the workplace C Too many transits from home to workplace D Felt insecure to travel from home to work E Cannot drive motorcycle/car F Travel for household-related activities and child-care was too long G Inconvenient public transport schedule H Other V
TK78	Have you ever changed a job (currently working) because of transport-related reasons?	2. Yes 3. No → Next Section
TK79	Why have you changed the job? PLEASE STATE UP TO 3 REASONS	Transportation expenses were too high A Travel time from home-work was too long B No regular public transport was serving the workplace C Too many transits from home to workplace D Felt insecure to travel from home to work E Cannot drive motorcycle/car F Travel for household-related activities and child-care was too long G Inconvenient public transport schedule H Other V
TK80	Have you ever accepted a job despite having transportation constraints?	2. Yes 3. No

SECTION CC (Child Care)

CC01	Do you currently have any children aged 12 and under living at home?	1.Yes 3 NO→TR01
CC02	How many of your children are in each of the following age groups: (Please indicate the number in each age group)	☐ 0 - 18 months ☐ 19 months through 2 1/2 years ☐ over 2 1/2 years through 5 years ☐ 6 years through 9 years ☐ 10 years through 12 years
CC03	Who provides most care for your children?	11. You 12. Your partner (e.g. husband) 13. Other children in the family 14. A relative, friend, nanny or other caregiver in your home 15. A caregiver outside your home 16. Child care center 17. Nursery school 18. Kindergarten or school 19. You only work/study while the child is in school 10.You and your partner both provide most of the child care yourselves 95. Other (please describe)_____
CC04	How many hours a day do you typically spend to care for your children?	Hours
CC04x	CAPI Check if TK16K=1	1.Yes→CC07 3.No

CC05	Would you accept paid employment outside your home or go to school if adequate child care services were more available and affordable in your community?	1.Yes 3.No
CC06	Would you accept paid employment outside your home or go to school if safe and reliable transport were more available for you (that eases the access to child care)?	1.Yes 3.No →Section TR
CC07	Which of the following child care services have you used?	010. Regulated private home day care 011. Parent/child drop-in program 012. Child drop-off center for occasional use 013. Paid arrangement with a caregiver 014. Unpaid arrangement with a caregiver 015. A relative/parents 016. Nursery school 017. Toy library 018. Playgroup 20. You→TR01 96. Other (please describe)
CC08	How many hours a day do your children spend in child care (average per children)	Hours

SECTION CC (Child Care)

CC09	How much did you spend for child care last month?	<table style="width: 80%;"><tr><td></td><td></td><td></td><td>.</td><td></td><td></td><td></td><td>.</td><td></td><td></td><td></td></tr></table> RP				.				.			
			.				.						
CC09a	Do you find this:	4. Expensive 5. About right 6. Cheap											
CC10	In general, how satisfied are you with these arrangements (i.e., access, cost, availability) ? (Circle one response number)	1 very satisfied 2 somewhat satisfied 3 somewhat dissatisfied 4 very dissatisfied											
CC11	Would you consider other paid employment outside your home or go to school if adequate child care services were more available and affordable in your community?	1.Yes 3.No											
CC12	Would you consider other paid employment outside your home or go to school if safe and reliable transportation were more available and affordable for you?	1.Yes 3.No											

SECTION TR (Commuting Behavior)

Now we will ask you about your travel that you take most often. **Note for interviewer: some types of travels may be linked or connected each other. For example, the respondent may go shopping after office or amid her break time. The interviewer should make sure that the respondents describe all travels.**

	TR01	TR02
Purpose/type of travel	Is the following [.] your regular travel?	How frequent is this travel?
A. Work	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
B. School	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
C. Shopping	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
D. Social activities	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
E. Family care (e.g. taking a child to school)	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
F. Eating out	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
G. Leisure	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
H. Medical reason/ check up	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
I. Looking for job	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week
V.Others_____	1.Yes → 3. No	1. > 6x per week 2. 3-6 times per week 3. 1-2 times per week 4. < 1 time per week

TR01xx CAPI Check: IF ALL TR01=3 → CR00a

	TR03	TR04
Purpose/type of travel	Please pick up to three most regular trip purposes in the last month?	If you have connected travel trips, please describe which types of travel are connected and do so in the order taken?
A. Work	☐	☐ ☐ ☐ ☐
B. School	☐	☐ ☐ ☐ ☐
C. Shopping	☐	☐ ☐ ☐ ☐
D. Social activities	☐	☐ ☐ ☐ ☐
E. Family care (e.g. taking child to school)	☐	☐ ☐ ☐ ☐
F.Eating out	☐	☐ ☐ ☐ ☐
G.Leisure	☐	☐ ☐ ☐ ☐
H.Medical reason/ check up	☐	☐ ☐ ☐ ☐
I.Looking for job	☐	☐ ☐ ☐ ☐
V.Others_____	☐	☐ ☐ ☐ ☐

SECTION TR (Commuting Behavior)

CAPI Check TR03. Note for interviewer: To fill out TR05 (Link No) in the following table, start asking the first main travel purpose during the last month and assign number “1” to describe the first travel (for example use “1” for Home – Office). Then assign number “2” for Office to Home. If there are linked/connected travel purposes, use sequential numbers (for example “2” for Office-Shopping and “3” for shopping-Home).

Then use the combination of number and letter to describe detailed trips for each travel purpose. The following is an example for detailed trip: assign **1.A** for trip from Home to Bus Shelter A; **1.B** for Bus shelter A to Bus shelter B, and **1.C** for Bus shelter B - Office. Please, ask and record trips in detail.

4. Type/Purpose of travel : _____	5. Type/Purpose of travel : _____	6. Type/Purpose of travel _____

SECTION TR (Commuting Behavior)

TR01A_1.	Main purpose of travel	
TR02A_1	Frequency per week	
	Code for TR01A Purpose	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6. Eating out 7. Leisures 8. Medical reason/check up 9. Looking for job 95. Other_____

TR05_1 Link No	TR06_1 Purpose	TR07_1 Time of day From - To	TR08_1 Location	TR09_1 Mode	TR10_1 Time	TR11_1 Distance	TR12_1 Fare/ Cost	TR13_1 Rate travel Satisfaction (1-5)
1		From To . - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
1A		From To . - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
1B		From To . - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
2		From To . - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	
3		From To . - HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	. Rp	

SECTION TR (Commuting Behavior)

TR01A_2.	Main purpose of travel	
TR02A_2	Frequency in a week	
	Code for TR01A Purpose	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6. Eating out 7. Leisures 8. Medical reason/check up 9. Looking for job 95. Other_____

TR05_2 Link No	TR06_2 Purpose	TR07_2 Time of day From - To	TR08_2 Location	TR09_2 Mode	TR10_2 Time	TR11_2 Distance	TR12_2 Fare/ Cost	TR13_2 Level of Satisfaction (1-5)
1		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
1a		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
1b		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
2		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	
3		From To - HOUR / MINUTE HOUR / MINUTE			MINUTE	1.KM 2. M	Rp	

SECTION TR (Commuting Behavior)

TR01A_3.	Main purpose of travel	
TR02A_3	Frequency in a week	
	Code for TR01A Purpose	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6. Eating out 7. Leisures 8. Medical reason/check up 9. Looking for job 95. Other_____

TR05_3 Link No	TR06_3 Purpose	TR07_3 Time of day From - To	TR08_3 Location	TR09_3 Mode	TR10_3 Time	TR11_3 Distance	TR12_3 Fare/ Cost	TR13_3 Level of Satisfaction (1-5)
1		From To HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
1a		From To HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
1b		From To HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
2		From To HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	
3		From To HOUR / MINUTE HOUR / MINUTE			 MINUTE	 1.KM 2. M	Rp	

SECTION TR (Commuting Behavior)

Code TR09, TR18B		Code TR13
A. Railways B. Trans Jakarta C. Patas AC D. Patas E. Regular Bus F. Medium Bus H. Angkot I. Taxi J. Bajaj	K. Ojek L. Private Car M. Private Motorcycle N. Private Bicycle O. Company Transport Bus P. School Bus Q. Online transportation (Gojek, Uber) R. Walk	1. Very unsatisfactory 2. Unsatisfactory 3. Indifferent 4. Satisfactory 5. Very satisfactory

CAPI Check if TR09_1, TR09_2, and TR09_3 are private transport modes. Ask the following questions

TR14xx	Check CAPI: TR09_1/TR09_2 or TR09_3= L, M, N			1 Yes 3. No → TR17
TR14.	Are you aware of other alternative forms of transport available to you that you do not usually choose?			1 Yes 3. No → TR17
TR15.	Can you list three most important factors in choosing the form of transport you normally use over the other forms of transport available to you for a particular journey?			
	TR15A. Journey purpose	TR15.B Main mode used	TR15C. Reasons (state up to 3 reasons)	
			, ,	
			, ,	
			, ,	
TR16.	What other public transport options are available besides the ones you use for your particular trip and why you do not use them (state up to 3 main reasons for each alternative public transport mode available):			
	TR16A. Journey Purpose	TR16B. Alternative	TR16C. Why not use them? (state up to 3 reasons)	
1		a. Bus 1. Yes → 3. No	, ,	
		b. BRT 1. Yes → 3. No	, ,	
2		a. Bus 1. Yes → 3. No	, ,	
		b. BRT 1. Yes → 3. No	, ,	
3		a. Bus 1. Yes → 3. No	, ,	
		b. BRT 1. Yes → 3. No	, ,	

SECTION TR (Commuting Behavior)

TR17	Do you typically change your main modes when it is raining?		1. Yes 3. No	
TR18	Please tell us alternative modes that you use when the day is raining?			
	TR18A. Journey purpose	TR18B Alternative mode used	TR18C. Reasons (state up to 3 reasons)	TR18D Cost/Fare
	1			. Rp
	2			. Rp
3			. Rp	

	Code for TR15A, TR16A, TR18A	Code 15B	Code for TR15C, TR18C		
	A. Work B. School C. Shopping D. Social activities E. Family care (e.g. taking a child to school) F. Eating out G. Leisure H. Medical reason/ check up I. Looking for job V. Others _____	L. Priv. Car M. Priv. Motorcycle N. Priv. Bike	A. Travel speed B. Cost/fare C. Punctuality D. Accessibility E. Cleanliness in the vehicle F. Noise in the vehicle G. Safety in the vehicle	H. Air pollution in the vehicle I. Ride comfort J. Easy to transfer K. Staff behavior (inc. driver) L. Terminal facilities	M. Crowdedness in the vehicle N. Frequency O. Bus stop facilities P. No of bus stop Q. Information R. Air Conditioning V. Others _____

Code for TR16C	A1 Slow B1 No Access to and from the bus stop/ BRT station C1 Bad pedestrian infrastructure D1 Feeder bus services are unreliable E1 Payment is not easy F1 Too many transfer/transits G1 No direct routes H1 Not convenience I1 Long waiting time J1 Uncertain schedule K1 Low frequency of buses L1 No information on routes M1 Unclean vehicle N1 No AC availability O1 Noise P1 Bad bus stop / BRT quality	Q1 Low terminal quality R1 Low quality of modes for getting to and from the bus stop/ halte/ terminal S1 Small bus stop/halte/terminal T1 Few buses U1 Bad driving behavior A2 No assistant B2 Unsafe journey to and from the bus stop/ BRT station C2 Unsafe at the bus stop/ on BRT platform D2 Safety in the vehicle E2 Buses are too crowded F2 Bad Lighting G2 No special buses for women H2 No dedicated wheelchair space I2 No Integrated fares for multiple journeys J2 Fare is too expensive K2 Fear from harrassment V1 Others _____
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SECTION TR (Commuting Behavior)

Now we are asking about your commuting behavior **one year ago**

TR19	What were your primary modes of transport one year ago? PLEASE STATE UP TO 3 MODES. START WITH THE MOST USED ONE	_____ A. Railways B. Trans Jakarta C. Patas AC D. Patas E. Regular Bus F. Medium Bus H. Angkot I. Taxi J. Bajaj K. Ojek L. Private Car M. Private Motorcycle N. Private Bicycle O. Company Transport Bus P. School Bus Q. Online transportation (Gojek, Uber) R. Walk
TR20a	Were they different from what you use today?	1.Yes 3.No→TR23
TR20b	Why did you change?	_____
TR21	How long did it take to get to your primary activity using that mode?	_____._____ HOUR / MINUTE
TR22	How much did it cost you to use that mode per day?	_____._____ Rp

TR23	Do you have a Smartphone	1.Yes 3.No→TR25
TR24a	Do you have online transportation application on your phone?	1.Yes 3.No→TR25
TR24b	What online transportation application do you use?	A. Gojek B. Grab C. Uber D. Taxi online V others_____
TR25	How often do you use this online transportation	7. More than once a day 8. Once a day 9. At least 3-4 times per week 10. At least 1-2 times per week 7.Once a week 8 at least once a month 5. Others_____

SECTION CR (Crimes)

Now we would like to ask about criminal activities that you may have experienced.

	CR00a		CR00b
TYPECR1	Do you feel safe traveling in Jakarta using the following mode of transportation: [....] 1. Very safe ; 3. Not save 2. Safe ; 4. Very not safe		Which one is the least safe?
	A. In the day time	B. At night	
A. Train	☐	☐	3. Bus shelter 4. Inside bus/train
B. General bus	☐	☐	
C. Trans Jakarta	☐	☐	
D. Taxi	☐	☐	
E. Ojek	☐	☐	
F. Online transportation	☐	☐	

We are asking about the following crime occurring in public transport:

CRTYPE	A. Pick pocket/ mugging and robbery	B. Verbal harassment	C. Physical sexual harassment	V. Other harassment
CR00. In the past12 months, have you known any victim of [...]?	No 3 Yes 1	No 3 Yes 1	No 3 Yes 1	No 3 Yes 1
CR01. In the past 12 months have you ever experienced [...]?	No 3 → Yes 1	No 3 → Yes 1	No 3 → Yes 1	No 3 → Yes 1
CR02. How many times did you experience [...]?	☐ ☐ times	☐ ☐ times	☐ ☐ times	☐ ☐ times
CR03. Where it happened [...] ?	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
CR04. When did it occurred last [...]?	☐ ☐ / ☐ ☐ ☐ ☐ ☐ Month / Year	☐ ☐ / ☐ ☐ ☐ ☐ ☐ Month / Year	☐ ☐ / ☐ ☐ ☐ ☐ ☐ Month / Year	☐ ☐ / ☐ ☐ ☐ ☐ ☐ Month / Year
CR05. Where did it happened last [...] ?	☐	☐	☐	☐

SECTION CR (Crimes)

CR06. Did you report [..] to the police?	Yes 1 → CR08 No 3	Yes..... 1 → CR08 No..... 3	Yes 1 → CR08 No..... 3	Yes 1 → CR08 No..... 3
CR07. If not, why?	☐ ☐ ☐ ☐ Section P	☐ ☐ ☐ ☐ Section P	☐ ☐ ☐ ☐ Section P	☐ ☐ ☐ ☐ Section P
CR08. What was the outcome of police investigation?	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐

Code CR03/ CR05. A. On the road B. In the busway C. In the bus shelter D. On the train E. Train station F. In the others bus G. Terminal V.Others_____		Code CR07. A. Don't want to aggravate matters B. Concerned of own safety C. Waste of time D. Need to pay money E. Feel ashamed F. Don't trust the police G. Don't know where to report H. Have no money V. Others_____	Code CR08 A. Still investigating B. Perpetrator caught C. Perpetrator arrested D. Money/goods returned W. No action E. Private settlement V. Others_____
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SECTION P (Perception on BRT and Public Transportation)

Now we would like to ask about your perception on BRT in Jakarta.

P01	Do you regularly use TransJakarta BRT?	1.Yes→P01c 3.No
P01b	Why not?	☐ , ☐ , ☐ →P01d W→ P05a
P01c	Please state up to three things you dislike most about using TransJakarta BRT	☐ , ☐ , ☐
P01d	How would you like these improved?	_____
P02	Do you regularly use public bus (e.g Metro Mini, Kopaja, angkot etc) to travel around DKI Jakarta?	1.Yes →P02c 3.No
P02b	Why not?	☐ , ☐ , ☐ →P02d
P02c	Please state up to three things you dislike most about using public bus (such as Metro Mini, Kopaja, Angkot etc)?	☐ , ☐ , ☐
P02d	How you would like these to be improved?	_____
P03	In general, as a BRT rider, how satisfied are you with the performance of the TransJakarta BRT in DKI Jakarta?	5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied. 6 Not Applicable
P04	In general, as a non-BRT bus rider, how satisfied are you with the performance of the public bus in DKI Jakarta ?	5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied. 6 Not Applicable

SECTION P (Perception on BRT and Public Transportation)

Code for P01b, P01c , P02b, and P02c	A1 Slow B1 No Access to and from the bus stop/ BRT station C1 Bad pedestrian infrastructure D1 Feeder bus services are unreliable E1 Payment is not easy F1 Too many transfer/transits G1 No direct routes H1 Not convenience I1 Long waiting time J1 Uncertain schedule K1 Low frequency of buses L1 No information on routes M1 Unclean vehicle N1 No AC availability O1 Noise P1 Bad bus stop / BRT quality	Q1 Low terminal quality R1 Low quality of modes for getting to and from the bus stop/ halte/ terminal S1 Small bus stop/halte/terminal T1 Few buses U1 Bad driving behavior A2 No assistant B2 Unsafe journey to and from the bus stop/ BRT station C2 Unsafe at the bus stop/ on BRT platform D2 Safety in the vehicle E2 Buses are too crowded F2 Bad Lighting G2 No special buses for women H2 No dedicated wheelchair space I2 No Integrated fares for multiple journeys J2 Fare is too expensive K2 Fear from harrassment V1 Others_____ W Never travel
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SECTION P (Perception on BRT and Public Transportation)

P05.a Please rate the following services in order of importance.		1 is the most important and 4 is the least important	
Service Attributes		TransJakarta	Public bus services
a. Journey Time and Access			
b. Journey Quality and Comfort			
c. Safety and Security			
d. Cost			
Code for P05.a	To help respondent understand questions on P05, below is some aspects related to the attributes. Journey Time and Access Time/speed Ease of access to and from the bus stop/ BRT station Pedestrian infrastructure Feeder bus services Ease of payment Ease of entering/ exiting the vehicle Ease of transfer Directness of route Convenience Waiting time Punctuality Frequency Information on routes Journey Quality and Comfort Vehicle quality/ cleanliness AC availability Noise Bus stop / BRT quality Bus terminal quality Quality of getting to and from the bus stop/ halte/ terminal Large bus stop/halte/terminal More buses Driving behavior Availability of assistant (e.g., to announce the next stop loudly)		Safety and security Safety and security to and from the bus stop/ BRT station Safety at the bus stop/ on BRT platform Safety in the vehicle Enforcing maximum number of passenger that ensures safety on a bus Lighting Special buses for women Special seating for woman Dedicated wheelchair space Cost Integrated fares for multiple journeys Set up a maximum fare after a number of journeys

Please evaluate the following public transport by their attributes. How satisfied are you with the following services?

P05.b1. In the past 6 months, have you used [.]	TransJakarta	Patas AC	PATAS	Regular Bus (e.g. Kopaja, Metromini)	Angkot	Taxi	Bajaj	Ojek	Online
	1.Yes 3.No→	1.Yes 3.No→	1.Yes 3.No→	1.Yes	1.Yes 3.No→	1.Yes 3.No→	1.Yes 3.No→	1.Yes 3.No→	1.Yes 3.No→

SECTION P (Perception on BRT and Public Transportation)

				3.No→					
P05b2. How satisfied are you with their services in terms of [.]									
1. Travel speed	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. Cost/fare	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. Punctuality	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. Accessibility	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. Cleanliness inside of the vehicle	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. Noise in the vehicle	☐	☐	☐	☐	☐	☐	☐	☐	☐
7. Safety in the vehicle	☐	☐	☐	☐	☐	☐	☐	☐	☐
8. Air pollution in the vehicle	☐	☐	☐	☐	☐	☐	☐	☐	☐
9. Ride comfort	☐	☐	☐	☐	☐	☐	☐	☐	☐
10. Easy to transfer	☐	☐	☐	☐	☐	☐	☐	☐	☐
11. Staff behaviour (inc. driver)	☐	☐	☐	☐	☐	☐	☐	☐	☐
12. Terminal facilities	☐	☐	☐	☐	☐	☐	☐	☐	☐
13. Crowdedness in the vehicle	☐	☐	☐	☐	☐	☐	☐	☐	☐
14. Frequency	☐	☐	☐	☐	☐	☐	☐	☐	☐
15. Bus stop facilities	☐	☐	☐	☐	☐	☐	☐	☐	☐
16. N of bus stops	☐	☐	☐	☐	☐	☐	☐	☐	☐
17. Travel schedule information	☐	☐	☐	☐	☐	☐	☐	☐	☐

Code for P05b2 : 5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied 6 Not Applicable

SECTION P (Perception on BRT and Public Transportation)

Only asked to respondent who use BRT

P06	Have you travelled in Jakarta using BRT Corridor 6	2. Yes 4. No → P13
P07	When did you travel using BRT Corridor 6 last?	/ / Date / Month / Year
P08	For what purpose did you use BRT Corridor 6 : STATE UP TO 3 PURPOSES	A. Office/work B. School C. Shopping D. Social activities E. Family care (e.g. taking child to school) F. Eating out G. Leisure V. Other
P09	How safe do you feel while travelling on BRT Corridor 6?	5. Very safe 6. Safe 7. Not safe 8. Very not safe
P10	Compared to other public transportation, in your opinion, do you think BRT is	4. safer 5. safe 6. less safe
P11	Prior to using BRT Corridor 6 what type of transport mode did you use	
P12	On average, how long do you typically wait for the bus in the shelter of the BRT Corridor 6	minutes → P14
P13	Have you travelled in Jakarta using BRT?	2. Yes 3. No → Next Section
P14	Do you generally feel that it is too hot inside the BRT shelters?	1. Yes 3. No
P15	Do you generally feel that BRT shelter provide enough space during peak hours?	1. Yes 3. No
P16	Did you increase your trip using BRT after the policy on separated seating was implemented?	1. Highly increase 2. Increase 3. Same 4. Decrease

Code P11	
A. Railways B. Trans Jakarta C. Patas AC D. Patas E. Regular Bus (Kopaja, Metromini) F. Medium Bus	H. Angkot I. Taxi J. Bajaj K. Ojek L. Private Car M. Private Motorcycle N Private bicycle O. Company Transport Bus P. School Bus Q. Online transportation (Gojek, Uber) R. Walk

SECTION KK (HEALTH CONDITIONS)

Now we would like to know your physical ability in daily activity. **Physical Functioning Measures**

	If you had [...], could you do it:		
KK01. To carry a heavy load (like a pail of water) for 20 meters	1. Easily	3. With difficulty	5. Unable to do it
KK02. To draw a pail of water from a well	1. Easily	3. With difficulty	5. Unable to do it
KK03. To walk for 1 kilometer	1. Easily	3. With difficulty	5. Unable to do it
KK04. To walk for 5 kilometers	1. Easily	3. With difficulty	5. Unable to do it
KK05. To sweep the house floor yard	1. Easily	3. With difficulty	5. Unable to do it
KK06. To bow, squat, kneel	1. Easily	3. With difficulty	5. Unable to do it
KK07. To walk across the room	1. Easily	3. With difficulty	5. Unable to do it
KK08. To stand up from sitting on the floor without help	1. Easily	3. With difficulty	5. Unable to do it
KK09. To stand up from sitting position in a chair without help	1. Easily	3. With difficulty	5. Unable to do it
KK10. To reach or extend your arms above shoulder level	1. Easily	3. With difficulty	5. Unable to do it
KK11. To pick up a small coin from a table	1. Easily	3. With difficulty	5. Unable to do it
KK12. To see, even if wearing glasses	1. Easily	3. With difficulty	5. Unable to do it
KK13. To hear, even if using a hearing aid	1. Easily	3. With difficulty	5. Unable to do it
KK14. To remember or concentrate	1. Easily	3. With difficulty	5. Unable to do it
KK15. To communicate, for example understanding or being understood	1. Easily	3. With difficulty	5. Unable to do it
KK16. CAPI CHECK: ALL KK01-KK15 = 1?	1. YES → KK23	3. NO	

Activities of Daily Living (ADL)

KK17. To dress without help	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK18. To bathe	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK19. To get out of bed	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK20. To eat (eating food by oneself when it is ready)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK21. To control urination or defecation	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK22. To restrain urination or defecation	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it

SECTION KK (HEALTH CONDITIONS)

Instrumental Activities of Daily Living (IADL)

KK23. To shop for personal needs	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK24. To prepare hot meals (preparing ingredients, cooking, and serving food)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK25. To take medicine (taking right portion right on time)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK26. To do household chores (house cleaning, doing dishes, making the bed, and arranging the house)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK27. To shop for groceries (deciding what to buy and pay for it)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it
KK28. To manage your money (paying your bills, keeping track of expenses, or managing assets)	1. Easily	3. With difficulty	4. Can do with help	5. Unable to do it

SECTION D (DISABILITY)

Questions for disabled person

DXX	CAPI Check COV02x==1	1 Yes 3 No → Next section
D00X	Is your current disability [...] ?	1. Permanent 3. Temporary 8. Do not know
D01a	Are you a member of any disability organization?	1 Yes 3 No → D02
D01b	What is the name of the organization/group?	_____
D01c	Do you think the association/group in which you are member have met your needs	1 Yes 3 No → D01e
D01d	In what way?	_____ → D02
D01e	Why?	_____
D02	According to you, in general how well does the current transportation system (transit, pedestrian, bus, and others) meet your needs?	1. very well 2. Well 3. Not well 4. Not at all
D03	According to you, how well does the current BRT system meet your transportation needs? This question is also asked to person who never use BRT	1. very well 2. Well 3. Not well 4. Not at all
D04	Do you regularly travel alone?	1. Yes → D06 3. No
D05	Have you ever traveled alone?	1. Yes 3. No
D06	Do you always need someone to assist you when you travel?	1. Yes 3. No
D06a	What kinds of specialized assistance or equipment do you need to travel outside the home?	_____

D07	What is your main transportation mode to getting places you need to go?	see code D07
D08	Do you have a free- BRT card?	1 Yes 3 No
D09	Do you experience any of the following barriers to getting where you need to go	No public transportation A No Priority seating in bus B Public transportation cost C Crossing street D No (bad) sidewalks E Too much traffic F Pavement condition G No assistant in public space H Others _____ V
D09a	What kinds of difficulties do you have in getting the transportation you need?	_____ _____

Code D07	
A. Railways	K. Ojek
B. Trans Jakarta	L. Private Car
C. Patas AC	M. Private Motorcycle
D. Patas	N. Private Bicycle
E. Regular Bus	O. Company Transport Bus
F. Medium Bus	P. School Bus
H. Angkot	Q. Online transportation (Gojek, Uber)
I. Taxi	R. Walk
J. Bajaj	

SECTION D (DISABILITY)

D10	If the government does the following [], are you willing to travel alone	
A	Reduce transportation fare	1. Yes 3. No
B	Provide more priority seating	1. Yes 3. No
C	Provide special transport (including special feeder bus)	1. Yes 3. No
D	Provide assistant in Bus	1. Yes 3. No
E	Provide clear sign & Information in the form of text/written signs	1. Yes 3. No
F	Provide clear sign & Information in the form of voice	1. Yes 3. No
G	Improve bus design accommodating people with disabilities	1. Yes 3. No
H	Provide assistance in public space	1. Yes 3. No
I	Provide barrier-free facility at stop/station	1. Yes 3. No
J	Provide Barrier-free sidewalks	1. Yes 3. No
K	Provide special training for assistants to help disabled person	1. Yes 3. No

SECTION IK (INFORMATION ON REPEAT VISIT))

D11	If the government does the following [], are you going to increase your trips	
A	Reduce transportation fare	1. Highly increase 2. Increase 3. Same 4. Decrease
B	Provide more priority seating	1. Highly increase 2. Increase 3. Same 4. Decrease
C	Provide special transport (including special feeder bus)	1. Highly increase 2. Increase 3. Same 4. Decrease
D	Provide assistant in Bus	1. Highly increase 2. Increase 3. Same 4. Decrease
E	Provide clear sign & Information in the form of text/written signs	1. Highly increase 2. Increase 3. Same 4. Decrease
F	Provide clear sign & Information in the form of voice	1. Highly increase 2. Increase 3. Same 4. Decrease
G	Improve bus design accommodating people with disabilities	1. Highly increase 2. Increase 3. Same 4. Decrease
H	Provide assistance in public space	1. Highly increase 2. Increase 3. Same 4. Decrease
I	Provide barrier-free facility at stop/station	1. Highly increase 2. Increase 3. Same 4. Decrease
J	Provide Barrier-free sidewalks	1. Highly increase 2. Increase 3. Same 4. Decrease
K	Provide special training for assistants to help disabled person	1. Highly increase 2. Increase 3. Same 4. Decrease
D11a	What should government prioritize to help you travel outside home?	_____

SECTION IK (INFORMATION ON REPEAT VISIT))

IK1.	In the future, we will visit this household again. You might not be here at that time. Could you tell us name of friend/family member who can tell us where you are?		
	Name _____ :		
	Address: _____		
	Telephone number: A. Home -		
	B. Cellphone number: belonging to _____		
	C. Cellphone number: belonging to _____		
	W. NA Y.DK		

IK2.	If you move, where do you move to?	1. Move ↓	6. NOT MOVE → CP 8. DON'T KNOW → CP
		1. Not same ↓	
	5. Village:	1	3. Same → CP 8. DON'T KNOW
	6. Subdistrict:	1	3. Same → CP 8. DON'T KNOW
	7. District:	1	3. Same → CP 8. DON'T KNOW
	8. Province:	1	3. Same → CP 8. DON'T KNOW
	5. Country:	1	3. Same → CP 8. DON'T KNOW

SECTION CP (INTERVIEWER SESSION NOTE)

C1.RESULT OF INTERVIEW OF BOOK II	C2.REASON CODE FOR ANSWER "3"/"2" ON C1	C4. SUPERVISOR MONITORING		
1. Completed→C4 2. Partially completed 3. Not completed	1. Respondent was not at home/not available 2. Respondent was seriously ill 3. Respondent refused (to be interviewed) 5. Other:		Yes	No
		a. Observed	1	3
		b. Edited	1	3
		c. Verified	1	3

CP1. WHO ELSE (OTHER PERSONS) BESIDES RESPONDENT WAS PRESENT DURING THE INTERVIEW? ANSWER MAY BE MORE THAN ONE. A. NO ONE B. A CHILD 5 YEARS OLD OR UNDER C. A CHILD OLDER THAN 5 YEARS OLD D. HUSBAND/WIFE E. AN ADULT, A HOUSEHOLDER F. AN ADULT, NOT A HOUSEHOLDER	CP2. WHAT IS YOUR EVALUATION OF THE ACCURACY OF RESPONDENT'S ANSWERS? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD	CP3. WHAT IS YOUR EVALUATION ON THE SERIOUSNESS AND ATTENTIVENESS OF THE RESPONDENT? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD
NOTE:		

Appendix E. Rider Survey Questionnaire

INTERVIEWER :

HHID: PID

CONFIDENTIAL

**Survey to Assess the Role of Bus-Related Policy Interventions in Female Labour Force Participation and Mobility of the
Disabled in Jakarta
(BASELINE)**

BOOK: RIDER

SECTION: KI, TR, P, TK, CP

Respondent is a person, aged 15-65 Years and using Corridor 6 or BRT non Corridor 6 or Non BRT

COV00x.	RESPONDENT INTERVIEWED?	1. Yes 3. No → C1
COV01x.	RESPONDENT IS RIDER OF:	10. Corridor 6 BRT 11. Non-corridor 6 BRT 12. Non-BRT bus
COV02x.	INTERVIEWED LOCATION	1. In the bus shelter 2. Outside bus shelter 3. Inside busway

COV00x. Informed consent

Good morning/afternoon/evening,

My name is _____. I am from SurveyMeter, an independent research organization based in Yogyakarta. We are currently conducting the survey of TransJakarta users. Our survey is intended to investigate the impact of transportation on labour force participation and identify policy reform required to improve public transportation.

We will offer a gift Rp 50,000 as a token of appreciation for your time. For detailed information please look at the following show card.

Jakarta , Date Month Year 2017

Interviewer Signature

Interviewer Name

Interviewer : After you hear my explanation, are you willing to participate in this survey?

I am willing to participate: ☐ **interview**

SECTION KI (INDIVIDUAL CHARACTERISTICS)

We would like to ask about your background

KI01	Do you live in DKI Jakarta?	1.Yes 3.No →stop			
KI01b	Area of residence?	a. Kab/kota : _____ b. Kec : _____ c. Desa/Kel : _____			
KI02	Is your journey today a regular journey that you do at least once a week?	1.Yes 3.No			
KI03	Name	_____			
KI04	Age	<table><tr><td> </td><td> </td><td> </td></tr></table>			
KI04a	Sex	1. Male 3.Female			

SECTION TR (Commuting Behavior)

Now we are asking about your regular travel. Please describe types of travel you regularly take every week (please select Please

TR01	Indicate purpose of this trip: [....]	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6 Eating out 7. Leisure 8. Medical reason/check up 9. Looking for job 10. Home 95 Other
TR01x	CAPI CHECK TR01 = 10	1. Yes → TR01b 3.No → TR02
TR01b	The main purpose of the trip from home IF THERE ARE MORE THAN ONE, PICK THE MAIN TRIP	1. Office/work 2. School 3. Shopping 4. Social activities 5. Family care (e.g. taking child to school) 6 Eating out 7. Leisure 8. Medical reason/check up 9. Looking for job 95 Other
TR02	How frequent this(these) trip(s) per week?	
TR03	Main mode used MAXIMUM 3 MODES	
TR04	Reason(s) for choosing this mode (SHOW CARD)	
TR05	Level of travel satisfaction with this mode	5. Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied.

TR06	Where was your starting point of	Address ?
------	----------------------------------	-----------

	this trip?	
TR07	How did you access the BRT station/ bus stop or terminal from your starting point?	
TR07x	Entry bus shelter	
TR07y	Exit bus shelter	
TR08	Once you reach your final TransJakarta BRT station/ bus stop or terminal, how will you get to your final destination?	
TR09	Mention up to 3 reasons why you chose BRT/ bus to take this journey today instead of another mode..... (SHOW CARD)	

Code TR03

- | | | |
|---|--|--|
| A. Railways
B. Trans Jakarta
C. Patas AC
D. Patas
E. Regular Bus (Kopaja, Metromini)
F. Medium Bus | H. Angkot
I. Taxi
J. Bajaj
K. Ojek
L. Private Car
M. Private Motorcycle
N. Private Bicycle | O. Company Transport Bus
P. School Bus
Q. Online transportation (Gojek, Uber)
R. Walk
S. Transjakarta-Kopaja |
|---|--|--|

TR07 and TR08

- | | | |
|---|--|---|
| 1. Railways
2. Trans Jakarta
3. Patas AC
4. Patas
5. Regular Bus (Kopaja, Metromini)
6. Medium Bus | 7. Angkot
8. Taxi
9. Bajaj
10. Ojek
11. Private Car
12. Private Motorcycle
13. Private Bicycle | 14. Company Transport Bus
15. School Bus
16. Online transportation (Gojek, Uber)
17. Walk
18. Transjakarta-Kopaja |
|---|--|---|

SECTION P (Perception on BRT and Public Transportation)

Now we want to ask about your perception on BRT and public transportation?

P01	Do you regularly use TransJakarta BRT?	1.Yes→P01c 3.No
P01b	Why not (please give us 3 reasons)?	, , →P01d
P01c	Please state up to three things you dislike most about using TransJakarta BRT	
P01d	How would you like these to be improved?	
P02	Do you regularly use public bus (e.g Metro Mini, Kopaja, angkot etc) to travel around DKI Jakarta?	1.Yes →P02c 3.No
P02b	Why not (please give us 3 reasons)?	, , →P02d
P02c	Please state up to three things you dislike most about using public bus	
P02d	How would you like these to be improved?	
P03	In general, as a BRT rider, how satisfied are you with the performance of the TransJakarta BRT in DKI Jakarta	5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied. 6. Not Applicable
P04	In general, as a non-BRT bus rider, how satisfied are you with the performance of the public bus in DKI Jakarta ?	5.Very satisfied 4. Satisfied 3. Adequate 2. Unsatisfied 1. Very Unsatisfied. 6. Not Applicable

SECTION P (Perception on BRT and Public Transportation)

Code for TR04 and TR09	A. Travel speed B. Cost/fare C. Punctuality D. Accesibility E. Cleanness in the vehicle F. Noise in the vehicle G. Safety in the vehicle H. Air pollution in the vehicle I. Ride comfort	J. Easy to transfer K. Staff behavior (inc. driver) L. Terminal facilities M. Crowdedness in the vehicle N. Frequency O. Bus stop facilities P. No of bus stop Q. Information R. Air Conditioning S. Travel Schedule V Others_____
Code for P01b P01c, P02b and P02c	A1 Slow B1 No Access to and from the bus stop/ BRT station C1 Bad pedestrian infrastructure D1 Feeder bus services are unreliable E1 Payment is not easy F1 Too many transfer/transits G1 No direct routes H1 Not convenience I1 Long waiting time J1 Uncertain schedule K1 Low frequency of buses L1 No information on routes M1 Unclean vehicle N1 No AC availability O1 Noise P1 Bad bus stop / BRT quality	Q1 Low terminal quality R1 Low quality of modes for getting to and from the bus stop/ halte/ terminal S1 Small bus stop/halte/terminal T1 Few buses U1 Bad driving behavior A2 No assistant B2 Unsafe journey to and from the bus stop/ BRT station C2 Unsafe at the bus stop/ on BRT platform D2 Safety in the vehicle E2 Buses are too crowded F2 Bad Lighting G2 No special buses for women H2 No dedicated wheelchair space I2 No Integrated fares for multiple journeys J2 Fare is too expensive K2 Fear from harrassment V1 Others_____

SECTION P (Perception on BRT and Public Transportation)

P05a. Please rate the following services in order of importance.

1 is the most important and 4 is the least important

Service Attributes	TransJakarta	Public bus services
SHOWCARD		
a. Journey Time and Access		
b. Journey Quality and Comfort		
c. Safety and Security		
d. Cost		

To help respondent understand questions on P05, below is some aspects related to the attributes.

Overall Journey Time and Access Time/speed Ease of access to and from the bus stop/ BRT station Pedestrian infrastructure Feeder bus services Ease of payment Ease of entering/ exiting the vehicle Ease of transfer Directness of route Convenience Waiting time Punctuality Frequency Information on routes
Journey Quality and Comfort Vehicle quality/ cleanliness AC availability Noise Bus stop / BRT quality Bus terminal quality Quality of getting to and from the bus stop/ halte/ terminal

Large bus stop/halte/terminal More buses Driving behavior Availability of assistant (e.g., to announce the next stop loudly)
Safety and security Safety and security to and from the bus stop/ BRT station Safety at the bus stop/ on BRT platform Safety in the vehicle Enforcing maximum number of passenger that ensures safety on a bus Lighting Special buses for women Special seating for woman Dedicated wheelchair space
Cost Integrated fares for multiple journeys Set up a maximum fare after a number of

SECTION Q (Late Night Transportation)

Q1.	If you travel at late night, such as 22:00 or beyond, what is your main transportation?	1. Railways 2. Trans Jakarta 3. Patas AC 4. Patas 5. Regular Bus (Kopaja, Metromini) 6. Medium Bus 7. Angkot 8. Taxi 9. Bajaj 10. Ojek 11. Private Car 12. Private Motorcycle 13. Private Bicycle 14. Company Transport Bus 15. School Bus 16. Online transportation (Gojek, Uber) 17. Walk 95. Other _____ 96. Never travel late night
Q1x	As you may know that BRT operational hours is 5:00 – 22:00. Do you think BRT needs to extend its operational hours?	1. Yes 3. Now
Q2.	If there is BRT bus that operates after 22:00, are you going to choose BRT?	1. Yes → KI05 3. No

Q3.	Why do not you use BRT?	1. It is unsafe in bus 2. It is unsafe at bus shelter 3. It is unsafe in journey from/to bus shelter 4. Look for direct and fastest route 5. Other 6. Never travel late night
Q4.	CAPI CHECK : KI04a. Sex	1. Male → KI05 3. Female
Q5.	If there is special BRT bus for woman that operates 22:00 and after, are you going to use it?	1. Yes 3. No

KI05	Number of HH Size	□□
KI06	Education : Highest Level of Schooling completed	□□
KI07	Marital status	□□
KI08a	Monthly income	□□.□□□.□□□ Rp
KI08b	HH monthly expenditure	□□.□□□.□□□ Rp
KI09	Do you or your family member in your HH own 1. car 2. motorcycle	1.Yes 3.No 1.Yes 3.No CAPI CHECK: IF BOTH KI09 = 3→KI10
KI09a	How many?	□□ car □□ motorcycle
KI10	Do you have a smartphone?	1.Yes 3.No→K11c
K11a	Do you have online transportation application on your phone?	1.Yes 3.No→ K11c
KI11b	What online transportation application do you use?	A. Gojek B. Grab C. Uber D. Taxi online V. Others
KI11C	How often do you use this online transportation	11. More than once a day 12. Once a day 13. At least 3-4 times per week 14. At least 1-2 times per week 7.Once a week 8.At least once a month 15. Others _____ 6.Not applicable
KI12	What was your main activity in the last week?	1. Working full time (more than 40 hours a week)

Code KI06	01. No/Not yet in school 02.Elementary school 03.Junior high - general 04.Senior high - general 05.College D1, D2, D3 98.DON'T KNOW 95.OTHERS
Code KI07	1. Not married 2. Married 3. Separated 4. Divorced 5. Widow/er 6. Cohabitate 8. Don't Know

SECTION CP (INTERVIEW SESSION NOTES)

C1.RESULT OF INTERVIEW OF BOOK II	C2.REASON CODE FOR ANSWER “3”/”2” ON C1	C4. SUPERVISOR MONITORING	
1. Completed→C4 2. Partially completed 3. Not completed	1. Respondent was not at home/not available 2. Respondent was seriously ill 3. Respondent refused (to be interviewed) 5. Other:	a. Observed b. Edited c. Verified	Yes No 1 3 1 3 1 3

CP1. WHO ELSE (OTHER PERSONS) BESIDES RESPONDENT WAS PRESENT DURING THE INTERVIEW? ANSWER MAY BE MORE THAN ONE. A. NO ONE B. A CHILD 5 YEARS OLD OR UNDER C. A CHILD OLDER THAN 5 YEARS OLD D. HUSBAND/WIFE E. AN ADULT, A HOUSEHOLDER F. AN ADULT, NOT A HOUSEHOLDER	CP2. WHAT IS YOUR EVALUATION OF THE ACCURACY OF RESPONDENT’S ANSWERS? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD	CP3. WHAT IS YOUR EVALUATION ON THE SERIOUSNESS AND ATTENTIVENESS OF THE RESPONDENT? 1. EXCELLENT 2. GOOD 3. FAIR 4. NOT SO GOOD 5. VERY BAD
NOTE:		

Appendix F. Study Implementation

For each selected RT, based on information from RT head or RT activist, we conducted a listing of the households that live within each RT containing a female aged 15-65 or a disabled person aged 15-65. This listing exercise was a “mini-census”, created by conducting a quick 1-2 page questionnaire. The listing questionnaire determines whether eligible females live in the household, whether or not they are working, or/and whether there are disabled persons in the household. In addition, the form includes questions about whether the households know of any other eligible households in the RT with at least one eligible female or disabled person in the household. This listing process was conducted because we expected that RT heads would not be able to provide up to date, accurate information about who lives in the RT. In total, we attempted to interview 6,980 households for the listing exercise, but only 5,718 households were willing to respond to the survey, yielding an overall response rate of 81.9 percent. Table F.1 breaks this response rate down by *kelurahan* and by survey area. On the whole, our highest response rates were found in the Non-Corridor 6 BRT area, with an overall response rate of 88.3 percent; some *kelurahan* in these areas had response rates of over 90 percent. Our lowest response rates were found in the Non-BRT bus areas, with an overall response rate of 71.3 percent.

Table F.1: Listing Response Rate by Kelurahan and Survey Area, Household Survey

Panel A: Corridor 6				
BPS Code (2010)	Kelurahan	Total HH Listed	Total HH Interviewed	Listing Response Rate
3171020002	Ragunan	458	408	0.891
3171020005	Jati Padang	270	260	0.963
3171070001	Bangka	390	314	0.805
3171070003	Tegal Parang	597	507	0.849
3171070004	Mampang Prapatan	440	297	0.675
3171070005	Kuningan Barat	257	248	0.965
3171080001	Kalibata	498	374	0.751
3171090001	Menteng Dalam	447	398	0.890
	Overall	3357	2806	0.836
Panel B: Non-Corridor 6 BRT				
BPS Code (2010)	Kelurahan	Total HH Listed	Total HH Interviewed	Listing Response Rate
3172060002	Cipinang Cempedak	245	201	0.820

3174010002	Srengseng	463	443	0.957
3174010006	Kembangan Utara	840	686	0.817
3174020002	Sukabumi Utara	393	383	0.975
Overall		1941	1713	0.883

Panel C: Non-BRT Bus

BPS Code (2010)	Kelurahan	Total HH Listed	Total HH Interviewed	Listing Response Rate
3171010003	Ciganjur	514	378	0.735
3171030002	Pondok Labu	474	302	0.637
3171030004	Gandaria Selatan	332	259	0.780
3171040003	Ulujami	362	260	0.718
Overall		1682	1199	0.713

NOTE: Authors' calculations from the listing survey. In each *kelurahan*, 5 RT were chosen randomly for the listing exercise, using the procedure described above.

Surveying Females and Disabled Persons within Households

After conducting the listing exercise, we used the random sampling procedure in our CAPI software to randomly sample households within *kelurahan*. For each randomly selected household, we used the listing data to randomly select one female within the household that matched the age criteria (18-65 years old). Then, we revisited households and attempted to conduct the household and individual-level interviews. However, some households refused to participate or were not home when we tried to interview them, so they were replaced with another household. Overall, we made 1,440 attempts to contact households, but only 1,064 successfully responded, leading to an overall household response rate of 73.89 percent. Table F.2 summarizes this household response rate by *kelurahan* and survey area.

Table F.2: Household Survey Response Rate, by Kelurahan and Survey Area

Panel A: Corridor 6				
BPS Code (2010)	Kelurahan	Total HH Survey Attempts	Total HH Survey Responses	HH Response Rate
3171020002	Ragunan	76	67	0.882
3171020005	Jati Padang	71	66	0.930
3171070001	Bangka	113	68	0.602
3171070003	Tegal Parang	98	69	0.704
3171070004	Mampang Prapatan	86	65	0.756
3171070005	Kuningan Barat	80	69	0.863
3171080001	Kalibata	86	65	0.756

3171090001	Menteng Dalam	83	67	0.807
Overall		693	536	0.773
Panel B: Non-Corridor 6 BRT				
BPS Code (2010)	Kelurahan	Total HH Survey Attempts	Total HH Survey Responses	HH Response Rate
3171010003	Ciganjur	102	67	0.657
3171030002	Pondok Labu	88	66	0.750
3171030004	Gandaria Selatan	87	64	0.736
3171040003	Ulujami	89	66	0.742
Overall		366	263	0.719
Panel C: Non-BRT Bus				
BPS Code (2010)	Kelurahan	Total HH Survey Attempts	Total HH Survey Responses	HH Response Rate
3172060002	Cipinang Cempedak	101	66	0.653
3174010002	Srengseng	84	65	0.774
3174010006	Kembangan Utara	78	68	0.872
3174020002	Sukabumi Utara	118	66	0.559
Overall		381	265	0.696

NOTE: Authors' calculations from the listing survey. In each kelurahan, 5 RT were chosen randomly for the listing exercise, using the procedure described above.

On the whole, our highest response rates to the household survey were from the Corridor 6 BRT area, with an overall response rate of 77.3 percent. As in the listing survey, our lowest response rates were found in the Non-BRT bus areas, with an overall response rate of only 69.6 percent.

Process to Identify and Sample Respondents with Disabilities

We sought to interview 50 disabled respondents (men and women) in the survey. We used a three-stage process to identify respondents with disabilities. First, when we conducted the listing for the female respondents at the RT level, we also use the opportunity to ask a screening question to find any disabled household member, using our working definition of disability. If a household was known to have a disabled household member, we asked the RT which broad categorization the individuals belong to. We then visit the household and confirm with the household head (or whoever answers the household book) whether there are members with disability, again using the same definition. When we meet the individual, the survey evaluates whether the individual indeed has a disability. This is done visually but also by confirming to the individual directly or by talking to another household member/caretaker.

In some cases, the randomly selected female households also contained a disabled person who would then be added to the list of disabled persons. When we randomly drew the sample

for respondents with disability, 10 of the 52 disabled respondents we ended up interviewing were from households where we also interviewed a female member.

Final Sample Results

For the household survey, our final sample sizes of non-disabled females and disabled individuals (males or females) appears in Table F.3. Roughly half of the sample is from the Corridor 6 *kelurahan*, while 25 percent is from the Non-Corridor 6 BRT *kelurahan*, and the final 25 percent is from the Non-BRT bus *kelurahan*.

Table F.3: Final Sample Sizes

Panel A: Corridor 6				
BPS Code (2010)	Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
3171020002	Ragunan	63	4	67
3171020005	Jati Padang	65	2	67
3171070001	Bangka	66	2	68
3171070003	Tegal Parang	64	6	70
3171070004	Mampang Prapatan	64	2	66
3171070005	Kuningan Barat	64	5	69
3171080001	Kalibata	63	5	68
3171090001	Menteng Dalam	63	5	68
	Total	512	31	543
Panel B: Non-Corridor 6 BRT				
BPS Code (2010)	Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
3171010003	Ciganjur	65	3	68
3171030002	Pondok Labu	65	3	68
3171030004	Gandaria Selatan	64	0	64
3171040003	Ulujami	65	1	66
	Total	259	7	266
Panel C: Non-BRT Bus				
BPS Code (2010)	Kelurahan Name	Total Non-Disabled Females	Total Disabled	Total Interviews
3172060002	Cipinang Cempedak	63	7	70
3174010002	Srengseng	65	0	65
3174010006	Kembangan Utara	65	4	69
3174020002	Sukabumi Utara	64	3	67
	Total	257	14	271
TOTAL SAMPLE SIZE		1028	52	1080

Table F.4: Respondents' burden, Household Survey

	HH Book		Individual Book		HH + Individual Books	
	Mean	Median	Mean	Median	Mean	Median
By employment status						
0=Not Employed	25.2	24.0	39.1	37.0	64.3	62.0
1=Employed	25.2	24.0	48.2	47.0	73.4	71.0
Total	25.2	24.0	44.2	43.0	69.4	68.0
By survey area						
Corridor 6	26.7	25.0	47.4	47.0	74.1	71.0
Non-BRT Bus Non-Corridor 6	22.4	22.0	38.8	39.0	61.2	59.0
BRT	24.9	24.0	43.0	41.0	67.9	66.0
By kelurahan						
3171010003	21.2	21.0	39.3	39.0	60.6	59.0
3171020002	27.5	27.0	58.7	59.0	86.2	85.0
3171020005	30.0	27.0	46.8	44.0	76.8	72.0
3171030002	20.3	19.0	30.0	28.0	50.3	49.0
3171030004	22.7	22.0	43.4	43.5	66.1	65.5
3171040003	25.5	25.0	42.8	41.0	68.3	68.5
3171070001	23.5	23.0	47.9	48.0	71.4	69.0
3171070003	30.8	30.0	53.3	55.0	84.1	85.0
3171070004	23.8	23.0	46.0	46.0	69.8	68.5
3171070005	29.7	27.0	50.1	48.0	79.8	79.0
3171080001	27.6	25.0	43.3	44.0	70.9	71.0
3171090001	20.5	20.0	33.1	31.0	53.6	51.0
3172060002	28.3	28.0	48.0	46.0	76.3	75.0
3174010002	23.4	22.0	43.4	42.0	66.7	64.0
3174010006	24.3	24.0	44.4	43.0	68.6	67.0
3174020002	23.6	22.0	35.9	32.0	59.4	57.0
By age group						
15-24	25.1	24.0	43.7	43.0	68.7	69.0
25-34	23.5	22.0	44.5	43.0	68.0	66.0
35-44	25.5	24.0	45.8	44.0	71.2	69.5
45-54	25.8	24.0	41.6	39.0	67.4	64.0
55+	27.8	25.0	44.4	45.0	72.2	69.0
Total	25.2	24.0	44.2	43.0	69.4	68.0

Rider Survey: Survey Implementation

The Rider Survey on the BRT buses was conducted between 21-25 February 2017 by 12 enumerators who were deployed on different buses in the selected routes.⁵⁶ All enumerators were issued ID cards by TransJakarta that allow them to move freely between stations and buses. The IDs proved to be useful not only for identifying the enumerators to bus drivers and station managers, but also to obtain consent from BRT passengers to be interviewed.⁵⁷

The Rider Survey on BRT buses was conducted in four different times of day: morning peak hours, between 6 to 9 AM, morning off-peak hours between 9 AM to noon, afternoon off-peak hours between 1 PM and 3.30 PM, and afternoon/evening peak hours between 4.30 PM and 7 PM, with the goals of capturing different types of riders throughout the day. No one was interviewed between 7 PM and until the time when most of the BRT routes stop operating at 10 PM, so the survey is limited in terms of what it can say about the evening or late night use of the BRT.

Our enumerators were instructed to take a position within a few seats from but not too far from the door. We did not have a protocol for randomly selecting the passengers to be interviewed (for example, to interview the n -th person that came on board the bus). Rather, the enumerators were instructed to interview the person sitting or standing close to them. When the interview is over, they were instructed to find another person to interview. Each enumerator had a certain number of target respondents in each of the four time slots.

Before the interview started, we asked a few filter questions were asked to filter out respondents who were not DKI Jakarta residents and respondents who would only be on the bus for very short time, since the interview could take up to 20 minutes. Informed consent was obtained and the interviews were conducted using tablets.

We did not have a systematic way to record non-responses in the Rider Survey; this would have required collecting data on all started and refused interviews, and this was deemed too cumbersome by the enumerators. However, during the debriefing, our enumerators reported that in general people were willing to be interviewed, especially during the second and third time slots (off-peak hours). During the morning peak hour, the packed buses made interviews more challenging. During the off-peak hours, more non-regular users of BRT were on board and thus ineligible to be interviewed.

The Rider Survey on non-BRT buses was conducted on 27-28 February 2017. As discussed above, this part of the survey was conducted in bus terminals and bus stops. Permissions to conduct interviews in terminals were obtained from *UP Terminal* (Bus Terminal Management Unit) under *Dinas Perhubungan* (Transportation Office) of DKI Jakarta Province.

In bus terminals (Blok M, Pasar Minggu, and Lebak Bulus), enumerators were told to position themselves close to where the buses that overlap with Corridor 6 stops to drop off

⁵⁶ As explained in the Final Survey Design report, interviews with BRT passengers were much more effective when they were conducted in buses rather than in bus stations where people were always on the move.

⁵⁷ Note that TransJakarta station managers and drivers were briefed by TransJakarta about the survey a week before the fieldwork started.

and pick up passengers. In bus stops, interviews were conducted with those waiting for the bus. Similar to the survey on BRT buses, the interviews were also conducted in four different times of day. The morning peak hours proved to be the most challenging time slots since people were in rush to go to work.

Final Sample Results and Length of Interviews

Table F.5 shows the sample sizes of the Rider Survey by gender and time of interview.

Table F.5: Sample Sizes by Location and Time of Interview

Location and time of interview	Male	Female
Corridor 6 BRT buses		
06:00-08:59	25	25
09:00-11:59	25	25
13:00-15:30	25	25
16:30-18:59	25	25
Non-Corridor 6 BRT buses		
06:00-08:59	26	26
09:00-11:59	24	24
13:00-15:30	24	24
16:30-18:59	26	26
Non-BRT bus stations/bus stops		
06:00-08:59	13	13
09:00-11:59	12	8
13:00-15:30	13	15
16:30-18:59	12	14
Total	500	500

The Rider Survey was intentionally designed to be a short interview of no more than 30 minutes. The data shows that on average, the survey took around 18 minutes. The interviews conducted in Corridor 6 buses took a little bit shorter (16.6 minutes) while interview in non-BRT buses on average took almost 20 minutes (Table F.6).

Table F.6 Length of Interviews (in Minutes)

	Mean	Std. Dev.
By gender		
Male	18.2	10.2
Female	18.1	18.2
By corridor		
Corridor 6 BRT	16.6	9.5
Non-Corridor 6 BRT	18.8	8.0
Non-BRT	19.9	27.8
By employment status		
Full time employed	18.3	16.6
Part time employed	21.1	15.3
Care - full time	19.8	4.4
Student - full time	16.1	5.0
Unemployed - temp.	17.5	3.2
Unemployed - other	12.7	3.1
All	18.1	14.7

Appendix G. Household and Labor Market Outcomes

Household Level Socio-Demographic Characteristics

The household module of our survey records socio-demographic information for the 1,065 households that were sampled in the Corridor 6 survey area ($N = 536$), the non-Corridor 6 BRT area ($N = 265$), and the non-BRT bus survey area ($N = 263$). However, in our individual-level surveys, we only recorded information for females living in these households that are 15-65 years old ($N = 1,056$).

In Table G.1, we provide key summary statistics for household characteristics. The first column lists the variables summarized, while the second reports the overall mean and standard deviation (in parentheses) of the variable listed in the row title. The next three columns report the mean and standard deviation separately for the three different study areas in our sample. On average, households in our sample contain just over 4 household members.

Table G.1: Household Demographic Characteristics

	Overall	Corridor 6	Non-Corridor 6	Non-BRT Bus
Number of household members	4.23 (1.65)	4.22 (1.61)	4.36 (1.97)	4.10 (1.36)
Age (all members)	30.19 (10.04)	30.58 (9.92)	29.33 (9.68)	30.25 (10.59)
Age (adults 18+)	39.15 (7.75)	39.65 (7.92)	38.52 (7.33)	38.78 (7.78)
Households with a child below 5	0.10 (0.14)	0.09 (0.14)	0.12 (0.14)	0.11 (0.15)
Years of schooling (adults 18+)	10.84 (3.03)	10.77 (3.03)	11.01 (3.03)	10.8 (3.04)
Female household head (share)	0.11 (0.32)	0.12 (0.32)	0.13 (0.34)	0.08 (0.28)

NOTE: This table reports means and standard deviations (in parentheses) of various household demographic characteristics. Means in the "All" are based on 1,064 observations, means in the "Corridor 6" column are based on 536 observations, means of the "Non-Corridor 6" column are based on 265 observations, and means in the "Non-BRT Bus" column are based on 263 observations.

The average age of adults in the household (aged 18 years or older) is 39 years with around 10.8 years of schooling. In one out of ten households, the head of household is female. These characteristics vary slightly across the different survey areas in our sample, but many differences are not statistically significant. Corridor 6 households are slightly older than non-Corridor 6 households and slightly less likely to have children below 5 years of age,

but these differences are not significant when we compare Corridor 6 households to non-BRT bus households.⁵⁸

Table G.2 summarizes variables describing the physical housing characteristics of the households in our sample. The average house in our sample has an area of around 60 m². Roughly two out of every three households in our sample lives in a single, detached unit, while another 26 percent lives in a multiple-unit housing complex. Most of the remaining 8 percent of the sample lives in duplexes, although a few others live in *kost* or high-rise apartment buildings (*rumah susun*). Nearly half of the sample lives in owner-occupied houses, although 37 percent are renting their house or apartment. These differences are typically not significant across sub-samples, although multiple-unit housing complexes are more common in the non-BRT bus area than in the non-Corridor 6 area.

Table G.2: Housing Characteristics

	Overall	Corridor 6	Non-Corridor 6	Non-BRT Bus
House size (m2)	59.15 (52.58)	58.99 (56.93)	62.16 (51.77)	56.48 (43.42)
Single unit	0.66 (0.48)	0.65 (0.48)	0.70 (0.46)	0.62 (0.49)
Multiple unit	0.26 (0.44)	0.25 (0.43)	0.22 (0.42)	0.30 (0.46)
House owned	0.44 (0.50)	0.43 (0.50)	0.46 (0.50)	0.43 (0.50)
House occupied	0.19 (0.39)	0.21 (0.41)	0.15 (0.36)	0.17 (0.38)
House rented	0.37 (0.48)	0.36 (0.48)	0.38 (0.49)	0.39 (0.49)
Outer Wall: Masonry (Ceramic / Prefabricated Bricks)	0.95 (0.23)	0.93 (0.25)	0.94 (0.24)	0.98 (0.14)
Flooring: Ceramic / Marble / Granite / Stone	0.83 (0.37)	0.81 (0.39)	0.88 (0.32)	0.83 (0.38)
Flooring: Tiles	0.09 (0.28)	0.10 (0.29)	0.06 (0.25)	0.09 (0.28)
Flooring: Cement	0.07 (0.26)	0.08 (0.27)	0.04 (0.19)	0.09 (0.28)
Roof: Asbestos	0.55 (0.50)	0.55 (0.50)	0.51 (0.50)	0.58 (0.49)
Roof: Shingles	0.37 (0.48)	0.37 (0.48)	0.40 (0.49)	0.36 (0.48)
Drinking water source: Bottled Water	0.65 (0.48)	0.65 (0.48)	0.72 (0.45)	0.56 (0.50)

⁵⁸ For this section and other sections throughout the chapter, we calculated statistical significance using a two-sided *t*-test of equality of means.

	Overall	Corridor 6	Non-Corridor 6	Non-BRT Bus
Drinking water source: Pump	0.31 (0.46)	0.33 (0.47)	0.17 (0.37)	0.43 (0.50)
Own toilet with septic tank	0.83 (0.38)	0.79 (0.41)	0.82 (0.38)	0.91 (0.28)
Shared or public toilet	0.09 (0.29)	0.12 (0.33)	0.08 (0.26)	0.04 (0.20)
Electricity Used (450 W)	0.07 (0.26)	0.09 (0.28)	0.06 (0.25)	0.05 (0.22)
Electricity Used (900 W)	0.26 (0.44)	0.27 (0.44)	0.23 (0.42)	0.28 (0.45)
Electricity Used (1,300 W)	0.57 (0.50)	0.54 (0.50)	0.61 (0.49)	0.58 (0.49)
Electricity Used (2,200 W or more)	0.10 (0.29)	0.10 (0.30)	0.10 (0.30)	0.09 (0.28)
Monthly Rent Value (1000s Rp)	1430.64 (1574.61)	1474.55 (1508.68)	1516.00 (2083.15)	1255.76 (1005.86)

NOTE: This table reports means and standard deviations (in parentheses) of various household demographic characteristics. Sample sizes vary slightly across the variables presented, but means in the "Overall" are based on as many as 1,064 observations, means in the "Corridor 6" column are based on as many as 536 observations, means of the "Non-Corridor 6" column are based on as many as 265 observations, and means in the "Non-BRT Bus" column are based on as many as 263 observations.

Most of these houses are constructed with modern materials, with ceramic or prefabricated brick walls, and floors made of ceramic, marble, stone, or granite. However, more than 55 percent of houses in the sample had asbestos roofs, while 37 percent had shingled roofs.⁵⁹ About two-thirds of the sample's main source of drinking water is from bottled sources (bottled mineral water), while 31 percent of the sample takes drinking water from wells or pumps (electric or hand). 83 percent of the sample had their own toilet with a septic tank, while only 9 percent used a shared or public toilet. All houses in the sample had electricity, but the power supply varied substantially, with roughly 7 percent of the sample using 450 watts, 26 percent of the sample using 900 watts, 57 percent of the sample using 1,300 watts, and the remaining 10 percent using 2,200 watts or more.

These statistics vary across sub-samples. Houses in the non-BRT bus study area were significantly more likely to have ceramic or prefabricated brick walls than houses in the other study areas, while houses in the corridor 6 study area were less likely to have ceramic, marble, stone, or granite floors than the non-corridor 6 BRT study area. Houses in Corridor 6 were also more likely to have drinking water sourced from pumps instead of bottled water sources, and they were significantly more likely to use shared or public toilets instead of having their own toilet. However, in general, there were not many strong differences in

⁵⁹ The widespread use of asbestos in the roofs of dwellings in DKI Jakarta is a potential public health concern. Prolonged inhalation of asbestos fibers can cause serious and fatal illnesses including lung cancer, mesothelioma, and asbestosis (a type of pneumoconiosis) (WHO, 2014). Because of these health concerns, by the 1980's and 1990's, asbestos trade and use had been banned in a number of developed countries.

power supplied, apart from Corridor 6 BRT households being slightly less likely to use 1,300 W than the other sub-samples.

In the last row of Table G.2, we present summary statistics on actual or imputed rents. If the house was rented, we asked the owner to report the monthly (or yearly) rent paid, and if it was owner occupied, we asked respondents to estimate what the rent would be if the house were rented. We converted the responses into a single monthly rent variable. Overall, the average rent was approximately 1.4 million Rp. This is roughly \$105 using current exchange rates, and approximately 42 percent of the current minimum wage of 3.3 million Rp (as of 2017).

Characteristics of FLFP

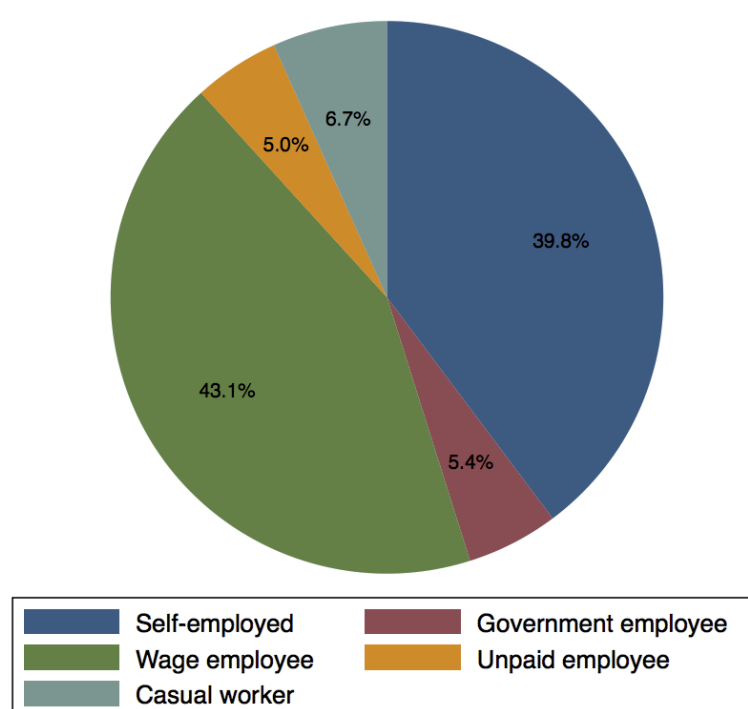
In terms of a primary activity sector, the largest share of women is working in retail, wholesale, restaurants and hotels across all levels of SES, but women workers from medium SES report the highest participation in this sector. A larger share of women from high SES works in finance compared to women in medium or low SES. In terms of workers job type, the smallest share of self-employed women comes from the lowest SES tercile, possibly due to the fact that this SES group also has the highest share of casual workers (6 percent compared to less than 3 percent in medium and high SES groups).

Employment Characteristics for Working Females

Figure G.1 plots the share of female workers who work in different employment categories. The largest share of women works as a wage employee (43.1 percent), and a similar share is self-employed (39.8 percent). Just over 5 percent of females in our sample work in government, while a similar share of women are unpaid employees (5.0 percent). The self-employed and in wage-employment workers report working the longest weekly hours (around 40), while casual workers report the lowest hours worked. Unpaid workers report highest number of weekly hours on average (43 hours). This is most likely the result of women helping their husbands or a family member who may work as self-employed with long hours.

Employment by these categories does not vary substantially across SES. The largest difference is observed among self-employed women, where 41 percent is self-employed among women from high SES, yet only around 36 percent among those from low SES. Also, 6 percent of low SES women work as casual workers, however only around 2 percent of women from high SES do the same.

Figure G.1: Share of Female Workers by Employee Category

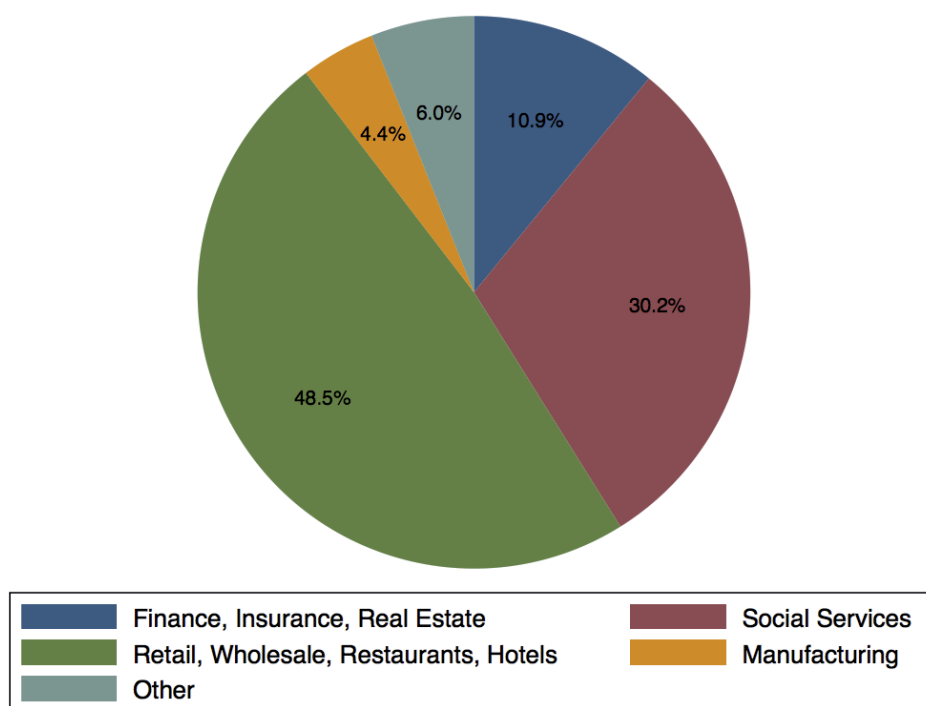


Note: This figure represents the share of females currently working across five job status. N = 637 workers.

As seen in the Figure G.2, nearly half of female workers' jobs are in the retail, wholesale, restaurants or hotel sector, and this is by far the largest job sector category. Women workers from medium SES report the highest participation in this sector (51 percent). The second largest sector that women work in is social services (30.2 percent), followed by finance, insurance or real estate (10.9 percent). The largest share of women from high SES works in finance (14 percent) compared to women in medium or low SES (9 percent). Less than five percent of women workers in Jakarta work in manufacturing, while 6 percent report working in other job sectors.

In terms of working part-time, variation across SES groups is small. However, women from medium and high SES are slightly more likely to work part time (39 percent), compared to women from low SES (36 percent).

Figure G.2: Share of Female Workers by Employment Sector



Note: This figure represents the share of females currently working across five sectors. N = 595 workers.

Appendix H. Urban Mobility and Labor Market Outcomes

This appendix provides detailed explanation to Table 7.8 Correlations between Travel Patterns and Demographic Characteristics. The outcome variable of interest for women covers a series of indicators: (1) whether the woman only travels locally; (2) whether she mainly uses BRT; (3) whether she mainly uses non-BRT buses (buses and angkot); (4) whether she typically uses non-shared public transport (taxi, bajaj and ojek); and (5) whether she typically uses private vehicles. These are binary variables. We use logit regression to estimate these models. For column 1, the observation is 1,052. For other columns, the observation is 842 respondents. This is because out of 1052, 842 respondents reported that they have regular travels.

The individual demographic characteristics that we include in the regression equation are age, education (i.e. years of schooling), marital status (1 is married and 0 otherwise), being in labor force, distance to BRT shelters, and an indicator of having children aged 5 years or below at home. The regressions also control for age cohorts (the base is age 15-24), Socio-Economic Status (the base is medium SES), and sampling areas (the base is corridor 6).

The reported numbers are marginal effects from the regressions. Standard errors are presented in the parentheses.

Table H.1 Travel Characteristics

Variables	Travel only Within RT/RW	BRT	Non-BRT	Taxi, Bajaj, and Motorcycle Taxi	Private Vehicles
Years of schooling	-0.02*** (0.00)	0.01* (0.00)	-0.00 (0.00)	0.00 (0.00)	0.01*** (0.00)
Age 25-39	0.07** (0.03)	-0.05 (0.03)	0.01 (0.04)	0.06*** (0.02)	-0.07 (0.04)
Age 40-49	0.12*** (0.04)	-0.02 (0.04)	0.02 (0.05)	0.08*** (0.02)	-0.20*** (0.05)
Age 50+	0.19*** (0.04)	-0.03 (0.04)	0.07 (0.06)	0.18*** (0.04)	-0.28*** (0.06)
In labor force	-0.13*** (0.02)	0.04* (0.02)	-0.00 (0.03)	0.03 (0.02)	-0.02 (0.03)
Married	0.01 (0.03)	-0.06* (0.03)	-0.18*** (0.05)	-0.04 (0.03)	0.24*** (0.05)
Child < 5 years	-0.00 (0.03)	0.01 (0.03)	-0.03 (0.04)	-0.02 (0.02)	-0.04 (0.04)
BRT distance	0.00 (0.02)	-0.05** (0.02)	-0.04* (0.02)	-0.00 (0.02)	0.03 (0.02)
Low SES Tercile	0.07**	-0.00	0.02	-0.02	-0.09**

Variables	Travel only Within RT/RW	BRT	Non- BRT	Taxi, Bajaj, and Motorcycle Taxi	Private Vehicles
	(0.03)	(0.02)	(0.04)	(0.02)	(0.04)
High SES Tercile	0.01	-0.00	-0.11***	-0.00	0.10***
	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)
Non-Corridor 6	0.06**	-0.02	0.04	0.01	0.04
	(0.03)	(0.02)	(0.04)	(0.02)	(0.04)
Non-BRT Bus	0.08*	-0.04	0.03	-0.02	0.03
	(0.04)	(0.03)	(0.05)	(0.03)	(0.05)
R ²	0.144	0.089	0.054	0.097	0.120
Observations	1,052	842	842	842	842

Note: *** significant at alpha 1%, ** 5%, *10%.

Appendix I. Perceptions of Public Transport

Chapter 8 presented the views of: i) public transport consumers – BRT and/or non-BRT Bus of the modes the consumers regularly take ii) BRT users' views of the quality of non-BRT buses and vice versa; and iii) the views of those who do not regularly take public transport of both BRT and non-BRT buses. The same questions were posed in the household surveys and in the rider surveys regarding perception of BRT and non-BRT buses (Section P in the forms).

The purpose is to identify perceptions of BRT and on-BRT bus in terms of access, journey quality, affordability, passengers' sense of safety, etc. relating to the hypotheses and to test if the hypotheses are likely to be still valid based on what people are saying. The aim of the surveys is also to elicit the following:

- Are there gender differences in views (rider surveys only)?
- Are there socio-economic differences in perception based on information from i) household survey ii) rider survey iii) semi-structured in-depth interviews?

Socio-economic and socio-demographic data relating to the household surveys are presented in Chapter 6 and related appendices.

Rider Surveys: Socio-Economic and Socio-Demographic Characteristics

Five hundred public transport consumers were interviewed: 250 women and 250 men on BRT buses and at non-BRT bus stations and bus stops. These comprised 400 BRT users (200 women, 200 men) and 100 non-BRT bus users (50 women, 50 men). All respondents were from DI Jakarta. Table I.1 presents the summary statistics. The average age of respondents is 30.2 years old.

On average, 71 percent of respondents work full time. Only seven percent work part-time, and around 16 percent are full-time students. Participation in labor market, either full or part time, does not vary much between BRT Corridor 6 and other BRT corridors, however is substantially lower in non-BRT Bus corridor among female riders (42 percent). In that corridor, the share of riders that are full-time students is larger (18 percent male, 34 percent female). In non-BRT Bus corridor, the share of female riders who care for others full-time is also the highest: 16 percent on average, compared to 3 percent or less in other survey areas.

Table I.1: Summary Statistics: Individual Characteristics - Employment

	All	Male			Female		
		Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT	Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	30.17 (11.12)	30.19 (9.95)	30.78 (11.18)	32.94 (13.33)	30.24 (10.98)	28.14 (9.26)	30.01 (13.97)
Married	0.41	0.40	0.45	0.48	0.44	0.34	0.36
Employment							
Full time	0.71	0.81	0.78	0.70	0.71	0.71	0.42
Part time	0.07	0.07	0.07	0.08	0.05	0.08	0.06
Care - full time	0.03	0.00	0.00	0.02	0.03	0.02	0.16
Student - full time	0.16	0.07	0.11	0.18	0.18	0.16	0.34
Unemployed. - temp.	0.02	0.01	0.03	0.02	0.02	0.03	0.02
Unemployed - other	0.01	0.04	0.01	0.00	0.01	0.00	0.00
Number of observations	500	100	100	50	100	100	50

Note: Author's calculations using 2017 baseline data collection.

The rider survey collected information of respondents' household characteristics, including monthly income, expenditure, and ownership of vehicles. Riders from BRT Corridor 6 tend to have the highest individual monthly income at around IDR 4.7 million for men and IDR 3.6 million for women, while the average monthly income of non-BRT riders is IDR 2.9 million and IDR 1.9 million for women and men, respectively. Table I.2 presents the household characteristics and Figure I.2 shows the distribution of monthly income (in logs) of BRT and non-BRT Riders. Monthly expenditure shows a similar pattern.

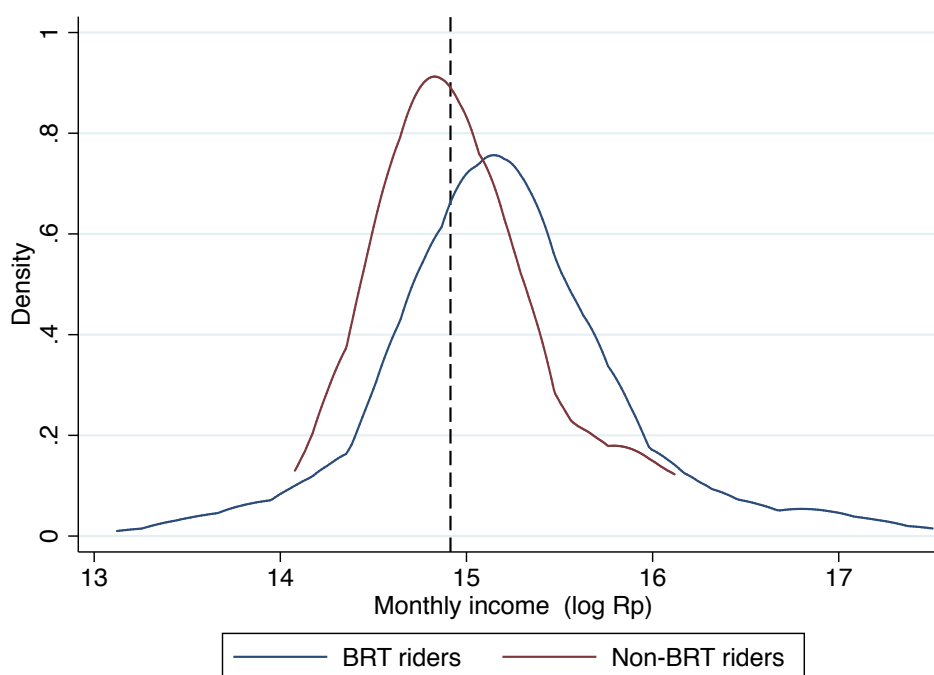
Table I.2: Summary Statistics: Household Characteristics (standard deviation in parentheses)

	All	Male			Female		
		Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT	Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT
Number of HH members	3.43 (1.88)	3.40 (1.65)	3.50 (1.75)	3.74 (1.85)	3.43 (1.88)	3.68 (1.62)	3.78 (1.57)
Income (IDR millions /month)	3.64 (3.50)	4.78 (4.58)	2.88 (1.89)	2.87 (2.28)	3.64 (3.50)	3.47 (2.92)	1.87 (2.33)
Expenditures (IDR millions /month)	3.91 (3.42)	4.60 (3.93)	3.78 (2.92)	3.21 (2.92)	3.91 (3.42)	4.01 (2.45)	3.53 (2.44)
Own car =1	0.25 (0.44)	0.36 (0.48)	0.23 (0.42)	0.20 (0.40)	0.25 (0.44)	0.39 (0.49)	0.20 (0.40)
Number of cars owned	1.27 (0.48)	1.28 (0.48)	1.35 (0.57)	1.20 (0.42)	1.27 (0.48)	1.23 (0.43)	1.10 (0.32)
Own motorcycle =1	0.70 (0.46)	0.74 (0.44)	0.77 (0.42)	0.64 (0.48)	0.70 (0.46)	0.77 (0.42)	0.76 (0.43)
Number of motorcycles	1.53	1.55	1.42	1.41	1.53	1.55	1.66

	Male				Female		
	All	Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT	Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT
owned	(1.07)	(0.80)	(0.69)	(0.56)	(1.07)	(0.77)	(0.88)
Number of observations	500	200	100	50	500	100	50

Note: Author's calculations using 2017 baseline data collection.

Figure I.1: Log Monthly Income, BRT and non-BRT Riders



Note: Authors' calculations using 2017 baseline rider survey data. This figure plots kernel density estimates of log income across the sample of BRT riders and non-BRT riders. In estimating these kernel densities, we use an Epanechnikov kernel function and a rule of thumb selected bandwidth.

Around a quarter of households own a car, and more than 70 percent of households own a motorcycle. On average, households own between 1 to 2 cars and 1 to 2 motorcycles. While 36 percent of households from BRT Corridor 6 owns at least one car, only around one in five households in other survey areas own a car. Variation in motorcycle ownership is less between different survey areas: around 70 percent of households own at least one motorcycle regardless of the corridor survey area.

Table I.3 shows the breakdown of regular BRT use by gender and by socio-economic status. All riders from BRT Corridor 6 and other BRT corridors surveyed use BRT regularly. However fewer than 40 percent of non-BRT bus users also regularly used BRT. This is broadly the same for both men and women. In BRT Corridor 6, more than half of the male

respondents (56%) were from the top income tercile⁶⁰. Among women in Corridor 6, the distribution was more even: 38% were from the top tercile, 27 % from the middle, and 35% from the bottom tercile. In contrast, out of the 36% of non-BRT users who reported they regularly use BRT, 61% were from the bottom income tercile, and only 6% were from the top tercile. This difference in socio-economic status between users of BRT and non-BRT riders is also apparent in educational attainment. College educated males and females were the largest groups among Corridor 6 riders. Among non-Corridor 6 riders, and also among the non-BRT riders, high school graduates were the largest groups.

Table I.3: Regular use of BRT: by income and education group

		Male			Female		
	Average	Corridor 6 BRT	Non- Corridor 6 BRT	Non-BRT Bus	Corridor 6 BRT	Non- Corridor 6 BRT	Non-BRT Bus
All respondents		1.00 (0.00)	1.00 (0.00)	0.38 (0.49)	1.00 (0.00)	1.00 (0.00)	0.36 (0.48)
Income group							
High tercile	0.27 (0.44)	0.19 (0.39)	0.30 (0.46)	0.06 (0.24)	0.35 (0.48)	0.37 (0.49)	0.22 (0.42)
Medium tercile	0.32 (0.47)	0.25 (0.44)	0.44 (0.50)	0.22 (0.42)	0.27 (0.45)	0.46 (0.50)	0.12 (0.33)
Low tercile	0.29 (0.45)	0.56 (0.50)	0.26 (0.44)	0.10 (0.30)	0.38 (0.49)	0.17 (0.38)	0.02 (0.14)
Education group							
Compl. primary	0.02 (0.14)	0.02 (0.14)	0.04 (0.20)	0.04 (0.20)	0.01 (0.10)	0.01 (0.10)	0.00 (0.00)
Compl. junior high	0.09 (0.28)	0.07 (0.26)	0.15 (0.36)	0.02 (0.14)	0.09 (0.29)	0.08 (0.27)	0.06 (0.24)
Compl. senior high	0.40 (0.49)	0.32 (0.47)	0.58 (0.50)	0.18 (0.39)	0.41 (0.49)	0.50 (0.50)	0.20 (0.40)
Compl. college+	0.37 (0.48)	0.59 (0.49)	0.23 (0.42)	0.14 (0.35)	0.49 (0.50)	0.41 (0.49)	0.10 (0.30)
Number in sample	500	100	100	50	100	100	50

Table I.4 presents the information for non-BRT bus use. Only some 20 percent of BRT Corridor 6 riders also regularly used non-BRT bus. More people in other BRT corridors used non-BRT bus. This finding and the earlier finding about the regular use of BRT suggest that the users of BRT and non-BRT do not overlap much.

⁶⁰ As only income data was collected in the rider survey, income terciles cannot be directly compared with the SES terciles used for the household surveys.

Table I.4: Regular use of non-BRT Buses: by income and education group

	Male				Female		
	Average	Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT Bus	Corridor 6 BRT	Non-Corridor 6 BRT	Non-BRT Bus
All respondents		0.20 (0.40)	0.33 (0.47)	0.98 (0.14)	0.24 (0.43)	0.46 (0.50)	0.94 (0.24)
Income group							
1st tercile	0.19 (0.40)	0.02 (0.14)	0.09 (0.29)	0.42 (0.50)	0.10 (0.30)	0.22 (0.42)	0.66 (0.48)
2nd tercile	0.16 (0.37)	0.08 (0.27)	0.17 (0.38)	0.42 (0.50)	0.06 (0.24)	0.19 (0.39)	0.20 (0.40)
3rd tercile	0.08 (0.27)	0.1 (0.30)	0.07 (0.26)	0.14 (0.35)	0.08 (0.27)	0.05 (0.22)	0.08 (0.27)
Education group							
Compl. primary	0.02 (0.14)	0.01 (0.10)	0.03 (0.17)	0.08 (0.27)	0.00 (0.00)	0.01 (0.10)	0.02 (0.14)
Compl. junior high	0.08 (0.27)	0.01 (0.10)	0.04 (0.20)	0.28 (0.45)	0.03 (0.17)	0.04 (0.20)	0.24 (0.43)
Compl. senior high	0.22 (0.41)	0.06 (0.24)	0.21 (0.41)	0.4 (0.49)	0.13 (0.34)	0.23 (0.42)	0.50 (0.51)
Compl. college+	0.12 (0.33)	0.12 (0.33)	0.05 (0.22)	0.22 (0.42)	0.08 (0.27)	0.18 (0.39)	0.16 (0.37)
Number in Sample	500	100	100	50	100	100	50

Table I.5 presents the full results of the regressions discussed in Chapter 8. The dependent binary variable is one 1 for those who reported to be satisfied or very satisfied with the bus service and 0 otherwise - including those who do not regularly use BRT or non-BRT bus.

The explanatory variables consist of individual demographic characteristics and travel pattern. The individual demographic characteristics that we include in the regression equation include education, age, marital status, children, distance to BRT shelters, SES, and sampling areas. The travel variable consists of dummy variables indicating whether respondents have regular travel to work, shopping, school, leisure, social activity, or family care. For these dummy variables, the omitted category are variables indicating: age 18-29, not married, regular travel for health/medical purpose, not having children younger than 5, middle tercile income, and Corridor 6 BRT riders.

Table I.5: Correlates of Satisfaction

Variables	Satisfaction with BRT buses	Satisfaction with non-BRT Buses
Years of schooling	0.00 (0.00)	-0.01*** (0.00)
Age 30-39	-0.05 (0.03)	0.04 (0.03)
Age 40-49	-0.03 (0.04)	0.04 (0.04)
Age 50+	-0.05 (0.04)	0.03 (0.04)
Regular travel: work	0.03* (0.02)	0.03 (0.02)
Regular travel: school	0.03 (0.03)	0.05 (0.07)
Regular travel: shopping	0.02 (0.02)	0.04*** (0.01)
Regular travel: social activity	-0.01 (0.02)	0.06*** (0.02)
Regular travel: family care	0.03* (0.02)	-0.03 (0.02)
Regular travel: eating out	0.01 (0.02)	0.02 (0.02)
Regular travel: leisure	0.06*** (0.02)	0.02 (0.02)
Married	-0.00 (0.03)	0.02 (0.02)
Child < 5 years	-0.02 (0.02)	-0.02 (0.02)
BRT distance	-0.05*** (0.02)	-0.01 (0.01)
Low SES Tercile	-0.01 (0.02)	0.01 (0.02)
High SES Tercile	-0.00 (0.02)	-0.02 (0.02)
Non-Corridor 6	-0.01 (0.02)	0.03 (0.02)
Non-BRT Bus	0.00 (0.03)	0.03 (0.03)
Observations	1,052	1,052

Marginal effects are reported in the table. Statistical significance at 1% (*), 5%(**), and 10(***) are indicated.

Appendix J. Measuring Disability Status

In the health conditions module of our individual-level survey, we asked respondents whether or not they could easily perform 15 different physical tasks. These include whether individuals can easily carry heavy loads, walk for different distances, stand up from different positions, see, hear, and communicate. These questions enable us to construct physical functioning measures, and the results of these measures by disability status are reported in Table J.1. Overall, 72.5 percent of the sample reported that they could not perform at least one physical functioning task, the most likely of which was to easily walk 5 km. However, on average, disabled females could not easily complete 36.2 percent of the tasks, and on average, disabled males could not easily complete 45.6 percent of the tasks.

Table J.1: Physical Functioning Measures of Disabled and Non-Disabled (%)

	Overall	Other Surveyed Population (1,028 females)	Disabled Females	Disabled Males
Can you easily ... ?				
... carry a heavy load for 20 meters	70.0	71.9	35.7	29.2
... draw a pail of water from a well	84.1	85.8	53.6	45.8
... walk for 1 km	83.6	85.8	46.4	33.3
... walk for 5 km	33.1	33.9	17.9	16.7
... sweep the house	97.7	99.5	71.4	50.0
... bow, squat, kneel	91.9	94.2	57.1	37.5
... walk across the room	97.6	99.2	67.9	62.5
... stand up from sitting on the floor	94.9	96.8	64.3	50.0
... stand up from sitting in a chair	98.3	99.6	75.0	70.8
... extend arms above shoulder level	98.0	99.1	78.6	70.8
... pick up a small coin from a table	98.6	99.5	89.3	70.8
... see (even with glasses)	96.2	97.7	71.4	62.5
... hear (even with a hearing aid)	99.1	99.7	82.1	91.7
... remember or concentrate	94.2	95.2	78.6	66.7
... communicate	96.9	98.6	67.9	58.3
Any PF Tasks Not Easily Completed	72.5	71.4	89.3	100.0
Percent of PF Tasks Not Easily Completed	11.1	9.6	36.2	45.6
N	1,080	1,028	28	24

NOTE: This table reports means of several physical functioning measures, as well as summary indicators of these variables, for the overall individual sample (column 1), non-disabled females (column 2), disabled females (column 3), and disabled males (column 4).

Interestingly, it seems like the types of self-reported disabilities in the sample are quite heterogeneous. Although over 80 percent of both disabled males and females had trouble walking more than 5 km, roughly 28.6 percent of disabled females and 37.5 percent of

disabled males had trouble seeing. Smaller proportions had trouble hearing (17.9 percent of disabled females and 8.3 percent of disabled males). Being able to carry a heavy load and being able to stand up from the floor were also common difficulties experienced by people with disabilities in our sample.

In Table J.2, we present summary statistics on six different activities of daily living (ADL) measures for disabled and non-disabled individuals. These activities are essential for an individual's self-care and include being able to dress yourself, bathe yourself, get out of bed, eat by yourself, and control or restrain urination and defecation. Disabled females could not complete, on average, 15.5 percent of these basic activities without difficulty, while disabled males could not complete 31.9 percent of these basic activities without difficulty. The most common difficulties were being able to get out of bed for disabled females and being able to dress yourself without help for disabled males.

Table J.2 Activities of Daily Living (ADL) Measures for Disabled and Non-Disabled (%)

	Overall	Other Surveyed Population (1,028 females)	Disabled Females	Disabled Males
Can you easily ... ?				
... dress yourself without help	98.5	99.9	78.6	62.5
... bathe yourself	98.8	100	82.1	66.7
... get out of bed	98.3	99.7	75	66.7
... eat by yourself	99.3	100	92.9	75
... control urination or defecation	99.2	100	92.9	70.8
... restrain urination or defecation	90.3	91	85.7	66.7
Percent of ADL Tasks Not Easily Completed	2.6	1.6	15.5	31.9
Any ADL Tasks Not Easily Completed	10.9	9.3	32.1	54.2
N	1,080	1,028	28	24

NOTE: This table reports means of six different activities of daily living (ADL), as well as summary indicators of these variables, for the overall individual sample (column 1), non-disabled females (column 2), disabled females (column 3), and disabled males (column 4).

In Table J.3, we present summary statistics on six different instrumental activities of daily living (IADL). Unlike the ADL measures, which focus on being able to take care of yourself physically, the IADL measures try to capture whether you are able to function on your own in a given environment (e.g. shopping, being able to prepare meals). Overall, over 60.7 percent of disabled females and over 91.7 percent of disabled males had trouble with at least one IADL activity, compared to only 2.3 percent of non-disabled females. On average, disabled females could not complete 35.7 percent of the IADL activities without some difficulty, while disabled males could not complete 59.7 percent of the IADL activities without some difficulty. The most common difficulties were with being able to manage your money (for both males and females), but being able to shop for your personal needs and being able to cook and prepare meals were both tasks that many disabled respondents had difficulty doing by themselves.

Table J.3 Instrumental Activities of Daily Living (IADL) Measures for Disabled and Non-Disabled (%)

	Overall	Other Surveyed Population (1,028 females)	Disabled Females	Disabled Males
Can you easily ... ?				
... shop for your personal needs	96.7	98.7	60.7	50.0
... cook and prepare hot meals	96.6	98.7	67.9	37.5
... take medicine	96.9	98.3	75.0	58.3
... do household chores	96.2	98.2	78.6	33.3
... shop for groceries	96.2	98.6	60.7	33.3
... manage your money	90.8	93.6	42.9	29.2
Percent of IADL Tasks Not Easily Completed	4.4	2.3	35.7	59.7
Any IADL Tasks Not Easily Completed	12.2	9.0	60.7	91.7
N	1,080	1,028	28	24

NOTE: This table reports means of six different activities of daily living (ADL), as well as summary indicators of these variables, for the overall individual sample (column 1), non-disabled females (column 2), disabled females (column 3), and disabled males (column 4).

Appendix K. Post-implementation Monitoring: Technical Appendix

We present a technical appendix on post-implementation monitoring discussed in Chapter 11. In this appendix, we describe how our baseline survey, combined with a follow-on survey, will allow us to evaluate the effect of improvement of both, the BRT Corridor 6 and non-BRT bus services improvements on labor market outcomes for women and the disabled in DKI Jakarta. The pre-analysis plan laid out in this appendix is designed to empirically test the hypotheses laid out in Chapter 3. While motivation for the study, literature review, study design and implementation is described in detail in Chapters 2, 4 and 5, this appendix focuses on describing the planned interventions, and on presenting the preferred methodology to be used to estimate their causal effects. We also describe the potential threats to identification and issues related to attrition in our follow-up survey and our recommendations on how to address them.

The intervention

Corridor 6 Improvements

The Australian Government, working through the Indonesia Infrastructure Initiative (IndII), facilitated a design package of improvements to the southern portion of TransJakarta BRT Corridor 6. This corridor is a major north-south corridor on the TransJakarta network, connecting residential areas around Ragunan to major commercial and employment centers in Kuningan. The package included the following suggested interventions:

1. Re-design of the passenger infrastructure (shelters, footbridges and terminal buildings) with designs and engineering plans to achieve the following goals:
2. Maximize operational capacity to meet regulated Minimum Service Standards, including
 - 7-15 minutes maximum wait time for passengers;
 - 50 klm/h average speed of the bus peak and non-peak;
 - 30-45 seconds - set down/pick up at the station.
 - 27 degrees maximum temperature in the shelters
 - 2-4 square meters per passenger (non-peak and peak)
3. Easy access for wheelchairs and disabled people (including vision impaired, elderly and pregnant women)
4. Provide ‘signature’ designs that identify the bus-way as a public modern transport mode in the city
5. Redesign of the bus-way infrastructure, including detailed civil works, to improve bus priority and to provide better access for passengers (considering intersections, U-turns, passing lanes, footpaths)
6. Improve the provision of timetables and information related to when busses are expected to arrive and depart.

7. Better station lighting to improve the safety and security of pedestrians.
8. A redesign and redevelopment of the large terminal at Ragunan.

Non-BRT Bus Improvements

The Governor of Jakarta has endorsed a package of inter-related measures to address some of the shortfalls of the non-BRT bus system as well. However, many of these proposals have yet to be implemented. Proposed improvements include:

- Reform of the non-BRT bus and mikrolet sector to replace the existing informal structure, dominated by individual owners, with one consisting of formal, relatively large companies, operating in accordance with international best practices.
- Replacement of all existing buses and mikrolets with an appropriate mix of suitably specified vehicles, with most small vehicles replaced by full-sized city buses conforming to international best practices.
- Introducing an equitable fare structure that will enable most, if not all bus services to cover their costs in full without subsidy.
- Restructuring the network of bus routes to provide more convenient services, with minimal need for interchange and fully coordinated with other modes such as BRT, MRT, LRT and KRL commuter rail services
- Introduction of a network-wide, all-mode integrated electronic ticketing system
- Provision of adequate infrastructure, principally bus depots and workshops, terminals and roadside bus stops at appropriate locations on every route
- Provision of adequate user information on all services, using all available media

Data

The primary source of data will be a baseline survey conducted by SurveyMeter and RAND, which was completed in February 2017, and a follow-up survey that will be collected after the intervention (preferably within a one year window). Follow-up survey will consist of re-surveying baseline participants of the household, individual and ridership survey. We will also conduct interviews with our participants from our in-depth interviews at the baseline. During the baseline survey detailed contact information (home address, email and phone number) of the respondents were collected and will be used to track the baseline survey participants for a follow-up survey.

Methodology

The baseline data set is relatively rich, which will allow us to test a large set of hypotheses with regards to the impact of transport interventions. In Chapter 11, we have described the use of individual level panel data and difference-in-differences (DID) methodology for estimating the causal effects of public transport improvements on FLFP and related outcomes through the following equation:

$$Y_{it} = \alpha_d + \gamma_t + \beta Treated_{dt} + X'_{it}\theta + \varepsilon_{it} \quad ,$$

where Y_{it} denotes individual level outcome of interest; a *dependent variable*. α_d and γ_t stand for location and time (i.e. before and after the intervention) indicator variables. $Treated_{dt}$ is a binary variable that equals 1 in treated areas (*kelurahan*) after the intervention and 0 otherwise. X_{it} is a vector of controls, that is *independent variables*, measured before and after the intervention at the individual level, and ε_{it} is an error term.

Since the hypotheses are already described in detail in Chapter 3, we only list them in this appendix. We group the hypotheses into those describing the causal impact of Corridor 6 improvements on FLFP and related outcomes (Hypothesis 1), possible pathways driving these results (Hypothesis 2), and how the FLFP effects and mechanisms vary by women types (Hypothesis 3). We also describe our analysis related to public transport and the disabled.

Impact of Corridor 6 Improvements on FLFP

Hypothesis 1: Corridor 6 Improvements will Increase Overall FLFP

- *Hypothesis 2.1:* Corridor 6 Improvements will increase the probability of employment due to decreased commuting costs.
- *Hypothesis 2.2:* Corridor 6 Improvements will increase the numbers of hours of work due to decreased commuting costs
- *Hypothesis 2.3:* Corridor 6 improvements will increase the probability of formal employment due to decreased transport costs.
- *Hypothesis 2.4:* Corridor 6 improvements will increase the probability of full-time employment due to decreased transport costs.
- *Hypothesis 2.5:* Corridor 6 improvements will increase the probability of regular job attendance due to decreased transport costs.
- *Hypothesis 2.6:* Corridor 6 improvements will increase the probability of timely job attendance due to decreased transport costs.
- *Hypothesis 2.7:* Corridor 6 improvements will increase the probability of getting promoted or the probability of working in a job that represents a better skill match.
- *Hypothesis 2.8:* Corridor 6 improvements will decrease the probability of being overqualified for the job due to decreased transport costs.
- - **Dependent variables.** The following individual indicators will form the family of outcomes, collected in both, baseline and follow-up survey, to test these hypotheses:
 - Binary variable that equals 1 if a woman is a labor force participant or not
 - Binary variable that equals 1 if a woman is currently working
 - Binary variable that equals 1 if a woman has multiple jobs
 - Binary variable that equals 1 if a woman is unemployed or not (1- currently working).
 - Binary variable that equals 1 if a woman if employed full-time (i.e., normally works 40+ per week).
 - Number of hours worked normally
 - Number of hours spent on childcare (daily)
 - Monthly salary (in Rupiahs)
 - Travel time to current/previous workplace in hours
 - Distance to current/previous workplace

- Binary variable that equals 1 if transport affects worker's hours of work
- Binary variable that equals 1 if transport affects women's ability to work overtime/night shifts/leaving work early
- Binary variable that equals 1 if a woman is self-employed/government/casual/private/unpaid family worker
- Job satisfaction grade (1-4, 1 is very satisfied, 4 is very unsatisfied)
- Binary variable that equals 1 if a woman is satisfied with compensation at work
- Binary variable that equals 1 if a woman thinks job matches her skills
- Binary variable that equals 1 if a woman has quit/declined/changed/accepted her job due to transport constraints
- Binary variables equals 1 for one of the reasons to decline/quit/changed her job

Independent variables. In addition to controlling for time-invariant location and individual characteristics with location and individual binary variables, we will also include a binary variable that equals 1 after and 0 before the intervention to control for common time shocks. Additionally, we will control for several socio-demographic characteristics at the individual level, such as women's age, number of children below age of 5, hours spent on childcare, marital status, years of schooling, ability to drive a car or a motorbike; among others. At the household level, we will control for asset ownership (i.e., vehicle, car and home ownership), access and use of electricity, household and dwelling size, and SES status; among others.

Mechanisms

We will examine possible mechanisms driving the empirical results based on testing previous hypotheses. In particular, we will study whether transport-interventions influenced women's use of public transport and changed the perception of BRT and public bus services.

Hypothesis 2: Corridor 6 Improvements will impact women's transport behavior or perceptions of public transport due to lower commuting costs.

- *Hypothesis 2.1:* Corridor 6 Improvements will decrease commuting times for riders.
- *Hypothesis 2.2:* Corridor 6 Improvements will decrease monetary transport costs for riders.
- *Hypothesis 2.3:* Corridor 6 safety improvements will improve passengers' sense of safety.
- *Hypothesis 2.4:* Corridor 6 safety improvements will decrease feelings of discomfort.
- *Hypothesis 2.5:* Corridor 6 safety improvements will decrease the occurrence of sexual harassment (of any kind).
- *Hypothesis 2.5:* Corridor 6 safety improvements will decrease the occurrence of sexual harassment (of any kind).
- *Hypothesis 2.6:* Corridor 6 improvements will increase the regular use of public transport when going to work, or when doing the shopping and housekeeping tasks due to decreased commuting costs.
- *Hypothesis 2.7:* Corridor 6 improvements will increase the number of trips taken with public transport due to decreased commuting costs.
- *Hypothesis 2.8:* Corridor 6 improvements will decrease wait times, improve schedule, and/or speed on public transport due to decreased commuting costs.

- *Hypothesis 2.9:* Corridor 6 improvements will increase number of women that travel outside their RT in general and for specific trip purposes due to decreased commuting costs.
- *Hypothesis 2.10:* Corridor 6 improvements will decrease the number of motor vehicles owned and their use due to decreased commuting costs.
- *Hypothesis 2.11:* Corridor 6 improvements will decrease travel time to childcare due to decreased commuting costs.
-
- **Dependent variables.** The following individual indicators will form the family of outcomes, collected in both, baseline and follow-up survey, to test these hypotheses:
 - Individual travel times to work (in minutes).
 - Transport costs spent on travels to work/shopping/childcare.
 - Binary variable that equals 1 if one does not use public transport (despite being available) due to lack of safety in the vehicle/feeling unsafe while traveling/fear of being harassed/lack of comfort.
 - Binary variable that equals 1 if one feels very safe or safe travelling in Jakarta using various travel modes during the day and during the night
 - Binary variable that equals 1 if one has been or knows of someone who has been a victim of mugging/verbal harassment/sexual harassment in the past 12 months
 - Binary variable that equals 1 if one lists safety in the vehicle/comfort
 - Binary variable that equals 1 if one feels that bus shelter is less safe than being inside of the bus
 - Binary variable that equals 1 if a woman lists safety-related reasons as one of the three main characteristics they dislike most when they use TransJakarta BRT/bus
 - Satisfaction (scale 1-5, 5 being very satisfied) of TransJakarta and bus services (question P05b1 in the baseline)
 - Binary variable that equals 1 if main purpose of the BRT/public bus trip is going to work/shopping
 - Number of trips taken with BRT/public bus
 - Binary variable that equals 1 if BRT/public bus are used regularly
 - Binary variable that equals 1 if lack of direct routes/no access to BRT or bus stations/long wait times/irregular schedule/lack of safety/speed/fear of harassment is one of the main reasons for irregular BRT/public bus use
 - Binary variable that equals 1 if lack of direct routes/no access to BRT or bus stations/long wait times/irregular schedule/lack of safety/speed/fear of harassment is one of the main reasons for disliking BRT/public bus
 - BRT/public bus ride satisfaction grade (1-5, 5 is very satisfied, 1 is very unsatisfied)
 - Binary variable that equals 1 if access/comfort/security/cost when using BRT is very important
 - Binary variable that equals 1 if women traveled outside of their RT
 - Binary variable that equals 1 if women travelled outside their RT for work/shopping/family care/leisure
 - Number of cars/motorcycles owned (household level)
 - Binary variable equals 1 if woman choose private vehicle for their regular travel
-

Independent variables. List of covariates will resemble the one described above under Hypothesis 1. For some outcomes, we will also control for woman's employment status (i.e., working last week or not), employment type (full time or part time), hours worked, and wage if employed.

Heterogeneous effects

Women's responses to Corridor 6 improvements may vary, depending on their SES status, age, number of young children and other factors that we are able to observe. Therefore, we will examine whether there are heterogeneous effects of Corridor 6 improvements on several outcomes, studied in hypotheses listed above.

Hypothesis 3: Impact of Corridor 6 improvements on FLFP and related outcomes will vary

- *Hypothesis 3.1:* Those located within walking distance to Corridor 6 stations are most likely to increase bus ridership after transport improvements are applied.
- *Hypothesis 3.2:* Those located within walking distance to Corridor 6 stations are most likely to change their labor force participation after transport improvements are applied due to increased bus ridership and related decreased transport costs.
- *Hypothesis 3.3:* Younger women (age 15-34) are most likely to respond to transport improvements in Corridor 6 (due to safety improvements).
- *Hypothesis 3.4:* Women from low-to-middle income group are most likely to respond to transport improvements in Corridor 6.
- *Hypothesis 3.5:* Women with junior or senior/vocational educational attainment are most likely to respond to transport improvements in Corridor 6.
- *Hypothesis 3.6:* We expect that women with small children will respond to Corridor 6 improvements differently than women without small children.
-

To test for these hypotheses, we will repeat regressions described for Hypotheses 1 and 2 above, but for various population subsamples. Alternatively, we will interact the variable Treated with corresponding (baseline) variables. Such population subsamples are women who live within 10, 20, or 30 minutes walking to the Corridor 6 BRT stations, women younger than 34, women coming from low, middle and high SES, women with senior/vocational educational attainment, and women with young children (either below 5 or 12). We will include independent variables, described above, in all of these regression models.

Public Transport and the Disabled

We will rely on descriptive analysis (e.g., comparing means and medians before and after the intervention across areas) of this part of the data due to its small sample size and thus lack of power to detect significant effect if using regression approach. For the disabled, we aim to answer examine the hypotheses used for the non-disabled women in general with some additional ones (see Chapter 3). When studying heterogeneous effects, we will, in addition to those subpopulations listed above, examine whether outcomes of interest vary by disability status and by the number of functional limitations one has. We will combine the results with information from in-depth interviews.

Adjustments for multiple hypotheses testing with respect to multiple outcomes and with respect to heterogeneity of treatment effects

To test multiple hypotheses with respect to multiple outcomes, we will use the Westfall and Young (1993) free step-down resampling method for the family-wise error rate, the probability that at least one of the true null hypotheses will be falsely rejected (details can be found in Anderson 2008). To control for multiple hypothesis testing with respect to the heterogeneity of treatment effects, we will follow Fink, McConnell and Vollmer (2014) and employ the Benjamini and Hochberg (1995) method to minimize the false non-discovery rate.

Addressing Missing Data

Survey Attrition. We will check whether attrition is correlated with being in a treated or being in a control area. If it is not associated at the 5 percent significance level, we will apply the analysis without any adjustment for attrition. However, if attrition will be correlated to (non)respondent's treatment status, we will apply the so called "Lee bounds" (Lee, 2009) on our treatment estimates.

Missing data from question non-response. Similarly as with attrition, we will check whether question non-response is correlated with being in a treated or a control area. If it is, we will construct bounds for our treatment estimates that are robust to this event. We do not plan to perform imputation for missing data for non-responses, except for variable on expected and actual rent.

Questions with limited variation. Questions for which 95 percent of observations have the same value within the relevant sample will be excluded from the analysis or hypotheses tests to minimize the noise.

In-Depth Interviews Follow-up

We will describe changes in answers to questions from our interviews before and after the intervention. The follow-up interview questions will be the same as those at the baseline, however we plan to include a few additional questions that will relate to personal experiences with the Corridor 6 interventions directly.



How Jakarta's Traffic Affects Labor Market Outcomes for Women and People with Disabilities

Results from a Baseline Survey