Support to UKP4 for Improving Urban Mobility in Greater Jakarta

Final Report

SMEC

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Indonesia Infrastructure Initiative

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TECHNICAL REPORT

May 31, 2011

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INDONESIA INFRASTRUCTURE INITIATIVE

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ACKNOWLEDGEMENTS

This report has been prepared by a team of consultants from the Indonesian Transportation Society (MTI) led by Muslich Zainal Asikin. MTI collaborated with the Transportation Laboratory at the University of Indonesia (especially for the Baseline Survey, Chapter 5) and the Indonesia Infrastructure Initiative (IndII) funded by AusAID, as part of the UKP4 Activity. Any errors of fact or interpretation are solely those of the author.

Ellen Tangkudung
Secretary General of the Indonesian Transportation Society (MTI)
Jakarta, May 2011

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ABBREVIATIONS AND ACRONYMS

AMDAL	Environmental Impact Assessment
ANPR	Automatic Number Plate Recognition
AP	Action Plan
APBD	Local revenues and expenditures budget
Bappeda	Regional Development Planning Agency
Bappenas	National Development Planning Agency
BI	Bank Indonesia
Binamarga	Directorate General of Highways
BKSP	Development Coordination Agency
BLU	Public Service Agency
Bodetabek	Bogor, Depok, Tangerang, Bekasi
CMEA	Coordinating Ministry of Economic Affairs
CNG	Compressed natural gas
DGLT	Directorate General for Land Transportation
Dishub	Local Transportation Agency
DKI	Jakarta Provincial Government
DTA	Depok Transportation Agency
DTKJ	Jakarta Transportation Council
E-TLE	Electronic Traffic Law Enforcement
ERP	Electronic Road Pricing
FGD	Focus Group Discussion
GoI	Government of Indonesia
GR	Government Regulation

IMBB	new building permit
IndII	Indonesia Infrastructure Facility
Instran	Institute for Transportation Studies, an Indonesian NGO for transportation
ITDP	Institute for Transportation and Development Policy
Jabodetabek	Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, Bekasi)
JTA	Jakarta Transportation Agency
JMDP	Jabotabek Metropolitan Development Plan
JUTPI	Greater Jakarta Urban Transportation Policy Integration
K/L	Government ministries and agencies
KAI	PT Kereta Api Indonesia, state railway company
KCJ	Greater Jakarta Railway Company
KPP	parking control area
KRL	Greater Jakarta Electric Train
M&E	Monitoring and Evaluation
MPW	Ministry of Public Works
MENR	Ministry of Energy and Natural Resources
MoF	Ministry of Finance
MoHA	Ministry of Home Affairs
MoI	Ministry of Industry
MoLHR	Ministry of Law and Human Rights
MSOE	Ministry of State-owned Enterprises
MoT	Ministry of Transportation
MTI	Indonesian Transportation Society
NGO	Non Governmental Organization

NLA	National Land Authority
OTJ	Jakarta Transportation Authority (*Otoritas Transportasi Jakarta*)
P&R	Park and Ride
PCE	Passenger Car Equivalent
Perda	Local government regulation
Perpres	Presidential Regulation (*Peraturan Presiden*)
Pertamina	state oil company
PHF	Peak Hour Factor
PKL	Street vendors (*Pedagang Kaki Lima*)
Polda	Regional Police Department
Polda Metro (Jaya)	Metropolitan Police
PTM	Jakarta Macro Pattern of Transportation (*Pola Transportasi Makro*)
Raperpres	Draft Presidential Regulation (*Rancangan Peraturan Presiden*)
SAP	Sub Action Plan
Satpol-PP	city public order officers
SITRAMP	Study on Integrated Transportation Master Plan
SOP	Standard Operating Procedures
SPBG	Natural gas refill station
SPM	Minimum Standard of Service (*Standar Pelayanan Minimum*)
Tangsel	South Tangerang
TDM	Travel Demand Management
TIA	Traffic Impact Assessment
TSTA	South Tangerang Transportation Agency
UI	University of Indonesia

UKP4	President's Delivery Unit for Development Monitoring and Oversight
V/C	Volume/Capacity
VP	Vice President of the Republic of Indonesia

EXECUTIVE SUMMARY

The Vice President of Indonesia issued instructions on how to handle the traffic congestion in the Greater Jakarta area and appointed the President's Delivery Unit for Development Monitoring and Oversight (UKP4) as the institution to oversee implementation of these instructions. MTI and other stakeholders delivered expert input to UKP4 on the priorities for handling the transportation problem through an effective program, which resulted in 20 steps and several action plans. UKP4 then collaborated with MTI and IndII to implement the urban mobility management program, focussing on two showcase corridors: Corridor A (Depok-Dukuh Atas) and Corridor B (Serpong-Dukuh Atas).

The overall objective of the project was to provide UKP4 with transportation engineering and policy support by performing effective monitoring and evaluation (M&E) on activities conducted by the related government agencies. This was done to ensure that the activity outputs for improved urban mobility management along the showcase corridors were delivered in an effective and timely manner.

In this Final Report, the MTI team describes the progress of the activity, including the results of the baseline survey, consultations with stakeholders, media outreach, and identification of issues and challenges in planning implementation in the showcase corridors. The team also developed an M&E scheme as input or a recommended framework for UKP4's monitoring and evaluation activities.

Monitoring Activities

Overall, reported progress in project activities only covered routine activities. New activities and action plan implementation were found to be difficult to implement or else were less than optimal. One contributing factor was the time lag between the budgeting stage and action plan implementation. Indeed, all budget funds had been allocated to other government plans before the Vice President initiated the new action plans.

In addition, traffic law enforcement is constrained by the limited numbers of patrol officers; their numbers are inadequate for the large variety and volume of vehicles on the roads. To resolve this issue, it is recommended that E-TLE (electronic traffic law enforcement) be introduced for road users soon. One method being proposed is the use of Automatic Number Plate Recognition (ANPR) technology.

The Indonesian government's plan to alleviate traffic congestion should be intensely and effectively socialised to the public. This effort should include a campaign to encourage the use of public transport rather than private vehicles, particularly on weekdays.

In regard to action plan implementation, based on project monitoring conducted until mid-April 2011 along with on-site verification in consultation with various agencies, the

seven action plans for the showcase corridors can be classified into the following four categories:

Based on monitoring, there have been no significant improvements:

- (SC3A2) Functional improvement of sidewalks (removal of street venders, illegal parking, and motorcycles); and
- (SC3A3) Promoting slow lane use by motorcycles.

Activities are in regular operation, but need to be optimised:

- (SC3A1) Managing on-street parking; and
- (SC3A4) Preventing the use of busways by general traffic (corridor 1 & corridor 6).

Implementation of the action plan needs to be accelerated:

- (SC3A5) Ticket integration for railway and busway systems (introduction of JakCard).

Some aspects of the action plans require further planning:

- (SC3A6) Busway service improvement (fleet utilisation, and expansion); and
- (SC3A7) Provision of park-and-ride facilities at railway/busway stations.

Table 1.1. Summary of Action Plan Results

No.	Action Plan & Activities	Institution	Final Findings
1	Disciplining on-street parking;	Dishub-DKI, Polda Metro, Dishub-Depok, Dishub-Tangsel	On-street parking has shown no significant change. However, Mr Royke of Polda Jaya claims that illegal parking has been controlled. Actions have not been restricted to the two showcase corridors. He believes it is impossible to focus on and control on-street parking only on the showcase corridors while allowing on-street parking to happen simultaneously in other areas. More time is needed to achieve significant results in the showcase corridors, considering the limited number of officers on patrol. Raids on on-street parking currently only occur on Wednesdays and Fridays. The regulation relating to parking control is still being revised.

No.	Action Plan & Activities	Institution	Final Findings
2	Restoring the function of sidewalks/pedestrian ways	Mayors of Jakarta, Depok, and South Tangerang; Dishub-DKI, Public Order Officer-DKI, DKI Revenue Agency, Polda Metro (Jakarta Metropolitan Police)	A representative of the City Park Agency said during a stakeholders' meeting that her agency had done nothing for the two showcase corridors. Its agency has being improved sidewalk outside of showcase corridors. Meanwhile, sidewalk improvements along the showcase corridors will not be implemented until 2012, since the master plan is being developed during 2011. Field monitoring indicated no improvements in the sidewalks along the two showcase corridors.
3	Socialise use of special slow lane for motorbikes	Dishub-DKI, Depok, Tangsel, Polda Metro	No progress or action to promote slow lane use by motorcycles
4	Sterilise busway lanes on Corridor 1 & Corridor 6	Dishub-DKI, Polda Metro	Busway sterilisation only occurs during morning and evening rush hours.
5	Integrated ticketing for road and rail-based public transport	Dishub-DKI, KCJ	Latest progress was the DKI Jakarta governor's signing of an agreement with Bank DKI on 31 May, 2011. The relevant agency has done nothing. In fact, when Kristianto, head of the urban transport subdirectorate, attended the stakeholders' meeting, he said that ticket integration was almost impossible to accomplish.
6	Provision of Park and Ride land	Dishub-DKI, Depok, Tangsel, Revenue Agency-DKI, KAI, KCJ	Tanjung Barat and Rawa Buntu railway stations and Ragunan are the places needing Park and Ride facilities. Current plans and action could not be identified because of (a) the limited information provided at the stakeholders' meeting, and (b) the lack of any progress report to UKP4.
7	Enhance busway services in line with SPM	BLU TransJakarta Busway, Dishub-DKI	The problem faced by the TransJakarta busway is the provision of natural gas refill stations (SPBG). The Jakarta public works agency only undertakes daily maintenance of the busway and separators. There have been no improvements to TransJakarta services in order to comply with the minimum service standards. The SPM regulation has not yet been ratified and issued.

Coordination

Coordination has been going well, but needs to be further enhanced. This mainly relates to the handling of ongoing actions, which can be managed by the various government agencies.

Constraints encountered in the coordination process arose from too many agencies being involved, rather than a lack of commitment from the implementing agencies. There are approximately 18 agencies playing a role in overcoming traffic congestion in Greater Jakarta. Most of the implementing agencies send delegates who do not have decision-making authority, and they often send a different person to each stakeholder meeting.

Plans to establish the Jakarta Transportation Authority (OTJ) are in process, and this matter is currently being handled by the Coordinating Ministry for Economic Affairs (CMEA)[1]. Based on the latest activity report, the next stage is ratification of the draft Presidential Regulation (*Raperpres*) that has already been prepared. The draft will be submitted to the President in June 2011[2] for ratification as a Presidential Regulation (*Perpres*).

Establishing OTJ is meant to resolve various issues, including the problem of coordination and the scope of OTJ's authority, with OTJ being granted the necessary authority, a budget for its plan, and the supporting regulation. OTJ needs to participate effectively and optimally in order to handle transportation affairs in Greater Jakarta.

At a meeting with UK4 on 12 May, 2011, a proposal was made to develop a Cross-Function/Cross-Sectoral Team to bridge the gap before OTJ is established. This team's role will be to accelerate the process and make some of the action plans more manageable through the use of a dedicated team. The team members will come from different agencies with a dedicated person in charge.

Stakeholder Analysis

In this section, we review the coordination among the implementing agencies, their respective levels of commitment, and their progress in implementing their action plans. The results presented in Table 1.2 were garnered from a stakeholder meeting facilitated by MTI on 31 May, 2011. At this meeting, each implementing agency presented its program, its actions to achieve the UKP4 action plan, and its opinion and commitment to the action plan.

[1] http://www.thejakartapost.com/news/2011/04/13/jakarta-metropolitan-transportation-authority-be-formed.html

[2] CMEA presentation on Draft President Regulation on Greater Jakarta Transportation Authority, 21 April, 2011

Table 1.2. Stakeholder Analysis

No.	Institution	Program/ Action plan	Action Progress	Commitment to Issue	Attitude analysis	Remarks
1	MoT	Coordination	No significant results yet	No commitment	Kristiono (head of the Urban Transport Subdirectorate at the MoT) asserted that integrating tickets was not possible	
2	Ministry of BUMN	Coordination	No significant results yet	In progress		Did not attend
3	Jakarta Public Works Agency	maintaining and revitalising roads	No significant results yet	In progress	Daily maintenance of separators and potholes in road	
4	Landscape Affairs Agency	Sidewalk revitalisation	No significant and visible results	In progress	Committed to improving sidewalks, but no action yet	
5	Jakarta Transportation Agency	Clamping, promoting Slow Lane, etc.	No significant results yet	Strong commitment	Wheel clamping is done every Thursday and Tuesday, although not effective	
6	Regional Govt of DKI Jakarta	Issuing regional regulation on clamping, coordination, etc.	No significant results yet	In progress	No significant action	
7.	PT Kereta Api Indonesia	Ticket integration	No significant results yet	Strong commitment	Meeting held on 31 May, 2011 to reach agreement on developing electronic ticketing	

No.	Institution	Program/ Action plan	Action Progress	Commitment to Issue	Attitude analysis	Remarks
8.	BLU TransJakarta	Sterilising busway, developing electronic ticketing system, etc.	No significant results yet	In progress	No progress in electronic ticketing	
9.	South Tangerang Municipality	Coordination	No significant results yet	In progress	No action	
10.	Depok Municipality	Coordination	No significant results yet	In progress	No action	
11.	Polda Metro Jaya	Promoting slow lane use, clamping, etc.	No significant results yet	Strong commitment	Much action taken, but not yet at 100%	
12.	Pertamina	Accomplishing supply of CNG	No significant results yet	In progress	No changes	
13.	PN Gas	Accomplishing supply of CNG	No significant results yet	In progress	No changes	
14.	Bappeda DKI Jakarta	Coordination	No significant results yet	In progress	No significant action in terms of coordination process	

At the last public outreach and stakeholders' meeting on 31 May, 2011, the implementing agencies expressed various views and opinions. Kristiono, head of the Urban Transport Subdirectorate, as the delegate from the MoT, refuted and rejected ticket integration. Other implementing agencies failed to show strong commitment to implementing the action plans, with most not having taken any significant action relating to the action plans for the showcase corridors. And one implementing agency had done nothing for the showcase corridors. Most agencies said that they could not implement the action plan because they lacked the necessary budget, while the supporting regulations for the action plan in the showcase corridors had not yet been issued.

MTI presented its own assessment and opinion that the implementing agencies had not complied with the Vice President's instruction, whereas they had agreed to begin implementing it at the end of 2010. The stakeholders' meeting was attended by 45 journalists, who reported and informed the public on the progress in implementing the action plan to alleviate traffic congestion in Greater Jakarta. These journalists thus played a role in monitoring the stakeholders and putting pressure on them to commit to implementing the action plan.

Many print and electronic media outlets reported on the stakeholders' meeting. Some even led with it on the front page. In common with MTI's opinion, most of the press announced that the implementing agencies had not followed the VP's instruction. News reports have been positive in regard to action taken to handle the transportation problems of Greater Jakarta. News reports can put pressure on both the government and the public. Yopie Hidayat, the public relations representative of the VP, stated that the VP would summon Fauzi Bowo, as the governor of DKI Jakarta, and the other stakeholders in regard to the action plan. The VP is now awaiting the progress reports on the implementing agencies from UKP4 and MTI.

The news reports caused most stakeholders to react directly. A day after the news of the stakeholders' meeting was published, Fauzi Bowo clarified to the press that he had not ignored the VP's instruction. Instead, he blamed the central government for failing to lead implementation of the action plan program. The central government had not issued a government regulation supporting the implementation of action plan. Several experts used the media to express their support for the Jakarta governor's statement, including Darmaningtyas, Yayat Supratna, and Azis Tigor Nainggolan, who stated that the Jakarta government had done its best to support the action plans. However, the results indicate that current progress cannot be called a success.

Public Outreach

Following an initial series of focus group discussions, in-depth interviews were held with each stakeholder. These interviews were used to clarify each stakeholder's progress in implementing the program to alleviate Jakarta's traffic congestion, in line with their respective responsibilities.

(1) On-Street Parking

During the focus group discussion (FGD), it was suggested that the government should ban on-street parking to improve the flow of rush hour traffic. Conditions would also improve if the local government were prepared to build parking lots near working districts, although this would require specific locations. The police should apply stricter enforcement measures against people who illegally park on the street, in conjunction with the government's provision of sufficient parking spaces managed by the local community. The re-designation of vacant lots as parking areas might be an alternative solution. Strict enforcement against illegally parked vehicles should be done regularly by towing vehicles to the nearest police station. Lastly, Park & Ride (P&R) facilities are needed near inter-modal locations.

(2) Optimising Sidewalk Function

At this FGD, most participants agreed that illegal users of the sidewalk should be penalised, and the pavements need to be improved to make them suitable for pedestrian use. This could begin with clearing the sidewalk of barriers that hinder the movement of pedestrians. The use of sidewalks by street vendors reduces the number of visitors to traditional markets. The central and local government need to agree on a regulation that protects the comfort and safety of pedestrian paths. Some FGD

participants representing street vendors would prefer an alternative location that is safer and more appropriate. If necessary, the pedestrian path could have a fence added. Pedestrian paths should also provide access for the disabled.

(3) Slow Lane Socialisation

In the FGD discussing socialisation of slow lane use, participants conveyed a number of suggestions and expectations, highlighting the importance of the slow lane. In brief, the slow lane should be sufficiently wide and on only one side of a road (as on the Solo-Yogya road). There should be no vehicle stopping or bus shelters on the slow lane. In addition to the slow lane, a dedicated lane should be introduced soon specifically for bicycles. A separator is essential to separate the highway from the slow lane. Another option suggested was introducing a new age restriction on motor vehicle users, initially as a trial.

(4) Busway Lane Sterilisation

At the FGD on sterilization of the busway lane, participants agreed that busway sterilization should be included in a public education initiative. It was appreciated that it is better to use a bus that can load 85 passengers than private cars, which also present a higher accident risk. There should also be a restriction on car ownership of one car per family. Crowds of passengers in busway shelters and inconsistent arrival of buses lead people to prefer riding their own motorcycles. Some participants acknowledged that travel would be quicker using the busway, but many aspects of the busway need urgent improvements. Interconnections between busways and railways are also urgently needed.

Socialization to the public on the benefits of using busways also needs to be increased. To make busway traffic smoother, traffic police must be stricter in punishing road users that break the law and interfere with the smooth flow of buses, especially by entering the busway lane. If possible, the busway lane should have CCTV.

(5) Integrated Ticketing for Road and Rail-based Public Transport

The integrated ticketing FGD concluded that, from the public perspective, integrated ticketing is an effective way to reduce travel costs. In the future, society would likely prefer integrated ticketing. This could take the form of pre-paid cards, which encourage people to use them, rather than paying cash. A “one-touch” mechanism could also be considered, like the system in Guadalajara, Mexico. The card must be easily refillable at numerous refill counters. In the future, the ticket is likely to take the form of a single card like an ATM card, which can be used to pay fro all public transport in the city.

(6) Increased Busway Services to Meet Minimum Service Standards

Members of this FGD concluded that the headway on the busway was poor; with waiting time for buses reaching 30 minutes to an hour. The many non-busway vehicles entering the busway lane sometimes caused long queues in the busway lane, and

extensive waiting times for passengers. The FGD concluded that the fleet size was inadequate, and suggested additional ticket counters in strategic locations, improved safety, the installation of alarms, increased comfort in the waiting room, and separating the queues for men and women. Consequently, each bus should be guarded by one or two security officers. One person noted that busways with dedicated lanes must be the most appropriate form of public transport. However, current circumstances indicate that the fleet needs improving, busway management should be handled professionally, passenger information (bus, route, gate) should be complete, commuters should be educated regularly, and infrastructure (bus stop, lanes, etc.) improvements should be the priority agenda. Other aspects to consider were busway safety and security, rush hour availability, integrating tickets with railways, and more comfortable and accessible transfer points.

(7) Park & Ride

The FGD noted that Park & Ride (P&R) could reduce traffic congestion in Jakarta while providing a new economic activity at railway and busway stations. People would then feel more comfortable using public transport. However, a large area would be needed to accommodate the private vehicles of Jakarta commuters. Generally, P&R areas must be located on the outskirts of a city in order to reduce the number of vehicles entering the city centre. The government should issue a regulation instructing each administrative area in Jakarta to provide P&R facilities. The facilities need to be complemented by adequate pedestrian footpaths. And if the government integrates payment through an integrated ticketing system, travel time would be faster. All these efforts should be supported by all agencies connected with transportation issues and, most importantly, the government should be committed to this solution. Private cars should be prohibited from entering the main thoroughfares of Jl. Jend. Sudirman and Jl. MH. Thamrin. Pasar Minggu needs P&R facilities. If possible, the government should find private sector investors to undertake construction of the P&R sites.

(8) Summary of Issues Arising from Media Outreach

The busway fleet should be increased urgently. In addition, the government has budgeted a purchase of 80 articulated buses this year. Other issues highlighted by the journalists attending media outreach events included the preference for these two corridors, the performance of each department based on UKP4's evaluation, the implementation of an electronic road pricing system, transportation insurance, the seven action plans, and on-street parking.

Baseline Surveys

(1) Speed

Based on the survey findings contained in Tables 1.3 to 1.6, It can be concluded that during morning and evening rush hours, vehicles move at a relatively low speed due to the congested roads. In fact, average speeds from each segment of each corridor are below the 85th percentile speed. In some segments, namely Jl. Jend. Sudirman and Jl. HR Rasuna Said, slow lane and fast lane speeds are distinguished. Slow lane speeds are

indicated with a single asterisks, fast lane speeds with a double asterisks. Surprisingly, 85th percentile and average speeds in the fast lanes were slower than in the slow lanes.

Table 1.3. Depok-Dukuh Atas average speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Margonda Raya	28.1 km/h	29.7 km/h	26.3 km/h	27.2 km/h	20.9 km/h	25.1 km/h	26.2 km/h	26.8 km/h	35.2 km/h	36.2 km/h
Jl. Raya Pasar Minggu	39.7 km/h	34.6 km/h* & 38.6 km/h**	29.4 km/h	30.8 km/h* & 45.6 km/h**	26.1 km/h	24 km/h* & 28.8 km/h**	29.1 km/h	28.4 km/h* & 32.3 km/h**	50.9 km/h	40.1 km/h* & 44.7 km/h**
Jl. Warung Jati Barat	21.6 km/h	16.6 km/h	18.2 km/h	16.7 km/h	20.1 km/h	18.8 km/h	18.2 km/h	18.1 km/h	18.8 km/h	19 km/h
Jl. H.R. Rasuna Said	19.4 km/h* & 34.6 km/h**	26.5 km/h* & 30.2 km/h**	-	-	17.7 km/h* & 43.8 km/h**	19.4 km/h* & 25.7 km/h**	18.3 km/h* & 41.4 km/h**	22.5 km/h* & 33.3 km/h**	19.6 km/h*	32.8 km/h*

Table 1.4. Depok-Dukuh Atas 85th percentile speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Margonda Raya	34.9 km/h	33.9 km/h	31.9 km/h	33.2 km/h	34.5 km/h	27 km/h	35.4 km/h	33.2 km/h	44.2 km/h	42.6 km/h
Jl. Raya Pasar Minggu	46.7 km/h	44.2 km/h* & 44.4 km/h**	36 km/h	41.2 km/h* & 56.7 km/h**	33.9 km/h	29.3 km/h* & 37.2 km/h**	36.4 km/h	35 km/h* & 36.1 km/h**	56.6 km/h	46 km/h* & 56.7 km/h**
Jl. Warung Jati Barat	28.7 km/h	20.1 km/h	22.6 km/h	19.4 km/h	26.7 km/h	30.5 km/h	21.4 km/h	25.7 km/h	21.5 km/h	26.7 km/h
Jl. H.R. Rasuna Said	24.7 km/h* & 39.8 km/h**	24.5 km/h* & 39.7 km/h**	-	-	20.6 km/h* & 51.3 km/h**	22.7 km/h* & 36 km/h**	21.1 km/h* & 46.3 km/h**	29.8 km/h* & 39.6 km/h**	22.2 km/h*	38 km/h*

Table 1.5. Serpong-Dukuh Atas average speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Pamulang Raya	27.9 km/h	21.9 km/h	23.3 km/h	23 km/h	-	-	22.8 km/h	21.8 km/h	32.6 km/h	30.9 km/h
Jl. Ir. H. Juanda	25.7 km/h	23.4 km/h	20.9 km/h	19.5 km/h	18.3 km/h	23.1 km/h	23.2 km/h	18.3 km/h	19.6 km/h	19.6 km/h
Jl. Metro Pondok Indah	44 km/h	37.8 km/h	-	-	35.3 km/h	39.6 km/h	38.2 km/	34.7 km/h	45.9 km/h	39.3 km/h
Jl. Jenderal Sudirman	46 km/h* & 35 km/h**	30.1 km/h* & 49.7 km/h**	-	-	37 km/h* & 39.5 km/h**	30.4 km/h* & 41.6 km/h**	40.3 km/h*	26.4 km/h*	46.8 km/h*	37.2 km/h*

Table 1.6. Serpong-Dukuh Atas 85th percentile speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Pamulang Raya	33.8 km/h	27.1 km/h	27.7 km/h	28.1 km/h	-	-	29.4 km/h	27.7 km/	37.5 km/h	36.5 km/h
Jl. Ir. H. Juanda	33.3 km/h	30 km/h	25 km/h	22.8 km/h	21.8 km/h	30.2 km/h	28.2 km/h	-	38.2 km/h	22.4 k/h
Jl. Metro Pondok Indah	54.4 km/h	45.2 km/h	-	-	45.4 km/h	50 km/h	47.7 km/h	39.6 km/h	55.4 km/h	43.6 km/h
Jl. Jenderal Sudirman	54.3 km/h* & 45.6 km/h**	35.3 km/h* & 58.2 km/h**	-	-	47.1 km/h* & 47.6 km/h**	35.5 km/h* & 51.8 km/h**	48.4 km/h*	32.4 km/h*	57.5 km/h*	41.8 km/h*

(2) Cross-sections

The summaries in Tables 1.3 and 1.5 show the condition of cross-sections on both corridors. Only Jl. Jend. Sudirman and Jl. HR. Rasuna Said had good pavements and pedestrian ways.

It can be concluded that all road segments are approaching maximum capacity unless there is improved traffic management or the road infrastructure is redesigned or otherwise improved. Gridlock may occur on all these segments in the near future, as suggested by the traffic volume data for the eight segments surveyed.

Table 1.7. Comparison between Existing Road Conditions and Ideal Road Conditions on the Depok-Dukuh Atas Corridor

Conditions	Criteria	Jl. Margonda Raya	Jl. Tanjung Barat	Jl. Warung Jati Barat	Jl. H. R. Rasuna Said
Existing Conditions	Road Width per Lane (m)	4.23	4	3.46	3.3
	Total Lanes (m)	3	2 & 3	2	2
	Total Road Body With (m)	28,62	22.7 & 14.82	27.42	45.2
	Median Width (m)	1	0.5	2.68	3
	Sidewalk Width (m)	1.76	1.36-3.14	3.44	2.5
	Average Speeds (km/h)	20-60	20-60	20-50	20-70
	Class	Secondary Arterial	Primary Collector	Primary Collector	Primary Arterial
Ideal Conditions	Road Width per Lane (m)	3-3.6	2.75-3.6	2.75-3.6	3.5-3.6
	Total Lanes (m)	min 2	min 2	min 2	min 2
	Total Road Body With (m)	min 11	min 9	min 9	min 11
	Median Width (m)	min 2.0	min 1.7	min 1.7	min 2.0
	Sidewalk Width (m)	min 1.5	min 1.5	min 1.5	min 1.5
	Average Speeds (km/h)	≥ 30	≥ 40	≥ 40	≥ 60
	Class	Secondary Arterial	Primary Collector	Primary Collector	Primary Arterial

*Existing road classes awaiting Binamarga confirmation

Table 1.8. Comparison between Existing Road Conditions and Ideal Road Conditions on the Serpong-Dukuh Atas Corridor

Conditions	Criteria	Jl. Pamulang Raya	Jl. Ir. H. Juanda	Jl. Metro Pondok Indah	Jl. Jenderal Sudirman
Existing Conditions	Road Width per Lane (m)	3.15	3.67	3.3	2.9
	Total Lanes (m)	2	2	3	3
	Total Road Body With (m)	15.08	21.96	26.08	66.56
	Median Width (m)	1	1	1.12	5.22
	Sidewalk Width (m)	0.88	1.58	3.44	5.6
	Average Speeds (km/h)	20-50	20-50	20-70	20-70
	Class	Primary Collector	Secondary Collector	Secondary Arterial	Primary Arterial
Ideal Conditions	Road Width per Lane (m)	2.75-3.6	2.75-3.6	3-3.6	3.5-3.6
	Total Lanes (m)	min 2	min 2	min 2	min 2
	Total Road Body With (m)	min 9	min 9	min 11	min 11
	Median Width (m)	min 1.7	min 1.7	min 2.0	min 2.0
	Sidewalk Width (m)	min 1.5	min 1.5	min 1.5	min 1.5
	Average Speeds (km/h)	≥ 40	≥ 20	≥ 30	≥ 60
	Class	Primary Collector	Secondary Collector	Secondary Arterial	Primary Arterial

*Existing road classes awaiting Binamarga confirmation

(3) Traffic Volume

Using the data collected during the survey, Table 1.9 summarizes the degree of traffic saturation, or V/C (Volume/Capacity) ratio. While 'degree of saturation' is commonly used for intersections, the V/C ratio is used for road segments. The V/C ratio is in the range of 0-1, with a score of 0 meaning that traffic is flowing freely, and 1 meaning that traffic has reached its maximum, resulting in congestion.

Table 1.9. Degree of Saturation (V/C Ratio)

Segment	Peak Period	Number of Lanes	PCU Peak Hour	Base Capacity (Co)	Lane Width (FC_W)	Lane Separation (FC_{SP})	Side Factors (FC_{SF})	City Size (FC_{CS})	Actual Capacity (C) PCU	Degree of Saturation (DS)
Jl. Pamulang	Morning	4 Lanes/2 Way	1619	1650 pcu/lane x 2	0,94	1	0,93	0,88	2366	0,684
	Evening	Traffic	1520	= 3300 pcu						0,642
Jl. Ir. H. Juanda	Morning	4 Lanes/2 Way	2867	1650 pcu/lane x 2	1	1	0,98	1,05	3396	0,844
	Evening	Traffic	3058	= 3300 pcu						0,900
Jl. Metro Pondok	Morning	6 Lanes/2 Way	4508	1650 pcu/lane x 3	0,94	1	0,98	1,05	4788	0,942
	Evening	Traffic	3831	= 4950 pcu						0,800
Jl. Jenderal Sudirman	Morning	10 Lanes/2 Way	7266	1650 pcu/lane x 5	1,04	1	1	1,05	9009	0,807
	Evening	Traffic	5551	= 8259 pcu						0,616
Jl. Margonda	Morning	6 Lanes/2 Way	4924	1650 pcu/lane x 3	1,08	1	0,95	1	5079	0,969
	Evening	Traffic	4478	= 4950 pcu						0,882
Jl. Tanjung Barat	Morning	8 Lanes/2 Way	5948	1650 pcu/lane x 4	0,97	1	0,93	1,05	5954	0,999
	Evening	Traffic	5813	= 6600 pcu						0,976
Jl. Warung Jati Barat	Morning	4 Lanes/2 Way	2454	1650 pcu/lane x 2	0,99	1	0,98	1,05	3362	0,730
	Evening	Traffic	2666	= 3300 pcu						0,793
Jl. H. R. Rasuna	Morning	8 Lanes/2 Way	6170	1650 pcu/lane x 4	0,98	1	0,98	1,05	6656	0,927
	Evening	Traffic	3884	= 6600 pcu						0,584

Traffic levels in the morning are not always the same as in the evening. As Table 1.9 shows, the V/C ratio in one corridor does not rise as the survey point approaches Dukuh Atas. For instance, Jl. Pamulang Raya has a V/C ratio of 0.684 for morning traffic. As traffic reaches Jl. Ir. H. Juanda, the V/C ratio increases to 0.844. This may be due to convergence of vehicles from other roads. When traffic reaches Jl. Metro Pondok Indah, the V/C ratio increases again to 0.942, before falling back to 0.807 on Jl. Jend. Sudirman. These figures indicate that the traffic recorded at one point on the route does not always reach another designated survey point.

With respect to the V/C ratios presented in Table 1.9, improvements are needed in order to reduce current V/C ratios and improve service level quality. These improvements should focus on segments with a V/C ratio between 0.7 and 1, indicating very high traffic congestion that requires urgent attention.

(4) Performance of Public Transport Systems

a. Commuter Train vs. Public Transport Including Busway vs. Private Car

Table 1.10 shows travel times between Depok and Dukuh Atas, and between Serpong and Dukuh Atas, for three different modes of transport: rail, public transport including busway, and private car. Commuter trains offer by far the shortest journey time among the three travel modes surveyed.

- The journey by commuter train from Depok Lama station to Sudirman (Dukuh Atas station) takes 44 minutes using the AC economy train.
- The trip between Serpong station and Dukuh Atas station (in both directions) takes just under an hour.
- Journey time would be even shorter on a commuter train. Travelling by rail also entails a shorter distance than travelling by road.

b. Public Transport Plus Busway vs. Private Car

Considering the big difference in journey times between rail and road, the pertinent comparison is between two street modes: public transport plus busway and private car. Some conclusions from this survey follow.

- The top speeds of these two modes are not significantly different: 67.1 km/h and 66.7 km/h.
- Public transport and busway involve a shorter time in motion than using a private car.
- However, the time spent motionless when using public transport plus busway is much longer than using a private car, affecting overall travel time for this mode.

Total travel time using a private car is shorter than when using public transport and busway. However, public transport plus busway is a far more efficient mode of travel than using a private car in terms of the cost.

Table 1.10. Journey Time Summary for Three Different Modes

Corridor	Date	Transport Mode	Distance (km)	Top Speed (km/h)	Moving Time (minutes)	Stopped Time (minutes)	Overall time (minutes)	Moving Average (km/h)	Overall Average (km/h)
Serpong - Dukuh Atas	23-Mar-11	Private Car	34.3	67.1	111	15	126	18.5	16.3
	29-Mar-11	Public Transport + TransJakarta	36.3	66.1	109	51	160	19.9	13.6
	5-Apr-11	Commuter Train (AC Economy)	27.7	72.8	37.19	19	56.19	45.5	30.11
Dukuh Atas - Serpong	23-Mar-11	Private Car	33.5	72.6	114	15	129	17.6	15.6
	29-Mar-11	Public Transport + TransJakarta	35.2	63.9	140	42	182	19	11.6
	5-Apr-11	Commuter Train (AC Economy)	27.6	91.3	41.21	18.1	59.31	40.1	27.86
Depok - Dukuh Atas	9-Mar-11	Private Car	27.08	60	99	40	139	18.6	12
	25-Mar-11		26.5	68.2	88	37	125	18.1	12.7
	30-Mar-11	Public Transport + TransJakarta	32.9	66.7	93	42	135	21.3	14.6
	31-Mar-11	Commuter Train (AC Economy)	24.5	90.2	31.57	12.36	43.93	46.1	33.1
Dukuh Atas - Depok	24-Mar-11	Private Car	29	70	93	32	125	18.6	13.9
	30-Mar-11	Public Transport + TransJakarta	30.5	59.3	86	25	111	21.2	16.4
	30-Mar-11	Commuter Train (AC Economy)	25.7	77.6	38.41	9.38	47.79	39.9	31.9
	5-Apr-11		24.4	77.4	34.39	4.13	38.52	42.3	37.7

CHAPTER 1: INTRODUCTION

1.1 ACTIVITY BACKGROUND AND OBJECTIVES

1.1.1 Activity Background

The Indonesian government has expressed and reaffirmed its commitment to improve urban mobility in the Greater Jakarta area. A series of high-level government meetings were organized to seek a consensus on strategies to alleviate the severe traffic congestion experienced by the capital city of Indonesia. Despite the efforts of the current government to promote the TransJakarta Busway (Bus Rapid Transport, or BRT), overall traffic performance has worsened in recent years. The average travelling speed is falling, traffic accidents are increasing (notably those involving motorcycles), the use of public transport (passenger share) is declining, and the local government has not improved pedestrian facilities. As a result, traffic gridlocks have created costly congestion and air pollution, in terms of both local pollution and global emissions, leading to an inefficient and uncompetitive city.

In order to overcome the problems of traffic congestion in Jakarta, on 2 September, 2010, Boediono, the Vice President of the Republic of Indonesia (VP), issued 17 Vice Presidential Instructions for a number of institutions involved in managing and monitoring traffic and road transportation in the Greater Jakarta area at both the national and regional level. They included the governor of DKI Jakarta, the city traffic police, and several ministers. The VP also mandated the President's Delivery Unit for Development Monitoring and Oversight (UKP4) to lead the process of consolidating and restructuring existing policies and plans developed by various government agencies, in both central and local government.

Subsequently, in a report to the Vice President on 27 October, 2010, the Head of UKP4 presented a document titled "20 Steps", comprising 83 Action Plans and 119 Sub-Action Plans as well as two "Showcase Corridors" (to be promoted as 'quick wins' that would demonstrate the effectiveness of the coordination framework). The UKP4 proposed to modify the overall strategy from that of solving traffic congestion to improving urban mobility, creating a more synergetic approach to address the issue. The strategy for improving urban mobility allows each government and non-government stakeholder to play a role in realising a liveable and regionally competitive urban area.

Since UKP4 is a supervising and coordinating body that lacks the budget and resources to implement any measures, this body agreed to work collaboratively with the Indonesian Transportation Society (MTI, a civil society organization) and sought assistance from AusAID's Indonesia Infrastructure Initiative (IndII) to monitor implementation of the relevant transport action plans and improve urban mobility in Greater Jakarta. The overall objectives of IndII's assistance would be to identify bottlenecks in the implementation process and provide feasible solutions for particular Steps and Action Plans related to the showcase corridors. IndII's activities would also

attempt to improve public outreach and stakeholder involvement in the planning and implementation process.

1.1.2 Activity Objectives

The overall objective of the project is to provide the UKP4 with transportation engineering and policy support by performing effective monitoring and evaluation (M&E) on the activities conducted by each related government agency. This should ensure that the activity outputs for improving urban mobility management along the showcase corridors are delivered in an effective and timely manner.

The specific objectives of this activity are as follows:

a) At the *policy coordination level*, to:

   i) Develop an effective mechanism to implement activity measures, schemes and timetables for multi-stakeholder transport activities;

   ii) Facilitate coordination and consensus-building processes; and

   iii) Assist UKP4 with public outreach activities.

b) At the *showcase level*, *to*:

   i) Develop a monitoring framework for the showcases;

   ii) Undertake surveys and research to obtain field data for the showcase corridors;

   iii) Identify problems hampering successful implementation of showcases;

   iv) Undertake public consultation, involving individual travellers (transport users), specific travel groups/communities (bus, rail, bicycle), and business owners along the proposed corridors; and

   v) Provide recommendations to UKP4 concerning the wider replication of the showcases.

1.2 OVERVIEW OF ACTIVITY PROGRESS

For this final report, the MTI team of consultants reported on the progress in project implementation up until the final phase. The consultants had five main tasks: (i) project monitoring; (ii) project coordination; (iii) public outreach and consultation; (iv) baseline surveys; and (v) reporting. To fulfil these requirements, various activities were conducted during the project.

Monitoring was conducted on a daily basis throughout the project to observe improvements in urban mobility as an outcome of implementing the action plan. Project coordination activities included attending the FGD to discuss the draft

Presidential Regulation, attending UKP4 monitoring and evaluation meetings, attending Presidential Advisory Board (*Watimpres*) meetings, and holding meetings with stakeholders. Public outreach and consultations included the FGD for the transport users group, and the media FGD. Baseline surveys were conducted to identify initial traffic engineering conditions. And lastly, in terms of reporting, two reports were delivered, one to IndII and the other to UKP4 in early April 2011.

1.3 STRUCTURE OF FINAL REPORT

This Final Report has six main chapters:

1. *Introduction*, including an historical overview of the project and its overall progress.
2. *Overview of Transportation and Traffic Systems in Greater Jakarta*. This chapter elaborates on the existing transportation system in Jakarta, including the highway and toll road network, rail network, public transport, and the BRT (busway). This chapter also analyses the regulations for transportation issues along the showcase corridors.
3. *Showcase Corridors and Action Plans*. This chapter analyses the characteristics of the showcase corridors as well as the action plans being proposed, in order to obtain appropriate performance indicators. The progress in these action plans is also presented in this chapter.
4. *Monitoring, Coordination and Public Outreach*. In relation to monitoring, this chapter describes the methodology used, and how the initial monitoring and assessment findings were used to verify the achievements of the implementing agencies. Coordination included updates on issues and progress in the measures being proposed. On public outreach and consultation, the processes for targeted communications and using the mass media are discussed.
5. *Results of Baseline Survey*. This chapter presents the methodology applied in the survey, and the indicators selected to measure the policy intervention programs of all implementing agencies.
6. *Conclusions and Recommendations*. The report concludes with a summary of the team's findings, reviews the bottlenecks faced, and proposes a number of improvements to the strategy.

CHAPTER 2: OVERVIEW OF TRANSPORT AND TRAFFIC SYSTEMS IN GREATER JAKARTA

2.1 TRANSPORT AND TRAFFIC SYSTEMS IN GREATER JAKARTA

The need for transportation initially arose as a derived demand within society to meet socio-economic needs, including access to the work place, trade centres, schools and other daily needs, and distribution of goods from one place to another. Since facilities and infrastructure provisions can be potentially erratic, , the government administering a particular area must step in to control public demand for traffic in order to balance it with supply and so avoid any debilitative impact on socio-economic activities at the macro or micro level.

In Indonesian, with the decentralization of government systems to the local government, the authority to manage and control transportation and traffic lies with the district (regency) or municipal (city) government, led by the regent or mayor. In Jakarta, the capital city of Indonesia, this authority lies with the governor of DKI Jakarta province. The governor of Jakarta is therefore responsible for the city transportation system and traffic within the DKI Jakarta provincial administrative area.

In September 2010 the Vice President issued 17 Vice Presidential Instructions for handling traffic congestion in the Greater Jakarta area, appointing UKP4 as the institution to oversee implementation of these instructions. MTI and other stakeholders then delivered expert input to UKP4 on the priorities for handling transportation problems, resulting in 20 Steps and 83 Action Plans. UKP4 then collaborated with MTI and IndII to implement urban mobility management program, focussing on two 'showcase' corridors named Corridor A (Depok-Dukuh Atas) and Corridor B (Serpong-Dukuh Atas).

Based on project monitoring conducted by MTI and IndII on action plan implementation through mid-April 2011, and following on-site verification in consultation with various agencies, the seven action plans for the showcase corridors were categorised into four groups:

Based on the monitoring, there have been no significant improvements:

- (SC3A2) Functional improvement of sidewalks (removal of street venders, illegal parking, and motorcycles); and
- (SC3A3) Promoting slow lane use by motorcycles.

Activities are in regular operation, but need to be optimised:

- (SC3A1) Managing on-street parking; and
- (SC3A4) Preventing the use of busways by general traffic (corridor 1 & corridor 6).

Implementation of the action plan needs to be accelerated:

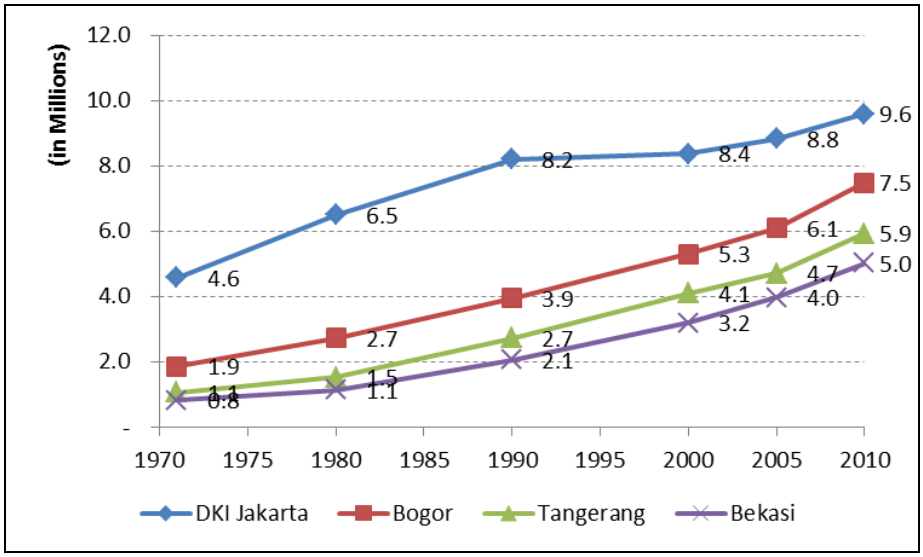
- (SC3A5) Ticket integration for railway and busway systems (introduction of JakCard).

Some aspects of the action plans require further planning:

- (SC3A6) Busway service improvement (fleet utilisation, and expansion); and
- (SC3A7) Provision of park-and-ride facilities at railway/busway stations.

Coordination among the various implementing agencies did not show any improvement in performance. The coordination depends heavily on the establishment of the Jakarta Transportation Authority (*Otoritas Transportasi Jakarta,* or OTJ), for which the pertinent Presidential Regulation (*Perpres*) was expected to be ratified in June 2011.

Figure 2.1. Population of Greater Jakarta



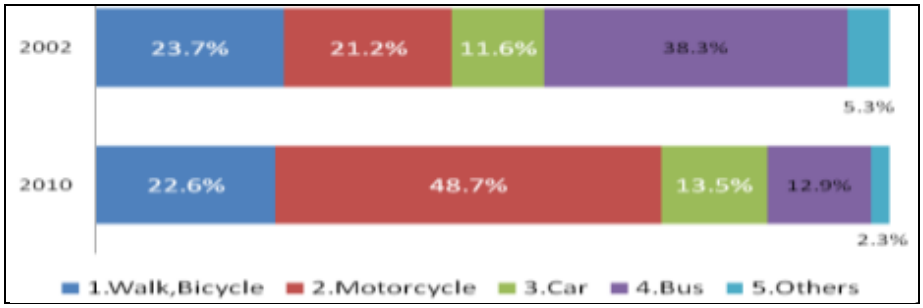
Notes:

- 2005 data are based on a population census intermediate survey (*Survei Penduduk Antar Sensus*).
- 2010 data are preliminary figures from DKI Jakarta, West Java and Banten provinces.

Sources: Statistical Year Book of Indonesia 1998; Population of West Java 1995, Population Census 2000, Population Census Intermediate Survey 2005, Population Census Preliminary Figures (*adapted*)

Recent growth in travel demand has not been accommodated by the supporting infrastructure, and this has been exacerbated by the general public's lack of interest in using public transportation. A decline in the quality of public transport services has led people to increasingly depend on private vehicles. In addition, cars and motorcycles have become much easier to obtain due to strong penetration by motor vehicle manufacturers.

Figure 2.2. Changes in Mode Share for Work Place Trips: 2002 and 2010



Notes:

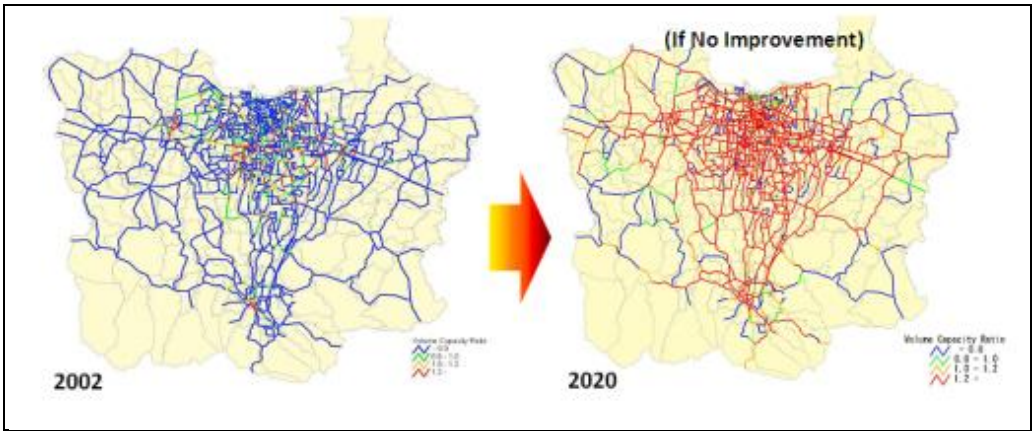
- 'Cars' include taxis and *bajaj*
- 'Others' include railways and *ojek* (motorcycle taxis)

Source: Preliminary figures from JUTPI Commuter Survey, 2011

2.1.1 Transport Network

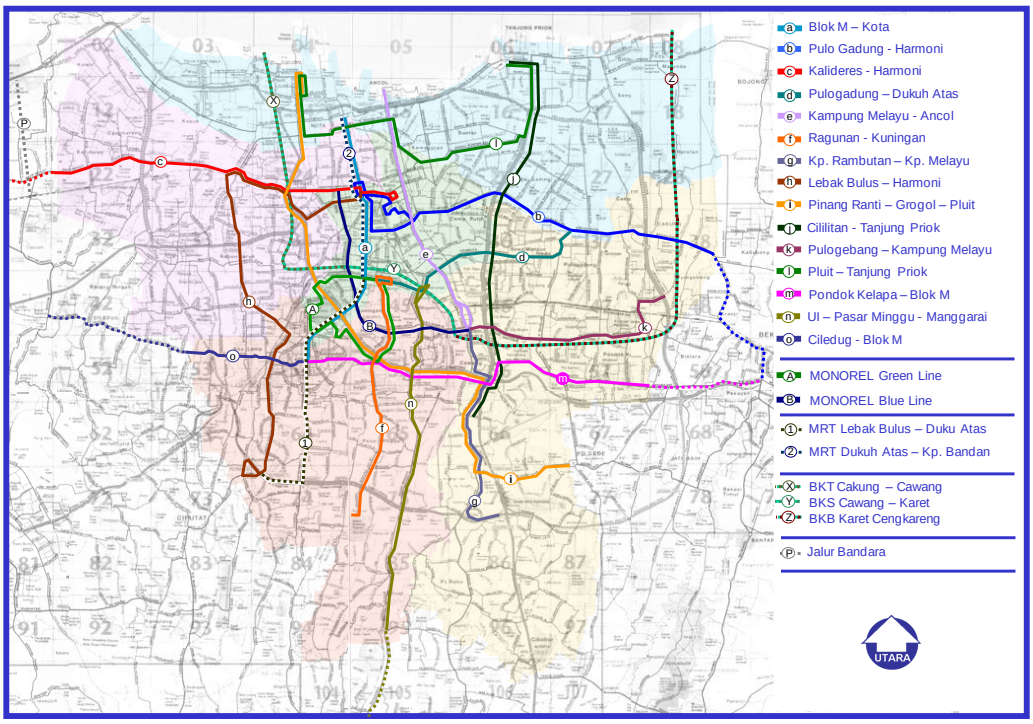
The TransJakarta public transportation system in Greater Jakarta consists of rail-based public transport and road-based public transport. The first mode is dominated by electric rail (KRL), which is managed by PT KAI Commuter Jakarta (KCJ). Road-based public transport consists of public transport managed by regular operators and operating in mixed traffic lanes. Meanwhile, road-based mass transit – known as the TransJakarta Busway – currently operates in 10 of the 15 corridors that have been planned.

Figure 2.3. Potential for Serious Congestion in 2020



Source: SITRAMP, 2004 (adapted)

Figure 2.4. Public Transport Network Plan created by DKI Jakarta provincial government

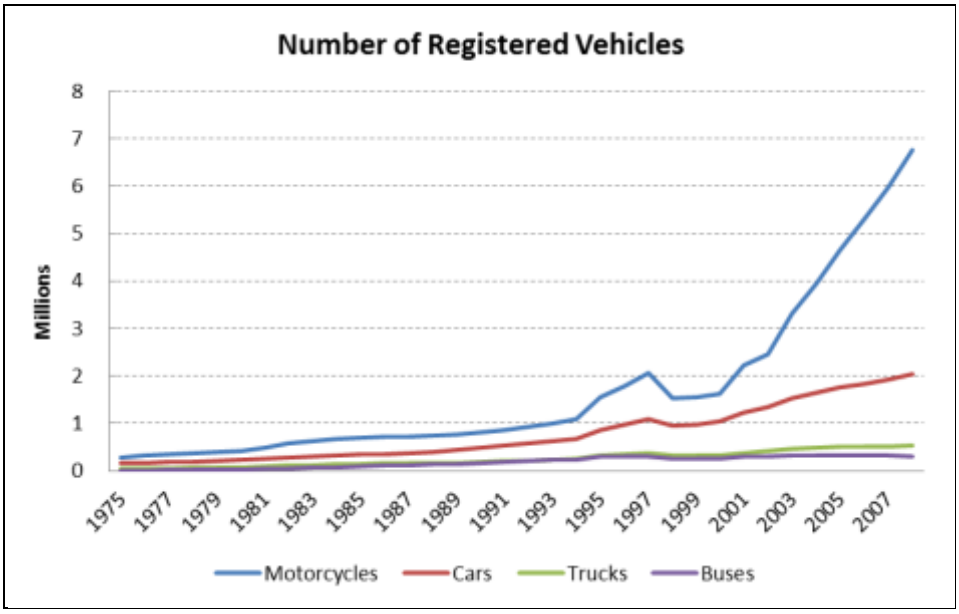


Source: Jakarta Transportation Scheme (PTM), 2007

2.1.2 Characteristics of Travel Demand

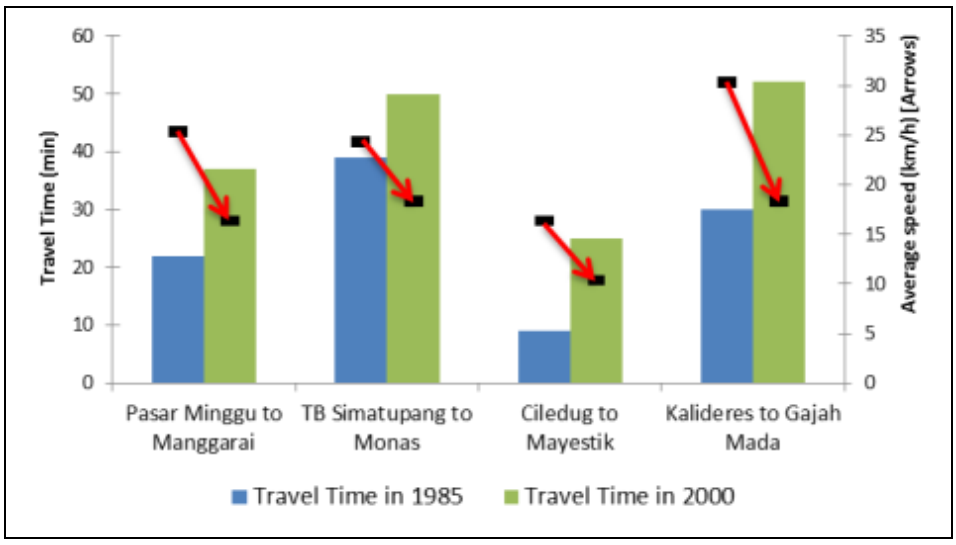
Agglomeration has made Jakarta the national centre for economic activities, attracting more and more people. Further, the rapid growth of the national economy during the decade following the economic recession of the late 1990's enabled the citizens to expand their economic activities considerably. Consequently, the demand for mobility among residents of Greater Jakarta has grown substantially in the period from 2002 to 2010.

Figure 2.5. Number of Registered Vehicles in Greater Jakarta, 1975 to 2007



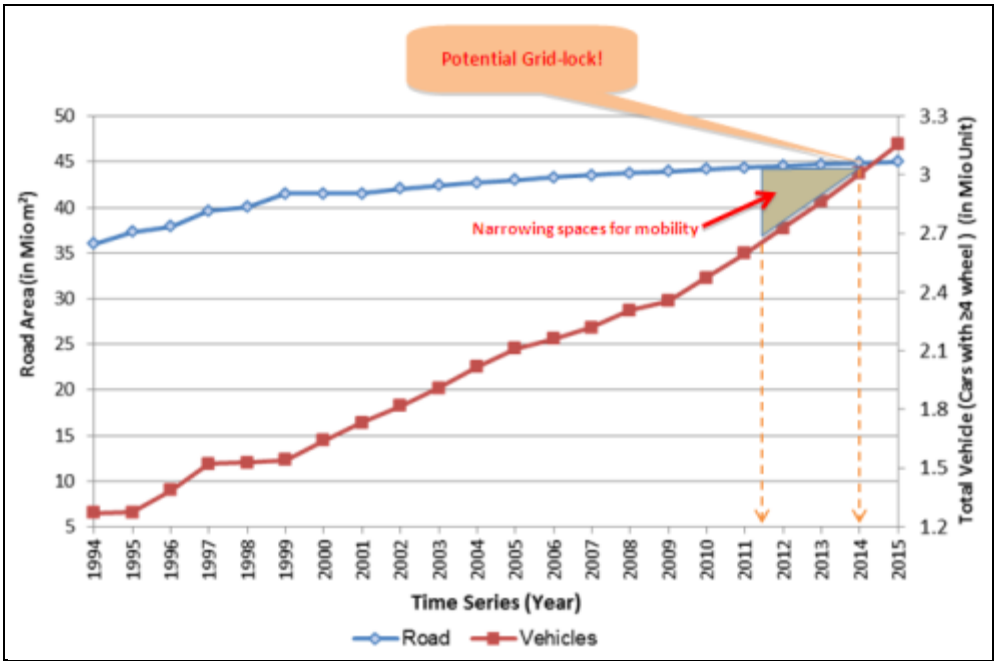
Source: Polda Metro Jaya (*adapted*)

Figure 2.6. Travel Time in Jakarta Has Increased Significantly, Comparison of 1985 and 2000



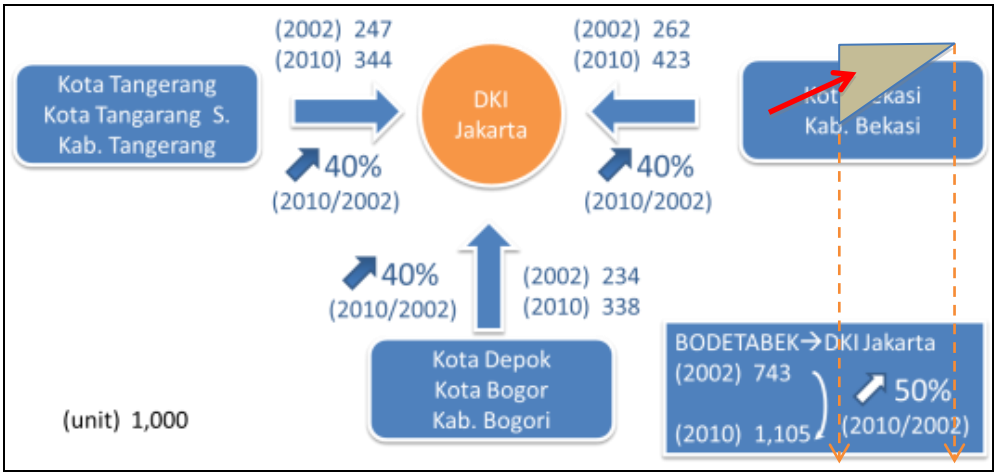
Source: SITRAMP (2004) (*adapted*)

Figure 2.7. Projected Road Area vs. Total Vehicles; Potential Gridlock in 2014



Source: Polda Metro, JTA, (2009) (*adapted*)

Figure 2.8. Commuters to DKI Jakarta; Comparison of 2002 and 2010



Source: Preliminary figures from 2011 JUTPI Commuter Survey (*adapted*)

Ironically, as demand for travel and meeting daily needs has increased for most of the urban population, public transport services have continued to deteriorate. Households with higher income levels prefer to buy private cars rather than use public transport. This has had a significant impact on the revenues of public transport operators, making it extremely unlikely that they will provide better services. Now, the ratio of private vehicles to public transport is out of balance. Public transport now comprises only 2% of total traffic, while private vehicles account for the other 98%.

Aware of the need for a public transport system that can rapidly carry large numbers of passengers, the government of DKI Jakarta decided to develop the TransJakarta Busway – a road-based mass rapid transit (MRT) system known as bus rapid transit (BRT). According to the *BRT Planning Guide* (Wright and Hook, 2007), some of the internationally acknowledged characteristics of BRT are:

- Ability to load and unload passengers quickly,
- Efficient payment procedure,
- Comfortable bus stops and bus stations,
- Clean technology,
- Integrated mode,
- Modern marketing identity, and
- Very good customer service.

As of March 2011, Muhammad Akbar, the head of the public service agency (BLU) TransJakarta Busway, asserted that the number of busway passengers reached 350,000 per day along busway routes covering 174 km. This number is far below that for the Trans Milenio Bogota, which carries two million passengers per day, half of them coming from feeder routes. Efforts to introduce an integrated transportation mode service in Jakarta were initiated by the Directorate General for Land Transportation (DGLT) at the Ministry of Transport (MoT) by providing 15 buses to the municipality of South Tangerang for the 2010 budget year. As planned, this feeder service connects Lebak Bulus bus station (corridor 8 busway terminal) with Pamulang. Unfortunately, administrative bottlenecks prevented some of these buses from coming into operation.

2.2 POLICY, REGULATION, AND INSTITUTIONAL FRAMEWORK

The failure of local agencies to achieve significant results compelled the central government to intervene in the handling of traffic congestion in Greater Jakarta. The central government urged 18 central and regional government agencies to engage in a collaborative effort to alleviate traffic congestion in the capital.

The UKP4 action plans are mainly about a performance assessment on institutional participation and responsibility within the task activity. Since this effort involves 18 agencies, they first need to understand the existing regulations and actions taken to handle transportation problems in Jakarta.

2.3 ADMINISTRATIVE AREAS AND RESPONSIBILITIES

Based on the Law on Traffic and Land Transportation, Law No. 22 of 2009, there are three types of road ownership in Indonesia:

- *National roads*. The development and maintenance of these roads is the responsibility of the Ministry of Public Works (MPW) while the agency responsible for managing traffic on these roads is the Ministry of Transport (MoT). National roads connect the main cities of provinces with cities in other provinces.
- *Provincial roads*. The provincial governor is responsible for developing, maintaining and managing traffic on these roads, which connect towns and cities in different districts but within the same province.
- *City and district roads*. The governor is also responsible for developing, maintaining and managing traffic on these roads, which are local roads within a city or district.

The authority to change road types resides with the MPW. An exception applies to DKI Jakarta, which has only national and provincial roads.

2.3.1 Transport/Traffic Regulations

The regulations directly related to transportation at central and local government level are:

- Law No. 22 of 2009 on Traffic and Land Transportation,
- Law No. 38 of 2004 on Roads,
- Law No. 23 of 2007 on Railways,
- Government Regulation (GR) No. 15 of 2005 on Toll Roads, and
- GR No. 41 of 1993 on Road-based Transport.

DKI Jakarta provincial regulations (*Perda*), Law No. 12 of 2003 on Road-based Public Traffic, Railways and Communication, several ministerial regulations, DGLT regulations, and gubernatorial decrees provide the detailed mechanisms for implementing the higher-level legislation.

Additional legislation covering issues related to land transportation includes:

- *Law No. 28 of 2002 on Buildings*. This legislation contains the requirements for parking systems within a building.
- *Law No. 2 of 2002 on the Police Force of the Republic of Indonesia*. This legislation provides that the government agency authorised to enforce the traffic and transportation regulations is the Indonesian police force.
- *Law No 26 of 2007 on Spatial Planning*. Transportation and spatial planning are interconnected and inseparable from each other, i.e., one factor directly affects the other.
- *Law No. 29 of 2009 on Managing Local Taxes and Levies*. This legislation governs the mechanism for applying levies to control traffic congestion, commonly known

as Electronic Road Pricing (ERP). Under this legislation, private vehicle users must also pay progressive taxes on their vehicles if they have more than one car.

- *Law No. 29 of 2007 on the Legal Status of DKI Jakarta*. Jakarta as a special autonomous region has legislation mandating that the governor of DKI Jakarta should regulate his administrative area. The governor has full and higher authority than governors of other provinces. Within the Jakarta administrative area, municipalities are only executors of gubernatorial regulations. In other words, they lack the autonomy of municipalities in other provinces.

2.3.2 Current Travel Demand Management Measures

Several travel demand management (TDM) measures have been introduced:

a. 3-in-1 system

   This system requires every private vehicle passing through a 3-in-1 lane to carry at least three passengers (including the driver). It does not apply to public transport. The 3-in-1 system operates at 07.00-10.00 in the morning and 16.30-19.00 in the afternoon along Jl. Jend. Sudirman, Jl. MH. Thamrin, Jl. Jend. Gatot Subroto, Jl. Majapahit, Jl. Gajah Mada, Jl. Hayam Wuruk, and Jl. Kali Besar.

b. Parking control

   The parking control system that is now in effect restricts on-street parking, particularly in areas known as KPP (parking control areas). KPP prevents reductions in the capacity of roads that have busway lanes due to street parking.

c. Staggered Office Hours

   The DKI Jakarta provincial government has introduced different office hours in each of the municipalities (or administrative regions) that make up the capital. School starting hours have also been brought forward, from 07.00 to 06.30, on the assumption that parents who accompany their children to school will thus have more time to get into work. In this way, road use should be more staggered.

A number of TDM components have been proposed by transportation experts in Jakarta:

a. Electronic Road Pricing (ERP)

   Implementing ERP in some cities overseas has been able to reduce traffic congestion by 30%. There are various methods used, including the ERP system in Singapore, and the congestion charge applied in London and Stockholm.

b. Odd/even number plates

   This method uses the last number on a vehicle number plate to determine access on certain days. For instance, Sunday, Wednesday and Friday may only be for vehicles with odd last numbers, while the other days are for vehicles with even last numbers. The application of this method is expected to be able to reduce traffic

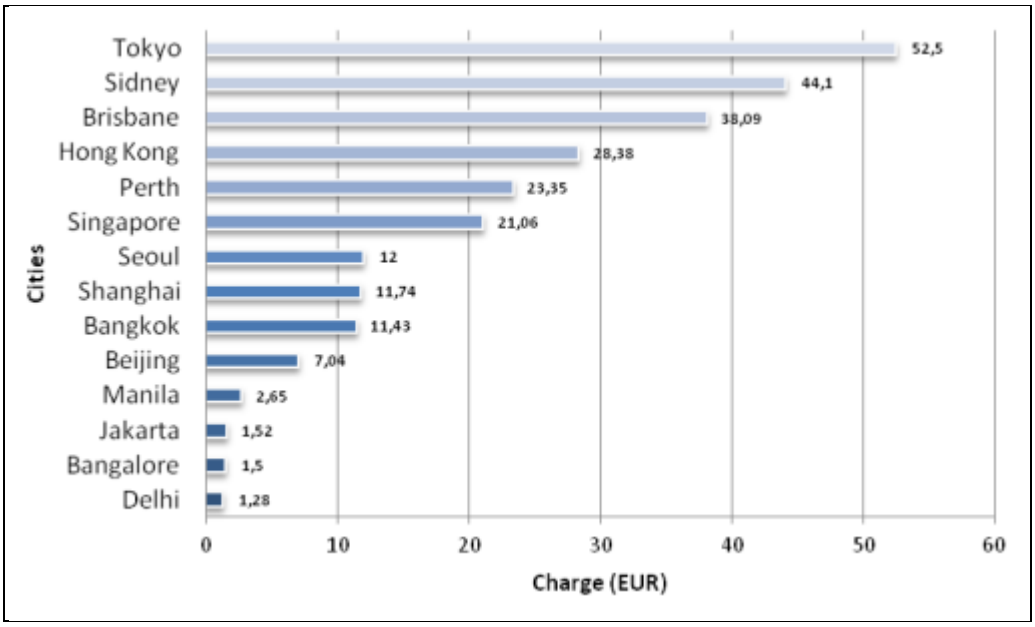
congestion about 40-50%. However, this method has failed in implementation because of deceptive cultural behaviour, such as having two sets of number plates (even and odd) and affixing the one that grants access on each day (as has occurred in Lagos, Nigeria).

c. Increasing urban parking charges

Rather than focussing on public transportation services, parking services can be used as a fiscal tool to control traffic congestion. If parking charges are made prohibitively expensive in areas prone to traffic congestion (generally in the city centre), then private vehicle users will think again about whether to bring their own vehicles or use public transport instead.

All TDM measures are still at the discourse level, apart from ERP. The Jakarta government has been considering the best ERP system to apply. Meanwhile, implementation of ERP will depend on the supporting regulation from the central government.

Figure 2.9. Average daily parking charges in several cities (in Euro)



Source: Iskandar, 2010 (adapted)

2.3.3 Traffic Law Enforcement

Law No. 22 of 2009 on Traffic and Land Transportation states that traffic law enforcement falls under the authority of the traffic police while the transportation agency only helps to manage traffic. In case the transportation agency wants to impose penalties, its officials must be accompanied by traffic police. Today, law enforcement is only conducted by traffic police by directly sanctioning traffic law violators. This

manual method will be hard to continue in the future, considering the limited number of traffic police and the increasing number of vehicles on the roads.

In response, the traffic police directorate at Polda Metro Jaya (metropolitan police) has introduced electronic traffic law enforcement (E-TLE). Implementation of E-TLE began in April 2011at the Sarinah intersection (Jl. MH. Thamrin in central Jakarta) after cameras been installed. Thee are three types of violations covered: vehicles stopping in the slow lane, vehicles stopping in the yellow box in the middle of intersection, and those crossing in violation of the traffic light signals. For each violation in Sarinah, the violator must pay a penalty of Rp 1,500,000.

The E-TLE method now in place at Sarinah will be rolled out to other areas in the future, and the types of infringements covered will be expanded. Inadequate law enforcement methods on roads have prevented the government from implementing the regulations rigorously. Visible evidence of the difficulties faced in traffic law enforcement can be found in the busway sterilization program, which has taken a long time and still needs to be conducted almost daily, and in the continued prevalence of on-street parking.

CHAPTER 3: SHOWCASE CORRIDORS AND ACTION

3.1 CHARACTERISTICS OF SHOWCASE CORRIDORS

Figure 3.1. Map of Showcase Corridors

1. Corridor A (Dukuh Atas-Depok)

This corridor lane is 25.5 km long, and covers the administrative areas of DKI Jakarta and West Java province, in particular the municipality of Depok. The route has several road segments, starting at the Depok terminal, then traversing Jl. Raya Margonda, Lenteng Agung, Tanjung Barat, Jl. TB. Simatupang, Jl. Buncit Raya, Jl. HR. Rasuna Said, and ending at the Dukuh Atas busway stop on Jl. Jend. Sudirman.

2. Corridor B (Dukuh Atas-Serpong)

This corridor is 34.1 km long, and covers the areas of South Tangerang municipality in Banten province, and DKI Jakarta province. Road segments included on this route are Jl. Pamulang, Jl. Ciputat Raya, Jl. Ir. Juanda, Jl. Pondok Indah, Jl. Pakubuwono, and Jl. Jend. Sudirman. This corridor also ends at Dukuh Atas busway stop.

Table 3.1. Characteristics of Showcase Corridors

Item	Corridor A	Corridor B
Length	±25.5 km	±34.1 km
Locations	Goes south from Dukuh Atas to Jl. Tanjung Barat near University of Indonesia (on the border between DKI Jakarta and West Java provinces), continuing to Depok municipality in West Java	Goes southwest from Dukuh Atas to Jl. Ir. H. Juanda, near Lebak Bulus Stadium (on the border between DKI Jakarta and Banten provinces), continuing to Serpong in South Tangerang municipality, Banten province
Land Use	Mixed Use: Offices, Public Areas, Residential, Market	Mix Used: Offices, Public Areas, Residential, Market
Railways	KRL Ekonomi KRL Ekonomi AC KRL Ekspres AC	KRL Ekonomi KRL Ekonomi AC (Ciujung) Sudirman & Serpong Ekspres AC
Busway	Corridor 6, Corridor 9 (crosses at Kuningan-Mampang)	Corridor 1, Corridor 8 (from Pakubuwono to Lebak Bulus)
Bus Services	Metromini Kopaja Bus Mayasari Bakti	Metromini Kopaja Bus Mayasari Bakti

3.2 OVERVIEW OF ACTION PLANS AND TARGETS

In Indonesia, which has many institutions that have autonomy and can influence the state of land transportation in Greater Jakarta, coordination is very difficult to implement effectively and efficiently. Inefficient governance leads to high costs of economic and social activities. This increasing opportunity cost hinders development of the metropolitan area towards the promised future prosperity.

In addition to the national government, there are three provincial governments and nine district governments within the Greater Jakarta area, each of which has autonomy to manage its territory. A lack of harmony in the policies of the various government agencies across the region led Vice President Boediono to appoint UKP4 as a coordinating agency to improve policy coordination. The executive functions are still the authority and responsibility of the respective agencies.

The main aim of promoting showcase corridors is to reduce travel time through government interventions. Each of the 83 action plans is chaired by the related government agency, supported by other agencies through appropriate policies.

Table 3.2. 20 Steps as a Derivative Measurement of the 17 Vice-Presidential Instructions to Alleviate Congestion

Step (L)	Activity (A)	Related Responsible Agencies	Action Plans (AP); Sub-Action Plans (SAP)
Step Group 1: Transportation Facilities and Infrastructure			
1	Adopt Electronic Road Pricing (ERP)	MoT, DKI	4 AP, 5 SAP
2	Assess on-street parking policy and law enforcement	DKI, TPD	2 AP, 3 SAP
3	Improve road facilities and infrastructure	DKI, Banten, West Java	10 AP, 16 SAP
4	Additional toll roads	MPW	4 AP, 4 SAP
5	Formulate policy to restrict motor vehicles	MoF, MoT	3 AP, 4 SAP
Step Group 2: Spatial Provisions			
6	Park & Ride site preparation to support electronic train	MoT, NLA, MoNE, DKI	4 AP, 6 SAP
7	Improve the quality, revitalize, and expand pedestrian ways (city sidewalks)	DKI	2 AP, 3 SAP
Step Group 3: Public Transportation			
8	Sterilise busway lane (Bus Rapid Transit), especially in four main corridors	DKI	3 AP, 5 SAP
9	Addition of two busway corridors by end of 2010	DKI	3 AP, 3 SAP
10	Special CNG price for transportation	Pertamina, MoNE, MoENS, DKI	3 AP, 4 SAP
11	Restructure inefficient small bus operations	DKI, MoT, Bodetabek	3 AP, 3 SAP
12	Optimize Greater Jakarta KRL through re-routing	MoT, MoNE	3 AP, 3 SAP
13	Control illegitimate transport and illegal vehicle stops	DKI	2 AP, 4 SAP
14	Accelerate development of MRT	DKI	6 AP, 7 SAP

Step (L)	Activity (A)	Related Responsible Agencies	Action Plans (AP); Sub-Action Plans (SAP)
15	Manggarai-Cikarang section of Greater Jakarta KRL double track project	MoT	5 AP, 5 SAP
16	Accelerate development of KRL inner ring (loop lane), integrated with road-based mass transit system	MoNE, MoT	8 AP, 9 SAP
17	Accelerate Airport railway development	MoF	1 AP, 2 SAP
Step Group 3: Regulations and Governance			
18	Form Greater Jakarta Transportation Authority	CMEA	3 AP, 3 SAP
19	Revise integrated transportation master plan	CMEA	3 AP, 3 SAP
20	Public education on traffic congestion and road discipline	MoT	1 AP, 2 SAP

Source: UKP4 Report to the Vice President on January 5, 2010; *Handling Greater Jakarta Transportation: 2010 Achievements, 2011 Next Steps*

One of the basic considerations of the showcase site selection was the potential to make cooperation among government agencies both vertical and horizontal. Corridor A, which links Depok and Dukuh Atas, will reflect the results of cooperation between the Provincial Government of DKI Jakarta, West Java Provincial Government and the Municipal Government of Depok. Meanwhile, Corridor B (Serpong-Dukuh Atas) will represent the results of cooperation between the Provincial Government of DKI Jakarta, Banten Provincial Government and the Municipal Government of South Tangerang. Thus, people can see for themselves the performance of each of these government agencies in solving common challenges (particularly challenges facing the transport sector), in both these showcase corridors after six months of policy intervention.

Table 3.3. Action Plans for Showcase Corridors

No.	Action Plan & Activities	Activities (A)	Responsible Agencies
1	Disciplining on-street parking (S2A1, S3A7, S3A8)	a. Control taxi parking, especially on interconnection points (signs) b. Enforce vehicle clamping regulations	Dishub-DKI Dishub-DKI

No.	Action Plan & Activities	Activities (A)	Responsible Agencies
		c. Socialize disciplinary action against public parking and taxi parking (multiple methods and media)	Dishub-DKI, Polda Metro
		d. Invite businesses across showcase corridors to participate and support parking control	Dishub-DKI, Polda Metro, Dishub-Depok, Dishub-Tangsel
		e. Add/improve road markings for on-street parking	Dishub-DKI, Dishub-Depok, Dishub-Tangsel
2	Restoring the function of sidewalk/ pedestrian way (S7A2, S3A9)	a. Socialize the function of sidewalks/ pedestrian ways	Relevant Mayors of Jakarta, Depok, Tangsel
		b. Control of street vendors (PKL) on sidewalk	Public Order Officers-DKI, Depok, Tangsel
		c. Utilize the yards of offices/shops for PKL after office hours	Relevant Mayors of Jakarta
		d. Discipline parking on sidewalks	Dishub-DKI
		e. Cleanse sidewalks of items that constrain pedestrian movement (flower pots, advertising, etc.)	Public Order Officer-DKI, DKI Revenue Agency
		f. Control use of sidewalks as motorbike lanes	Polda Metro
3	Socialize use of special slow lane for motorbikes (S20A1)	a. Socialize use of slow lane for motorbikes (multiple methods, multimedia)	Dishub-DKI, Depok, Tangsel, Polda Metro
		b. Provide road markings for motorbikes on roads that do not have a slow lane	Dishub-DKI, Depok, Tangsel
		c. Provide signage for motorbikes to use left and slow lanes	Dishub-DKI, Depok, Tangsel
4	Sterilize busway lanes on Corridor 1 & Corridor 6 (S9A1)	a. Socialize use of busway lanes by other vehicles	Dishub-DKI, Polda Metro
		b. Brief the police regarding the open-shut concept for busway lanes	Polda Metro
		c. Implement open-shut mechanism for busway lanes for other vehicles based on discretionary authority of the police	Polda Metro

No.	Action Plan & Activities	Activities (A)	Responsible Agencies
5	Integrated ticketing for road- and rail-based public transport (S12A5)	Use of Jakarta-Bogor and Jakarta-Serpong KRL tickets as tickets for Corridor 1 Busway	Dishub-DKI, KCJ
6	Provision of Park & Ride land (S6A1, S6A2)	a. Determination of parking lots belonging to the community and private owners within the P&R scheme (referring to spatial plan/RTRW, inclusive parking signage installations) b. Add capacity and P&R arrangements at KRL stations in showcase corridors	Dishub-DKI, Depok, Tangsel, Revenue Agency-DKI, Depok, Tangsel KAI, KCJ
7	Enhance busway services in line with SPM (S9A3)	a. Increase the number of buses in Corridor 1 and Corridor 6 b. Physical improvements to busway stops c. Maintenance of busway lanes in Corridor 1 and Corridor 6 d. Improvement of 100 metres of sidewalks around busway stops e. Improvement of maintenance and care system f. Addition of parking capacity (P&R) at Ragunan and Lebak Bulus terminals g. Addition of sidewalk from Sudirman train station to Dukuh Atas busway stop, and expansion of Dukuh Atas busway stop h. Adjustment of road signage around Sudirman train station i. Provision of access facilities for taxi services at Sudirman train station	BLU TransJakarta Busway, Dishub-DKI Dishub-DKI Dishub-DKI Dishub-DKI (ITDP) Dishub-DKI Dishub-DKI Dishub-DKI Dishub-DKI Dishub-DKI

Source: UKP4 Report to the Vice President on January 5, 2010; *Handling Greater Jakarta Transportation: 2010 Achievements, 2011 Next Steps*

3.3 REPORTED PROGRESS AND CONSTRAINTS

The reported progress presented below covers the results of each related implementing agency's actions as reported to UKP4 up to the beginning of March 2011. When this report was being prepared, updated information had not yet been delivered to UKP4 by each implementing agency. Constraints do not relate to the technical implementation process but to planning and commitment. At the stakeholder consultations, many implementing agencies said they had no budget to implement their action plan, with some suggesting that 2011 would be used to develop the plan and the budget for their action plan. Some agencies even said that their action plan would be impossible to implement, without any attempt to do so, and without giving specific reasons.

3.3.1 Managing On-street Parking

Based on the report submitted to UKP4, two action plans — taxi parking control, and signage installation for parking lots – had been successfully implemented. This meant that the implementation target of November 2010 had been achieved, and it had become a regular activity of the related agencies, assisted by the metropolitan police.

Raids are routinely carried out by the Jakarta Transportation Agency every Wednesday and Friday to control on-street parking. Action taken to punish on-street parking violators involves vehicle clamping. However, socialization of on-street parking penalties was not implemented optimally, as mentioned in the report. Similarly, socialization among business owners along the showcase corridors showed no significant progress. More intensive coordination and negotiations are needed between the government and the public. It was also reported that DKI Jakarta has no signs that permit on-street parking.

3.3.2 Functional Improvement of Sidewalks (removal of street vendors, illegal parking, and motorcycles)

Functional improvement of sidewalks is the responsibility of all agencies, assisted by the DKI Jakarta government. Meanwhile, regulating street vendors along the sidewalks is the responsibility of Satpol-PP (city public order officers), and the Jakarta government has begun implementing this. As for moving street vendors from sidewalks to office/shop yards after business hours, this was done successfully by the related agency, although more intensive negotiations were still needed. Control of vehicle parking on sidewalks was conducted regularly, but still needed to be done consistently. Lastly, cleaning sidewalks of objects that may block the movement of pedestrians, and providing bicycle lanes, were conducted regularly but, in the case of the bicycle lane, the results were not yet clear.

MTI has looked for evidence of socialization having been conducted by the related agency, but found none. At the last stakeholder meeting, Mrs Maria, representing the landscape affairs agency, stated that her agency had made improvements but not along the showcase corridors. For the showcase corridors; they would develop their plan in 2011, for implementation in 2012.

3.3.3 Promoting Slow Lane Use by Motorcycles

Socialization of slow lane use by motorcycles has been implemented regularly by the Traffic Media Centre. Provision of a special lane for bicycles, and marking and signage installation on roads that do not have a slow lane, have both been carried out. And signs have been installed instructing motorcycles to use the left lane and slow lane.

3.3.4 Preventing Busway Use by General Traffic (Corridor 1 & Corridor 6)

Busway lane sterilization has been conducted regularly by the JTA on all corridors. For Corridor 6, the effort has involved introducing an automatic barrier where several roads feed directly into the busway lane. The police have used their discretionary authority to open busway lanes in order to overcome traffic congestion. Socialization of the ban on public vehicles using the busway lane has been implemented, but is not yet optimal.

3.3.5 Ticket Integration for Railway and Busway Systems (introduction of JakCard)

Efforts to develop integrating ticket are still in process, with implementation delayed from the target date of December 2010.

PT KAI, PT JKJ and TransJakarta (provincial government of DKI Jakarta) need to sit down together to discuss follow-up measures.

3.3.6 Busway Service Improvement (Fleet Utilization, and Expansion)

Although the report mentions that additional buses for Corridors 1 and 6 are now in operation, it does not mention the size of the additional fleet. Some routine activities reported included further repairs to the physical facility of busway stops, routine maintenance on busway lanes, and repairs to 100 metres of pedestrian paths approaching the busway stops.

The maintenance mechanism is mentioned in the existing SOP draft. This SOP will be adopted as a part of the minimum service standards for the busway, known as SPM

(*Standar Pelayanan Minimum*). This standard is now awaiting the governor's regulatory approval as. The addition of a skywalk from Sudirman Railway Station to the Landmark busway stop, and the extension of the Landmark busway stop, will be done using 2011 local budget (APBD) funds.

3.3.7 Provision of Park & Ride Facilities at Railway/Busway Stations

The action plan to provide P&R facilities was reported to have begun with an analysis of the regulations relating to P&R management; and as explained in the action plans, improvements in this area will depend on cooperation from the parking lot owners. Increasing the capacity of Park & Ride areas at railway stations and busway stops along the showcase corridors was still at the planning stage, with no activities having been performed in the field.

CHAPTER 4: MONITORING, COORDINATION, AND PUBLIC OUTREACH

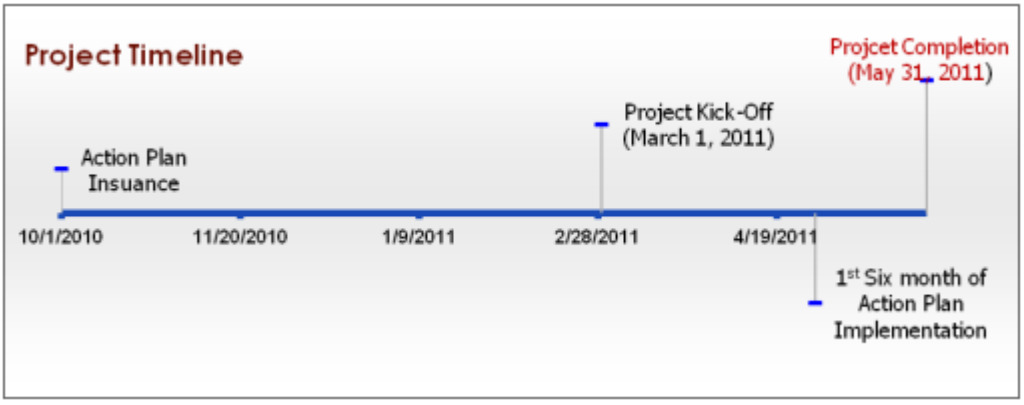
4.1 MONITORING

Monitoring has been conducted in two stages:

1. The first step is monitoring implementation of the seven action plans for the showcase corridors. This monitoring looked at measures taken by each implementing agency, and actions undertaken in the field by the competent agency in response to the action plan.
2. The second step is estimating travel time through a baseline survey along the two showcase corridors, and then monitoring travel time after action plans implementation.

The monitoring mechanism was decided by the MTI team. The project implementation period was six months, making this a pilot project (October 2010-April 2011).

Figure 4.1. Project Timeline for Showcase Corridors



After each implementing agency had been invited by UKP4 to contribute to alleviating traffic congestion in Greater Jakarta by formulating action plans for their respective sectors, it was agreed that the project would commence on 1 October, 2010. A project period of six months was agreed by the implementing agencies and UKP4. during this period, each implementing agency would have to submit two reports: a progress report on the first three months, and a final report covering the second period of three months.

4.1.1 Methodology

The methodology applied in the monitoring implementation is illustrated in the process cycle in Figure 4.2.

Figure 4.2 Project Cycle

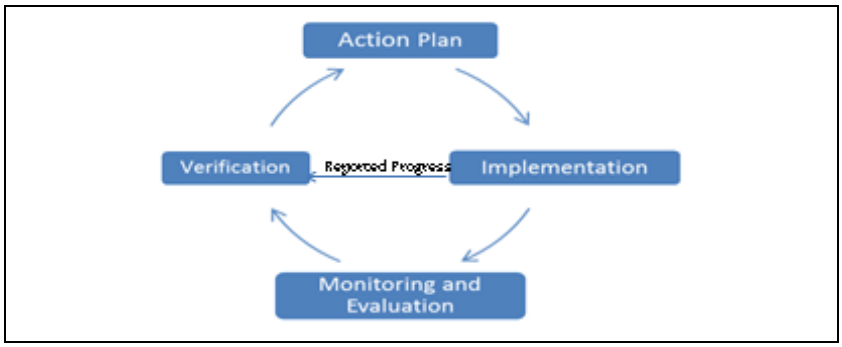
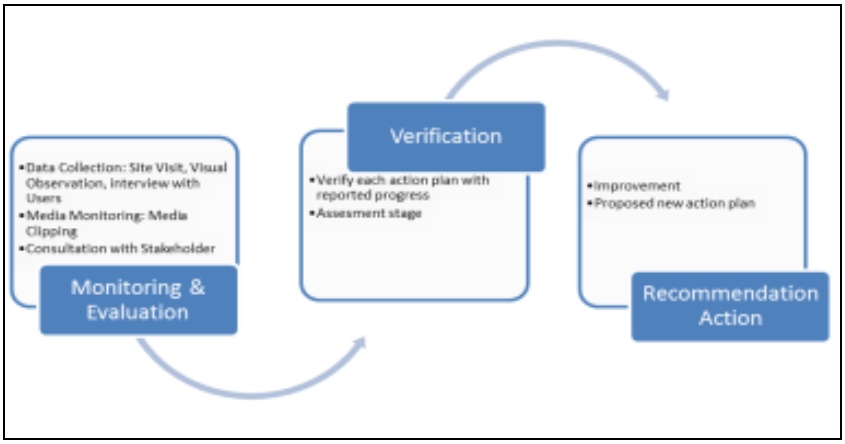


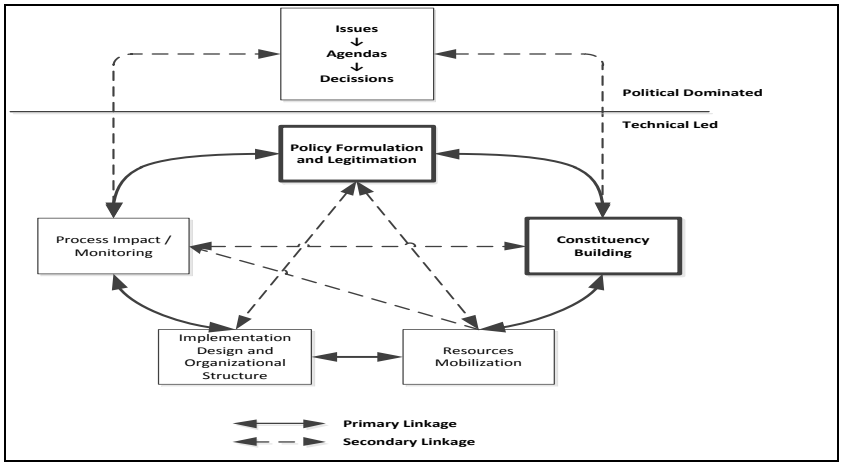
Figure 4.2. Verification Process



The monitoring results are first used to verify the progress reports submitted, and then to evaluate whether the Action Plans have been implemented as planned. These verification findings become the basis for further action.

The policy process illustrated in Figure 4.4 is the basis for determining future policies

Figure 4.3. Policy Process



Source: Kammi S., 1999.

4.1.2 Monitoring Results

Monitoring was conducted on both showcase corridors, providing an initial description of action plan implementation. Monitoring was performed continuously by the MTI team on Corridors A and B. For reporting purposes, the monitoring results are narrated below, in chronological order.

1) 6 April, 2011, Corridor A (together with Jakarta Transportation Agency/ JTA)

Monitoring was carried out in cooperation with JTA in order to identify monitoring points to be used as a reference. Various ways and methods were considered to respond to the action plans implemented by the DKI Jakarta government.

2) 7 April, 2011, Corridor A

Monitoring began at 06:00 at Lebak Bulus busway stop. For 50 minutes, the team conducted monitoring and interviewed several prospective busway passengers. Monitoring was conducted on all existing facilities associated with the busway operation at the bus stop, including Park & Ride facilities.

The journey along Corridor A began at 06:50 from the bus depot. The first point monitored was Depok bus station and Park & Ride facilities. Several prospective transport users and parking attendants were interviewed. Travel monitoring occurred from Depok to Dukuh Atas, from 07:45 to 09:49.

During the trip, existing conditions were recorded using photographs and video. Aspects monitored along Corridor A included:

- on-street parking,

- illegal parking,
- pedestrian path conditions, and
- traffic congestion points.

The traffic congestion points found along Corridor A were Duren Tiga, Tendean, Jl. Gatot Subroto/Kuningan intersection, Menteng, and the route from Halimun to Dukuh Atas.

3) 13 April, 2011, Corridor B

The journey began at 17:15, travelling by taxi from Dukuh Atas busway stop. Before measuring the journey time, the team observed the condition of the busway facilities at Sudirman railway station. This monitoring was carried out during the evening rush hour.

The team arrived in Lebak Bulus at 18:45. The team then travelled to Serpong railway station, reaching the Ciputat area at 20.00. The team observed the P&R facilities at the station. The team arrived at Serpong station at 20:25.

During the journey, the monitoring included taking photographs and video. The purpose of the monitoring was to observe on-street parking, illegal parking, pedestrian conditions, and traffic congestion points along the corridor. During the monitoring, congestion points found along Corridor A included Semanggi, Bunderan Senayan, Kebayoran Centre, and the Metro Pondok Indah-Lebak Bulus section.

For the return trip, the team left Serpong railway station at 21:55 and arrived at Sudirman railway station at 22:40.

4) 21 May, 2011, Corridor A

MTI conducted monitoring in corridor B to determine the progress in action plan implementation. The monitoring began at the Dukuh Atas TransJakarta busway stop and ended in Depok. Since the previous monitoring had been conducted on a weekday, MTI intentionally conducted this monitoring at the weekend to see whether traffic congestion still occurred. The team identified no differences between weekdays and the weekend. For instance, along Mampang-Tendean there were vehicles (bajaj) parked on the street, and numerous motorcycles and private vehicles parked on the sidewalk. Traffic congestion was found at the intersection near the Mampang 7-11 store. Traffic was mixed, consisted of private vehicles and motorcycles, since the separator between the slow lane and the fast lane had been dismantled. No private vehicles entered the busway lane, since automatic barriers blocked their entry.

Traffic congestion was also found in the Pejaten Village area, which has mixed traffic until Jl Margonda Raya. Before reaching Margonda Raya, the team was trapped in a traffic jam along Jl Lenteng Agung. Jl Lenteng Agung is not wide enough, and has semi-permanent street vendors occupying the sidewalk.

The team also obtained travel times for this Sunday trip. The travel time from Depok to Dukuh Atas was 59 minutes.

5) 26 May, 2011, Corridor A

This monitoring found no significant differences to the previous monitoring. No private vehicles entered the busway lane between Pejaten Village and Halimun. However, motorcycles did enter short stretches of busway lane, such as the section from SMK 57 busway stop to Jati Padang busway stop. Journey time from Depok to Dukuh Atas was 51 minutes.

Based on the last two monitoring activities on journey time, there was no significant change in travel time. People still prefer to use the fastest transport mode, i.e., motorcycles, which can travel from Depok to Pertanian in 25-35 minutes.

These field monitoring results will be submitted as part of the review of the seven action plans for the showcase corridors, which are discussed in turn below.

(SC3A1) Managing On-street Parking

Based on MTI's field observations, the number of on-street parking violations in Mampang increased significantly in the later week (week 4 of March 2011). This may be seen as an anomaly in respect of the action taken so far to improve control of on-street parking. Some parked vehicles simply moved from the street to sidewalks. This suggests that effective law enforcement is needed, like the ongoing E-TLE trial at Sarinah intersection (Thamrin). Based on information received at the meeting with JTA on April 4, 2011, the current parking regulation for Jakarta, Law No. 1 of 2006, is now being revised. The new regulation will make it easier for the traffic police to sanction illegal vehicle parking. In addition, private vehicle users will be encouraged to use zone-based parking payments .

The MTI team conducted intensive field monitoring and information collection. However, the related agencies repeatedly cited constraints to conducting field monitoring, such as limited budgets. JTA noted that raids were only held on Wednesdays and Fridays to control off- and on-street parking. The clamping policy was the solution chosen to reduce on-street parking violations, and was usually conducted on vehicles left by their owners.

Table 4.1 contains the information collected during MTI's joint monitoring with JTA on 6 April, 2011.

Table 4.1. MTI-JTA Joint Monitoring Report, 6 April, 2011

No.	Description	Action by
1	Raid in Menteng found two cases of on-street parking of cars. First reminder is a fine ticket then second reminder will be wheel clamped.	JTA, Traffic Police, Army
2	1 Kijang private vehicle on Jl. HR. Rasuna Said was clamped because it had been parked in the road and abandoned by its owner.	
3	4 Kopaja were sanctioned on Jl. Kuningan for on-street parking	
4	In Mampang, one taxi was sanctioned, and another was clamped having been abandoned by the driver.	
5	1 truck carrying gas was sanctioned in Mampang.	

Monitoring in Corridor A was carried out by MTI on 7 April, 2011. On-street parking was still found on the Mampang-Ragunan section, with 25 instances of on-street parking in total. Some vacant lots on Jl. TB. Simatupang were being used by taxis for parking. The area around Arcadia Green Offices is still being used for parking despite the installation of signs prohibiting parking, as illustrated in Figure 4.5.

Figure 4.4. On-Street Parking around Arcadia Office Park

Monitoring of Corridor B was conducted on 13 April, 2011. Monitoring began after business hours. On-street parking was somewhat less visible due to the high density of vehicles on the road, which made it impossible to park on the street. However, on-street parking was still prevalent on the road from UIN Ciputat to Serpong.

Action to control taxi parking, especially at intersections is still pending ratification of the relevant regulation. Clamping, which is currently implemented only on Wednesdays and Fridays, should be conducted every day. There will be no significant and visible results if clamping is only scheduled on certain days. Based on the media and field monitoring, there has been no socialization to the public on disciplinary actions for parking and taxi parking (multiple methods and media), nor any efforts to invite businesses along the showcase corridors to participate and support parking control. Socialization would be more effective through public information announcements on television. On a positive note, new signage has been installed prohibiting on-street parking.

In several spots, off-street parking areas already exist and are being managed by the local community. For instance, around Depok railway station, the local community uses open space as parking lots. This reflects an increasing willingness in society to engage in off-street parking, which should be supported and developed through an action plan program.

(SC3A2) Functional Improvement of Sidewalks (removal of street venders, illegal parking, and motorcycles)

Overall, pedestrian facilities along the showcase corridors may be considered inadequate, except for three main roads: Jl. Jend. Sudirman, Jl. Metro Pondok Indah, and Jl. HR. Rasuna Said. Installation of signs for pedestrians remains minimal. In general, providing proper pedestrian paths is problematic because so many parties are involved in this problem. Social issues are the key to handling this problem, particularly the issue of relocating street vendors. Some street vendors have built semi-permanent stores on the sidewalks along Jl. Lenteng Agung. The related agency notes that they need a large budget to provide sidewalks, and no budget has yet been allocated for the action plan.

Along Corridor A, on the Ragunan-Mampang section, various pedestrian facilities are inappropriate:

- The width of pedestrian paths is variable: some are too narrow, and some do not exist at all;
- Rubble and public installations also block pedestrian traffic, for instance, STO phones, large potted plants, etc.;
- Directional signs for pedestrians are absent from some places;
- Use of pedestrian paths by street vendors make some of them impassable; and
- Some empty spaces are still being used as vehicle parking lots.

Figure 4.5. Pedestrian Conditions at Corridor A (Right) and Corridor B (Left)

Based on the latest monitoring activities by MTI on 21 May, 2011, nomadic street vendors and semi-permanent street vendors still occupy streets along both showcase corridors. Meanwhile, sidewalks are still filled with objects that restrict pedestrian movement, such as flower pots, advertising, and parked motorbikes. This could be prevented if the government undertook intensive socialisation of the function of sidewalks and pedestrian ways.

On Corridor B, there has been no progress in improvements for pedestrians. The condition of the pedestrian path from Serpong railway station to Lebak Bulus bus station is very poor. Both the quantity and quality of the sidewalks along two showcase corridors are generally inadequate. However, , on some segments along Jl. Jend. Sudirman and Jl. Rasuna Said the sidewalks are better because most business owners and office operators located there provide sufficient space inside their building areas for street vendors.

(SC3A3) Promoting Slow Lane Use by Motorcycles

It should be noted at the outset that the development of the TransJakarta busway facilities on Corridor A caused some stretches to lose their slow lane, leaving separators between the fast and slow lanes. The separator (which took the form of a concrete barrier) has been dismantled on Jl Mampang. There are thus only a few sections that still have a separate slow lane, namely Jl. HR Rasuna Said and Jl. Jend. Sudirman, and the roads around Depok Terminal.

Figure 4.7 Mixed Traffic in Jl. TB. Simatupang – Corridor A(Left) and Jl. Ciputat – Corridor B (Right)

It will take a great effort to rebuild separators between the slow lane and fast lane. However, it is necessary to devide the traffic for easier management. These efforts would address the safety of riders, both motorcyclists and other users. However, the last monitoring conducted on 21 May, 2011 found no evidence of any new separators between slow and fast lanes, meaning that the traffic is mixed on Jl Lenteng Agung, Jl Ciputat Raya, Jl Margonda Raya, Jl Mampang and several other streets on the showcase corridors. There have also been no new road markings for motorcycle on roads that do not have a slow lane, nor any new signage instructing motorbikes to use the left and slow lanes. Socialization on the use of slow lanes by motorbikes has also been ineffective. This should be done using public service announcements on television, once sufficient numbers of roadside signs have been installed.

(SC3A4) Preventing Use of Busway by General Traffic (Corridor 1 & Corridor 6)

Busway lane sterilization has been conducted by the JTA routinely on both showcase corridors. For Corridor 6, an automatic barrier has been installed on several lanes that feed into the busway lane. These efforts have had a significant impact in deterring private vehicle use of the busway lane.

Sterilization also needs to be performed for other lanes. In Corridor 8, particularly the lane from Pondok Indah to Lebak Bulus, congestion is often found. Effective sterilisation should eventually compel private vehicle users to switch to public transport. Specific corridor stretches that urgently need sterilisation include Pasar Rumput (Corridor 4), MT Haryono, and Semanggi (Corridor 9). We suggest installing an electronic device for law enforcement. To ensure that the sterilization process runs smoothly and encourages people to switch to public transport (in this case, the TransJakarta busway), either direct or indirect socialization to the public is needed. This may take the form of public outreach activities and media reports, two things currently seen to be lacking.

Electronic traffic law enforcement should be introduced for road users soon. This may help resolve the issue of the limited number of traffic patrol officers. One method proposed is the use of Automatic Number Plate Recognition (ANPR) technology.

Figure 4.6. Busway Lane Sterilization on Corridor 6 (*left*), Busway Lane Condition on Jl Metro Pondok Indah (Corridor 9) during Afternoon Rush Hour (*right*)

General traffic is still entering the busway ,on Jl Metro Pondok Indah, particularly during rush hour. Outside rush hour, the general traffic entering the busway consists of public transport and motorcycles. They usually take advantage of the shorter busway route, such as the section from SMK 57 to Jati Padang. Therefore, there should be increased efforts to socialize the ban on these other vehicles using TransJakarta busway lanes.

(SC3A5) Ticket Integration for Railway and Busway Systems

Commuter train and TransJakarta busway tickets have not yet been integrated. According to Evita Juliani, public relations officer at BLU TransJakarta, the governor of DKI Jakarta was scheduled to sign an agreement at the end of May 2011 between the provincial government and Bank DKI to implement electronic ticketing. Electronic ticketing will use a smart card that can be used for different modes of public transport. Busway passengers are already able to pay for their TransJakarta tickets using a debit card that can be bought at several TransJakarta busway stops.

Ticket integration with the commuter railway (KRL) is currently in preparation. Five banks have already prepared bids for the KRL ticketing system – Bank DKI, Bank BCA, Bank BNI, Bank Mandiri and Bank BRI.

Ticket integration between KRL and the busway is also under preparation. The same five banks bidding for KRL ticketing are also prepared for the integrated ticketing system,. In this regard, ticket tapping facilities were installed at the railway stations in Greater Jakarta six months ago, but it is taking some time to finalise the new ticketing process and operations.

Ticket integration for the TransJakarta busway is constrained by the determination to protect the JakCard, under the investment protection clause of the agreement between TransJakarta Busway and Bank DKI. So, while TransJakarta could cooperate with other banks, Bank DKI is the only bank that, from the outset, has provided funding for the provision and establishment of all of the TransJakarta Busway infrastructure.

In regard to recent regulatory developments, Bank Indonesia[3] as the central bank has drafted a regulation on e-money that is set to be ratified soon as supporting legislation to regulate interconnectivity and the use of e-money.

Figure 4.7. E-Payment Facilities on Busway (JakCard) (*left)* and Commuter Trains (*right*)

(SC3A6) Busway Service Improvement (fleet utilization, and expansion)

There has been significant improvement in performance, specifically in Corridor 6, which is part of the showcase corridors. Based on field observations by MTI, bus frequency on corridor 6 (Dukuh Atas-Ragunan) in the fourth week of March 2011 was 26 buses per hour (afternoon, and afternoon rush hour). So headway appears to be under three minutes.

At an informal meeting held on 16 March, 2011 at the MTI office, the Managing Director of BLU TransJakarta[4] presented several service improvements planned in the near future. On 18 March, 2011, busway operations were extended by an hour (from 22:00 hours to 23:00) to respond to public demand. In the future, the busway is expected to serve passengers until midnight. In addition, the number of busway corridors will be increased to 15 corridors, with corridor 11 to be built by the DKI government in 2011, and corridor 12 in 2012. Corridors 13-15 will await the political climate following the election of a new governor in 2012.

[3] http://www.detikfinance.com/read/2011/03/06/123505/1585454/5/pakai-e-money-naik-krl-tidak-perlu-antre-beli-karcis

[4] MoM MTI-BLU TransJakarta, Ref. No.:003/MoM/MTI-IndII/IV-11, 16 March, 2011

Meanwhile, the feeder service system for TransJakarta has been reviewed by ITDP. The results of JUTPI's study will be used as a basis for rearranging the routes of regular public transport. In addition, the head of JTA, Mr Udar Pristono, mentioned that the Jakarta government plans to install a bus tracking system later this year.

Based on ITDP's surveys, there are currently 2,000 passengers an hour travelling from Lebak Bulus to Blok M during the morning rush hour. An alternative solution being developed is to provide a new direct service connecting Lebak Bulus and the HI Roundabout. The route of this proposed service would be Lebak Bulus-Kebayoran Lama-Jamblang-Pakubuwono VI-Bumi-Kyai Maja-Sisingamangaraja-HI Roundabout. The current capacity of articulated buses is 160 passengers. Each articulated bus has 40 seats and space for 120 standing passengers. The new tariff will be between Rp 9,300 and Rp 9,500.

The technical considerations in this plan are as follows:

- If a feeder service is introduced to connect Corridor 1 and Corridor 8, public transport users would have to pay three times. That would make for an inefficient system.
- There is another restriction due to the separate spaces for boarding and alighting at the Blok M Busway stop. This is an unusual situation for busway passengers.
- The direct service would be integrated with Corridor 9 (at the Polda Metro Jaya stop), Corridor 4 and Corridor 6 (Dukuh Atas stop), also providing a seamless connection to Sudirman railway station.

Passenger information, passenger comfort, and integration with other transport modes were three major issues raised at the FGD held by MTI. Clearly, no significant changes have been observed by TransJakarta busway passengers. The main problem faced by TransJakarta is the availability of CNG refill stations (SPBG). There are currently only four SPBG meaning that each bus currently spends 3-4 hours queuing to refuel. Consequently, fleet additions, new busway lanes and sterilization initiatives will have minimal effect unless the number of SPBG is increased.

For this to occur, PGAS and Pertamina first need to resolve their differences over providing CNG to the public sector in general, and the TransJakarta busway in particular. The next step will be to build an SPBG on each TransJakarta busway corridor so as to minimize queuing. A private sector partnership is also needed, subject to the regulations on the TransJakarta busway.

Pertamina has already fulfilled its commitment to support provision of CNG for public transport, in accordance with government regulation. It has built 20 SPBG, some of which are operated by Pertamina and others by the private sector. Of the 20 SPBG that have been built, only 16 are currently operating, due to limited demand, with only four being operated by Pertamina. Since there has been no agreement between BLU TransJakarta and Pertamina, BLU TransJakarta may only buy CNG at SPBG built and operated by the private sector. Of the four million cubic metres of CNG allocated annually by PNG, only 2.6 million cubic metres are being consumed each year.

Pertamina is open to private sector investment in building SPBG. The requirements adjusted is quite easy, with a potential investor needing only an area of about 2500 metre^2 and funds of Rp 12 billion. However, Pertamina has asserted that the recommendation to build an SPBG for each corridor is problematic, since it would be difficult to find sufficient open space in Jakarta. Meanwhile, Pontjo, a PGN representative at the May 31st stakeholder meeting, states that the refill schedule for TransJakarta provided by BLU TransJakarta has not been effective, since it has resulted in a 3-4 hour wait to refill. In fact, TransJakarta drivers have used this condition to take rests. Consequently, the short-term recommendation would be to review the CNG refill schedule and introduce mobile SPBG (i.e., vehicles carrying CNG).

(SC3A7) Provision of Park & Ride Facilities at Railway/Busway Stations

P&R facilities at Ragunan have already reached the planning and implementation stages. It is possible to create a knock-down structure with an earthquake-resistant design. P&R at Ragunan will be built in stages. The P&R land is currently owned by BP Ragunan, while in the future, issues relating to asset ownership will be handled by the Financial Management Agency of DKI Jakarta Government.

The P&R facilities at Ragunan were built by JTA and are being managed by BP Ragunan. Pricing policy follows BP Ragunan policy. Looking ahead, an MoU between BP Ragunan and BLU TransJakarta is now being prepared.

P&R facilities have also been built in Kalideres and Kampung Rambutan, but these are not very effective. Management of on/off-street parking around Pasar Baru will follow management practices in Blok M., P&R in Ragunan and Depok Town Square (Detos) needs to be optimized, but the charge is not yet integrated with the TransJakarta busway or railway services. The next step is to identify strategic P&R areas around TransJakarta busway stops and railway stations. Some recommended areas that should be followed up are found at Lebak Bulus, Pulo Gadung, Blok M, Pluit, and Pinang Ranti busway stops, and Bekasi, Tanjung Barat and Bogor railway stations. Where no P&R facilities currently exist, busway passengers are using nearby open spaces. For instance, passengers for the Al Azhar TransJakarta busway stop are parking their vehicles at the Al Azhar mosque.

4.1.3 Assessment of Results

This section of the final report assesses implementation of the action plans, specifically those that relate to the two showcase corridors.

In the current implementation, for the reported progress delivered to UKP4, each agency assessed its own performance. In cases where 70% or more of the activities were achieved, a green code is used. Achievements below 70%, are presented in yellow. Red is used where there were no activities and the deadline had passed.

The MTI team verified each report that the implementing agencies submitted to UKP4 at the end of March, also considering the results of the stakeholder meeting on 31 May, 2011.The team used its own monitoring data for purposes of verification. It should be noted that the implementation period for the action plans was only six months – not a particularly long time, considering the complex congestion problems faced by Jakarta. This initial assessment uses the assessment criteria and colour codes presented in Table 4.2.

Table 4.2. Assessment Criteria

No.	Criteria	Achievement Level	Code	
1	Fully-completed action plan	100%	●	Solid Green
2	In regular operation but needs to be optimised	70%	●	Light Green
3	Implementation needs to be accelerated	50%	●	Yellow
4	Further planning required	20%	●	Orange
5	No significant improvement	Less than 20%	●	Red

We note that this assessment applies the approach used during verification, since no clear calculation method was provided by UKP4 regarding the achievement rate (percentage), in terms of how much action needed to be taken, and the results. UKP4 only set a target date for implementation of each action plan.

After verification and comparison with the latest data available from UKP45, no action plan was fully accomplished. MTI's assessment of the progress in each action plan is presented in Table 4.3.

Table 4.3. Assessment of Initial Results

No.	Action Plan & Activities	Activities (A)	Assessment
1	Disciplining on-street parking; (S2A1, S3A7, S3A8)	a. Control taxi parking, especially on interconnection points (signs)	●
		b. Enforce vehicle clamping regulations	●

[5] UKP4 presentation on DTKJ, 9 June, 2011.

No.	Action Plan & Activities	Activities (A)	Assessment
		c. Socialize disciplinary actions against public parking and taxi parking (multiple methods and media)	🟢
		d. Invite businesses along showcase corridors to participate in and support parking control	🟢
		e. Add/improve road markings for on-street parking	🟢
2	Restoring the function of sidewalks/pedestrian ways (S7A2, S3A9)	a. Socialize the function of sidewalks/ pedestrian ways	🔴
		b. Control of street vendors (PKL) on sidewalks	🔴
		c. Utilize the yards of offices/shops for PKL after office hours	🔴
		d. Discipline parking on sidewalks	🔴
		e. Cleanse sidewalks of objects that constrain pedestrian movement (flowerpots, advertising, etc.)	🔴
		f. Control use of sidewalk as a motorbike lane	🔴
3	Socialize use of special slow lane for motorbikes (S20A1)	a. Socialize use of slow lane by motorbikes (multiple methods, multimedia)	🔴
		b. Provide road markings for motorbikes on roads that do not have a slow lane	🔴
		c. Provide signage for motorbikes to use left and slow lanes	🔴
4	Sterilize busway lanes on Corridor 1 & Corridor 6 (S9A1)	a. Socialize use of busway lanes by other vehicles	🟢
		b. Brief police regarding open-shut concept of busway lane	🟢
		c. Implement open-shut mechanism on busway lanes for other vehicles based on discretionary authority of the police	🟢

No.	Action Plan & Activities	Activities (A)	Assessment
5	Integrated ticketing for road and rail-based public transport (S12A5)	Use of Jakarta-Bogor and Jakarta-Serpong KRL tickets as tickets for Corridor 1 Busway	●
6	Provision of Park & Ride land (S6A1, S6A2)	a. Determine parking lots belonging to the community and private owners within the P&R scheme (referring to spatial plan/RTRW, including parking signage installations)	●
		b. Expand P&R capacity and improve arrangements at KRL stations in showcase corridors	●
7	Enhance busway services in line with SPM (S9A3)	a. Fulfil the number of buses on Corridor 1 and Corridor 6	●
		b. Physical improvements to busway stops	●
		c. Maintenance of busway lanes on Corridor 1 and Corridor 6	●
		d. Improve 100 metres of sidewalks around busway stops	●
		e. Improve maintenance and care system	●
		f. Additional parking capacity (P&R) at Ragunan and Lebak Bulus terminals	●
		g. Additional sidewalk from Sudirman railway station to Dukuh Atas busway stop, and expansion of Dukuh Atas busway stop	●
		h. Adjustment of road signage around Sudirman railway station	●
		i. Provision of access facilities for taxi services at Sudirman railway station	●

4.2 COORDINATION

4.2.1 Past Plans and Studies Related to Greater Jakarta Transportation System Development[6]

In recent decades, various of plans and studies have been conducted in relation to the Jabotabek transportation system. In the 1970's, it was recognized that urban planning within a limited administrative boundary could not effectively cope with urban problems, particularly in DKI Jakarta. Therefore, Presidential Instruction No. 13/1976 was issued to establish a comprehensive Jabotabek Metropolitan Development Plan (JMDP) 2005, which began with the preparation of Jabotabek Regional Planning in 1975, as revised several times before the final version was completed in 1985. Development directions and strategies proposed by the JMDP are reflected in a broad sense in the structural plan of DKI Jakarta. However, the structural plans prepared by the local governments of Botabek are inconsistent, not only among themselves but also with the JMDP's land use and development zoning.

4.2.2 Need for Planning Coordination

In order to foster coordination on infrastructure development in the Jabotabek region, BKSP (Development Coordination Agency) Jabotabek was established in 1976 by a joint decree of the governors of DKI Jakarta and West Java when the first Jabotabek Metropolitan Development Plan was prepared. This decree was later reinforced by Ministry of Home Affairs Decree No. 29/1980 and State Ministry of National Development Planning Agency No. 125/1984. BKSP's main task is to prepare and determine a cooperation policy and an implementation plan, and to support the realization of integrated regional development.

BKSP's other tasks include establishing development planning policies for all sectors within the Greater Jakarta area; resolving economic, social and spatial development issues raised by any of the local governments; and acting as facilitator to arbitrate disputes among local governments.

BKSP Jabotabek has not yet fully realized its function, which has remained almost unchanged and focuses on planning coordination among local governments, especially between DKI Jakarta and West Java provinces. BKSP does not have enough planning personnel and its primary role is that of a secretariat rather than a technical coordinator, with little capacity, authority and funds for planning and coordination. Nevertheless, BKSP contributes by providing opportunities, as required by the local governments concerned, to discuss matters such as problems with mini-bus operations across administrative boundaries, and domestic and industrial waste disposal.

[6] www.easts.info/on-line/proceedings_05/2308.pdf

4.2.3 Current Practice and Issues

An appropriate measurement method needs to be applied in order to assess progress in handling congestion. Current project coordination has included meetings at UKP4, to which all or some of the concerned agencies are invited. Initiatives for coordination implementation meetings often come from other government agencies.

Table 4.4. Selected Meetings Held on Alleviation of Traffic Congestion in Greater Jakarta

No.	Meeting Name, Date	Initiative Agency	Attendees	Result
1	Multi-stakeholder meeting, 2 September 2010	Vice President (VP)	MoT, MPW, MoHA Governor of DKI Jakarta, Head of Jakarta Police Dept,	17 Instructions from Vice President to address traffic congestion in Jakarta
2	Progress report meeting to the VP, 27 October 2010	UKP4	VP	20 Steps, 83 Action Plans (AP), 119 Sub-Action Plans (SAP)
3	Progress report meeting to the VP, 5 January 2010	UKP4	VP	Revision of Steps and Action Plans to become 20 Steps, 73 AP, and 94 SAP
4	Coordination Meeting, 24 February 2010	UKP4	CMEA, DKI Jakarta (Deputy Governor & Bappeda), Jakarta Traffic Police Dept., JUTPI Consultant team	Progress Report, a high-level FGD will be held again to develop the mechanism of the Jakarta Transportation Authority (OTJ)
5	Bilateral meeting with CMEA, 4 March 2011	CMEA	CMEA, MTI, JUTPI team	MTI Policy Flash for Draft Presidential Regulation (*Perpres*) to establish OTJ
6	High-level FGD, 4 March 2011	CMEA	CMEA, Bappenas, MoT, MPW, DKI Jakarta, MoF, MoLHR, MoSS, MTI	Draft Perpres needs to be elaborated in more detail through focus team
7	Tripartite meeting	UKP4	MTI, IndII	Initial assessment for M&E development process
8	Limited Coordination Meeting on Infrastructure	CMEA	MPW, MoT, Gov. of DKI Jakarta	Agreement on preliminary Draft Perpres that needs to be finalized for President's approval

No.	Meeting Name, Date	Initiative Agency	Attendees	Result
9	High-level FGD, 21 April 2011	CMEA	CMEA, Bappenas, MoT, MPW, DKI Jakarta, MoF, MoLHR, MoSS, MTI	Discussion on Detailed Draft of Perpres (non-Structural Version)

Source: Derived from various sources.

In addition, MTI has held several coordination meetings with related agencies in order to support UKP4. Coordination meetings conducted by MTI have been informal in order to bypass the cumbersome bureaucracy when formal channels are pursued. However, this does not reduce the essence of these meetings.

Table 4.5. Selected Meetings Held During the Project by way of Support to UKP4 for Improving Urban Mobility in Greater Jakarta

No.	Meeting Name, Date	Attendees	Result
1	Tripartite meeting 8 March, 2011	MTI, IndII	Initial assessment for M&E development process
2	Consultation meeting with BLU TransJakarta, 16 March, 2011	Head of BLU, MTI, IndII	TransJakarta; information about developments in response to an action plan to overcome traffic congestion in Jakarta
3	Monev Corridor Showcase Coordination, 18 March, 2011	UKP4, MTI, IndII, Bappeda DKI, Ditjen Kereta Api	Monev (M&E) implementation process socialization
4	Focus Group Discussion with Users Group, 25 March, 2011	MTI, IndII, Users Group	Socialization of seven action plans for showcase corridors, feedback and aspirations of users
5	Meeting with Dishub 4 April, 2011	MTI, Dishub, DKI Jakarta	Busway sterilization every Monday and Wednesday; clamping every Thursday and Tuesday; 300% increase in P&R users at Ragunan because of busway sterilization and clamping
6	Meeting with School Bus Technical Service Unit of DKI, 4 April, 2011	MTI, UPT Bis Sekolah	Socialization of seven action plans, initial information on efforts of bus school program to contribute to alleviation of traffic congestion

No.	Meeting Name, Date	Attendees	Result
7	Consultation on Public Outreach & Media Gathering Monev (Meeting with Yopie Hidayat), 4 April, 2011	UKP4 (NS), VP's Media Advisor (YH), MTI (MZA, TMI, TZ)	YH reported on specific tasks/plans mainly aiming at congestion alleviation. Allowed to report the condition to public 'as is'. YH suggested employing a key person for media gathering. Essentially, UKP4 has full authority to implement VP Instructions for alleviating traffic congestion in Jakarta. Public outreach/campaign, socialization to public is not about transportation design, but more about efforts to find solution to overcome traffic congestion in Jakarta.
8	Media Gathering, 13 April, 2011	MTI, Online and Offline Mass Media (ANTV, Detik.com, Kompas, Tempo, Bisnis Indonesia, etc.)	Socialization of seven action plans; baseline survey presentation

The most common problem arising during the coordination process and in the coordination meetings was that the individuals delegated by the implementing agencies sometimes did not appear to be competent, since they were not the person involved in formulating the action plan. Some delegates even had no decision-making authority. To overcome this problem, recommendations are proposed below.

4.2.4 Suggestion for Improvement

Traffic Congestion in Greater Jakarta is quite complex. To implement the action plans, 18 institutions are involved in the traffic alleviation issue, three provinces, and nine districts/cities in Greater Jakarta.

The need to separate several agencies dealing with transportation problems in Jakarta is appears both urgent and necessary. For that reason, one of the action plans concerns the establishment of the Jakarta Transportation Authority (*Otoritas Transportasi Jakarta or* OTJ).

MTI has submitted its own proposal[7] accompanied by a critical review of this plan. Some important points arising from this review are presented below. They concern the preparation of the regulations inferred by the draft Presidential Regulation.

[7] *MTI Policy Flash: Critical Study on Draft Presidential Regulation on Greater Jakarta Transportation Authority*, Issue No. 01/2010

The JUTPI (Greater Jakarta Urban Transportation Policy Integration) survey results are quite surprising in that there has been a very significant reduction in public transport use over 10 years. In 2002, SITRAMP studies showed that public transport accounted for 83% of total trips in the Greater Jakarta area. In 2010 (JUTPI, 2010), this figure had fallen 38%. This shows that during the period 2002-2010 there was a substantial demand that could not be met by the capacity of the existing public transport network. People therefore chose private vehicles, especially motorcycles and cars. As a result, the public faced acute congestion, accidents rose, and pollution increased, causing greater health problems. All these impacts were the result of urban mobility increasing relying on private vehicles.

The draft Presidential Regulation on OTJ that MTI has reviewed contains several key policy issues that need to be revised, as well as structural problems in its drafting and design. The policy issues will be addressed in a separate MTI Policy Flash (not yet published), and a proposed structure for the Presidential Regulation draft is recommended in an annex to this report.

The first policy issue is the absence of any discussion of the Transport Development Master Plan. We also note that an academic paper should have preceded the preparation of this draft. The Master Plan and academic paper should serve as the basis, rationale, and direction for structuring the draft, so that it can be interpreted by the various ministries and agencies (K/L), and by the provincial and regency/city local governments that will be affected by the implementation of this regulation. Cities around the world have adopted the concept of a separate transport authority (including London, Singapore, Madrid, Tokyo, Hong Kong, New York, and Berlin), and they have done so for various reasons. The establishment of the OTJ should also consider the experience of Greater Jakarta BKSP.

Establishment of Jakarta Transportation Authority

The plan to establish OTJ is contemplated by the action plans for handling traffic congestion in Greater Jakarta, and is stated in steps 18 and 19.

Table 4.6. Steps 18 and 19

Step Group 3: Regulations and Governance			
18	**Formation of Greater Jakarta Transportation Authority**	**CMEA**	**3 AP, 3 SAP**
19	**Revise integrated transportation master plan**	**CMEA**	**3 AP, 3 SAP**
20	Public education on traffic congestion and road discipline	MoT	1 AP, 2 SAP

The sequence of preparatory actions for the CMEA to establish the OTJ is presented in Table 4.6. Further details on the implementation of steps 18 and 19 are presented in Table 4.7.

Table 4.7. Progress in Steps 18 and 19

step	action plan	Sub action plan
step 18	developing institutional study in the establishment ofOtoritas Tansportasi Jabodetabek	2010
		•Institutional study draft for Otoritas Transportasi Jabodetabek (November)
		•Instituional study towards Otoritas Transportasi Jabodetabek done (Desember)
	Composing presidential regulation on Otoritas Transportasi Jabodetabek (OTJ)	2010
		•Raperpres on Otoritas Transportasi Jabodetabek done (December)
		2011
		•report of inter-ministry discussion to ensure Raperpres (week II February)
		•submittting final Raperpres to cabinet secretary (April)
		• Perpres (president regulation) is issued (June)
	Establishing Otoritas Transportasi Jabodetabek	2011
		•TOR draft for organizational system and personel for Otoritas Transportasi Jakarta (week II february)
		•SOP draft of organizational system and personel for Otoritas Transportasi Jakarta (April)
		•(1) TOR and SOP organizational system and personel for Otoritas Transportasi Jakarta; dan (2) submitting proposal of candidates of OTJ chairman to the President (Juni)
		•(1) issuing presidential decree on appointment of OTJ chairman; and (2) issuing presidential decree on appointment of deputy for OTJ chairman (August)
		•(1) Report of OTJ roadshow to related sector and administrative area; dan (2) report of recruitment and mobilization of personel (October)
step 19	Evaluating study of master plan for the exising integrated Greater Jakarta transportation system	2010
		•discussing final report draft with related ministries, institutions, regional gov. and stakaholders (November)
		•final report draft on evaluation of integrated transportation master plan (December)
		2011
		•finl report of evaluation of integrated transportation master plan (week II february)
	Composing reviosion version of master plan for Greater Jakarta transportation system	2010
		•discussing final report draft with related ministries, institutions, regional gov. and stakaholders (November)
		•Diskusi lanjutan draft laporan final bersama K/L dan stakeholder transportasi lainnya (Desember)
		2011
		•final report draft from SITRAMP 2 is done along with inputs gained from discussion with related ministries and institution in transportaton (week II february)
		•final report from SITRAMP 2 done (June)
	Issuing government regulatin on dvelopment of Greater Jakarta transportation system	2011
		•academic manuscript of pperpres (week II ferbruary)
		•Raperpres(Juni)
		•Final raperpres submitted to nation secretariate (week II august)
		•Perpres on developin greater jakarta transportation system issued (Oktober)
		•technical guidance from related ministries and institutionsand prov. Gov. of DKI Jak issued (Week II december)

Done

On Progress

As at the end of April 2011, the CMEA had drafted the presidential regulation (non-structural version). This can be regarded as an important development, since the previous discussion still included the structural version, which is much further from the ideal institution holding privileged authority over transportation. A non-structural institution is the ideal format since it allows OTJ to be responsible directly to the President.

Table 4.8. Function Matrix Comparison

Functions	A	B	C	D	E	F	G
Coordination	√	√	√	√	√	√	√
Policy and Plans Formulation		√	√	√	√	√	√
Infrastructure Development and O&M			√	√	√	√	√
Transit Operation				√	√	√	√
Transit-oriented Development					√	√	√
Land-use Planning & Development						√	√
Economic Infrastructure Development							√
Organizational Design (Past, Present and Future)	BKSP	Transportation Board	Transportation Authority			Greater Jakarta Development Authority	

The preferred organizational functions of OTJ are presented in Table 4.8. The OTJ's functions cover:

1) coordination,
2) policy and plans formulation,
3) infrastructure development and operations & maintenance,
4) transit operation, and
5) transit-oriented development.

Functions that fall outside OTJ's purview are: (6) land-use planning and development, and (7) economic infrastructure development. OTJ is constrained by a system of governance that follows an autonomous system and still emphasises the division of regional authority. That is what OTJ will need to overcome. The organizational design of OTJ is presented in Table 4.9.

Table 4.9. Functions, Role and Organization of OTJ

	Functions
1.	Formulating general guidance and action plan program to develop and perform integrated transportation system in Greater Jakarta;
2.	Increasing service level of urban public transport in Greater Jakarta ;
3.	Developing and increasing facilities and infrastructure support in provision of urban public transport service in Greater Jakarta;
4.	Performing TDM in Greater Jakarta ;
5.	Spatial management based on public transport orientation (Transit-oriented Development) ;
6.	Monitoring and evaluating plan implementation and integrated transport service and development program in Greater Jakarta;
7.	Performing budgeting action in relation to implementation of plan and integrated transport service and development program in Greater Jakarta; ;
8.	Managing state assets that are the responsibility of OTJ; and
9.	Internal monitoring of program implementation by OTJ.
	Role
1.	To support implementation of the tasks and functions of OTJ, the government has mandated authority to grant licensing and other authorities needed for the transportation sector to OTJ.
2.	OTJ has right to take on other authority in granting licenses, in providing facilities and other things in the transportation sector as needed by OTJ, from . Greater Jakarta Provincial Govt
3.	Authority transfer and delegation is implemented based on related existing regulation.
4.	Any legal revenues arising from acts as a consequence of such transfer of authority belong to the institution transferring or delegating its authority to OTJ.
5.	Head of OTJ reports activities and authority delegated to him to the institution delegating its authority.
	Organization
1.	Head of OTJ is an official position that is not held by a public servant. Head of OTJ is appointed and removed by the President
2.	Head of OTJ has financial and other facilities equal to a Minister.

3.	**Within OTJ, functional positions may be allocated in accordance with existing regulations.**
4.	**Secretary is appointed and removed by President in accordance with a proposal from the head of OTJ and recommendations and considerations from CMEA.**
5.	**Positions of Deputy, Director, and head of subdirectorate may be held by public servants or non-public servants. Positions appointed and removed by President in accordance with a proposal from the head of OTJ**
6.	**Public servants in OTJ function as OTJ support personnel.**
7.	**In relation to supporting implementation of OTJ tasks, the head may recruit an expert.**

Source: Draft Presidential Regulation on OTJ provided by CMEA (21 April, 2011)

To overcome coordination constraints in relation to functions 6 and 7, CMEA has inserted clauses in the draft presidential regulation regulating a coordination process involving many institutions and ministries, as summarized in Table 4.10.

Table 4.10. OTJ Coordination Team

Chairman	Coordinating Minister of Economic Affairs
Vice Chairman	MoT
Member	MPW;
	Head of National Development Planning Agency (Bappenas);
	MoF;
	MoNE;
	Head of Indonesian police;
	Head of OTJ
	Governor of DKI Jakarta;
	Governor of West Java;
	Governor of Banten;
	Regent of Tangerang;
	Mayor of Tangerang;
	Regent of Bogor;

	Mayor of Bogor;
	Regent of Bekasi;
	Mayor of Bekasi;
	Mayor of Depok;
	Mayor of South Tangerang.

Source: Draft Presidential Regulation on OTJ provided by CMEA (21 April, 2011)

Based on the FGD held by CMEA on 21 April, 2011, coordination issues will be regulated later, so that the draft that has been prepared will not conflict with higher regulations.

Raperpres is now being processed at the CMEA. Referring to the planned schedule in table 4.7, the Raperpres needs to go through several further stages, as follows:

- Raperpres (June 2011);
- Final Raperpres is submitted to national secretariat (week 2, August 2011);
- Presidential Regulation on Development of Greater Jakarta Transportation System is issued (October 2011); and
- Technical guidance from related ministerial institution and provincial government of DKI Jakarta is issued (week 2, December 2011).

Suggestions at Showcase Level

Suggestions for the showcase level are as follows:

- The implementing agencies should be consistent with the earlier agreement. Activity implementation for the action plans should be supported by budget planning. All action plans should be included in their current budget plans and adjustments.
- For provision of CNG for TransJakarta Busway, Pertamina and PGAS must be involved through the State Enterprises Minister (MSOE).
- Raids against on-street parking should be conducted every day to have a significant impact, since scheduling on a particular day will alert the public so they can circumvent enforcement on the other days.
- A humanistic approach is needed to relocate and control street vendors.
- Efforts are needed to prevent the emergence of new street vendors.
- A massive campaign of public service announcements on television and in newspapers, etc., is needed on the use of the slow lane, rather than efforts of persuasion directly from the authorities, traffic police, and Dishub.

- Each TransJakarta busway stop in a primary location should have park and ride facilities.
- Integrated ticketing process should be accelerated.
- Regulations on ticket integration between TransJakarta busway and commuter trains must be quickly addressed by the relevant parties, including BI, MoI, and banks as the providers.
- SPBG should be built on each busway corridor to minimize queuing. Private sector partnerships should also be involved, subject to the Regulation on the Busway.

4.3 PUBLIC OUTREACH

4.3.1 Stakeholder Consultation

Methodology

Focus group discussions were later replaced by in-depth interviews with each of the stakeholders related to this program.

Purpose

To determine the progress in implementation of the program being handled by the stakeholders responsible for efforts to resolve problems in alleviating Jakarta traffic congestion, together with stakeholders.

Schedule and participation

Table 4.11. Selected Public Outreach Activities during Project Support to UKP4 for Improving Urban Mobility in Greater Jakarta

No.	Meeting Name, Date	Attendees	Result
1	Focus Group Discussion with Users Group, 25 March, 2011	MTI, IndII, Users Group	Socialization of seven action plans for Showcase Corridors, feedback and aspirations of users.
2	Consultation on Public Outreach & Media Gathering Monev (Meeting with Yopie Hidayat), 4 April, 2011	UKP4 (NS), VP's Media Advisor (YH), MTI (MZA, TMI, TZ)	YH reported on specific tasks/plans mainly aiming at congestion alleviation. Allowed to report the condition to public 'as is'. YH suggested employing a key person for media gathering. Essentially, UKP4 has full authority to implement VP Instructions for alleviating traffic congestion in Jakarta.

No.	Meeting Name, Date	Attendees	Result
			Public outreach/campaign, socialization to public is not about transportation design, but more about efforts to find solution to overcome traffic congestion in Jakarta.
3	Media Gathering, 13 April, 2011	MTI, Online and Offline Mass Media (ANTV, Detik.com, Kompas, Tempo, Bisnis Indonesia, etc.)	Socialization of seven action plans, baseline survey presentation.
4	Public Outreach and Stakeholder Meeting, 31 May, 2011	MTI, MoT, Pertamina, PT KAI, DTA, TSTA, and 45 journalists from various media, Busway Mania (community), KRL Mania (community)	Progress report and statements from all implementing agencies for action plans.

The most pertinent point in respect of public outreach is that involving journalists in public outreach and meetings is the most effective method, since journalists can then exert public pressure. Indeed, involving journalists from the outset of action plan implementation, in coordination meetings, evaluation meetings, and socialization, will make a substantial contribution to the success of any social change program initiated by the government. By involving journalists, any progress in a program, whether or not it is successful, will be announced to the public.

4.3.2 Public Outreach through Media

Objectives:

- Socialization of UKP4 program and action plan for showcase corridors;
- Integrated role of several sectors (users and stakeholders) within action plan program;
- Publication of UKP4 program in mass media;
- Participation of all agencies in implementing policy;
- Public opinion accommodation within action planning;
- Increasing public awareness to prefer public transport through mass media.

The target group for public outreach was all journalists in Jakarta. Thirty journalists were invited to a press conference at MTI's office. Most journalists attending the press conference were interested in (i) why Corridors A and B had been selected as the showcases, (ii) the low level of public transport services (rail and busway), and (iii) the progress in action by each implementing agency. The most interesting fact was the increase in Park & Ride at Ragunan and the associated conversion to public transport. After the press conference, various print and electronic media published the results, including ANTV national television station, *Kompas* newspaper (print version, page 25, on 14 April 2011), *Investor Daily* newspaper (print version page 11 on 14 April 2011), *Bisnis Indonesia.com* and *detik.com* (both on 13 April 2011). The media thereby became a bridge for communicating between stakeholders and the public.

4.3.3 Summary of issues identified by public (result of focus group discussion, and media outreach activities)

1) On-Street Parking

During this FGD, it was suggested that the government should ban on-street parking to improve the flow of rush hour traffic. Conditions would also improve if the local government were prepared to build parking lots near working districts, although this would require specific locations. The police should apply stricter enforcement measures against people who illegally park on the street, in conjunction with the government's provision of sufficient parking spaces managed by the local community. The re-designation of vacant lots as parking areas might be an alternative solution. Strict enforcement against illegally parked vehicles should be done regularly by towing vehicles to the nearest police station. Lastly, Park & Ride (P&R) facilities are needed near inter-modal locations.

2) Optimising Sidewalk Function

At this FGD, most participants agreed that illegal users of the sidewalk should be penalised, and the pavements need to be improved to make them suitable for pedestrian use. This could begin with clearing the sidewalk of barriers that hinder the movement of pedestrians. The use of sidewalks by street vendors reduces the number of visitors to traditional markets. The central and local government need to agree on a regulation that protects the comfort and safety of pedestrian paths. Some FGD participants representing street vendors would prefer an alternative location that is safer and more appropriate. If necessary, the pedestrian path could have a fence added. Pedestrian paths should also provide access for the disabled.

3) Slow Lane Socialisation

In the FGD discussing socialisation of slow lane use, participants conveyed a number of suggestions and expectations, highlighting the importance of the slow lane. In brief, the slow lane should be sufficiently wide and on only one side of a road (as on the Solo-Yogya road). There should be no vehicle stopping or bus shelters on the slow lane. In

addition to the slow lane, a dedicated lane should be introduced soon specifically for bicycles. A separator is essential to separate the highway from the slow lane. Another option suggested was introducing a new age restriction on motor vehicle users, initially as a trial.

4) Busway Lane Sterilisation

At the FGD on sterilization of the busway lane, participants agreed that busway sterilization should be included in a public education initiative. It was appreciated that it is better to use a bus that can load 85 passengers than private cars, which also present a higher accident risk. There should also be a restriction on car ownership of one car per family. Crowds of passengers in busway shelters and inconsistent arrival of buses lead people to prefer riding their own motorcycles. Some participants acknowledged that travel would be quicker using the busway, but many aspects of the busway need urgent improvements. Interconnections between busways and railways are also urgently needed.

Socialization to the public on the benefits of using busways also needs to be increased. To make busway traffic smoother, traffic police must be stricter in punishing road users that break the law and interfere with the smooth flow of buses, especially by entering the busway lane. If possible, the busway lane should have CCTV.

5) Integrated Ticketing for Road- and Rail-based Public Transport

The integrated ticketing FGD concluded that, from the public perspective, integrated ticketing is an effective way to reduce travel costs. In the future, society would likely prefer integrated ticketing. This could take the form of pre-paid cards, which encourage people to use them, rather than paying cash. A “one-touch” mechanism could also be considered, like the system in Guadalajara, Mexico. The card must be easily refillable at numerous refill counters. In the future, the ticket is likely to take the form of a single card like an ATM card, which can be used to pay fro all public transport in the city.

6) Increased Busway Services to Meet Minimum Standard of Service

Members of this FGD concluded that the headway on the busway was poor; with waiting time for buses reaching 30 minutes to an hour. The many non-busway vehicles entering the busway lane sometimes caused long queues in the busway lane, and extensive waiting times for passengers. The FGD concluded that the fleet size was inadequate, and suggested additional ticket counters in strategic locations, improved safety, the installation of alarms, increased comfort in the waiting room, and separating the queues for men and women. Consequently, each bus should be guarded by one or two security officers. One person noted that busways with dedicated lanes must be the most appropriate form of public transport. However, current circumstances indicate that the fleet needs improving, busway management should be handled professionally, passenger information (bus, route, gate) should be complete, commuters should be educated regularly, and infrastructure (bus stop, lanes, etc.) improvements should be the priority agenda. Other aspects to consider were busway

safety and security, rush hour availability, integrating tickets with railways, and more comfortable and accessible transfer points.

7) Park & Ride

The FGD noted that Park & Ride could reduce traffic congestion in Jakarta while providing a new economic activity at railway and busway stations. People would then feel more comfortable using public transport. However, a large area would be needed to accommodate the private vehicles of Jakarta commuters. Generally, Park & Ride areas must be located on the outskirts of a city in order to reduce the number of vehicles entering the city centre. The government should issue a regulation instructing each administrative area in Jakarta to provide Park & Ride facilities. The facilities need to be complemented by adequate pedestrian footpaths. And if the government integrates payment through an integrated ticketing system, travel time would be faster. All these efforts should be supported by all agencies connected with transportation issues and, most importantly, the government should be committed to this solution. Private cars should be prohibited from entering the main thoroughfares of Jl. Jend. Sudirman and Jl. MH. Thamrin. Pasar Minggu needs Park & Ride facilities. If possible, the government should find private sector investors to undertake construction of the Park & Ride sites.

8) Summary of Issues Arising from Media Outreach Activities

The busway fleet should be increased urgently. In addition, the government has budgeted a purchase of 80 articulated buses this year. Other issues highlighted by the journalists attending media outreach events included the preference for these two corridors, the performance of each department based on UKP4's evaluation, the implementation of an electronic system, transportation insurance, the seven action plans, and on-street parking.

4.4 STAKEHOLDER ANALYSIS

The results of the stakeholders' meeting on 31 May, 2011 are summarised in Table 4.12, which includes both a review of each agency's progress in action plan implementation and their level of commitment to implementing their action plans.

Table 4.12. Stakeholder Analysis

No	Institutions	Program/Action plan	Action Progress	Commitment to Issue	Attitude analyses	Remarks
1	MoT	Coordination	No significant results yet	No commitment	Kristiono (head of urban transport subdirectorate at MoT) asserted that integrated ticket was impossible to do	
2	Ministry of BUMN	Coordination	No significant results yet	In progress		Did not attend
3	Jakarta Public Works Agency	Maintaining and revitalizing roads	No significant results yet	In progress	Daily maintenance on separators and potholes in roads	
4	Landscape Affairs Agency	Sidewalk revitalization	No significant and visible results	In progress	Committed to improving sidewalk, but no action yet	
5	Jakarta Transportation Agency	Clamping, promoting slow lane, etc.	No significant results yet	Strong commitment	Clamping every Thursday and Tuesday, although not effective	
6	Regional Gov. of DKI Jakarta	Issuing regional regulation on clamping, coordination, etc.	No significant results yet	In progress	No significant action	
7.	PT Kereta Api Indonesia	Ticket integration	No significant results yet	Strong commitment	Meeting has been held to reach agreement on developing electronic ticketing (31 May, 2011)	

No	Institutions	Program/Action plan	Action Progress	Commitment to Issue	Attitude analyses	Remarks
8.	BLU TransJakarta	Sterilizing busway, developing electronic ticketing system, etc.	No significant results yet	In progress	No progress in electronic ticketing	
9.	Municipal of Tangerang Selatan	Coordination	No significant results yet	In progress	No action	
10.	Municipal of Depok	Coordination	No significant results yet	In progress	No action	
11.	Polda Metro Jaya	Promoting slow lane, clamping, etc.	No significant results yet	Strong commitment	Much action, but not achieved 100%	
12.	Pertamina	Accomplishing supply of CNG	No significant results yet	In progress	No changes	
13.	PN Gas	Accomplishing supply of CNG	No significant results yet	In progress	No changes	

CHAPTER 5: RESULTS OF BASELINE SURVEYS

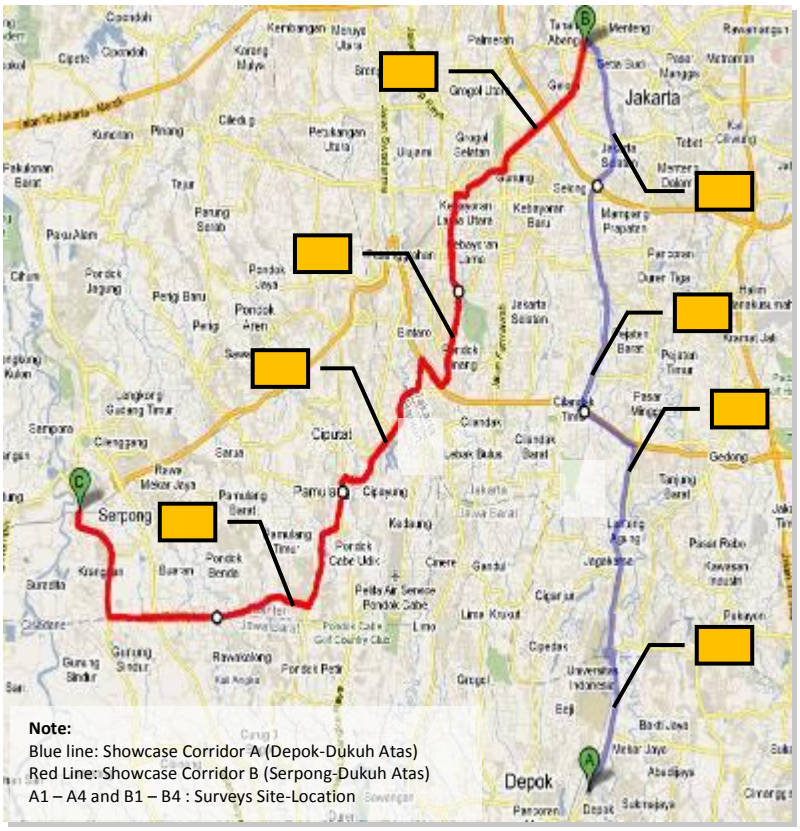
5.1 INTRODUCTION

UKP4 agreed to work collaboratively with MTI to monitor implementation of the two showcase corridors being promoted as 'quick wins' that demonstrate the effectiveness of coordination among the various agencies. The Transportation Laboratory at the University of Indonesia (UI) was then appointed by MTI to undertake the baseline survey and research to obtain quantitative measurements for the showcase corridors.

Based on the proposal, the Laboratory would carry out two days of surveys during weekday rush hours (i.e., 06:00-10:00 and 16:00-20:00). The two showcase corridors given by UKP4 as the study areas were:

1. Depok-Dukuh Atas (southern route; Corridor A), which connects the municipality of Depok with DKI Jakarta province.
2. Serpong-Dukuh Atas (south-western route; Corridor B) which connects the municipality of South Tangerang with DKI Jakarta province.

Figure 5.1 Baseline Survey Map on Corridors A and B



5.2 METHODOLOGY AND SCHEDULE

5.2.1 Methodology

The survey would involve two types of survey:

1. Road and traffic baseline conditions, and
2. Public transport baseline conditions.

All surveys conducted in the morning focused on traffic heading into Jakarta city centre, while in the afternoon they focused on outgoing traffic from Jakarta city centre.

1) Road and Traffic Baseline Conditions

Road and traffic baseline conditions are divided into two types: a road infrastructure conditions survey, and a traffic movement survey on motorcycles and private vehicles.

- ***Road Infrastructure Conditions***

The infrastructure survey collected information on issues that affect traffic movement:

1. *Surface conditions*

   This focused on potholes, since it is relatively difficult to measure any other pavement indicators (e.g., friction, roughness, etc.).

2. *Road markings*

   The survey would identify the design and condition of the centreline, lane markings, road verge lines, stop lines, etc.

3. *Pedestrian footpath availability and condition*

   The survey also tried to capture roadside activities affecting traffic movement.

4. *Road width*

   As the survey measured road condition, there was a need to obtain information on road width (random sections), since information on roads that have sub-standard width was particularly needed.

5. *Identify problems in on-street parking and taxi ranks*
6. *Link conditions*
7. *Intersection conditions*

To measure the road's geometrical properties, the surveyors used a camera and digital roller (commonly known as a digiroller). The main function of the digiroller was to measure the width of certain road segments of the showcase corridors. The measurements were for the same segments as used in the traffic survey.

- ***Traffic Survey***

This survey was divided into three groups:

1. *Cross-sectional traffic study:* volume, speed (average and 85th percentile) and traffic composition.

   Locations:

   - Depok-Dukuh Atas

     A1 : Jl. Margonda Raya

     A2 : Jl. Tanjung Barat, at Tanjung Barat Railway Station

     A3 : Jl. TB Simatupang

     A4 : Jl. HR. Rasuna Said, in front of Australian Embassy

   - Serpong-Dukuh Atas

     A5 : Jl. Jend. Sudirman, in front of Polda/Hotel Sultan

     A6 : Jl. Raya Metro Pondok Indah, between roundabout and Pondok Indah Mall

     A7 : Jl. Raya Ciputat (Kali Pesanggrahan bridge) on the border between DKI Jakarta and South Tangerang

     A8 : Jl. Raya Pamulang, in front of South Tangerang City Hall.

2. Floating vehicle/motorcycle survey with GPS. Two motorcycles and two private cars were deployed fitted with GPS to measure travel time, average speed and motionless time, and to prepare a trajectory diagram.

The traffic volume survey was done in the morning and afternoon, each time for four hours. The traffic count was divided into 15-minute intervals. Surveyors were requested to manually count the number of each type of vehicle passing through the survey point. The survey classified the vehicle types as follows:

- Small vehicles (sedans, jeeps and pick-ups),
- Public transport (*Angkot* micro-buses/paratransit vehicles),
- Buses (small and large),
- Trucks (2-axle and 3-axle), and
- Motorcycles.

In the lane with the traffic volume survey, the surveyors also measured spot speed using a speed gun. The surveyors had to shoot the speed gun at any reflective vehicle (i.e., any part made from metal), and the distance and time it took for the laser beam to reflect back was calculated by the speed gun. To obtain satisfactory data, the surveyors followed the normal distribution rule of thumb of 30 samples of each vehicle type.

2) Public Transport Baseline Conditions

On-board surveyors with handheld GPS were employed for the public transport survey. The types of public transport found on the two stretches were:

- Commuter trains,
- BRT buses (busway),
- Regular buses and minibuses, and
- *Angkot* (micro-bus/paratransit).

This survey would also include any transfer between modes, walking time from home to the nearest bus stop/railway station, walking time for any transfer, and walking time from the destination bus stop/railway station to journey end. The surveyors were asked to travel along the two showcase corridors and note the public transport route, transfer location, use GPS to record speed, and record travel time. This would result in a time-space diagram showing the relationship between speed, boarding and alighting locations, and time.

5.2.2 Schedule

The survey was carried out during morning and afternoon peak hours (i.e., 06:00-10:00 and 16:00-20:00). It took two weeks to complete the survey. During the first week, the first survey conducted was the floating vehicle (private car), travel time survey for private vehicle, road cross-section measurement, and speed survey. This was followed by the traffic volume and public transport performance survey during the second week. All measurements were made during weekdays. The first week's survey was conducted on 23-25 March, 2011 and the second week's survey was conducted on 29-30 March, 2011.

The surveys were carried out on the two showcase corridors specified by UKP4 as the study areas:

A. Depok-Dukuh Atas (south corridor), with surveying points:

   A1 : Jl. Margonda Raya

   A2 : Jl. Tanjung Barat, at Tanjung Barat Railway Station

   A3 : Jl. TB Simatupang

   A4 : Jl. HR. Rasuna Said, in front of Australian Embassy

B. Serpong-Dukuh Atas (southwest corridor), with surveying points:

   B1 : Jl. Jend. Sudirman, in front of Polda/Hotel Sultan

   B2 : Jl. Raya Metro Pondok Indah, between roundabout and Pondok Indah Mall

B3 : Jl. Raya Ciputat (Kali Pesanggrahan bridge) on the border between DKI Jakarta and South Tangerang

B4 : Jl. Raya Pamulang, in front of South Tangerang City Hall.

5.3 TRAFFIC PERFORMANCE (SPEED, VOLUME, SERVICE LEVELS)

5.3.1 Speed

The 85th percentile speeds and average speeds for each corridor are presented in Tables 5.1 to 5.4. (The 85th percentile indicates a speed that the majority of the traffic is not exceeding.)

Table 5.1. Depok-Dukuh Atas average speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Margonda Raya	28.1 km/h	29.7 km/h	26.5 km/h	27.2 km/h	20.9 km/h	25.1 km/h	26.2 km/h	26.3 km/h	35.2 km/h	36.2 km/h
Jl. Raya Pasar Minggu	39.7 km/h	54.6 km/h* & 38.6 km/h**	29.4 km/h	50.8 km/h* & 45.6 km/h**	26.1 km/h	24 km/h* & 28.8 km/h**	29.1 km/h	28.4 km/h* & 32.3 km/h**	50.9 km/h	40.1 km/h* & 44.7 km/h**
Jl. Warung Jati Barat	21.6 km/h	16.6 km/h	18.2 km/h	16.7 km/h	20.1 km/h	18.8 km/h	18.2 km/h	18.1 km/h	18.8 km/h	19 km/h
Jl. H.R. Rasuna Said	19.4 km/h* & 54.6 km/h**	20.5 km/h* & 30.2 km/h**	-	-	17.7 km/h* & 43.8 km/h**	19.4 km/h* & 25.7 km/h**	18.3 km/h* & 41.4 km/h**	22.5 km/h* & 33.3 km/h**	19.6 km/h*	32.8 km/h*

Table 5.2. Depok-Dukuh Atas 85th percentile speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Margonda Raya	34.9 km/h	33.9 km/h	31.9 km/h	33.2 km/h	34.5 km/h	27 km/h	33.4 km/h	33.2 km/h	44.2 km/h	42.6 km/h
Jl. Raya Pasar Minggu	46.7 km/h	44.2 km/h* & 44.4 km/h**	36 km/h	41.2 km/h* & 36.7 km/h**	33.9 km/h	29.3 km/h* & 37.2 km/h**	36.4 km/h	35 km/h* & 36.1 km/h**	56.6 km/h	46 km/h* & 56.7 km/h**
Jl. Warung Jati Barat	28.7 km/h	20.1 km/h	22.6 km/h	19.4 km/h	26.7 km/h	30.5 km/h	21.4 km/h	25.7 km/h	21.5 km/h	26.7 km/h
Jl. H.R. Rasuna Said	24.7 km/h* & 59.8 km/h**	24.5 km/h* & 39.7 km/h**	-	-	20.6 km/h* & 51.3 km/h**	22.7 km/h* & 36 km/h**	21.1 km/h* & 46.3 km/h**	29.8 km/h* & 39.6 km/h**	22.2 km/h*	38 km/h*

Table 5.3. Serpong-Dukuh Atas average speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Pamulang Raya	27.9 km/h	31.9 km/h	23.3 km/h	23 km/h	-	-	22.8 km/h	21.8 km/h	52.6 km/h	50.9 km/h
Jl. Ir. H. Juanda	25.7 km/h	23.4 km/h	20.9 km/h	19.5 km/h	18.3 km/h	23.1 km/h	23.2 km/h	18.3 km/h	19.6 km/h	19.6 km/h
Jl. Metro Pondok Indah	44 km/h	37.8 km/h	-	-	35.3 km/h	39.6 km/h	38.2 km/	34.7 km/h	45.9 km/h	39.3 km/h
Jl. Jenderal Sudirman	46 km/h* & 35 km/h**	30.1 km/h* & 49.7 km/h**	-	-	37 km/h* & 39.5 km/h**	30.4 km/h* & 41.6 km/h**	40.3 km/h*	26.4 km/h*	46.8 km/h*	37.2 km/h*

Table 5.4. Serpong-Dukuh Atas 85th percentile speeds

Location	Sedan, Jeep, Pick Up		Public Transport (Angkot)		Bus (Small & Big)		Truck (2ax and ≥ 3ax)		Motorcycle	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Jl. Pamulang Raya	33.8 km/h	27.1 km/h	27.7 km/h	28.1 km/h	-	-	29.4 km/h	27.7 km/	37.3 km/h	36.5 km/h
Jl. Ir. H. Juanda	33.3 km/h	30 km/h	25 km/h	22.8 km/h	21.8 km/h	30.2 km/h	28.2 km/h	-	38.2 km/h	22.4 k/h
Jl. Metro Pondok Indah	54.4 km/h	45.2 km/h	-	-	45.4 km/h	50 km/h	47.7 km/h	39.6 km/h	55.4 km/h	43.6 km/h
Jl. Jenderal Sudirman	54.3 km/h* & 45.6 km/h**	35.3 km/h* & 58.2 km/h**	-	-	47.1 km/h* & 47.6 km/h**	35.5 km/h* & 51.8 km/h**	48.4 km/h*	32.4 km/h*	57.5 km/h*	41.8 km/h*

Based on these tables, it can be concluded that during morning and evening rush hours, vehicles move at a relatively low speed due to the congested road. The average speed for each segment on each corridor is below the 85th percentile speed. For some segments (Jl. Jend Sudirman and Jl. HR Rasuna Said), separate figures are provided for slow and fast lane speeds (slow lane speeds are indicated with a single asterisks, fast lane speeds with a double asterisks). We note that the 85th percentile and average speeds in the fast lanes are slower than the slow lane speeds.

5.3.2 Cross-sections

The measurements contained in the text that follows are the results of conducting a geometrical measuring survey on designated road segments where the spot speed survey took place. After the segments and measurements had been sketched, they were transferred to computer using AutoCAD. The details of the cross-sections for both corridors can be found in Annex 4.

Cross Sections on Corridor A

Jl. Margonda Raya: The Jl. Margonda Raya segment contains two roads that are 12 metres wide. The traffic volume there is quite high, with motorcycles dominant. However, there is no proper pedestrian path along this corridor and there are not enough pedestrian crossings, either at grade or overpasses/underpasses. In this regard, it is very difficult for pedestrians to safely cross this segment of road.

In this segment, the traffic signs and marks are not designed well, with many mistakes in the placement of marking and signage. The pedestrian footpath is also inadequate, with inconsistent footpath size, paving, and width as a consequence of road widening along Jl. Margonda Raya.

Figure 5.2. Current state of Jl. Margonda Raya segment (A1)

Jl. Raya Pasar Minggu: In the Jl. Raya Pasar Minggu segment (in front of Tanjung Barat Railway Station), the section leading to Depok consists of a slow and a fast lane. In contrast, the section coming from Depok only has a single mixed lane with a lane width narrowing from three lanes to two. During morning rush hour, the segment from Depok towards Ragunan and Pancoran becomes congested, not only because of the number of vehicles, but also because pedestrians cross the road from the nearby train station, and because there is a railway crossing that periodically interrupts traffic flow. During evening rush hour, the situation is similar to the morning, with substantial traffic heading from Depok to Jakarta (there are many universities in Depok, including the University of Indonesia (UI) and Universitas Gunadarman, among others). Most of the traffic is heading towards Jakarta, and must turn right, cross the railway, and leave the expressway, while commuter trains cross the road every three minutes. In the other direction, the traffic heading out from Jakarta (Pasar Minggu or Expressway) does not face this problem, and also benefits from the halting of northbound traffic when trains pass by.

Figure 5.3. Current state of Tanjung Barat segment (A2)

Tanjung Barat: The road surface is poorly maintained and relatively bumpy, increasing the risk of accidents along this segment. Markings and signage are also poor, as Figure 22 shows. There is no pedestrian crossing and an inadequate pedestrian path. The median is also not designed to facilitate pedestrians crossing the road.

Figure 5.4. Current state of Jl. Warung Jati Barat segment (A3)

Jl. Warung Jati Barat: Along the Jl. Warung Jati Barat segment, traffic congestion is the norm during both the morning and evening peak hours. There are two possible reasons for this. First, this segment lies between two intersections where traffic volume is high, while the traffic lights at these two intersections are not coordinated (i.e., the phasing needs to be redesigned). And second, the geometrics are poorly designed. The road width is insufficient to handle the large number of vehicles, especially along the Warung Jati intersection, which consists of only one lane for traffic heading towards the centre and two lanes for traffic heading to Pasar Minggu.

The condition of the road in this segment is reasonable. However, the pedestrian path needs improving. There were inconsistencies in the width, size, and pavement of the pedestrian path, and marking and signage also need to be improved, since the existing marks are unclear.

Figure 5.5. Current state of Jl. Rasuna Said segment (A4)

Jl. Rasuna Said: The last segment surveyed in this corridor was Jl. Rasuna Said, in front of the GOR Soemantri Brojonegoro sports arena, at the pedestrian flyover. The traffic here is relatively crowded due to the large number of vehicles trying to reach office areas near and around the Sudirman-Kuningan area while avoiding the 3-in-1 area of Jl. Gatot Subroto-Jl. Jend. Sudirman. Rasuna Said has become one of many alternative routes to reach office areas without passing through the 3-in-1 area. Like the Sudirman segment, Rasuna Said also has good pedestrians facilities, and the road is also in good condition.

Table 5.5. Comparison between existing and ideal road conditions for Depok-Dukuh Atas Corridor[8]

Conditions	Criteria	Jl. Margonda Raya	Jl. Tanjung Barat	Jl. Warung Jati Barat	Jl. H. R. Rasuna Said
Existing Conditions	Road Width per Lane (m)	4.23	4	3.46	3.3
	Total Lanes (m)	3	2 & 3	2	2
	Total Road Body With (m)	28,62	22.7 & 14.82	27.42	45.2
	Median Width (m)	1	0.5	2.68	3
	Sidewalk Width (m)	1.76	1.36-3.14	3.44	2.5
	Average Speeds (km/h)	20-60	20-60	20-50	20-70
	Class	Secondary Arterial	Primary Collector	Primary Collector	Primary Arterial
Ideal Conditions	Road Width per Lane (m)	3-3.6	2.75-3.6	2.75-3.6	3.5-3.6
	Total Lanes (m)	min 2	min 2	min 2	min 2
	Total Road Body With (m)	min 11	min 9	min 9	min 11
	Median Width (m)	min 2.0	min 1.7	min 1.7	min 2.0
	Sidewalk Width (m)	min 1.5	min 1.5	min 1.5	min 1.5
	Average Speeds (km/h)	≥ 30	≥ 40	≥ 40	≥ 60
	Class	Secondary Arterial	Primary Collector	Primary Collector	Primary Arterial

Note: Road class is awaiting confirmation from DGH.

Cross-sections on Corridor B

Annex 4 contains the cross-sections from the Serpong-Dukuh Atas (Corridor B) survey locations. The cross-sections from Jl. Pamulang Raya to Jl. Ir. H. Juanda have roughly the same geometrical measurements .

The main difference between the two showcase corridors is the traffic composition.

Jl. Pamulang Raya: Based on observations, vehicles moving along Jl. Pamulang Raya include private cars, angkot, motorcycles, trucks, and non-motorised vehicles. The only buses on this segment are company buses carrying employees between the office and employee housing.

[8] Based on GR No. 34 of 2004 on 2004 Geometric Standards for Urban Roads

Figure 5.6. Current state of Jl. Pamulang Raya survey segment (B1)

The road pavement on this segment is in poor condition. The road surface is rough in some spots, potentially reducing vehicle speeds. Holes in the road endanger motorcyclists. There is no pedestrian way along this segment. Many improvements are needed in order to provide a pedestrian footpath with consistent size, width and pavement.

Jl. Ir. H. Juanda: Along the Jl. Juanda segment, all types of vehicle are found, ranging from motorcycles to large buses and trucks. The volume of large vehicles passing this segment is higher than is found along Jl. Pamulang Raya. The capacity of Jl. Ir. H Juanda is inadequate to meet current traffic demand, resulting in heavy traffic congestion during weekday mornings and evenings.

Figure 5.7. Current state of Jl. Ir. H. Juanda Survey segment (B2)

Road traffic signs and markings are poor on this segment. There is no clear barrier separating the road from the pedestrian footpath, which is also in a poor state.

Metro Pondok Indah: The Jl. Metro Pondok Indah segment is a two-way carriageway. Each carriageway has three lanes and they are separated by a median. The right-hand lane is designed for mixed traffic (i.e., normal traffic and busway). There is quite a high volume of traffic along this segment, but the road design can accommodate this number of vehicles.

Figure 5.8. Current state of Jl. Metro Pondok Indah Survey segment (B3)

The condition of the pavement is quite good, with no holes found at this section. A pedestrian footpath is provided, but requires some improvements, such as clearing weeds and adding a pedestrian crossing.

Jl. Jend. Sudirman: The last survey point in this corridor is at Jl. Jend. Sudirman, specifically the area of the pedestrian flyover near Polda Metro Jaya. Traffic congestion occurs during morning and evening peak hours due to traffic control by traffic police near the Semanggi interchange. Road traffic is near capacity due to the large number of vehicles passing through this segment, despite enforcement of a minimum of three passengers occupying each vehicle entering this road (known as '3-in-1').

Figure 5.9. Current state of Jl. Jend. Sudirman segment (B4)

Jl. Jend. Sudirman is in the best condition of any road in DKI Jakarta. It has the best pavement and footpath. No improvements are needed to this segment. Like the Jl. Rasuna Said segment, Jl. Jend. Sudirman has good pedestrian facilities, and the road is in good condition.

Table 5.6. Comparison between existing and ideal road conditions for Depok-Dukuh Atas Corridor[9]

Conditions	Criteria	Jl. Pamulang Raya	Jl. Ir. H. Juanda	Jl. Metro Pondok Indah	Jl. Jenderal Sudirman
Existing Conditions	Road Width per Lane (m)	3.15	3.67	3.3	2.9
	Total Lanes (m)	2	2	3	3
	Total Road Body With (m)	15.08	21.96	26.08	66.56
	Median Width (m)	1	1	1.12	5.22
	Sidewalk Width (m)	0.88	1.58	3.44	5.6
	Average Speeds (km/h)	20-50	20-50	20-70	20-70
	Class	Primary Collector	Secondary Collector	Secondary Arterial	Primary Arterial
Ideal Conditions	Road Width per Lane (m)	2.75-3.6	2.75-3.6	3-3.6	3.5-3.6
	Total Lanes (m)	min 2	min 2	min 2	min 2
	Total Road Body With (m)	min 9	min 9	min 11	min 11
	Median Width (m)	min 1.7	min 1.7	min 2.0	min 2.0
	Sidewalk Width (m)	min 1.5	min 1.5	min 1.5	min 1.5
	Average Speeds (km/h)	≥ 40	≥ 20	≥ 30	≥ 60
	Class	Primary Collector	Secondary Collector	Secondary Arterial	Primary Arterial

Note: Road class is awaiting confirmation from DGH.

It can be concluded that all road segments are approaching maximum capacity, so something needs to be done urgently in terms of traffic management, road infrastructure improvements, or road design. Otherwise, total gridlock may occur on all these segments in the near future. This conclusion is supported by the traffic volume data for the eight survey segments.

[9] Based on GR No. 34 of 2004 on 2004 Geometric Standards for Urban Roads.

5.3.3 Traffic Volume

Below are the results of the traffic volume survey conducted on both corridors. Surveys were conducted during the morning rush hours (06:00-10:00) and evening rush hours (16:00-20:00). The surveyors counted the traffic in each direction at each segment. Only the morning and evening peak hours are included.

Peak hours are represented by peak hour factor (PHF). An analysis of service level is based on the highest rate of traffic flow during peak hours, noting that there are substantial short-term fluctuations in a typical hour.

The typical PHF for metropolitan freeways ranges between 0.80 and 0.95. A lower PHF is more typical on rural freeways and during off-peak times. A higher PHF is typical of urban and suburban peak-hour conditions.

Before calculating the PHF, all classes must be added up to determine traffic volume per hour in terms of passenger car equivalent (PCE) for each class of vehicle. The shaded cells represent peak hour volume and PHF for each corridor.

Depok – Dukuh Atas (Corridor A)

Morning peak hour

Table 5.7. Margonda Raya (A1) Traffic Volume (Depok – Jakarta)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	6:15 - 6:30	259	65	11	2	797	1	578,7	2802	0,88025
2	6:30 - 6:45	283	82	20		1356	2	795,8	2995,6	0,94107
3	6:45 - 7:00	338	101	17		744	1	682,6	3202,1	0,79869
4	7:00 - 7:15	390	87	10		853	2	744,9	3714,1	0,77727
5	7:15 - 7:30	312	82	11		1217	1	772,3	4625	0,6983
6	7:30 - 7:45	418	89	7	8	1591	2	1002,3	4871,4	0,73551
7	7:45 - 8:00	530	115	4	4	1800	1	1194,6	4924	0,74345
8	8:00 - 8:15	838	186	6	8	2050	2	1655,8	4575,2	0,69078
9	8:15 - 8:30	405	83	7	16	1677	1	1018,7	3839	0,9098
10	8:30 - 8:45	435	109	5	4	1667		1054,9	3698,2	0,87643
11	8:45 - 9:00	314	107	6	3	1380		845,8	3438,6	0,93481
12	9:00 - 9:15	349	129	10	6	1408		919,6	3407,4	0,92633
13	9:15 - 9:30	332	134	7	5	1325	1	877,9		
14	9:30 - 9:45	308	112	7	3	1211	1	795,3		
15	9:45 - 10:00	291	127	8	4	1274		814,6		

The south corridor starts from Jl. Margonda Raya, at an area called Pondok Cina. Here, the peak hour is at 7:45 to 8:45. The PHF during this hour is around 0.74. Traffic was quite fluid even though vehicles had to stop to give way at school crossings.

At the Jl. Tanjung Barat segment, again the peak hour is at the same time, from 6:45 to 7:45. The PHF for this segment during the hour is 0.91. This is higher compared to the Jl. Margonda Raya segment, may be due to the number of commuters from Depok converging with commuters from that part of southern Jakarta.

Table 5.8. Jl. Tanjung Barat (A2) Traffic Volume (Tanjung Barat – Ragunan)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	6:45 - 7:00	505	63	26	8	3415	2	1633,3	5948,5	0,9105
2	7:00 - 7:15	361	48	29	4	3682	1	1553,2	5526,6	0,88955
3	7:15 - 7:30	404	44	24	6	3263	1	1462,9	5304,4	0,90649
4	7:30 - 7:45	472	51	22	5	2479	2	1299,1	5194,5	0,95981
5	7:45 - 8:00	402	45	14	7	2464		1211,4	4789,3	0,88494
6	8:00 - 8:15	428	42	11	24	2730	1	1331	4662,7	0,86155
7	8:15 - 8:30	405	48	8	18	2896	1	1353	4456	0,82336
8	8:30 - 8:45	350	39	16	18	1547		893,9	4161,5	0,92535
9	8:45 - 9:00	377	31	9	7	2192	4	1084,8	4213,6	0,93694
10	9:00 - 9:15	461	36	10	25	1951		1124,3	4061,1	0,90303
11	9:15 - 9:30	421	45	14	20	1839		1058,5	3844,2	0,90794
12	9:30 - 9:45	396	49	10	23	1538	1	946	3579,8	0,94604
13	9:45 - 10:00	412	46	13	29	1413		932,3	3410,5	0,91454
14	10:00 - 10:15	441	38	11	44	1208	2	907,4		
15	10:15 - 10:30	409	35	7	28	1027		794,1		
16	10:30 - 10:45	343	41	8	34	1141	2	776,7		

For the Jl. Warung Jati Barat segment, the PHF is around 0.75 from 7:50 to 8:50. The small number of cars may be caused due to the availability of only two lanes existing that can't compensate the large number of private cars, meanwhile motorcycles can weave in and out of cars and traffic, hence the larger number for that class of vehicle.

Table 5.9. Jl. Warung Jati Barat (A3) Traffic Volume (Ragunan – Warung Buncit)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	7:05 - 7:20	73	15	5	3	589		274,3	1898,6	0,79854
2	7:20 - 7:35	198	25	6	5	1194	3	594,4	2204,6	0,92724
3	7:35 - 7:50	165	30	7	5	1044	2	522,6	2431,5	0,74014
4	7:50 - 8:05	166	26	8	7	991	1	507,3	2453,2	0,74674
5	8:05 - 8:20	210	19	7	6	1119	2	580,3	2433,4	0,74072
6	8:20 - 8:35	408	41	15	10	1141	4	821,3	2279,4	0,69384
7	8:35 - 8:50	297	34	4	11	651	4	544,3	2010,3	0,91013
8	8:50 - 9:05	228	27	9	8	707		487,5	2016,9	0,91312
9	9:05 - 9:20	200	31	10	4	595		426,3	2091,2	0,93058
10	9:20 - 9:35	331	28	9	8	576		552,2	1999,1	0,8896
11	9:35 - 9:50	316	30	7	21	571		550,9	1970,8	0,877
12	9:50 - 10:05	288	41	8	9	708		561,8		
13	10:05 - 10:20	127	26	5	7	556	1	334,2		
14	10:20 - 10:35	165	19	8	8	1069	3	523,9		
15								0		
16								0		

For the last segment of the morning route is at Jl. H. R. Rasuna Said. The treatment is the same as to Jl. Jenderal Sudirman, in that this segment is initially divided into a slow lane and a fast lane but they are combined to see the wider perspective of the traffic traveling through this segment. The peak hour for this segment starts from 8:00 to 9:00 with a PHF of 0.97.

Table 5.10. Jl. H. R. Rasuna Said (A4) Traffic Volume (Warung Buncit – Kuningan)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	6:15 - 6:30	624		13	1	871	9	902,1	4968,5	0,8328
2	6:30 - 6:45	803		27	4	1238	4	1211,6	5532,6	0,92736
3	6:45 - 7:00	922		21	4	1371	7	1363,3	5916	0,92727
4	7:00 - 7:15	983		22	1	1603	6	1491,5	6003,4	0,94097
5	7:15 - 7:30	931		27	4	1660	5	1466,2	6004,9	0,94121
6	7:30 - 7:45	1043		15	2	1772	5	1595	6058,3	0,94958
7	7:45 - 8:00	887		15	3	1807	6	1450,7	6055,4	0,95085
8	8:00 - 8:15	884		18	2	1950	7	1493	6169,3	0,96874
9	8:15 - 8:30	1009		17	4	1618	2	1519,6	5940,3	0,93278
10	8:30 - 8:45	885		13	4	2289	5	1592,1	5534,6	0,86907
11	8:45 - 9:00	916		10	4	2106	1	1564,6	5045,1	0,80613
12	9:00 - 9:15	952		20	5	940	1	1264	4403	0,87085
13	9:15 - 9:30	858		17	5	765	4	1113,9	4339	0,90396
14	9:30 - 9:45	841		13	9	784	5	1102,6		
15	9:45 - 10:00	630		23	7	855	2	922,5		
16	10:00 - 10:15	930		10	10	820	3	1200		

Evening Peak Hour

Table 5.11. Jl. H. R. Rasuna Said (A4) Traffic Volume (Kuningan – Warung Buncit)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:45 - 17:00	745		17	5	799	3	1011,1	3883,9	0,96032
2	17:00 - 17:15	710		18	3	899	1	1004,9	3865,6	0,96169
3	17:15 - 17:30	641		13	2	893	2	926,9	3675,5	0,92554
4	17:30 - 17:45	653		10	2	912	3	941	3393,9	0,85463
5	17:45 - 18:00	721		11	3	850	7	992,8	3138,8	0,79039
6	18:00 - 18:15	624		12	3	576	6	814,8	2769,1	0,84963
7	18:15 - 18:30	456		15	2	563	4	645,3	2621,6	0,95553
8	18:30 - 18:45	499		24	3	515	1	685,9	2636	0,96078
9	18:45 - 19:00	483		8	4	419	1	623,1	2604,3	0,97569
10	19:00 - 19:15	463		12	1	629	3	667,3	2742,1	0,90094
11	19:15 - 19:30	411		9	5	773	1	659,7	2849,8	0,91929
12	19:30 - 19:45	404		9	9	762	6	654,2	2844,6	0,91761
13	19:45 - 20:00	520		20	2	715	5	760,9	2873,3	0,92687
14	20:00 - 20:15	541		14	4	708	2	775		
15	20:15 - 20:30	431		14	3	677	2	654,5		
16	20:30 - 20:45	478		11	1	635	1	682,9		

For the evening rush hour, or the home bound trip, the peak hour starts at 16:45 up to 17:45 with a PHF of 0.96. Again, an anomaly just like what had occurred at the Jl. Jenderal Sudirman segment, where the number of motorcycles traveling the evening rush hour are almost half of those traveling the morning rush hour.

Table 5.12. Jl. Warung Jati Barat (A3) Traffic Volume (Warung Buncit – Ragunan)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:30 - 16:45	252	34	16	6	855	1	568,9	2395,4	0,91121
2	16:45 - 17:00	249	26	8	4	936		570,2	2562,7	0,87025
3	17:00 - 17:15	239	43	7	5	1009		599,1	2614,5	0,88784
4	17:15 - 17:30	282	35	8	3	1090	12	657,2	2665,7	0,90522
5	17:30 - 17:45	338	34	8	0	1182		736,2	2605,8	0,88488
6	17:45 - 18:00	259	33	7	6	1048	1	622	2340,3	0,8997
7	18:00 - 18:15	282	29	4	1	1111		650,3	2232,4	0,85822
8	18:15 - 19:30	250	47	10	1	957		597,3	2152,3	0,90085
9	18:30 - 18:45	188	28	11	5	785		470,7	2114,7	0,92717
10	18:45 - 19:00	248	36	4	2	743		514,1	2175,2	0,9537
11	19:00 - 19:15	254	36	3	4	906		570,2	2219,2	0,97299
12	19:15 - 19:30	245	33	8	1	903		559,7	2189,2	0,97785
13	19:30 - 19:45	207	38	5	5	914		531,2	2180,2	0,97662
14	19:45 - 20:00	243	31	6	2	915		558,1		
15	20:00 - 20:15	245	24	5	3	872		540,2		
16	20:15 - 20:30	206	48	6	5	945		550,7		

In the Jl. Warung Jati Barat segment, the peak hour occurred at 17:15 to 18:15 with a PHF of 0.905. The number of motorcycles is almost the same as to the morning peak hour, but the number of cars almost doubled in numbers.

The Jl. Tanjung Barat segment for this route is different compared to the morning route. This is because that the road leading from Tanjung Barat to Depok is devided into a slow lane and a fast lane, thus the treatment is same as to the Jl. H. R. Rasuna Said segment and Jl. Jenderal Sudirman segment. The PHF for this segment is around 0.85.

And the last segment is Jl. Margonda Raya. Here the peak hour occurred from 17:30 to 18:30 with a PHF of 0.89. The numbers here for both cars and motorcycles only have a slight deifference to the morning peak hour, they’re almost identical. And here it can clearly be seen that the number of vehicles from the Jl. Tanjung Barat segment has dispersed and decreased when it has reached Jl. Margonda Raya but the PHF is higher compared to the morning PHF.

In conclusion, the behaviour of the south corridor traffic is almost the same as to the south-west corridor. in both corridors, motorcycles are the dominant mode of traffic etiher morning or evening peak hour.

Table 5.13. Jl. Tanjung Barat (A2) Traffic Volume (Tanjung Barat – Depok)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:00 - 16:15	512	48	27	10	1423		1031,3	4749,7	0,87685
2	16:15 - 16:30	551	40	24	11	1619	1	1118,7	4822,7	0,89032
3	16:30 - 16:45	572	48	24	13	1937		1245,5	4877,7	0,90048
4	16:45 - 17:00	632	37	21	8	2168	2	1354,2	5059	0,88642
5	17:00 - 17:15	456	27	22	14	1927	1	1104,3	5175,9	0,8796
6	17:15 - 17:30	439	42	18	7	2209		1173,7	5772,6	0,84841
7	17:30 - 17:45	550	29	25	9	2690		1426,8	5812,3	0,85425
8	17:45 - 18:00	544	25	18	6	2911		1471,1	5465,4	0,80326
9	18:00 - 18:15	455	37	21	5	3926	1	1701	5315,7	0,78126
10	18:15 - 18:30	479	42	21	7	2196		1213,4	4751,7	0,89899
11	18:30 - 18:45	505	40	14	5	1707		1079,9	4692,8	0,88785
12	18:45 - 19:00	614	36	18	6	2142		1321,4	5104,7	0,85546
13	19:00 - 10:15	501	39	15	8	1898	1	1137	4926,5	0,8256
14	19:15 - 19:30	535	21	14	7	1911		1154,5		
15	19:30 - 19:45	592	28	29	7	2762	2	1491,8		
16	19:45 - 20:00	512	27	26	8	1878		1143,2		

Table 5.14. Jl. Margonda Raya (A1) Traffic Volume (Jakarta – Depok)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:00 - 16:15	351	72	14	6	998	1	746,4	3601,8	0,862
2	16:15 - 16:30	405	72	15	5	1251	5	876,3	3915,4	0,92344
3	16:30 - 16:45	430	89	21	5	1281	5	934,5	4129,9	0,94653
4	16:45 - 17:00	466	77	16	4	1592	4	1044,6	4298,9	0,97392
5	17:00 - 17:15	454	69	20	4	1694	4	1060	4302,1	0,97465
6	17:15 - 17:30	479	64	20	5	1726	4	1090,8	4315,2	0,97762
7	17:30 - 17:45	457	78	17	6	1803	5	1103,5	4477,3	0,89339
8	17:45 - 18:00	427	67	10	5	1786	2	1047,8	4298,9	0,85779
9	18:00 - 18:15	428	67	8	5	1875	1	1073,1	4269,6	0,85194
10	18:15 - 18:30	494	92	25	4	2107	1	1252,9	4153,4	0,82876
11	18:30 - 18:45	345	50	18	6	1671	1	925,1	3932	0,95298
12	18:45 - 19:00	458	73	11	6	1557	4	1018,5	3953,6	0,95822
13	19:00 - 10:15	426	56	12	2	1527	3	956,9	3896,7	0,94443
14	19:15 - 19:30	465	79	11	2	1573	1	1031,5		
15	19:30 - 19:45	432	71	12	5	1411	2	946,7		
16	19:45 - 20:00	423	61	12	4	1528	2	961,6		

Serpong-Dukuh Atas (Corridor B)

Morning peak hour

Table 5.15. Jl. Pamulang Raya (B1) Traffic Volume (Pamulang -Jakarta)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	7:45 - 8:00	89	49		6	924	3	422,4	1618,4	0,95786
2	8:00 - 8:15	92	54		5	787	6	388,1	1562,2	0,95396
3	8:15 - 9:30	116	48		13	766	2	409,4	1585,3	0,96383
4	8:30 - 8:45	102	49		10	785	2	398,5	1527,1	0,92844
5	8:45 - 9:00	99	56		7	676		366,2	1472,6	0,89531
6	9:00 - 9:15	119	57		19	708	3	411,2	1446,9	0,87968
7	9:15 - 9:30	101	57		16	580	2	351,2	1385,7	0,9864
8	9:30 - 9:45	96	62		14	564	1	344	1388,7	0,98017
9	9:45 - 100	96	54		21	551	1	340,5		
10	10:00 - 10:15	113	57		19	524		350		
11	10:15 - 10:30	133	52		10	524		354,2		

For the Jl. Pamulang Raya segment, traffic is dominated by motorcycles from both directions with most of them heading towards Jakarta. This segment has a PHF of 0.96 with around 1,618.4 PCE per hour from 07:45 to 08:45.

Table 5.16. Jl. Ir. H. Juanda (B2) Traffic Volume (Ciputat-Jakarta)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	6:45 - 7:00	162	76	9	6	1262	9	634,6	2846,1	0,90559
2	7:00 - 7:15	136	84	6	4	1597	6	711,1	2849,7	0,90674
3	7:15 - 7:30	136	81	5	8	1607	10	714,7	2866,4	0,91205
4	7:30 - 7:45	194	67	6	10	1685	7	785,7	2747,1	0,87409
5	7:45 - 8:00	187	63	6	7	1242	10	638,2	2564,1	0,88077
6	8:00 - 8:15	202	68	6	10	1462	11	727,8	2506,9	0,86112
7	8:15 - 8:30	188	51	5	6	1144	11	595,4	2355,4	0,97702
8	8:30 - 8:45	173	55	6	7	1197	7	602,7	2282	0,94657
9	8:45 - 9:00	205	55	3	8	1026	10	581	2193,3	0,94376
10	9:00 - 9:15	178	65	4	10	1055	2	576,3	2133	0,9253
11	9:15 - 9:30	194	46	7	15	852	5	522	2049,7	0,98166
12	9:30 - 9:45	168	55	5	19	874	6	514	2038,2	0,97859
13	9:45 - 10:00	172	70	6	17	837	6	520,7		
14	10:00 - 10:15	184	51	10	19	744	2	493		
15	10:15 - 10:30	178	67	7	17	789	3	510,5		

The Jl. Ir. H. Juanda segment has denser and more diverse traffic, since this is where traffic converges from Serpong, Pamulang and local neighbourhoods.

The peak hour is from 07:15 to 08:15, with a PHF of 0.91. This segment is the most congested of the four Corridor B segments during morning rush hour.

For the Jl. Metro Pondok Indah segment, the number of vehicles is relatively higher for all classes, since this segment is traversed by commuters from the southern part of Jakarta. The PHF for this segment is 0.96 from 06:45 to 07:45. However, traffic is quite fluid in this segment because even though a BRT lane passes through here, there appears to be a mixed traffic policy.

Table 5.17. Jl. Metro Pondok Indah (B3) Traffic Volume (Lebak Bulus-Pondok Indah)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	6:45 - 7:00	623		8		1437		1063,7	4507,3	0,95892
2	7:00 - 7:15	858		29	2	933	1	1175,1	4477,5	0,95258
3	7:15 - 7:30	735		17	6	1210		1125,6	4313,1	0,94346
4	7:30 - 7:45	692		19	4	1411		1142,9	4125,5	0,90242
5	7:45 - 8:00	595		15	7	1375		1033,9	3990,8	0,96499
6	8:00 - 8:15	546		17	9	1445		1010,7	3864,5	0,9559
7	8:15 - 8:30	590		15	7	1072		938	3835,6	0,9511
8	8:30 - 8:45	647		24	8	1076	2	1008,2	3775,8	0,93627
9	8:45 - 9:00	562		16	12	1040		907,6	3646,7	0,92858
10	9:00 - 9:15	647		11	6	1048		981,8	3688	0,93909
11	9:15 - 9:30	511		42	7	1028	1	878,2	3396,3	0,8948
12	9:30 - 9:45	544		12	8	1037	2	879,1	3296,5	0,86851
13	9:45 - 10:00	648		17	10	895	1	948,9	3167,7	0,83457
14	10:00 - 10:15	415		13	7	837		690,1		
15	10:15 - 10:30	488		16	8	872		778,4		
16	10:30 - 10:45	486		14	9	789		750,3		

Table 5.18. Jl. Jend. Sudirman (B4) Traffic Volume (Senayan-Thamrin)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	7:45 - 8:00	853		42		2254		1579,6	7266	0,75606
2	8:00 - 8:15	813		39		1920	2	1435,8	6996,5	0,72801
3	8:15 - 9:30	1718		66		2018	1	2402,6	6673,3	0,69438
4	8:30 - 8:45	933		57		2822	1	1848	5148,3	0,69647
5	8:45 - 9:00	816		41		1483	3	1310,1	4246,1	0,81026
6	9:00 - 9:15	752		50		1002	1	1112,6	3801,2	0,85413
7	9:15 - 9:30	526		42		1004		877,6	3955,3	0,78063
8	9:30 - 9:45	638		46	2	834		945,8	4308,3	0,8503
9	9:45 - 100	588		53		712	2	865,2	4661,2	0,89728
10	10:00 - 10:15	964		52		801		1266,7		
11	10:15 - 10:30	954		37		774	3	1230,6		
12	10:30 - 10:45	996		42		841		1298,7		

For the Jl. Jend. Sudirman segment, the traffic in the fast lane and the slow lane is combined to give a broader perspective on traffic volume in this segment. The PHF for this segment is around 0.76 from 07:45 to 08:45. Despite the 3-in-1 policy, the number of private cars remains high.

Evening peak hour

Table 5.19. Jl. Jend. Sudirman (B4) Traffic Volume (Thamrin-Senayan)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:30 - 16:45	674		39		865	7	980,3	5415,6	0,79
2	16:45 - 17:00	904		52		956	12	1253,2	5551	0,80975
3	17:00 - 17:15	1204		35		741	3	1468,3	5466,7	0,79745
4	17:15 - 17:30	1385		44		920	9	1713,8	4985,8	0,7273
5	17:30 - 17:45	816		4		983	4	1115,7	4209,3	0,90027
6	17:45 - 18:00	931		8	3	749	7	1168,9	4385,3	0,84875
7	18:00 - 18:15	832		4		502	5	987,4	4213,2	0,81544
8	18:15 - 19:30	793		3		469	5	937,3	4149,1	0,80303
9	18:30 - 18:45	857		37		1301	4	1291,7	4195,2	0,81195
10	18:45 - 19:00	809		25		526	8	996,8	4092	0,86075
11	19:00 - 19:15	770		16		447	4	923,3	4322,7	0,88039
12	19:15 - 19:30	819		11		504	6	983,4	4503,5	0,91721
13	19:30 - 19:45	1007		15		545	4	1188,5	4582,1	0,93322
14	19:45 - 20:00	956		25		805	6	1227,5		
15	20:00 - 20:15	844		27		759	7	1104,1		
16	20:15 - 20:30	885		25		490	5	1062		

For the evening rush hour, the peak hour on the Jl. Jend. Sudirman segment is 16:45 to 17:45, with a PHF of 0.81. This PHF is higher than the morning PHF for this segment.

The Jl. Metro Pondok Indah segment reaches a peak from 17:00 to 18:00, with a PHF of 0.95. The PHF for the evening rush hour is similar to the morning rush hour PHF.

The last segment on Corridor B is the starting point of the morning route: Jl. Pamulang Raya. The PHF for the Jl. Pamulang Raya segment during the evening survey is 0.94 (17:30 to 18:30) and is similar to the morning PHF. Overall, the traffic on this segment during morning and evening rush hours is very similar in terms of both PHF and traffic composition.

Table 5.20. Jl. Metro Pondok Indah (B3) Traffic Volume (Pondok Indah-Lebak Bulus)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:30 - 16:45	541		16	2	1109	4	895,3	3669,3	0,92416
2	16:45 - 17:00	481		16		1042	3	812,8	3633,9	0,91525
3	17:00 - 17:15	548		16	3	1326	3	968,6	3830,9	0,94843
4	17:15 - 17:30	569		23	3	1308	3	992,6	3691,4	0,91389
5	17:30 - 17:45	457		11	2	1291	3	859,9	3455,3	0,85544
6	17:45 - 18:00	570		15	1	1402	2	1009,8	3669,4	0,85414
7	18:00 - 18:15	476		18	1	1101	4	829,1	3567,8	0,83049
8	18:15 - 19:30	473		17		877		756,5	3631,8	0,84539
9	18:30 - 18:45	648		12	1	1368	1	1074	3663,4	0,85275
10	18:45 - 19:00	565		9	2	1100	6	908,2	3329,5	0,91651
11	19:00 - 19:15	567		15	1	1023	3	893,1	3312,9	0,92736
12	19:15 - 19:30	480		13	1	971	3	788,1	3139,9	0,88041
13	19:30 - 19:45	477		14	1	817		740,1	3208,1	0,89953
14	19:45 - 20:00	537		21	1	1094	10	891,6		
15	20:00 - 20:15	418		11		963	2	720,1		
16	20:15 - 20:30	544		7	1	1009	1	856,3		

Table 5.21. Jl. Ir. H. Juanda (B2) Traffic Volume (Jakarta-Ciputat)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:45 - 17:00	194	70	12	17	1157	3	645,9	2736,6	0,94274
2	17:00 - 17:15	208	62	10	7	1200	2	650,4	2819,6	0,96707
3	17:15 - 17:30	223	62	8	9	1364	9	714,6	3016,7	0,88988
4	17:30 - 17:45	216	72	12	5	1391	6	725,7	3057,5	0,90192
5	17:45 - 18:00	194	66	9	10	1487	9	728,9	2984,5	0,88038
6	18:00 - 18:15	202	59	8	6	1899	5	847,5	2979,3	0,87885
7	18:15 - 18:30	188	76	5	5	1598	8	755,4	2785,6	0,9219
8	18:30 - 18:45	173	57	6	6	1361	2	652,7	2678,3	0,92521
9	18:45 - 19:00	204	61	7	4	1485	5	723,7	2613,7	0,90289
10	19:00 - 19:15	195	67	8	4	1258	4	653,8	2584,5	0,93035
11	19:15 - 19:30	185	62	7	4	1293	3	648,1	2582,6	0,92966
12	19:30 - 19:45	180	52	5	9	1131	2	588,1	2491,5	0,89687
13	19:45 - 20:00	195	162	7	8	1065	3	694,5	2337,1	0,84129
14	20:00 - 20:15	203	133	5	5	1013	1	651,9		
15	20:15 - 20:30	194	75	6	6	912	3	557		
16	20:30 - 20:45	80	51	5	4	973	2	433,7		

Table 5.22. Jl. Pamulang Raya (B1) Traffic Volume (Jakarta-Pamulang)

No.	Time	Sedan, Jeep, Minibus, Combi, Pick Up	Public Transport (Angkot)	Bus (Small & Big)	Truk (2 ax & ≥ 3 ax)	Motor Cycles	Unmotorized	PCU per 15 minutes	Peak Hour PCU	PHF
1	16:30 - 16:45	109	57	2	13	669	5	384,7	1431,9	0,93053
2	16:45 - 17:00	102	27	3	15	657	5	347,7	1453,1	0,89499
3	17:00 - 17:15	99	24	3	11	788		376,2	1464	0,9017
4	17:15 - 17:30	103	19	1	6	643		323,3	1468	0,90416
5	17:30 - 17:45	109	35	4	10	817	1	405,9	1519,1	0,93564
6	17:45 - 18:00	95	41	4	8	694		358,6	1440,2	0,947
7	18:00 - 18:15	102	52	1	9	714	1	380,2	1455,4	0,957
8	18:15 - 19:30	94	47		8	746	1	374,4	1404,4	0,93777
9	18:30 - 18:45	94	35		5	640		327	1418,4	0,91298
10	18:45 - 19:00	99	39		10	746	1	373,8	1424,2	0,91671
11	19:00 - 19:15	87	16	1	12	702	1	329,2	1395,7	0,89837
12	19:15 - 19:30	118	49		5	718	2	388,4	1411,2	0,90834
13	19:30 - 19:45	102	34		10	616		332,8	1315,6	0,95251
14	19:45 - 20:00	89	31		6	727		345,3		
15	20:00 - 20:15	117	27		5	649		344,7		
16	20:15 - 20:30	91	29		3	564	3	292,8		

In conclusion, the volume of traffic was similar between the morning peak hours and evening peak hours, except that the volume of motorcycles traveling along Jl. Jend. Sudirman in the morning was greater than in the evening.

Table 5.23. Degree of Saturation (V/C Ratio)

Segment	Peak Period	Number of Lanes	PCU Peak Hour	Base Capacity (Co)	Lane Width (FC_W)	Lane Separation (FC_{SP})	Side Factors (FC_{SF})	City Size (FC_{CS})	Actual Capacity [C] PCU	Degree of Saturation (DS)
Jl. Pamulang	Morning	4 Lanes/2 Way	1619	1650 pcu/lane x 2	0,94	1	0,93	0,88	2366	0,684
	Evening	Traffic	1520	= 3300 pcu						0,642
Jl. Ir. H. Juanda	Morning	4 Lanes/2 Way	2867	1650 pcu/lane x 2	1	1	0,98	1,05	3396	0,844
	Evening	Traffic	3058	= 3300 pcu						0,900
Jl. Metro Pondok	Morning	6 Lanes/2 Way	4508	1650 pcu/lane x 3	0,94	1	0,98	1,05	4788	0,942
	Evening	Traffic	3831	= 4950 pcu						0,800
Jl. Jenderal Sudirman	Morning	10 Lanes/2 Way	7266	1650 pcu/lane x 5	1,04	1	1	1,05	9009	0,807
	Evening	Traffic	5551	= 8259 pcu						0,616
Jl. Margonda	Morning	6 Lanes/2 Way	4924	1650 pcu/lane x 3	1,08	1	0,95	1	5079	0,969
	Evening	Traffic	4478	= 4950 pcu						0,882
Jl. Tanjung Barat	Morning	8 Lanes/2 Way	5948	1650 pcu/lane x 4	0,97	1	0,93	1,05	5954	0,999
	Evening	Traffic	5813	= 6600 pcu						0,976
Jl. Warung Jati Barat	Morning	4 Lanes/2 Way	2454	1650 pcu/lane x 2	0,99	1	0,98	1,05	3362	0,730
	Evening	Traffic	2666	= 3300 pcu						0,793
Jl. H. R. Rasuna	Morning	8 Lanes/2 Way	6170	1650 pcu/lane x 4	0,98	1	0,98	1,05	6656	0,927
	Evening	Traffic	3884	= 6600 pcu						0,584

After collating the data from each survey, Table 5.23 summarizes all calculations and shows the degree of saturation, or V/C (Volume/Capacity) ratio10. The V/C ratio ranges from 0 (zero) to 1 (one), with '0' meaning that traffic is flowing freely and '1' meaning that traffic has reached a maximum, resulting in congestion.

As this table shows, there is not always the same volume of traffic in the morning as in the evening. Further, the V/C ratio in a particular corridor does not necessarily rise as the survey point gets nearer to Dukuh Atas (in the city centre). For instance, at Jl. Pamulang Raya the V/C ratio is 0.684 during morning rush hour. As traffic reaches Jl. Ir. H. Juanda, the V/C ratio increases to 0.844, which may be due to the convergence of vehicles from other points of origin. When traffic reaches Jl. Metro Pondok Indah, the V/C ratio increases again to 0.942, but it then decreases on Jl. Jend. Sudirman to 0.807. These numbers indicate that traffic at one point does not always end at the designated point of the survey. One segment on a commuter route may have a higher ratio than the next because the traffic decreases as vehicles divert to other roads to reach different destinations.

The high V/C ratios shown in Table 5.23 indicate a need to reduce the ratio by improving the quality of public transport services. These improvements should focus on segments that have a high V/C ratio (i.e., between 0.7 and 1) indicating heavily congested traffic.

[10] V/C ratio and degree of saturation have the same meaning, but the degree of saturation is commonly used for intersections while the V/C ratio is commonly used for road segments.

5.4 PERFORMANCE OF PUBLIC TRANSPORT SYSTEMS (TRAVEL TIME, USER OPINIONS)

Travel time on the corridors was measured using three different transportation modes: private car, public transport plus TransJakarta busway, and commuter train. The surveys started and ended at the same point.

The starting point for the Serpong-Dukuh Atas corridor is at Serpong Railway Station while the end point is Dukuh Atas TransJakarta busway stop, and vice versa for the return journey. The starting point for the Depok-Dukuh Atas corridor is Depok Bus Terminal while the end point is Dukuh Atas TransJakarta busway stop, and vice versa for the return journey. Table 5.16 summarises the survey findings.

For the survey, travel time was calculated and recorded using a GPS device. The GPS recorded the track log, time in motion, route, stationary time, and travelling speed, which the device automatically divided into segments. The data and calculations are shown in Figures 5.10 and 5.11.

Table 5.24. Travel Time for Three Different Modes

Corridor	Date	Transport Mode	Distance (km)	Top Speed (km/h)	Moving Time (minutes)	Stopped Time (minutes)	Overall time (minutes)	Moving Average (km/h)	Overall Average (km/h)
Serpong - Dukuh Atas	23-Mar-11	Private Car	34.3	67.1	111	15	126	18.5	16.3
	29-Mar-11	Public Transport + TransJakarta	36.3	66.1	109	51	160	19.9	13.6
	5-Apr-11	Commuter Train (AC Economy)	27.7	72.8	37.19	19	56.19	45.5	30.11
Dukuh Atas - Serpong	23-Mar-11	Private Car	33.5	72.6	114	15	129	17.6	15.6
	29-Mar-11	Public Transport + TransJakarta	35.2	63.9	140	42	182	19	11.6
	5-Apr-11	Commuter Train (AC Economy)	27.6	91.3	41.21	18.1	59.31	40.1	27.86
Depok - Dukuh Atas	9-Mar-11	Private Car	27.08	60	99	40	139	18.6	12
	25-Mar-11		26.5	68.2	88	37	125	18.1	12.7
	30-Mar-11	Public Transport + TransJakarta	32.9	66.7	93	42	135	21.3	14.6
	31-Mar-11	Commuter Train (AC Economy)	24.5	90.2	31.57	12.36	43.93	46.1	33.1
Dukuh Atas - Depok	24-Mar-11	Private Car	29	70	93	32	125	18.6	13.9
	30-Mar-11	Public Transport + TransJakarta	30.5	59.3	86	25	111	21.2	16.4
	30-Mar-11	Commuter Train (AC Economy)	25.7	77.6	38.41	9.38	47.79	39.9	31.9
	5-Apr-11		24.4	77.4	34.39	4.13	38.52	42.3	37.7

Figure 5.10. Travel Time on Corridor A for Three Different Modes

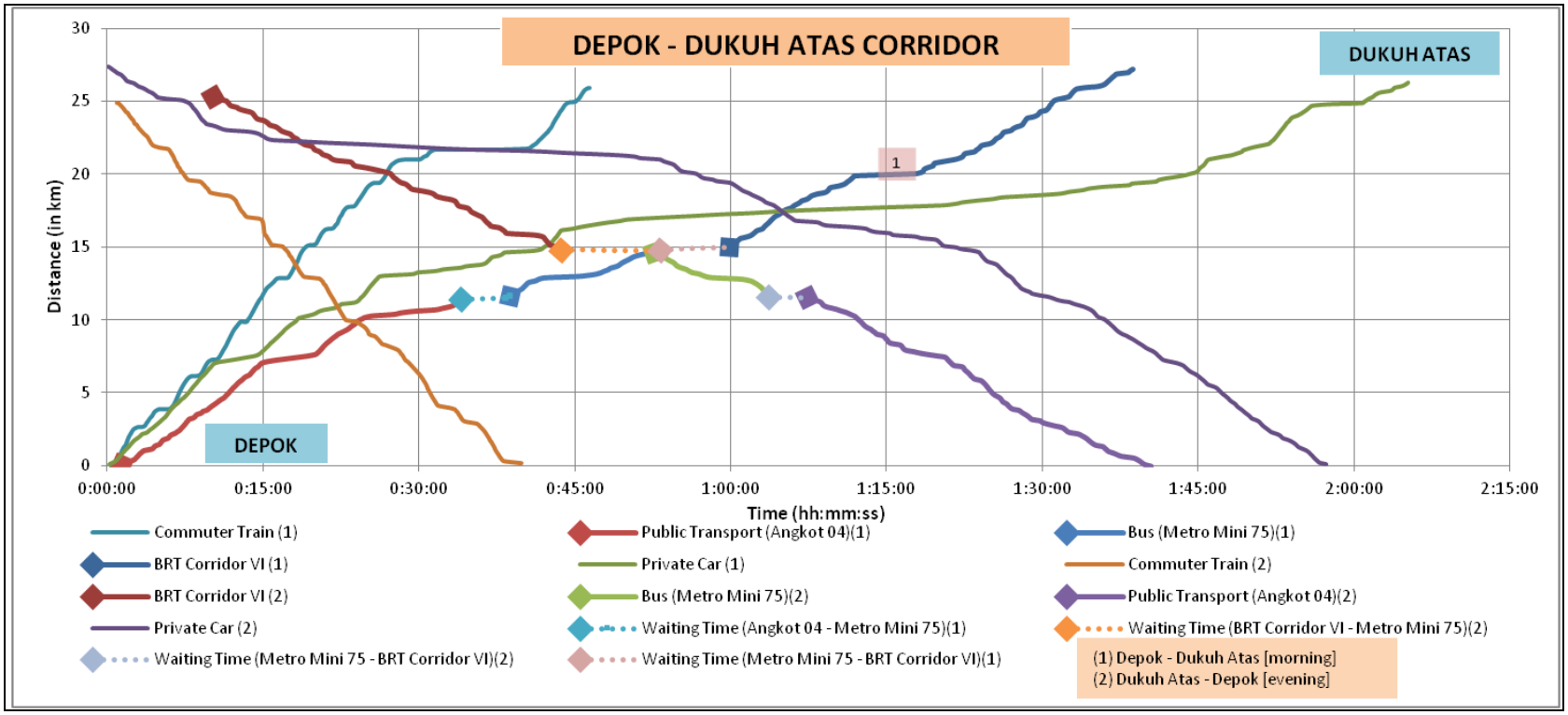
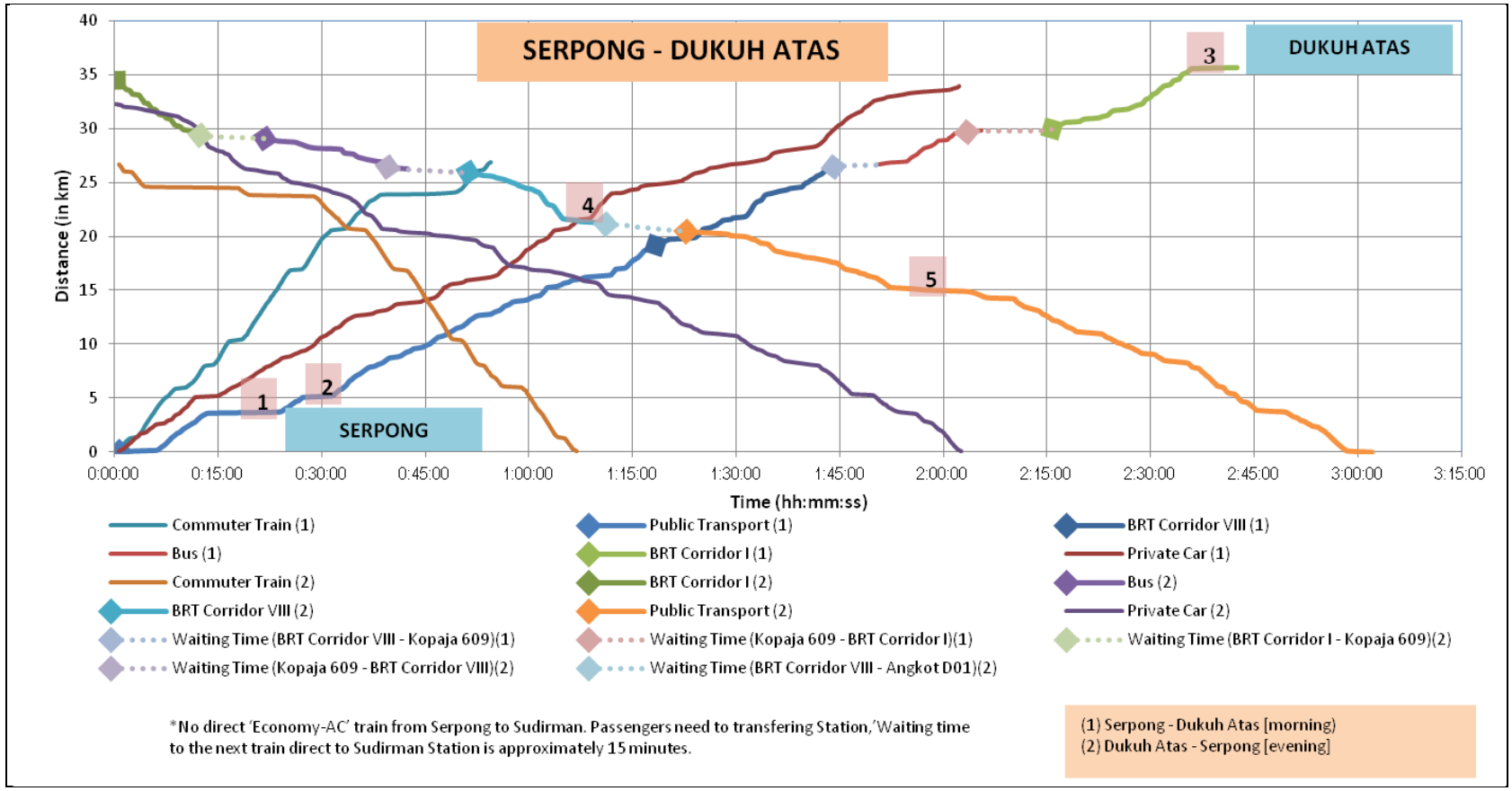


Figure 5.11. Travel Time on Corridor B for Three Different Modes



A. Depok-Dukuh Atas (Corridor A)

(1) Commuter Train vs. Public Transport plus busway and Private Car

Table 5.16 and Figure 5.10 reveal the travel times from Depok to Dukuh Atas for each mode of transport. Based on the surveys, the commuter train had the shortest travel time among the three modes surveyed. The trip by commuter train from Depok Lama railway station to Sudirman station takes no more than 44 minutes using the AC economy train. The travel time would be shorter using the express train.

(2) Public Transport plus Busway vs. Private Car

Considering the big difference in journey times between rail and road, the pertinent comparison is between two street modes: public transport plus busway and private car. Unlike the Serpong-Dukuh Atas corridor, travel time along this corridor by public transport plus busway is shorter than by private car. The difference is approximately 30 minutes. The chart allows us to make the following more detailed conclusions:

- The top speeds of these two modes are not significantly different.
- The travel time on public transport is longer than by private car near the beginning of the journey. This is because the *angkot* (paratransit vehicles) take time to load and unload passengers.
- The traffic flows relatively smoothly from Depok to Tanjung Barat, but becomes congested when entering the Jl. Warung Jati Barat-Mampang intersection.
- Through its dedicated lane, the busway reduces travel time significantly. The busway also provides the top speed of all transport modes. Nevertheless, buses still stop at every busway shelter.

B. Serpong-Dukuh Atas Corridor (Corridor B)

(1) Commuter Train vs. Public Transport plus Busway and Private Car

Table 5.16 and Figure 5.11 reveal that journey times from Serpong to Dukuh Atas are also shortest when using the commuter train. The trips from Serpong station to Sudirman station (near the Dukuh Atas TransJakarta busway shelter) and from Sudirman back to Serpong both take only about 39 minutes. Again, the travel time could be shortened by using an express train. The railway mode also involves a shorter distance to travel than the street mode.

(2) Public Transport plus Busway vs. Private Car

With the huge difference in travel times between the railway and street modes, the relevant comparison is between the two street modes: public transport plus busway, and private car. In summary, travel time using a private car is shorter than

using public transport plus busway. The chart allows us to make the following more detailed conclusions:

- The top speeds of the two modes are not significantly different (67.1 km/h vs. 66.7 km/h).
- Public transport plus busway involves a shorter period in motion then the private car.
- Conversely, a lot more time is spent stationary when using public transport plus busway than when using a private car, affecting the overall travel time of each mode.
- Through its dedicated lane, the busway is able to reduce travel time considerably. Again, the busway provides the top speed, and stops at every busway shelter.

C. Public Transport Improvements to Compete with Private Vehicles

The principal reason that public transport cannot compete with private vehicles is that public transport cannot do what private vehicles do. Private vehicles can carry passengers and their luggage right to their home. If the distance between the home and the public transport route is quite far, most people will choose to take a private vehicle to their destination rather than use a motorcycle taxi (*ojek*) to reach the public transport catchment area. Public transport may be classified into paratransit vehicles (*angkot*), BRT (busway) and trains. The costs of each mode are slightly different, but the difference is not significant.

A number of improvements could be introduced to make public transport more competitive with private vehicles:

1) Public transport should reach residential areas and have a high degree of accessibility.
2) The catchment area of public transport should be enlarged.
3) Large residential developers should provide a transit mode (i.e., a transit bus) to carry people living in the area to the public transport catchment.
4) Travel time by public transport should be shortened. Possible strategies include:
   - Reduce waiting time or transit time,
   - Prevent angkot and buses from stopping to wait for passengers,
   - Increase the number of buses in order reduce headway, and
   - Provide a bus schedule so that passengers can plan their trips.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

Previous chapters have described the progress in monitoring, coordination, and public outreach, and the results of the baseline surveys. This chapter summarizes MTI's initial findings and presents potential ways to improve the showcase corridor action plans.

6.1 SUMMARY OF FINDINGS

Monitoring Activities

Overall, reported progress in project activities only covered routine activities. New activities and action plan implementation were found to be difficult to implement or else were less than optimal. One contributing factor was the time lag between the budgeting stage and action plan implementation. Indeed, all budget funds had been allocated to other government plans before the Vice President initiated the new action plans.

In addition, traffic law enforcement is constrained by the limited numbers of patrol officers; their numbers are inadequate for the large variety and volume of vehicles on the roads. To resolve this issue, it is recommended that E-TLE (electronic traffic law enforcement) be introduced for road users soon. One method being proposed is the use of Automatic Number Plate Recognition (ANPR) technology.

The Indonesian government's plan to alleviate traffic congestion should be intensely and effectively socialised to the public. This effort should include a campaign to encourage the use of public transport rather than private vehicles, particularly on weekdays.

In regard to action plan implementation, based on project monitoring conducted until mid-April 2011 along with on-site verification in consultation with various agencies, the seven action plans for the showcase corridors can be classified into the following four categories:

Based on monitoring, there have been no significant improvements in some action plan:

- (SC3A2) Functional improvement of sidewalks (removal of street vendors, illegal parking, and motorcycles); and
- (SC3A3) Promoting slow lane use by motorcycles.

Activities are in regular operation, but need to be optimised:

- (SC3A1) Managing on-street parking; and
- (SC3A4) Preventing the use of busways by general traffic (corridor 1 & corridor 6).

Implementation of the action plan needs to be accelerated:

- (SC3A5) Ticket integration for railway and busway systems (introduction of JakCard).

Some aspects of the action plans require further planning:

- (SC3A6) Busway service improvement (fleet utilization, and expansion); and
- (SC3A7) Provision of park-and-ride facilities at railway/busway stations.

Coordination

Coordination has been going well, but needs to be further enhanced. This mainly relates to the handling of ongoing actions, which can be managed by the various government agencies.

Constraints encountered in the coordination process arose from too many agencies being involved, rather than a lack of commitment from the implementing agencies. There are approximately 18 agencies playing a role in overcoming traffic congestion in Greater Jakarta.

Plans to establish the Jakarta Transportation Authority are in process, and this matter is currently being handled by the CMEA[11]. Based on the latest activity report, the next stage is ratification of the draft Presidential Regulation (*Raperpres*) The draft will be submitted to the President in June 2011[12], Raperpres will be submitted to the President for ratification as a Presidential Regulation (*Perpres*).

OTJ will be responsible for managing the incremental treatments and improvements of traffic in Greater Jakarta. The Authority is responsible for facilitating coordination among stakeholders and monitoring planning implementation. It is necessary to involve OTJ effectively in order to optimise traffic management in Greater Jakarta.

At a meeting with UK4 on 12 May, 2011, a proposal was made to develop a Cross-Function/Cross-Sectoral Team to bridge the gap before OTJ is established. This team's role will be to accelerate the process and make some of the action plans more manageable through the use of a dedicated team. The team members will come from different agencies with a dedicated person in charge.

[11] http://www.thejakartapost.com/news/2011/04/13/jakarta-metropolitan-transportation-authority-be-formed.html

[12] CMEA presentation on Draft President Regulation on Greater Jakarta Transportation Authority, 21 April, 2011

Table 6.1 Stakeholder Analysis

No.	Institution	Program	Action plan	Action Progress	Commitment to Issue	Attitude analysis	Remarks
1	MoT	Coordination	Coordination	No significant results yet	No commitment	Kristiono (head of the Urban Transport Subdirectorate at the MoT) asserted that integrating tickets was not possible	
2	Ministry of BUMN	Coordination	Coordination	No significant results yet	In progress		Did not attend
3	Jakarta Public Works Agency	maintaining and revitalising roads	maintaining and revitalising roads	No significant results yet	In progress	Daily maintenance of separators and potholes in road	
4	Landscape Affairs Agency	Sidewalk revitalisation	Sidewalk revitalisation	No significant and visible results	In progress	Committed to improving sidewalks, but no action yet	
5	Jakarta Transportation Agency	Clamping, promoting Slow Lane, etc.	Clamping, promoting Slow Lane, etc.	No significant results yet	Strong commitment	Wheel clamping is done every Thursday and Tuesday, although not effective	
6	Regional Govt of =DKI Jakarta	Issuing regional regulation on clamping, coordination, etc.	Issuing regional regulation on clamping, coordination, etc.	No significant results yet	In progress	No significant action	
7.	PT Kereta Api Indonesia	Ticket integration	Ticket integration	No significant results yet	Strong commitment	Meeting held on 31 May, 2011 to reach agreement on developing electronic ticketing	

No.	Institution	Program	Action plan	Action Progress	Commitment to Issue	Attitude analysis	Remarks
8.	BLU TransJakarta	Sterilising busway, developing electronic ticketing system, etc.	Sterilising busway, developing electronic ticketing system, etc.	No significant results yet	In progress	No progress in electronic ticketing	
9.	South Tangerang Municipality	Coordination	Coordination	No significant results yet	In progress	No action	
10.	Depok Municipality	Coordination	Coordination	No significant results yet	In progress	No action	
11.	Polda Metro Jaya	Promoting slow lane use, clamping, etc.	Promoting slow lane use, clamping, etc.	No significant results yet	Strong commitment	Much action taken, but not yet at 100%	
12.	Pertamina	Accomplishing supply of CNG	Accomplishing supply of CNG	No significant results yet	In progress	No changes	
13.	PN Gas	Accomplishing supply of CNG	Accomplishing supply of CNG	No significant results yet	In progress	No changes	
14.	Bappeda DKI Jakarta	Coordination	Coordination	No significant results yet	In progress	No significant action in terms of coordination process	

At the last public outreach and stakeholders' meeting on 31 May, 2011, the implementing agencies expressed various views and opinions. Kristiono, head of the Urban Transport Subdirectorate, as the delegate from the MoT, refuted and rejected ticket integration. Other implementing agencies failed to show strong commitment to implementing the action plans, with most not having taken any significant action relating to the action plans for the showcase corridors. And one implementing agency had done nothing for the showcase corridors. Most agencies said that they could not implement the action plan because they lacked the necessary budget, while the supporting regulations for the action plan in the showcase corridors had not yet been issued.

MTI presented its own assessment and opinion that the implementing agencies had not complied with the Vice President's instruction, whereas they had agreed to begin implementing it at the end of 2010. The stakeholders' meeting was attended by 45 journalists, who reported and informed the public on the progress in implementing the action plan to alleviate traffic congestion in Greater Jakarta. These journalists thus played a role in monitoring the stakeholders and putting pressure on them to commit to implementing the action plan.

Media Analysis

Most print media reported on the stakeholders' meeting. Some even led with it on the front page. In common with MTI's opinion, most of the press announced that the implementing agencies had not followed the VP's instruction. News reports have been positive in regard to action taken to handle the transportation problems of Greater Jakarta. News reports can put pressure on both the government and the public. Yopie Hidayat, the public relations representative of the VP, stated that the VP would summon Fauzi Bowo, as the governor of DKI Jakarta, and the other stakeholders in regard to the action plan. The VP is now awaiting the progress reports on the implementing agencies from UKP4 and MTI.

The news reports caused most stakeholders to react directly. A day after the news of the stakeholders' meeting was published, Fauzi Bowo clarified to the press that he had not ignored the VP's instruction. Instead, he blamed the central government for failing to lead implementation of the action plan program. The central government had not issued a government regulation supporting the implementation of action plan. Several experts used the media to express their support for the Jakarta governor's statement, including Darmaningtyas, Yayat Supratna, and Azis Tigor Nainggolan, who stated that the Jakarta government had done its best to support the action plans. However, the results indicate that current progress cannot be called a success.

Conclusion and recommendation

Based on the news published on the stakeholders' meeting, and the subsequent reactions of the stakeholders, it can be concluded that there is a lack of mutual commitment and understanding among the implementing agencies on implementing the action plans and making them their priority programs. In fact, many of the

agreements to handle traffic congestion in Greater Jakarta that were included in the VP's Instructions have been breached, with only minimal action being taken.

The most pertinent point in respect of public outreach is that involving journalists in public outreach and meetings is the most effective method, since journalists can then exert public pressure. Indeed, involving journalists from the outset of action plan implementation, in coordination meetings, evaluation meetings, and socialization, will make a substantial contribution to the success of any social change program initiated by the government. By involving journalists, any progress in a program, whether or not it is successful, will be announced to the public.

Public Outreach

(1) On-Street Parking

During this FGD, it was suggested that the government should ban on-street parking to improve the flow of rush hour traffic. Conditions would also improve if the local government were prepared to build parking lots near working districts, although this would require specific locations. The police should apply stricter enforcement measures against people who illegally park on the street, in conjunction with the government's provision of sufficient parking spaces managed by the local community. The re-designation of vacant lots as parking areas might be an alternative solution. Strict enforcement against illegally parked vehicles should be done regularly by towing vehicles to the nearest police station. Lastly, Park & Ride (P&R) facilities are needed near inter-modal locations.

(2) Optimizing Sidewalk Function

At this FGD, most participants agreed that illegal users of the sidewalk should be penalised, and the pavements need to be improved to make them suitable for pedestrian use. This could begin with clearing the sidewalk of barriers that hinder the movement of pedestrians. The use of sidewalks by street vendors reduces the number of visitors to traditional markets. The central and local government need to agree on a regulation that protects the comfort and safety of pedestrian paths. Some FGD participants representing street vendors would prefer an alternative location that is safer and more appropriate. If necessary, the pedestrian path could have a fence added. Pedestrian paths should also provide access for the disabled.

(3) Slow Lane Socialization

In the FGD discussing socialisation of slow lane use, participants conveyed a number of suggestions and expectations, highlighting the importance of the slow lane. In brief, the slow lane should be sufficiently wide and on only one side of a road (as on the Solo-Yogya road). There should be no vehicle stopping or bus shelters on the slow lane. In addition to the slow lane, a dedicated lane should be introduced soon specifically for bicycles. A separator is essential to separate the highway from the slow lane. Another option suggested was introducing a new age restriction on motor vehicle users, initially as a trial.

(4) Busway Lane Sterilization

At the FGD on sterilization of the busway lane, participants agreed that busway sterilization should be included in a public education initiative. It was appreciated that it is better to use a bus that can load 85 passengers than private cars, which also present a higher accident risk. There should also be a restriction on car ownership of one car per family. Crowds of passengers in busway shelters and inconsistent arrival of buses lead people to prefer riding their own motorcycles. Some participants acknowledged that travel would be quicker using the busway, but many aspects of the busway need urgent improvements. Interconnections between busways and railways are also urgently needed.

Socialization to the public on the benefits of using busways also needs to be increased. To make busway traffic smoother, traffic police must be stricter in punishing road users that break the law and interfere with the smooth flow of buses, especially by entering the busway lane. If possible, the busway lane should have CCTV.

(5) Integrated Ticketing For Road And Rail Based Public Transport

The integrated ticketing FGD concluded that, from the public perspective, integrated ticketing is an effective way to reduce travel costs. In the future, society would likely prefer integrated ticketing. This could take the form of pre-paid cards, which encourage people to use them, rather than paying cash. A “one-touch” mechanism could also be considered, like the system in Guadalajara, Mexico. The card must be easily refillable at numerous refill counters. In the future, the ticket is likely to take the form of a single card like an ATM card, which can be used to pay fro all public transport in the city.

(6) Increase Of Busway Services To Fulfil Minimal Standard Of Service

Members of this FGD concluded that the headway on the busway was poor; with waiting time for buses reaching 30 minutes to an hour. The many non-busway vehicles entering the busway lane sometimes caused long queues in the busway lane, and extensive waiting times for passengers. The FGD concluded that the fleet size was inadequate, and suggested additional ticket counters in strategic locations, improved safety, the installation of alarms, increased comfort in the waiting room, and separating the queues for men and women. Consequently, each bus should be guarded by one or two security officers. One person noted that busways with dedicated lanes must be the most appropriate form of public transport. However, current circumstances indicate that the fleet needs improving, busway management should be handled professionally, passenger information (bus, route, gate) should be complete, commuters should be educated regularly, and infrastructure (bus stop, lanes, etc.) improvements should be the priority agenda. Other aspects to consider were busway safety and security, rush hour availability, integrating tickets with railways, and more comfortable and accessible transfer points.

(7) On Park And Ride

The FGD noted that Park & Ride could reduce traffic congestion in Jakarta while providing a new economic activity at railway and busway stations. People would then feel more comfortable using public transport. However, a large area would be needed to accommodate the private vehicles of Jakarta commuters. Generally, Park & Ride areas must be located on the outskirts of a city in order to reduce the number of vehicles entering the city centre. The government should issue a regulation instructing each administrative area in Jakarta to provide Park & Ride facilities. The facilities need to be complemented by adequate pedestrian footpaths. And if the government integrates payment through an integrated ticketing system, travel time would be faster. All these efforts should be supported by all agencies connected with transportation issues and, most importantly, the government should be committed to this solution. Private cars should be prohibited from entering the main thoroughfares of Jl. Jend. Sudirman and Jl. MH. Thamrin. Pasar Minggu needs Park & Ride facilities. If possible, the government should find private sector investors to undertake construction of the Park & Ride sites.

(8) Summary of Issues from Media Outreach Activities

The busway fleet should be increased urgently. In addition, the government has budgeted a purchase of 80 articulated buses this year. Other issues highlighted by the journalists attending media outreach events included the preference for these two corridors, the performance of each department based on UKP4's evaluation, the implementation of an electronic system, transportation insurance, the seven action plans, and on-street parking.

Baseline Surveys

(1) Speed

Based on the survey findings presented earlier (see Tables 5.1 to 5.4), it can be concluded that during morning and evening rush hours, vehicles move at a relatively low speed due to the congested road. The average speed for each segment on each corridor is below the 85th percentile speed. For some segments (Jl. Jend Sudirman and Jl. HR Rasuna Said), separate figures are provided for slow and fast lane speeds (slow lane speeds are indicated with a single asterisks, fast lane speeds with a double asterisks). We note that the 85th percentile and average speeds in the fast lanes are slower than the slow lane speeds.

(2) Cross-sections

The summaries in Tables 5.5 and 5.6 indicate the conditions of the cross-sections for each showcase corridor. Only Jl. Jend. Sudirman and Jl. Rasuna Said have good quality road pavement and pedestrian ways.

It can be concluded that all road segments are nearing their maximum capacity, so urgent action is needed in terms of traffic management or road infrastructure redesign

or improvements. Otherwise, total gridlock may occur on all these segments in the near future. This conclusion is supported by the traffic volume data for the eight survey segments.

(3) Traffic Volume

The data collated from each traffic survey was used to calculate the degree of saturation, or V/C (Volume/Capacity) ratio for morning and evening peak hours on each showcase corridor (see Table 5.15). As the figures show, there is not always the same volume of traffic in the morning as in the evening. Further, the V/C ratio in a particular corridor does not necessarily rise as the survey point gets nearer to Dukuh Atas (in the city centre). Traffic from one point on an inbound route does not always converge at the next point on the route surveyed. One segment on an inbound commuter route may have a higher ratio than the next because the traffic decreases as vehicles divert to other roads to reach different destinations.

The high V/C ratios in Table 5.15 indicate a need to reduce the ratio by improving the quality of public transport services. These improvements should focus on segments that have a high V/C ratio (i.e., between 0.7 and 1), indicating heavily congested traffic.

(4) Performance of Public Transport Systems

a. Commuter Train vs. Public Transport plus Busway and Private Car

Table 5.24 and Figures 5.10 to 5.11 indicate that by far the shortest travel times from Depok to Dukuh Atas, and from Serpong to Dukuh Atas, are achieved using a commuter train.

- The trip by commuter train from Depok Lama station to Sudirman station takes no more than 44 minutes using the AC economy train.
- The trip from Serpong station to Sudirman station, and back again, only takes 39 minutes.
- Travel time could be even faster if the express train were used.

b. Public Transport plus Busway vs. Private Car

With the big gap of travel time between rail-road and street, then the comparison made is only between street modes, public transport, busway and private car. There are some conclusions:

- The top speeds of the two modes are not significantly different (67.1 km/h vs. 66.7 km/h).
- Public transport plus busway involves a shorter period in motion then the private car.
- Conversely, a lot more time is spent stationary when using public transport plus busway than when using a private car, affecting the overall travel time of each mode.

Travel time by private car is shorter than using public transport plus busway. However, using public transport plus busway is more efficient than using a private car in terms of cost.

6.2 RECOMMENDATIONS

6.2.1 At Coordination Level

Implementation of Monitoring and Coordination Framework

Referring to the results of action plan implementation as of April 2011 (a period of six months), one would expect to see improvements in implementation of monitoring and evaluation. Several aspects in particular should be improved urgently.

In Chapter 4 of this report, MTI has proposed a monitoring and evaluation framework that can be sustainable. The following is a list of additional recommendations for improvements.

1) The initial process of formulating an activity should use a 'bottom-up' approach, accommodating suggestions and actions that each agency may propose.
2) Each institution needs to implement effective project management for their action plans, including elaborating on the activities and the resources, time and budget needed for each action plan item.
3) In the monitoring and evaluation process, an alert system should be introduced through which progress in each activity can be monitored over time. UKP4 should adjust its reward scheme for agencies implementing the plans to alleviate traffic congestion in Greater Jakarta.
4) A cross-functional/cross-section team must be formed to represent each institution, with the capacity to engage in inter-institutional communication. A reliable communication network is needed, with a definitive person responsible. Since the action plans should be created using a 'bottom-up' approach, when each implementing agency announces its action plan (which it has planned itself), it should appoint a representative to monitor and actively coordinate the action plan under UKP4. In this way, the delegates attending each meeting will be individuals that are both competent and fully involved from the action plan formulation stage onwards.
5) Performance-based management should be implemented more widely in all government institutions. Rewards and punishments are also needed to support good governance, so as to encourage policymakers and executors in the field to achieve the expected impact of a better implementation process. Examples of the rewards and punishments that might be applied include (a) a promotion (or discharge), and (b) capacity and competency building for an individual who performs his or her work successfully.

6) To ensure transparency in the implementation and public policy-making process, UKP4 needs to take action to involve the public in monitoring, by publicising action plan developments on a website in the public domain.

6.2.2 At Showcase Level

1. On-street parking

Along corridors A and B, control of on-street parking is the responsibility of five agencies: the Jakarta Transportation Agency, the Depok Transportation Agency, the South Tangerang Transportation Agency, and the Jakarta Metropolitan Police (Polda Metro). Based on information garnered from a coordination meeting with the Jakarta Transportation Agency on 4 April, 2011, we understand that Provincial Regulation No. 11 of 2006 on Parking is being revised. The new regulation will facilitate police officers in conducting law enforcement against illegal parking. Moreover, the new regulation also opens up the possibility of the related agencies implementing zone-based parking management for private vehicle users. While awaiting the issuance of this regulation, the Jakarta Transportation Agency has been conducting routine programs such as raids on on-street parking on Wednesdays and Fridays, which have not achieved significant results since they are only conducted two days a week.

The related agencies acknowledge that regular raids against on-street parking are only implemented on Wednesdays and Fridays, and that clamping is the sanction for vehicles left parked on the street, particularly when are abandoned. This policy has been regarded as a partial and ineffective solution because of its limited nature, and should instead be implemented every day. This would be effective in reducing the prevalence of on-street parking. However, with a limited number of officers available to conduct these raids, the agencies assert that they need a bigger budget. In fact, two other days of the week are dedicated to controlling trucks carrying goods.

Another option would be for the related agencies to ask local communities living near potential illegal parking sites to actively participate in overseeing and controlling these areas. This method might help to reduce the prevalence of on-street parking, while the related agencies may continue to claim that they do not have a budget allocated to control on-street parking. In several sites, there are off-street parking areas already managed by local communities. The willingness of motorists to park off-street should be encouraged and supported through an action plan program.

Based on the monitoring findings of the MTI team in Corridor B on 7 April, 2011, there is on-street parking along the Mampang-Ragunan route. The number of on-street parking violators in Mampang had increased significantly on the prior week (week 4, March 2011). In fact, taxies have been using open spaces to park, which are visible from Jl. TB Simatupang. A number of vehicles were parked around the Arcadia office park, despite signs having been installed that prohibit parking there. In other places, parked vehicles had simply moved from the street to the sidewalk. The results of this MTI monitoring show 25 on-street parking spots in Corridor.

Meanwhile, regional regulation No. 111 provides for 410 sites to be used as parking lots. At the stakeholders' meeting, Royke, representing Polda Metro Jaya, stated that the police's efforts to control illegal parking would continue in other sites. So far, they have controlled illegal parking in front of the Jakarta Media Centre, Lemhanas. Royke defined illegal parking as any parking violating a declared rule, for instance, parking in a prohibited area, or parking outside the permitted times. In addition, on-street parking may be legal if done in an area where it is permitted, provided the parked vehicles are only in one row. He stated that showcase corridors have simply acted as a stimulus for the implementing agencies to conduct transportation action. Polda has also made efforts, but these have not been limited to the two corridors, since there are plenty of similar problems in other areas. With its limited personnel and budget, Polda had to focus first on controlling parking along the showcase corridors.

In addition to making the handling of traffic congestion in Greater Jakarta more effective, the government should consider increasing parking charges for cars and motorcycles to make them as expensive as possible, as other countries such as Germany and Britain have done. These charges must be implemented either on streets or in buildings in order to reduce the number of private vehicle users and motorcycles. By raising parking charges as high as possible, people will be encouraged to walk and use public transport.

On-street parking issues should be overcome through a comprehensive approach. While raids and clamping have already been implemented, the government should also draft a regulation supporting a policy to increase the number of parking lots inside buildings. In fact, it would be far better if the government issued a regulation stating that all business owners along streets in Greater Jakarta should provide adequate parking lots.

In relation to the action plans agreed at the outset of the project, while Jakarta Transportation Agency showed its commitment to issue a regulation supporting clamping, it was not able to provide any results by the time this report was prepared.

2. Revitalization of sidewalks

Provision of proper sidewalks is closely related to road traffic congestion. The currently inadequate state of the sidewalks may reduce people's desire to walk. Instead, they prefer to use their own vehicles to travel straight from their home to the office. This directly affects the number of vehicles on the road, and results in road congestion. Existing factors found along sidewalks on both corridors are the narrow width of pedestrian paths, illegal parking on sidewalks, motorcyclists riding along pedestrian paths, and street vendors taking over the sidewalk. Lack of government concern for pedestrians has further eroded the quality of pedestrian facilities. Based on the field monitoring, the quantity and quality of sidewalks along the two showcase corridors is generally inadequate and insufficient, with the exceptions being some segments along Jl. Jend. Sudirman and Jl. Rasuna Said. The sidewalks along the showcase corridors therefore need to be expanded and improved.

Figure 6.1. Pedestrians at Dukuh Atas TransJakarta busway stop (*left*) and on Jl. Warung Buncit (*right*)

Figure 6.1 illustrates the significant differences in the quality of pedestrian paths on these two roads, in terms of the border between the pedestrian path and the road, the width of the pedestrian path, and so on. The picture on the right shows a pedestrian path that is virtually impossible to walk along due to the poor pavement and various obstacles located on it. A brief comparison follows. The numbers refer to the circled numbers in the pictures:

1) While in the picture on the left there is a clear separator between the pedestrian path and the road, in the picture on the right there is none, and the trees serve only to block the movement of pedestrians. The widening of the road may have led to an associated narrowing of the pedestrian path, such that the trees which had previously provided a natural canopy now block pedestrian traffic.
2) On the left, the pedestrian path is wide enough for four people to walk in a row, while on the right it is not. A motorcycle is able to enter the pedestrian path because the separation is not constructed well enough.
3) On the left, a canopy of trees protects pedestrians from sunlight and rain. This is an important feature in encouraging people to walk along pedestrian paths. Such a canopy need only be provided in some segments where many people walk, such as a pedestrian path approaching a TransJakarta busway bridge. On the right, open drains are a hazard for pedestrians.
4) On the left, there is plenty of space for pedestrian overflow.
5) The roof poles function as a separator for people walking in different directions.
6) No shelter is available. The tropical climate in Indonesia may prevent people from walking on a footpath without a canopy for fear of rain and hot sun.

The re-functioning of sidewalks has been identified along the two showcase corridors, particularly sidewalk use for parking, flower pots, motorcycles, and street vendors. Law enforcement is needed from Polda and the DKI Jakarta government (public order officers) in order to control these activities. Business owners along the road that have insufficient parking spaces are compelling their customers to park their vehicles either on the sidewalk or in the street. In the future, the regulation on traffic impact

assessment should be enforced so that all business owners and office premises provide sufficient parking spaces for their customers.

In general, the responsible agencies should socialize the importance of qualified sidewalk functions by involving the public as a force of social control to support the proper functioning of sidewalks. The next target should be a common understanding (among government officers and the public) on the function of sidewalks. A specific approach is also needed to deal with the re-functioning of sidewalks by street vendors. The government should use a humanistic approach to relocate existing street vendors and prevent the emergence of new vendors in their place.

3. Promoting Slow Lane

The relevant action plan shows no visible results. In fact, the government needs to undertake a broad campaign using public service announcements on television, in newspapers, and so on. Persuasion needs to be used by the authorities, Traffic Police and Regional Transportation Agency.

4. Ticketing Integration

Ticketing integration is one of the key requirements for ensuring that public transport users receive quality services. As mentioned elsewhere in this report, there are two transportation systems that plan to integrate their tickets: the TransJakarta busway and KRL commuter train. There are five banks willing to support ticket integration, namely Bank DKI, Bank BNI, Bank Mandiri, Bank BRI and Bank BCA. In addition to these banks, the Minister of Communication and Information and Bank Indonesia are the government representatives intervening to make ticket integration a success.

Based on the available data, ticket integration has been planned since 2004, when the TransJakarta busway first operated in corridor 1 using an electronic ticket. Under the action plan, ticket integration was scheduled to be done by December 2010, but was then rescheduled to September 2011, as confirmed by state railway company PT KAI.

Based on progress achieved so far, a strategy is needed to integrate the agencies responsible for ticket integration so that they can work effectively together and help each other. In addition, a systematic timetable for implementation is needed. Several recommended measures follow, both technical and policy-related.

Technical recommendations:

1) *Step 1.* Implement e-ticketing for each transport mode, in this case the TransJakarta busway and KRL. The e-ticket is generally not implemented in unison by all transport modes, rather, each has its own system. The best step is to optimize the existing mechanism and ensure there is an electronic system for each transport mode. this can then be complemented by providing and installing supporting devices at TransJakarta busway stops and railway stations.
2) *Step 2.* provide better transport transfer points. This should be carried out once the first step has been properly implemented. It involves integrating the system and

interface of the platforms currently used, and synchronizing the system and payment facilities.

3) *Step 3.* Plan an advanced system. To accommodate more a modern system in the future, once the ticket integration system has been built, the government must consider and be open to the possibility of developing a system that can accommodate further changes in the future.

Policy-level recommendations:

1) Bank Indonesia needs to issue a supporting regulation on e-money, considering the large number of agencies involved.
2) The government should intensely socialize the implementation of integrated ticketing between the TransJakarta Busway and KRL commuter trains.
3) The government should be open to the possibility of implementing advanced technology in relation to ticketing integration.

5. TransJakarta Busway

Busway sterilization action has so far only been implemented during the morning and evening rush hours. But there will be no lasting impact if this is not accompanied by a policy to raise progressive taxes and parking charges for private vehicles in Greater Jakarta. Although busway sterilization is conducted daily, the number of new vehicles entering the roads is increasing. The government may eventually introduce a discretionary policy that general traffic can enter the busway. That would make sterilization useless, and prevent the headway of the TransJakarta busway ever being reduced.

Electronic ticketing, which should have been implemented since 2004 on all corridors, has had no significant impact. Corridors 1, 2 and 3 have all installed electronic ticketing facilities, but none of them are using them anymore. According to Evta Juliani, an member of BLU TransJakarta's public relations division, at the end of May 2011, the governor of DKI Jakarta, Fauzi Bowo will sign an agreement between DKI Jakarta provincial government and Bank DKI to implement electronic ticketing. In this era of open information guaranteed by Law No. 14 of 2008, the public should properly be entitled to know developments in ticket sales each day, using a computerized system and electronic ticketing system, and the expenditures on which this revenue will be assigned.

As for the minimum service standards (SPM) for the busway, which have not been implemented yet, the head of BLU is responsible for that. Without SPM, the TransJakarta busway service will never satisfy the public. Once SPM is operational, public transport users may complain if they consider that the services provided do not satisfy the SPM. Since its establishment, TransJakarta Busway has often promised to provide services that focus on speed, safety, comfort, and consistency. However, as of the date this report was compiled, those promises are still far from reality. SPM needs to be ratified soon (complete with the supporting regulation, such as a gubernatorial regulation) so that passengers can know what rights they have. Passengers will then be

able to become involved in monitoring the performance of the TransJakarta busway operator.

That was the key issue arising from the FGD held by MTI with TransJakarta busway users, private vehicles users, and parking communities in the two showcase corridors. Meantime, Sterilization still needs to be increased, although significant improvements have been identified. General traffic is still found to be entering busways in several locations, but this is less visible along the two showcase corridors. Some corridors that need prompt responses are Pasar Rumput (Corridor 4), MT Haryono, and Semanggi (both Corridor 9). An electronic device might be installed for law enforcement purposes.

It has been stated that adding new buses to the TransJakarta fleet will come to nothing if the number of CNG refill stations (SPBG) is not increased. The current long queues at CNG refill stations need to be resolved urgently in terms of the B-to-B relationship between PGAS and Pertamina on providing CNG for public sector consumption, especially for the busway. SPBG should later be built for each busway corridor in order to minimize queuing. A private sector partnership may also be attractive, subject to the regulation on the busway.

6. Park & Ride

Based on discussions held at the MTI, almost all public transport users and private vehicle owners support the provision of Park & Ride facilities. Development of P&R facilities is regarded as the most effective action taken to date to reduce the number of vehicles travelling into the city centre. Based on the survey, most areas in the Greater Jakarta area still need P&R facilities. In relation to the showcase corridors, a number of potential sites for these facilities have been identified, but conditions do not appear conducive.

On Corridor A (Dukuh Atas-Depok), there are several potential sites to develop P&R facilities, including the area around Depok Lama and Depok Baru railway station. This site is large enough to develop. However, if the parking charge is relatively high and calculated per hour, private vehicle users will prefer to drive to the city centre. P&R facilities for private vehicle users in Depok would be received enthusiastically if the tickets for the railway and parking were integrated. Under this scenario, people who buy integrated tickets at the parking lot would pay less than those who just want to park their vehicles. Strategic P&R sites around busway stops and railway stations need to be identified and followed up. Recommended locations include the busway stops in Lebak Bulus, Pulo Gadung, Blok M, Pluit and Pinang Ranti, and the railway stations in Bekasi, Tanjung Barat and Bogor.

Positive signs of the government's commitment to developing P&R facilities can also be seen at other railway stations along the corridors. For example, at Tanjung Barat railway station, P&R includes insurance. At Ragunan busway station, the number of people using the facility continues to rise as private vehicle users prefer to park their vehicles and continue their trip on the TransJakarta busway, rather than drive into the city centre. These are the kinds of initiatives that the government should take to

alleviate traffic congestion in Greater Jakarta. One day, if expansive P&R areas are provided at each railway station and TransJakarta busway stop, most private vehicle users would prefer the option of using comfortable, safe and reliable public transport for their commute into the city centre.

Based on the monitoring results on the Dukuh Atas-Serpong corridor, many people now park their vehicles near the Serpong railway station and Rawa Buntu railway station (which is just before Serpong railway station). In fact, South Tangerang municipality reports that there is a shuttle bus connecting Summarecon housing estate with the railway station. However, only a few people currently use it due to limited socialisation of this facility. Ideally, all residential areas should provide shuttle buses to the nearest railway station.

Where the number of P&R users appears to be increasing, the facilities need expanding. A case in point is the parking facilities at Serpong railway station, which are popular but need to be expanded. Road access to Serpong station is inadequate, and therefore also needs to be improved urgently. Obstacles on roads approaching railway stations should also be removed. For example, there is traffic congestion at traditional markets and where paratransit vehicles wait for passengers on the road. P&R facilities have been built in Kalideres and Kampung Rambutan, but are less effective. The P&R facilities in Ragunan and Depok Town Square (Detos) appear successful but need to be optimised, and the charge is not yet integrated with the TransJakarta busway or the railway service.

It is essential that P&R facilities do not focus on profits, as high charges would discourage public transport users. Consequently, a specific regulation is needed on vehicle parking charges in P&R areas, and the current draft regional regulation on parking in DKI Jakarta also needs to be reviewed. Action to provide P&R areas should be stepped up, including encouraging local communities to become actively involved in socialising the action plan programs.

7. Commuter Trains

At the FGD held with KRL Mania on 29 April, 2011, participants made a number of recommendations for the government to improve commuter train services in Greater Jakarta:

- Provide more commuter-friendly services: railway station sterilization, improvements in train comfort and safety, accurate passenger information, and disciplined service, with a guarantee not to misappropriate revenues from ticket sales.
- Transparent information and minimum service standards (SPM).
- Create a rail passenger association to protect the rights of railway passengers and advocate on behalf of passengers aggrieved over the service they receive.
- Integrate rail tickets with parking tickets, rather than with other types of transport.

- Provide an information hotline and respond to passenger complaints about services.

Apart from these FGD recommendations, a number of issues require serious consideration. A short-term recommendation is that the fleet be expanded. While this may take some time to be realised, PT INKA could immediately embark on efforts to expand the fleet. The fuel price that PT KAI has to pay to operate its trains should be reviewed, since imposing standard market prices on PT KAI has led to it suffering a deficit. The price should be adjusted, although this may be quite complex because the fleet consists of two different platform classes: economy and executive.

Since the railway industry has good development prospects, it should be opened up to private parties. If there were more than one operator, services would be likely to improve. However, an additional railway operator may come to naught unless the number of railway crossings can be reduced on the commuter route. And if the service is expanded, trains would pass road intersections more frequently, making the road traffic even more congested than now. Therefore, a longer-term recommendation is for more railway tracks to use tunnels and bridges.

8. Additional recommendations

Apart from our recommendations relating to the action plans for the showcase corridors, we present here a number of additional recommendations that could help transportation in Greater Jakarta to improve. These proposals are all closely related to the handling of traffic congestion in the capital.

a. Revitalization of school buses

Revitalization of school buses could contribute to alleviating traffic congestion in Greater Jakarta. (These recommendations and inputs were gathered at an FGD held on 25 March, 2011 between MTI and representatives of students and school principals along the two showcase corridors.) The school bus program could be integrated with the TransJakarta busway. Existing school bus fleets could become free-of-charge feeders for TransJakarta busway passengers. Students could then use the TransJakarta busway for free. This would reduce the numbers of parents taking their children to school by private vehicles.

b. Traffic impact assessment

The construction of a new building always creates a new travel demand for that building. For that reason, the government could add a clause to new building permits (IMBB), stating that every developer or development consultant should conduct an environmental impact assessment (AMDAL) that includes a traffic impact assessment (TIA). The TIA is issued to control traffic destined for a particular building so that it does not affect other traffic. The TIA also instructs building owners to provide parking lots for visitors. We note that Jakarta's building oversight and licensing agency already requires each building owner to provide at least one SRP (parking lot unit) for every 100 square metres of offices, hospitals, and malls to be built in Jakarta.

Instead of providing parking lots, building owners are instructed to manage traffic circulation internally within the lots for visitors' safety and comfort. In this context, a visitor is anyone who will benefit from the presence of the building, whether they are a pedestrian, private vehicle driver or motorcyclist. To take one instance, in a study case at Setiabudi 21 (on Jl. Rasuna Said), the queue of vehicles waiting to enter the building area extends into the road now that each vehicle is checked by security officers. This causes traffic congestion on the main road in front of the building. Resolving this inconvenience is the responsibility of the owner of Setiabudi, which needs to control and prevent any negative impact on the public or the social facilities provided by the government. If the building owner wants to ensure safety and security of the building by checking each vehicle entering the building area, this should be managed within the building confines, so that visitors do not have to queue on the public road. Oversight on TIA implementation thus becomes an urgent matter in efforts to control off-street parking. The minimal number of parking spaces provided by building owners often compels visitors to park their vehicles on streets or sidewalks.

One last issue to consider is a building visitor's need for a taxi. Where building visitors often take a taxi to the building, the building owner must provide either a taxi rank or taxi call facilities for use by visitors. The government should socialize TIA intensively in order to build awareness among building owners so that they can contribute to efforts to reduce traffic congestion in Jakarta.

ANNEXES

ANNEXE 1: MINUTES OF MEETING TEMPLATE AND REPORT

Support to UKP4 for Improving Urban Mobility in Greater Jakarta

Minutes of Meeting

Ref. No. :
Subject :
Venue :
Date :
Time :
Attendees :
Distribution :
Minutes by :

No.	Description	Action by	Target	Status

Page | 1

ANNEXE 2: UPDATED REPORT ON MONITORING AND EVALUATION BY UKP4 (SUMMARY)

ANNEXE 3: BASELINE SURVEY FORMS

UNIVERSITAS INDONESIA
FAKULTAS TEKNIK – DEPARTEMEN TEKNIK SIPIL
LABORATORIUM TRANSPORTASI
Kampus Baru Universitas Indonesia – Depok 16424 Telp. 7862962 Fax.7862962

- **TRAVEL INFORMATION**

1. Origin And Destination Of Travel

- Origin : _____
- Destination : _____
- Purpose of Travel : _____
- Travel Time : _____
- Modes of Transportation Owned : _____
- Travel Frequency : _____times per (week, month)
- Travel Table
  - Depart To Work
    - Departing Time : _____
    - Arrival Time : _____

No.	Transportation Mode	Origin	Destination	Travel time	Cost (Rp)	Waiting Time of Transportation Mode

  - Arrival From Work
    - Departing Time : _____
    - Arrival Time : _____

No.	Transportation Mode	Origin	Destination	Travel time	Cost (Rp)	Waiting Time of Transportation Mode

Public Transport Useage

Day / Date : /
Route : Direction :
Time : Weather :
Vehicle Numbers :
Seating Capacity : Surveyor :
Standing Capacity :

Check Point	
Location	Time

Stopping or Slowing		
Location	Delay Time	Cause

Total Road Length _____ Total Travel Time _____ Average Speed _____
Moving Time _____ Stopping Time _____ Moving Speed _____

Delay Cause Signs : P - Passenger Boarding-Enlighting S - Traffic Signal L - Others
PK - Parked Vehicles DP - Double Parking SS - Stop Sign
PED - Pedestrian RT - Right Turn
T - Traffic Jam LT - Left Turn

Public Transport Useage

Day / Date : /
Route : Direction :
Time : Weather :
Vehicle Numbers :
Seating Capacity : Surveyor :
Standing Capacity :

Time		Location	Passenger Numbers			Remarks
Arrival	Departure	Stop	Boarding	Enlighting	Inside	

Notes :

Spot Speed

Day / Date : /
Location :
Direction :
Time :
Weather : Surveyor :

Data	Sedan, Jeep, Pick Up	Public Transport	Bus (Small & Big	Truck (2ax and ≥ 3ax)	Motorcycle
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

Road Segment Traffic Volume

Day / Date : /
Location :
Time :
Weather :
From : Surveyor :
To :

No.	Time	Sedan, Jeep, Minibus, Combi,	Public Transport	Bus (Small & Big)	Truk (2 ax dan ≥ 3 ax)	Motor Cycles	Unmotorized
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

ANNEXE 4: CROSS-SECTIONS ON CORRIDORS A AND B

Figure A.1. Tanjung Barat survey segment (A1)

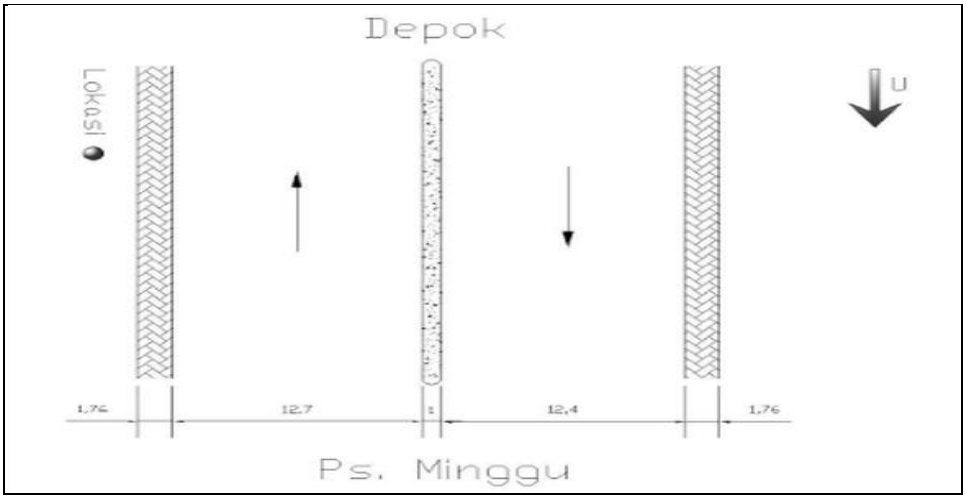


Figure A.2. Tanjung Barat survey segment (A1)

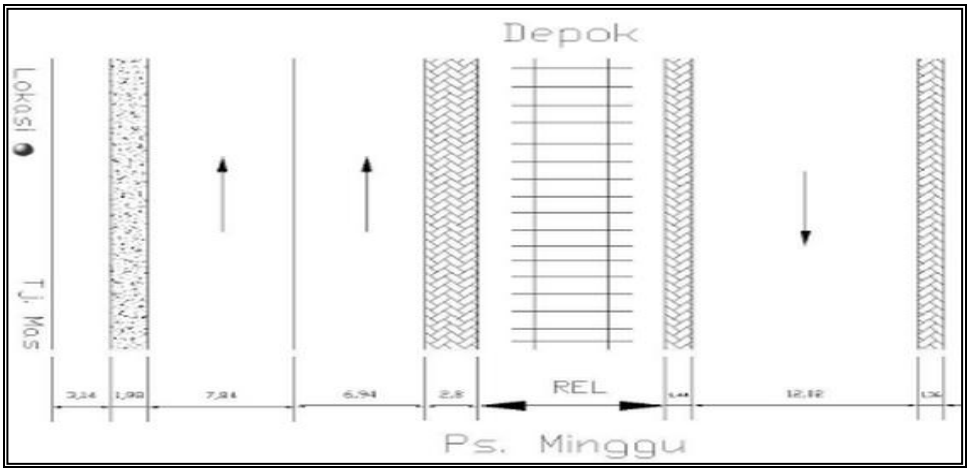


Figure A.3. Jl. Warung Jati Barat survey segment (A3)

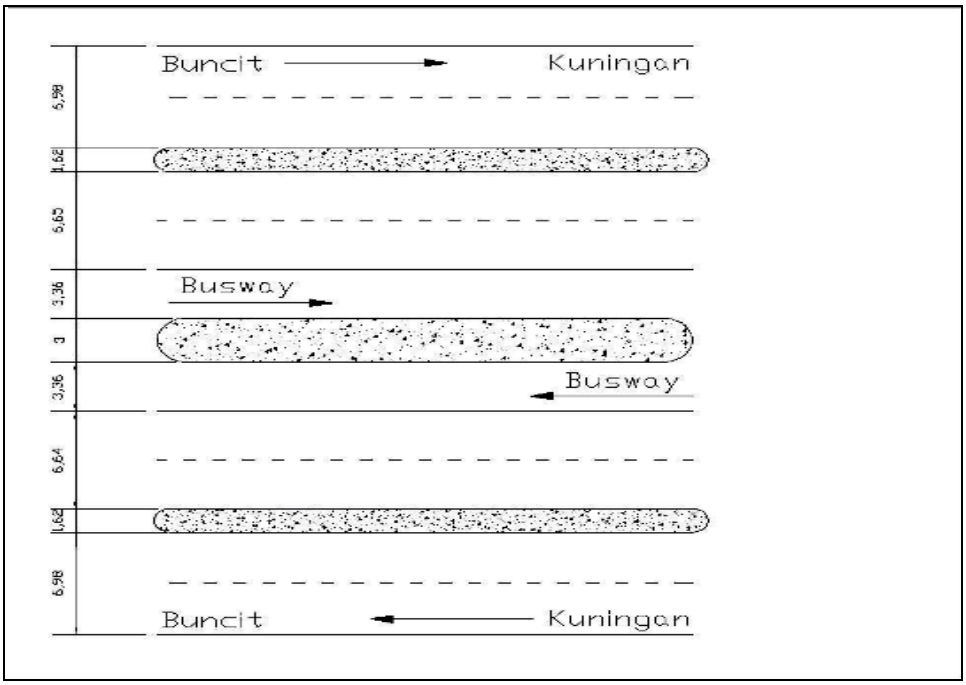


Figure A.4. Jl. HR. Rasuna Said survey segment (A4)

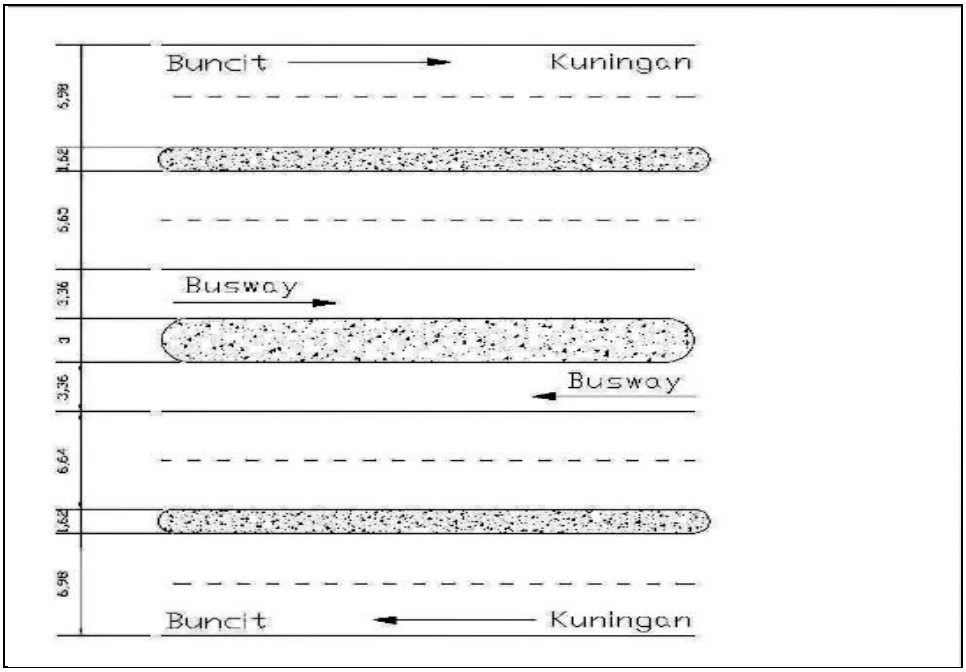


Figure A.5. Jl. Pamulang Raya survey segment (B1)

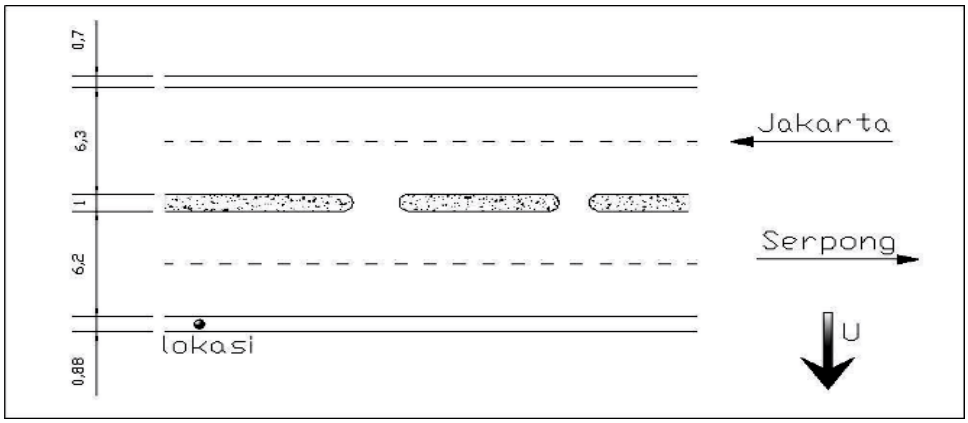


Figure A.6. Jl. Ir. H. Juanda Survey segment (B2)

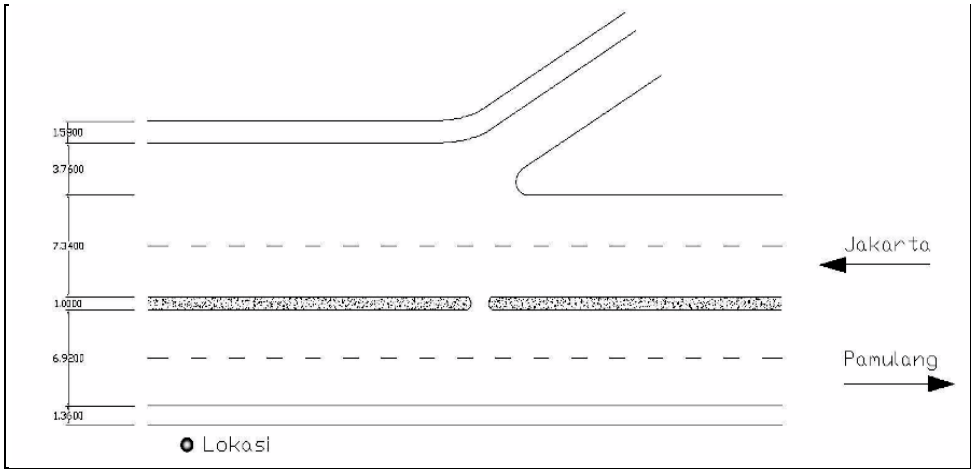


Figure A.7. Metro Pondok Indah survey segment (B3)

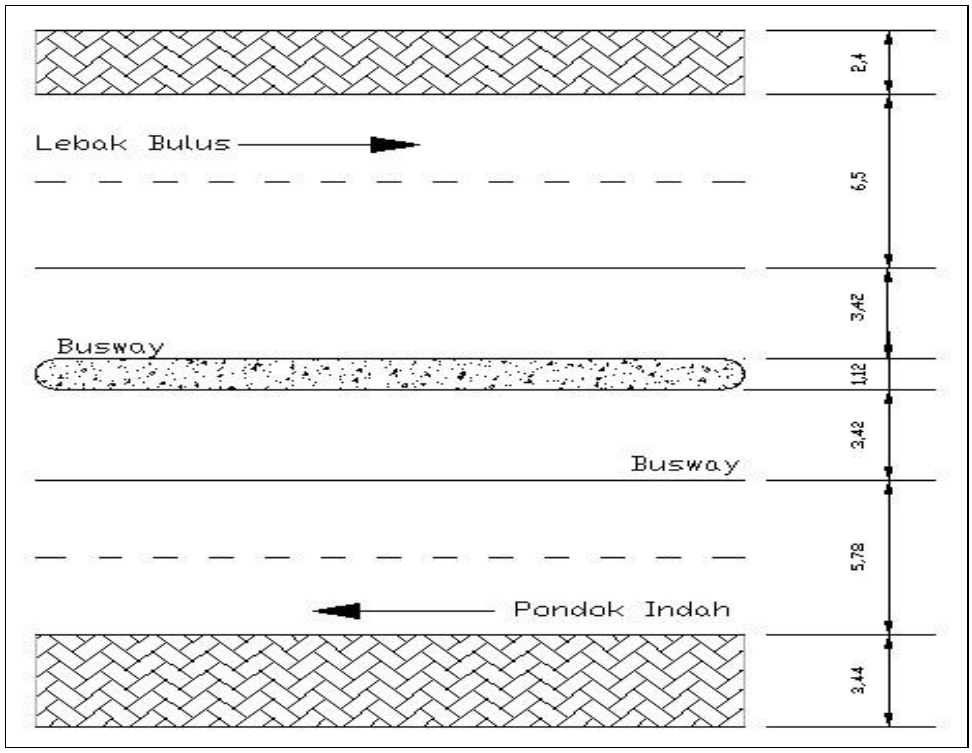
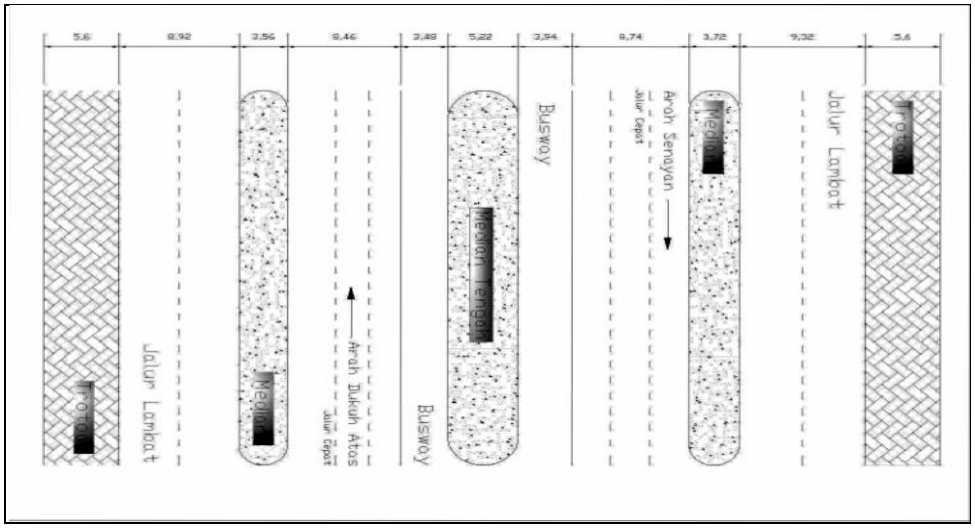


Figure A.8. Jl. Jend. Sudirman survey segment (B4)



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