

**TRANSJAKARTA
BUSWAY**

The 5th Regional EST FORUM

Transjakarta Busway

Lessons Learned

***Behind the Contribution to Public Transport Reform in Jakarta
How to Improve Level of Service and System Efficiency***

Taufik Adiwianto

Bangkok-Thailand 23-25 August 2010



BLU TRANSJAKARTA BUSWAY

Jl. Trunojoyo No. 1 Blok V Lt. 3 Jakarta Selatan
Telp. +62-21 - 7228727, 7228923
Fax. +62-21 - 7228923
<http://www.trans.jakarta.go.id>
email: transjakarta@jakarta.go.id
SMS SARAN & ADUAN 9965

budaya baru
bertransportasi



traffic jam!

Congestion is not a problem, but the result of a larger problem:
Dependence of the private vehicle



PORTRAITS OF TRANSPORTATION PROBLEMS IN JAKARTA





"A GLANCE FACE" TRANSPORTATION PROBLEM JAKARTA



MAIN REASONS BEHIND THE DEVELOPMENT OF THE TRANSJAKARTA SYSTEM

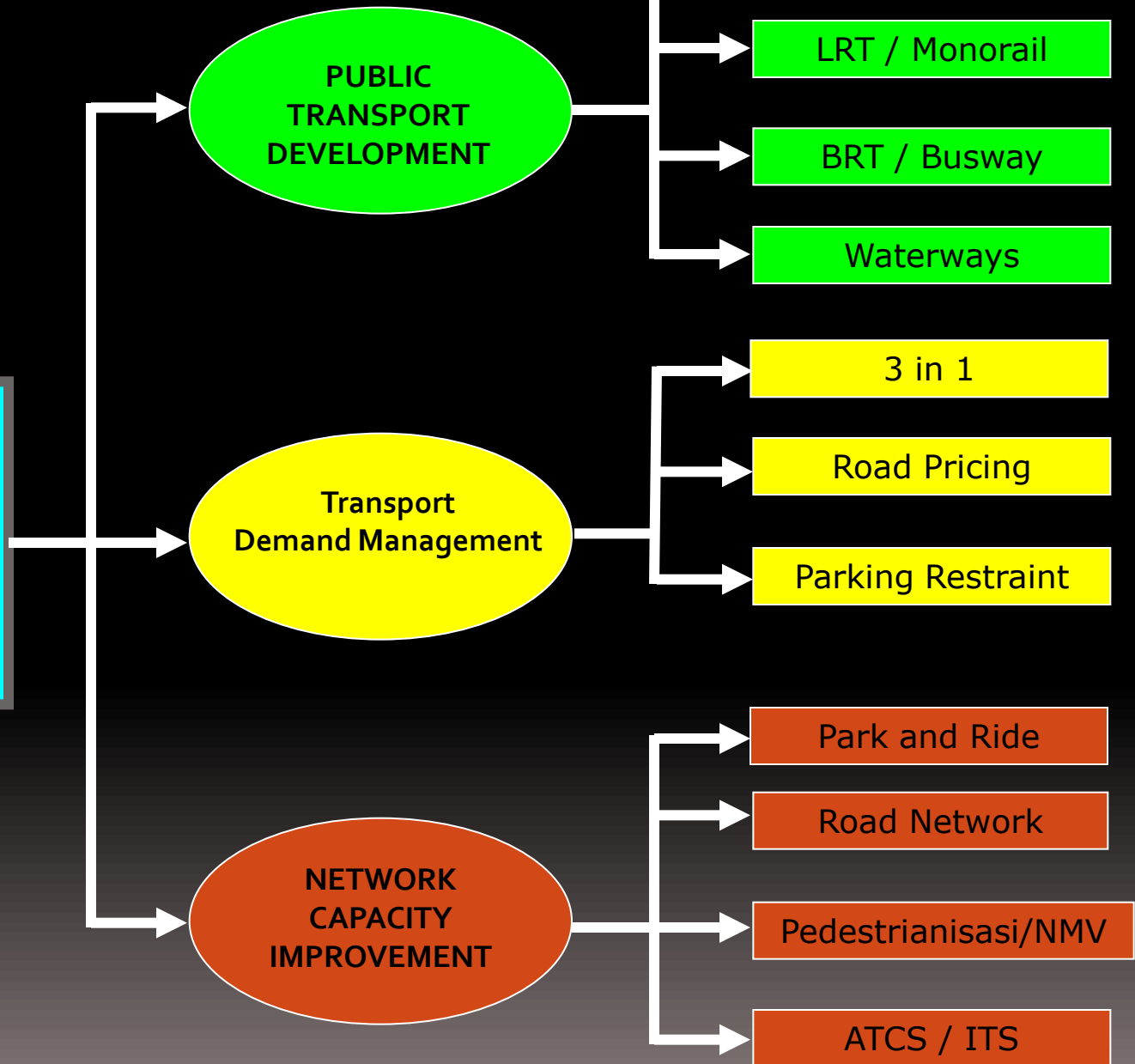
- The number of motor vehicles in Jakarta, with currently stands at 6.7 million, increases by 11% per year;
- 296 new four-wheeled motor vehicles are added daily to the city's traffic;
- A daily inflow of >700.000 motor vehicles from Jakarta's surrounding cities, brings an estimated 1.6 million people;
- The low ratio of public transportation vehicles to private vehicles (92.8);
- Low capacity of public transport of 17 million trips daily, only 53% are taken by public transportation;
- The poor condition of public transportation vehicles, which also gradually decrease in number.
- Losses arising from traffic congestion to Rp 12.8 trillion / year (The value of time, fuel costs, health costs), in 2020 estimated Rp. 65 trillion

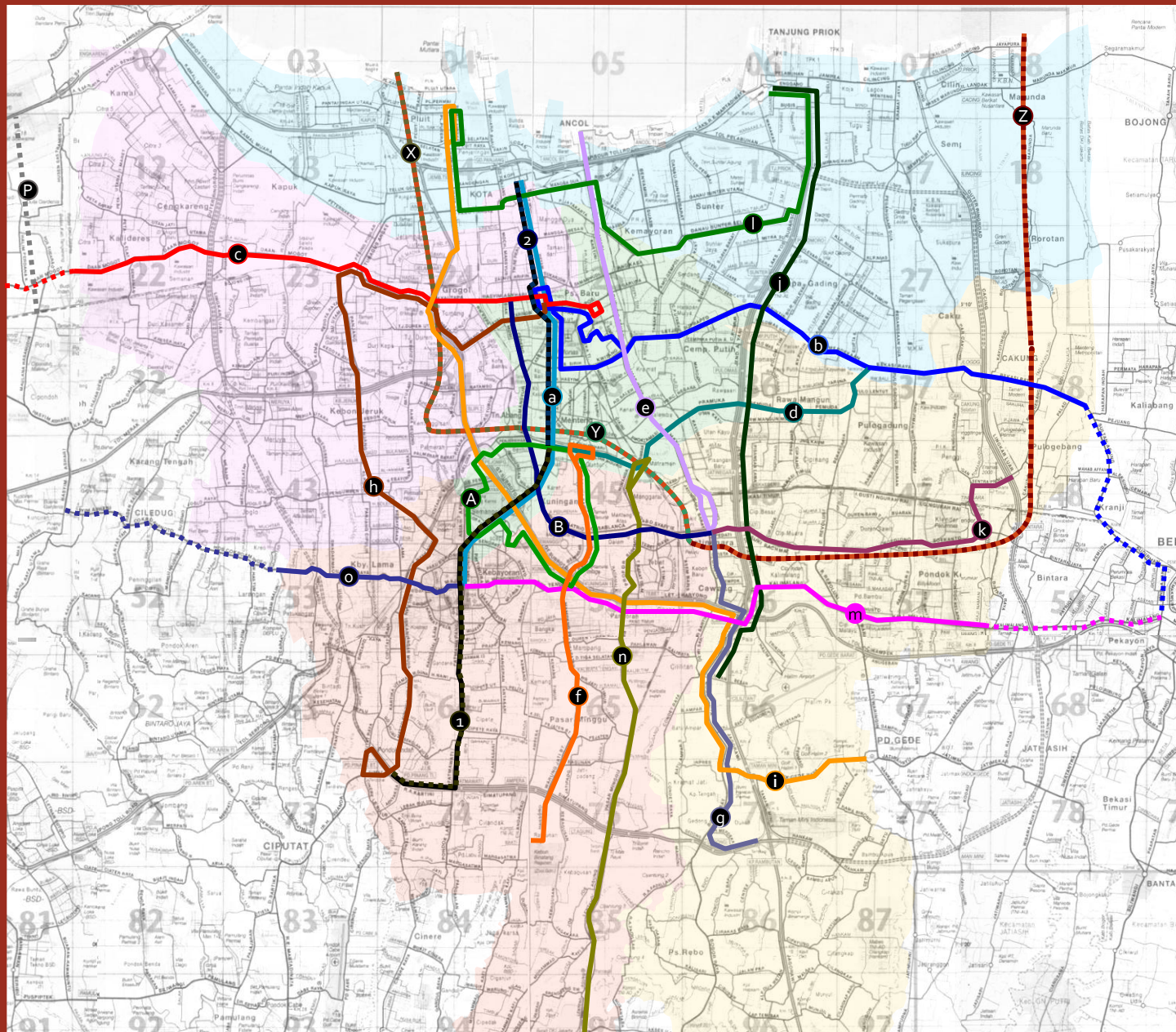


- **People perception on public transport**
 - ❑ unreliable
 - ❑ poor man's choice
 - ❑ should not be given priority
- **Road users attitude**
 - ❑ traffic congestion is always created by others
 - ❑ my time is always more important than others
 - ❑ I always have a reason why I commit traffic violations
- **Social-Political behaviour**
 - ❑ Free mentality
 - ❑ Cultural taboo

3 STRATEGY IN JAKARTA TRANSPORTATION MASTERPLAN

JAKARTA TRANSPORTATION MASTERPLAN (PTM)



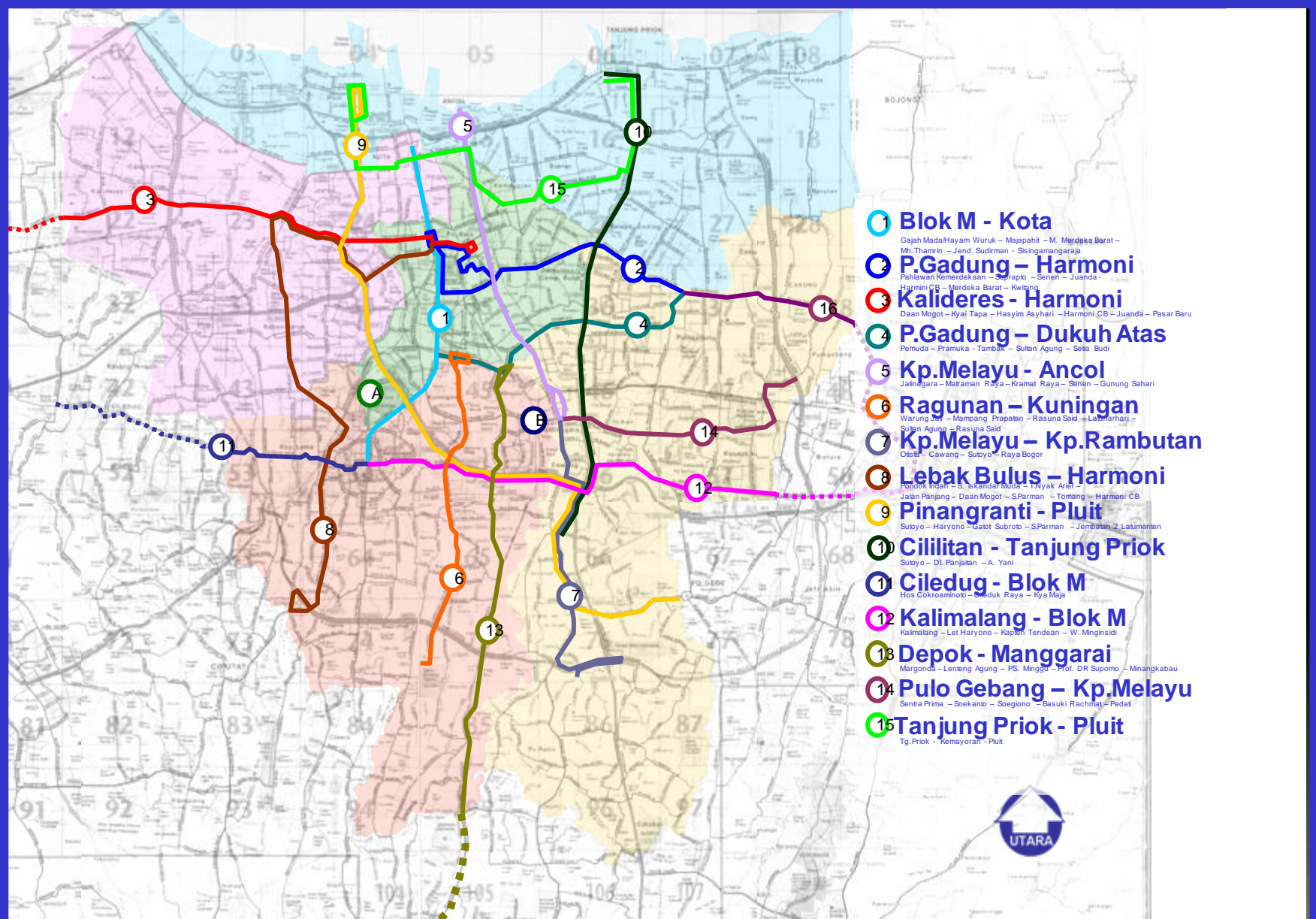


- a Blok M – Kota
 - b Pulo Gadung - Harmoni
 - c Kalideres - Harmoni
 - d Pulogadung – Dukuh Atas
 - e Kampung Melayu - Ancol
 - f Ragunan - Kuningan
 - g Kp. Rambutan – Kp. Melayu
 - h Lebak Bulus – Harmoni
 - i Pinang Ranti – Grogol – Pluit
 - j Cililitan - Tanjung Priok
 - k Pulogebang – Kampung Melayu
 - l Pluit – Tanjung Priok
 - m Pondok Kelapa – Blok M
 - n UI – Pasar Minggu - Manggarai
 - o Ciledug - Blok M
-
- A MONOREL Green Line
 - B MONOREL Blue Line
-
- 1 MRT Lebak Bulus – Dukuh Atas
 - 2 MRT Dukuh Atas – Kp. Bandan
-
- X BKB Cengkareng - Karet
 - Y BKS Karet - Cawang
 - Z BKB Cawang - Cakung
-
- UTARA

PUBLIC TRANSPORT NETWORK 2020

JAKARTA TRANSPORTATION MASTERPLAN

15 CORRIDORS OF BUSWAY - JAKARTA 2010



BUSWAY IN JAKARTA



Vision and Mission of Transjakarta

Vision

Busway as a fast, safe, efficient, humane and comfortable public transportation with international standards.

Mission

- **To reform Jakarta's public transportation system and the manners of its users.**
- **To provide a public transportation service that is more reliable, of better quality, fairer to its users and operates with a guaranteed continuity in Jakarta.**
- **To provide a medium-long-term solution to Jakarta's public transportation problems.**
- **To apply proper socialization and approaches to the city's stakeholders to help the implementation of Transjakarta's integrated transportation system.**
- **To accelerate the implementation of the busway network in Jakarta while considering practicability, public acceptability and easy of implementation.**
- **To develop a management institution with continuity.**
- **To develop a public service agency based on good corporate governance, accountability and transparency.**

CONCEPT OF BUSWAY SYSTEM

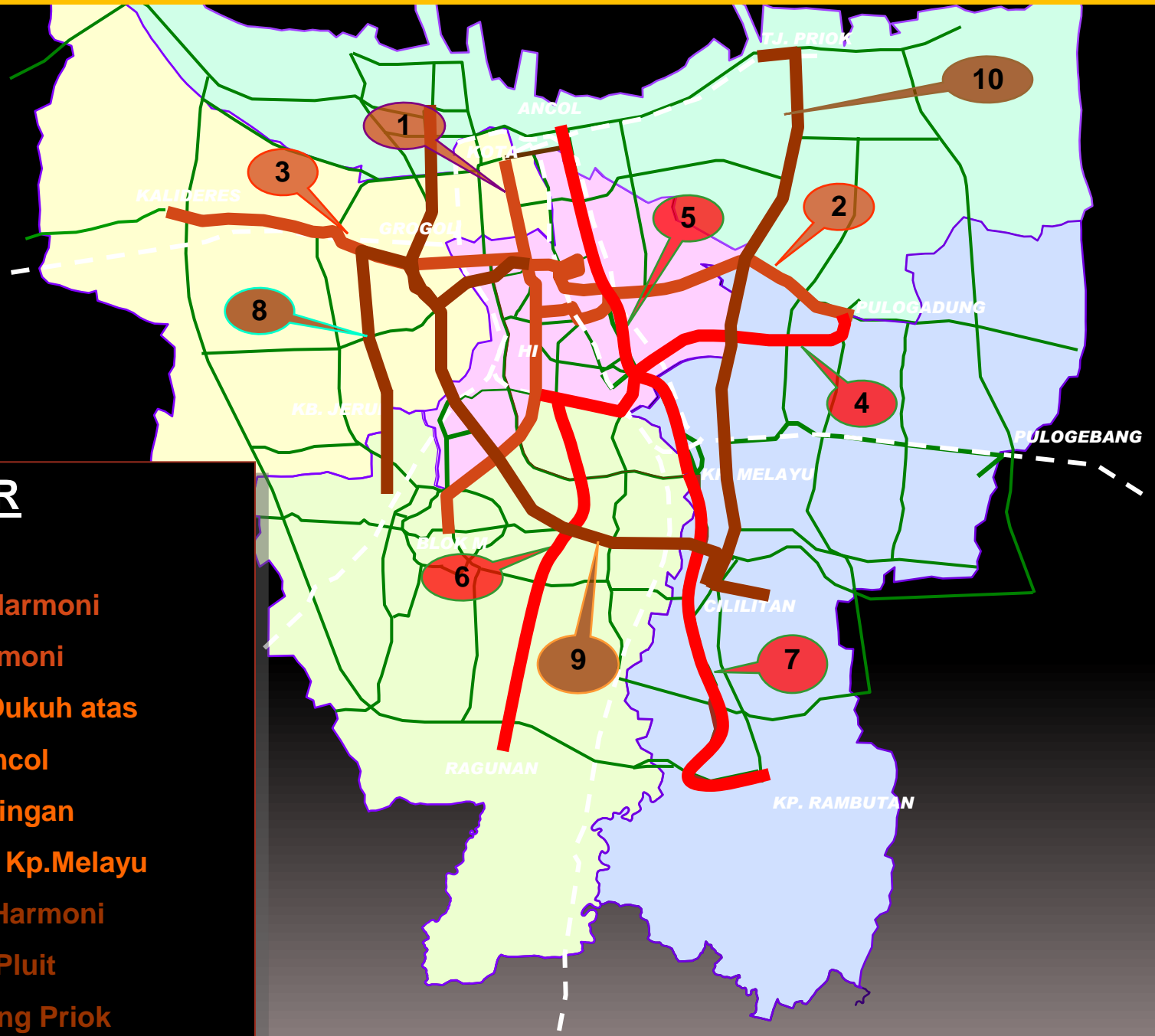
“THINK RAIL, USE BUSES”



OPERATIONAL CHARACTERISTICS

- Exclusive lanes
- Scheduled/time table
- Stop in the certain place/bus stops or terminals
- Use of ticketing system
- Larger capacity

10 BUSWAY CORRIDOR 2010



10 CORRIDOR

1. Blok M – Kota
2. Pulogadung – Harmoni
3. Kalideres – Harmoni
4. Pulogadung – Dukuh atas
5. Kp. Melayu - Ancol
6. Ragunan - Kuningan
7. Kp.Rambutan – Kp.Melayu
8. Lebak Bulus – Harmoni
9. Pinang Ranti – Pluit
10. Cililitan – Tanjung Priok

Strategic Issues on Busway Management

Sustainability

- Continuous public service including the scheme of financing policy,
- Politically influenced by stakeholders interest,
- Independency, institutional aspect and supported by infrastructure development.

Protection must be given to Transjakarta Busway in order to guarantee the sustainability of Public Transport.

Risk Sharing and Partnership

- Basic Concept : Infrastructure – Ticketing - Operator
- Public Private Partnership
- Guarantee on the risk of private investment
- Legal Aspect

Transjakarta Busway has been successfully creating business and job opportunity Total of 5000 employees involved in the operational of busway including bus driver, security personnel, cleaning service etc. Total business omzet is more than Rp. 500 billion in 2010

Integration

- Planning process,
- Construction,
- Intermodal integration
- Fare integration.

Transjakarta system interacts with various sectors, needs coordination and enhancement to improve the city development and provision of reliable public transport.

Fare & Subsidy

- Fare and subsidy are the most common issues related to the planning of Transjakarta's budget.
- Fare and subsidy are the two issues that related to the political issues ,
- Fare => public ability to pay
- Subsidy => government's ability to give financing

Operational subsidy for Transjakarta Busway will increase due to the increase of the number of corridors (lines) and passengers. This trend will occur until it reaches the equilibrium state, which shows that the system reaches the economic of scale.

INFRASTRUCTURE AND OPERATIONAL PROVISION

Infrastructure :

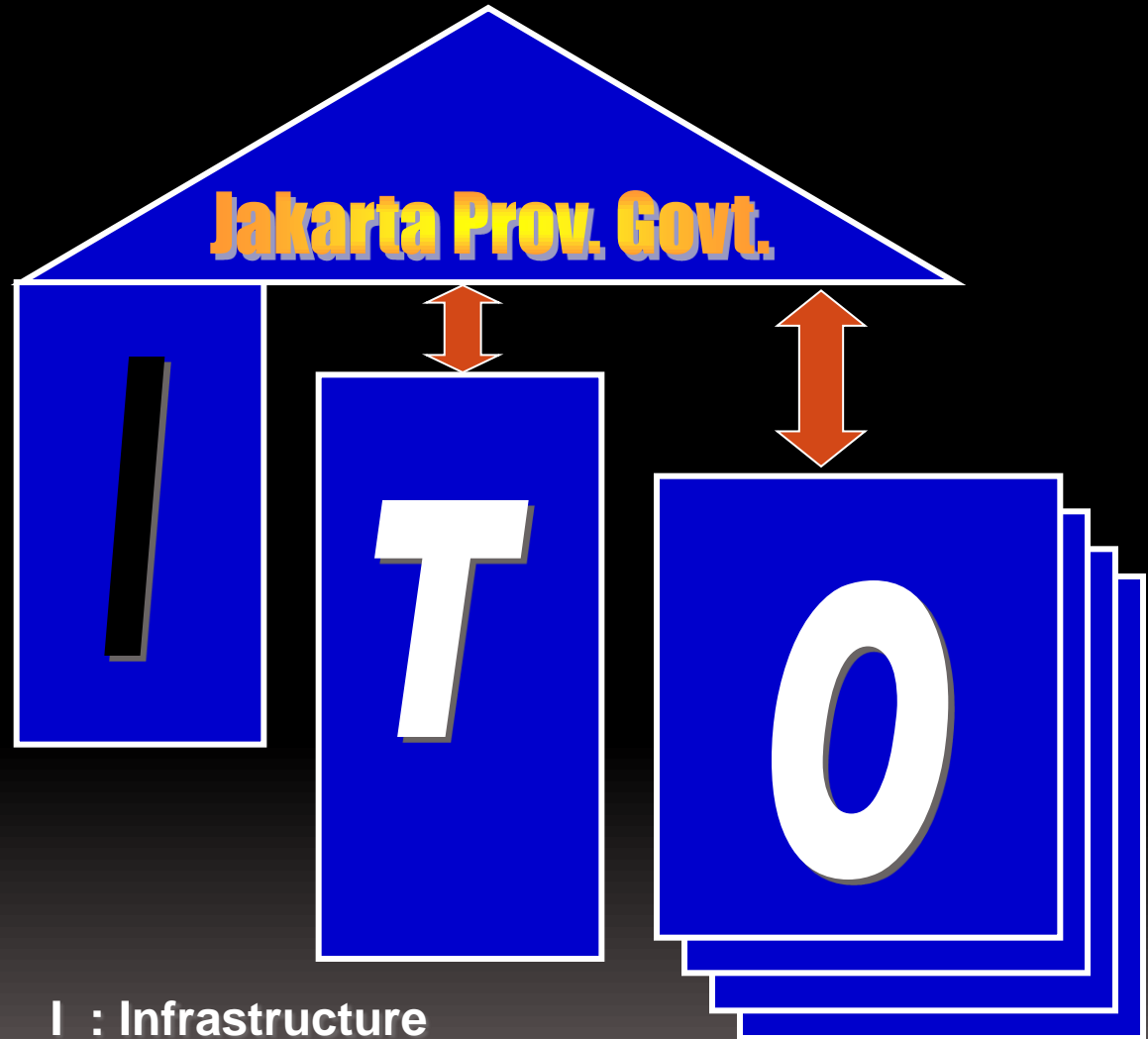
Financed by Jakarta
Provincial Government

Ticketing System :

Financed by Private

Bus Procurement and Operation :

Financed by Private
(Concortium of
Operators)



I : Infrastructure
T : Ticketing
O : Bus Operation

Major Issues

Financing

- Public Transport is a high risk business that makes the Bank/Financial Institution are more careful in giving the loan.
- In case of busway, Operator's revenue comes from the Fee stated in Contract. The Contract is not eloquent to be guaranteed by the Bank/Financial Institution.
- The Bank/Financial Institution will require asset/collateral based on the amount of the loan
- Operator's will charge this condition as an additional cost of money to BLU Transjakarta Busway

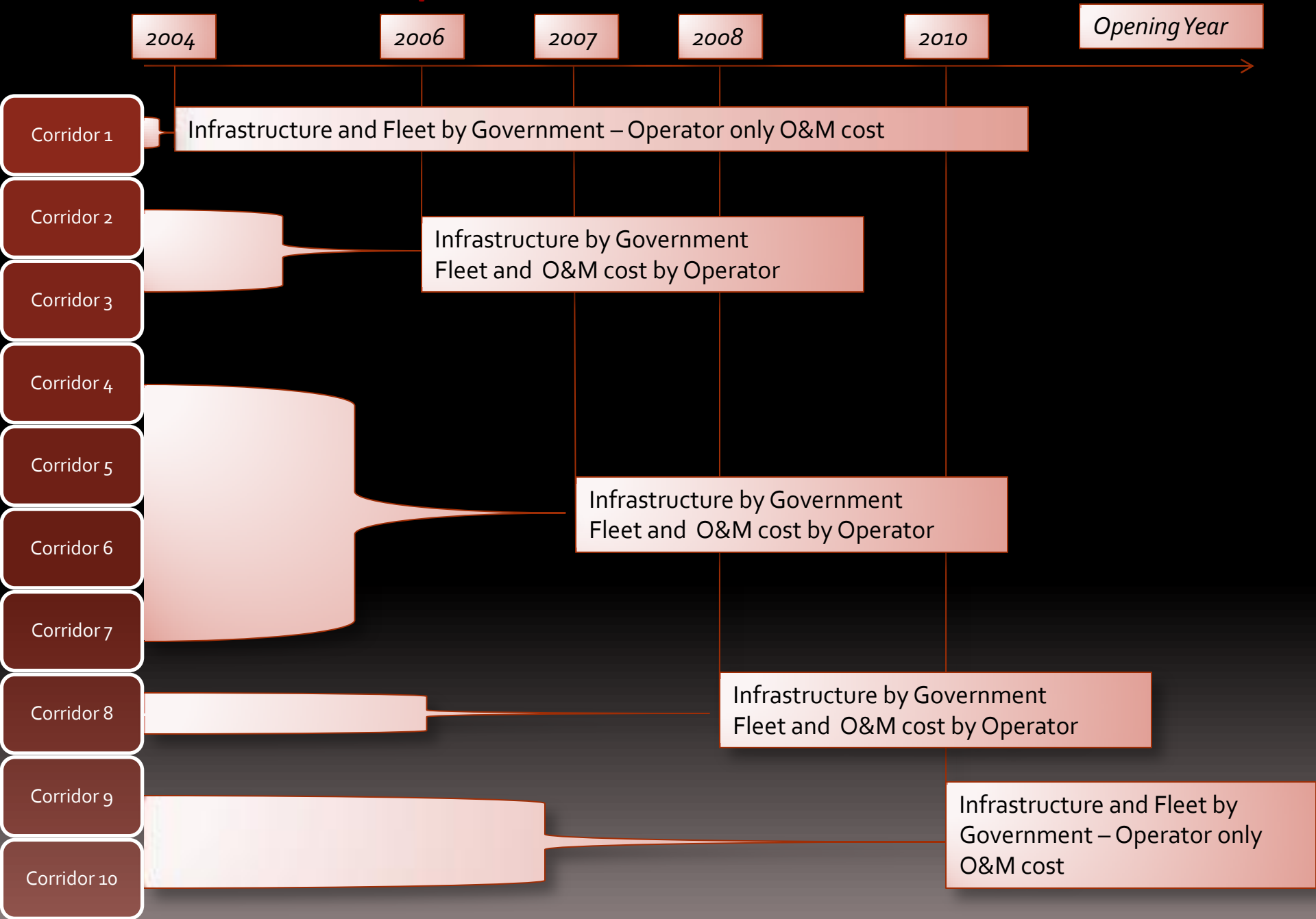
Cost VS Tarif

- Investment on the buses has made higher cost for capital expenditure
- Inefficiency in the implementation cost for busway
- High risk of the achievement of bus production caused by traffic condition, CNG supply , etc
- The government are tend to reduce the subsidy
- Latest adjustment on busway passenger's fare is done on 2005

Strategic

- Private companies are dominant in public transport business
- Enhancing the role of local government in public transport development
- Public transport management from "ownership" to "operatorship"

Historical Development of PPP Scheme



HISTORICAL OF CNG BUS USE FOR BUSWAY OPERATION

	2004	2005	2006	2007	2008	2009
NUMBER OF BUSES AVAILABLE	56	91	91	91	91	91
			70	70	70	70
				168	168	168
					10	10
						87
TOTAL NUMBER OF BUSES	56	91	161	329	339	426

EURO - 2

CNG

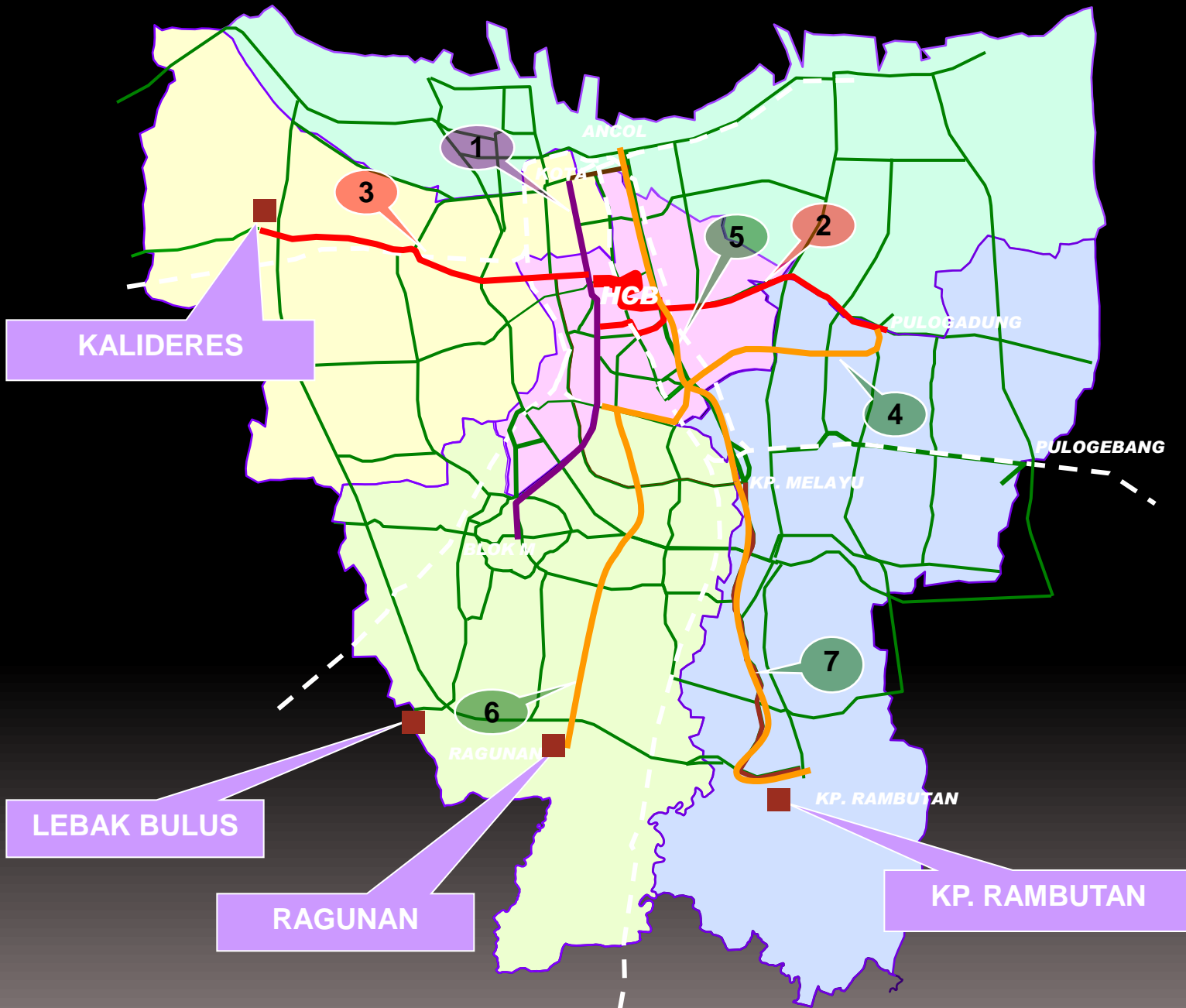
BENEFIT OF BUSWAY



Compare to other other modes of public transport in Jakarta Transportation Masterplan , Busway has several benefit:

- Local government holds the responsibility and policy
- Faster time of the construction
- Liability to finance the program
- Road infrastructure is relatively supported
- Flexibility in determining the bus route.
- Suitable infrastructure to implement culture engineering transition before the implementation of LRT/MRT
- Efficient for road space use
- Many success stories in other cities

PARK AND RIDE TO SUPPORT BUSWAY





JAKARTA BARAT

JAKARTA UTARA

DEPO K

RAWA BUAYA

PERINTIS

PEMUDA

PANCORAN

PINANG RANTI

DEPO H

KAMPUNG RAMBUTAN

TANAH MERDEKA

GANDARIA

KORIDOR 2: KALIBES - HARJONO (CENTRAL BUSWAY)

KORIDOR 1: PULUPINANG - RANGKANT

KORIDOR 5: ANCOL - KAMPUNG MELAYU

KORIDOR 10: TIK, PONDOK - GEBIRAN

KORIDOR 3: KALIBES - HARJONO (CENTRAL BUSWAY)

KORIDOR 12: PUSAT - HARJONO (CENTRAL BUSWAY)

KORIDOR 4: PUSAT - KAMPUNG MELAYU (TANAH MERDEKA)

KORIDOR 8: LEBAR BULUS - HARJONO (CENTRAL BUSWAY)

KORIDOR 6: BALEKAMPON - KAMPUNG MELAYU

KORIDOR 7: KAMPUNG MELAYU - KAMPUNG MELAYU

DINAS KEBUDAYAAN DAN PERMUSEUMAN PROVINSI DKI JAKARTA

JASA RAHARJA
www.jasa-raharja.com

ITDP
www.itdp.org

UNEP
www.unep.org

"KESEDARAN DAN PERALIHAN BERALUWINTAS MENJAMIN KEAMANAN DAN KENYAMANAN DALAM DAN CERMATAN BANGSA BERBUKARA"



● SPBBG AKTIF

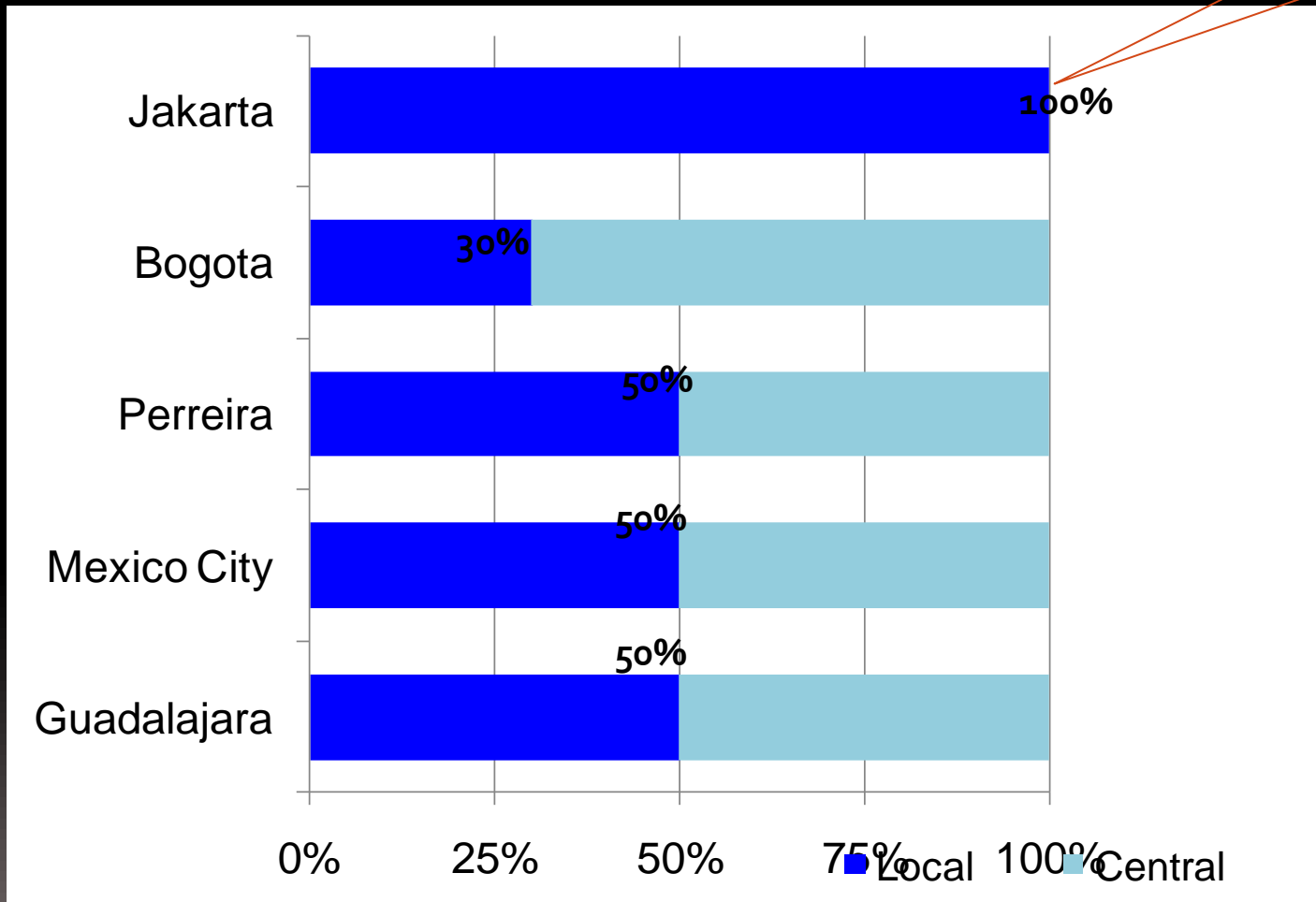
● SPBBG PETROSS

● SPBBG BLM AKTIF

● BUS DEPO

CITY COMMITMENT TO DEVELOP BUSWAY

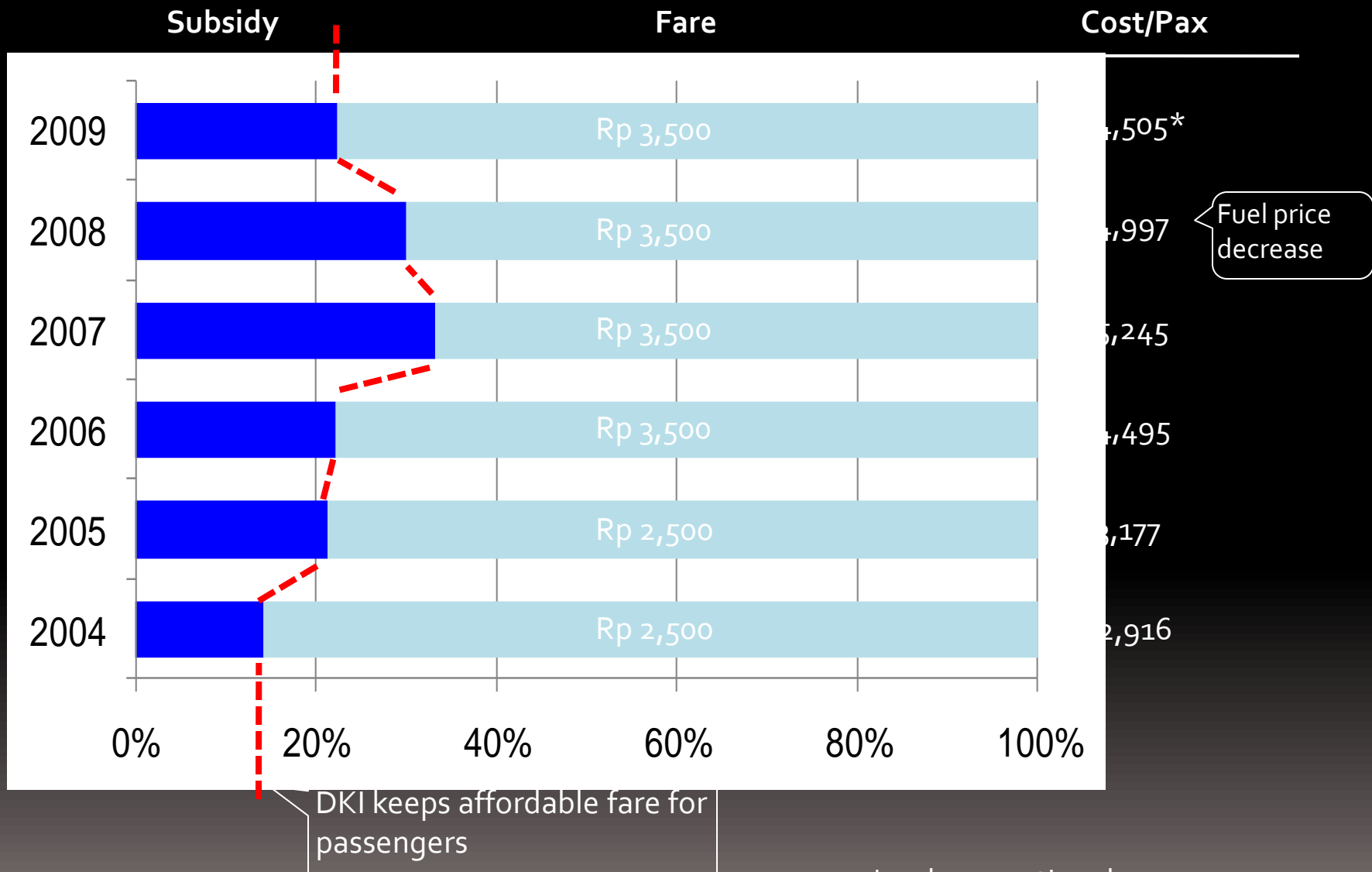
FUNDING SOURCE OF BRT



Rp 3,4 Trillions¹⁾ for investment & subsidize Transjakarta

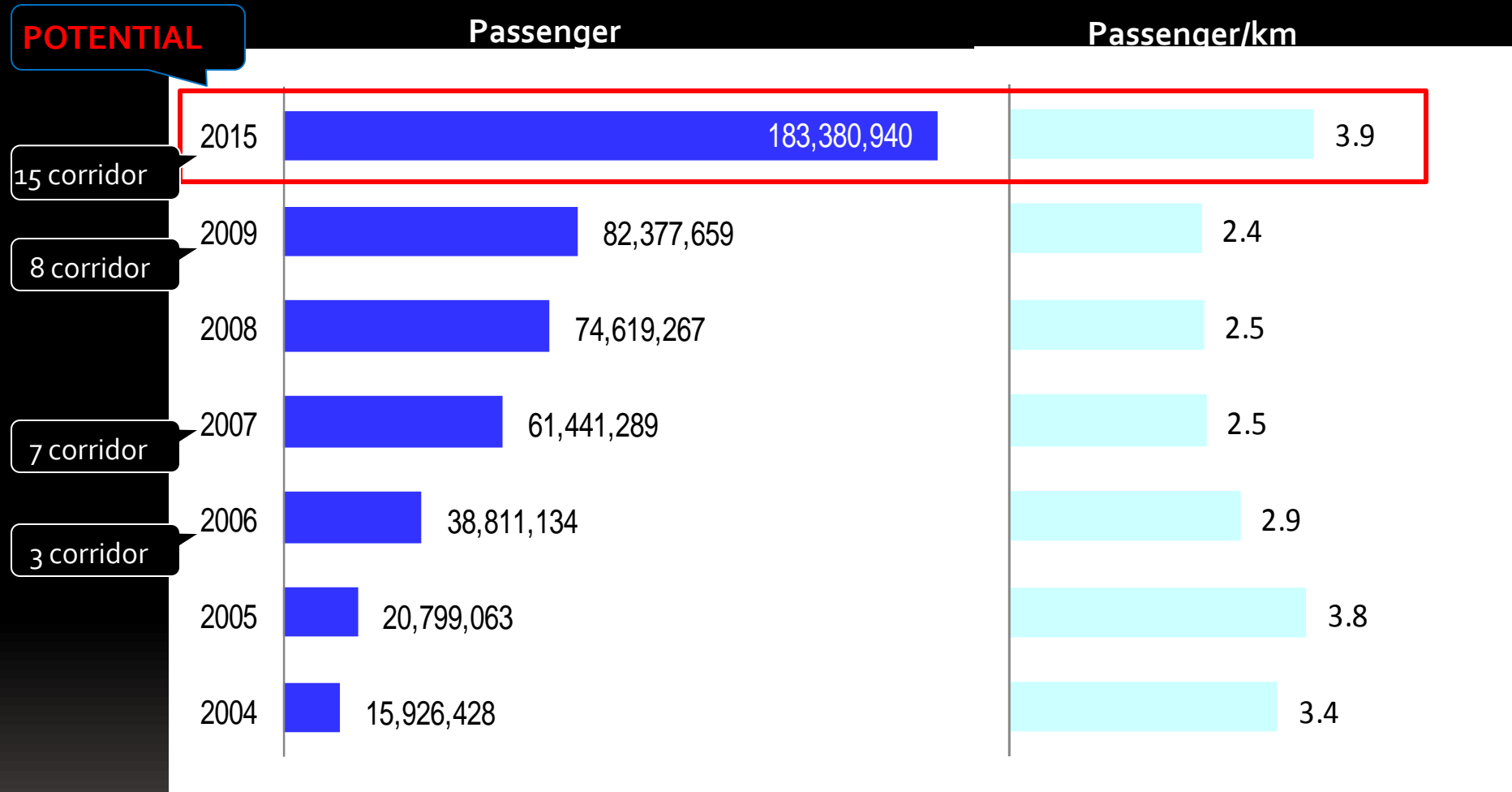
¹⁾ = APBD DKI Total for busway 2004-2010

CITY COMMITMENT TO GIVE BEST SERVICE IN AFFORDABLE FARE



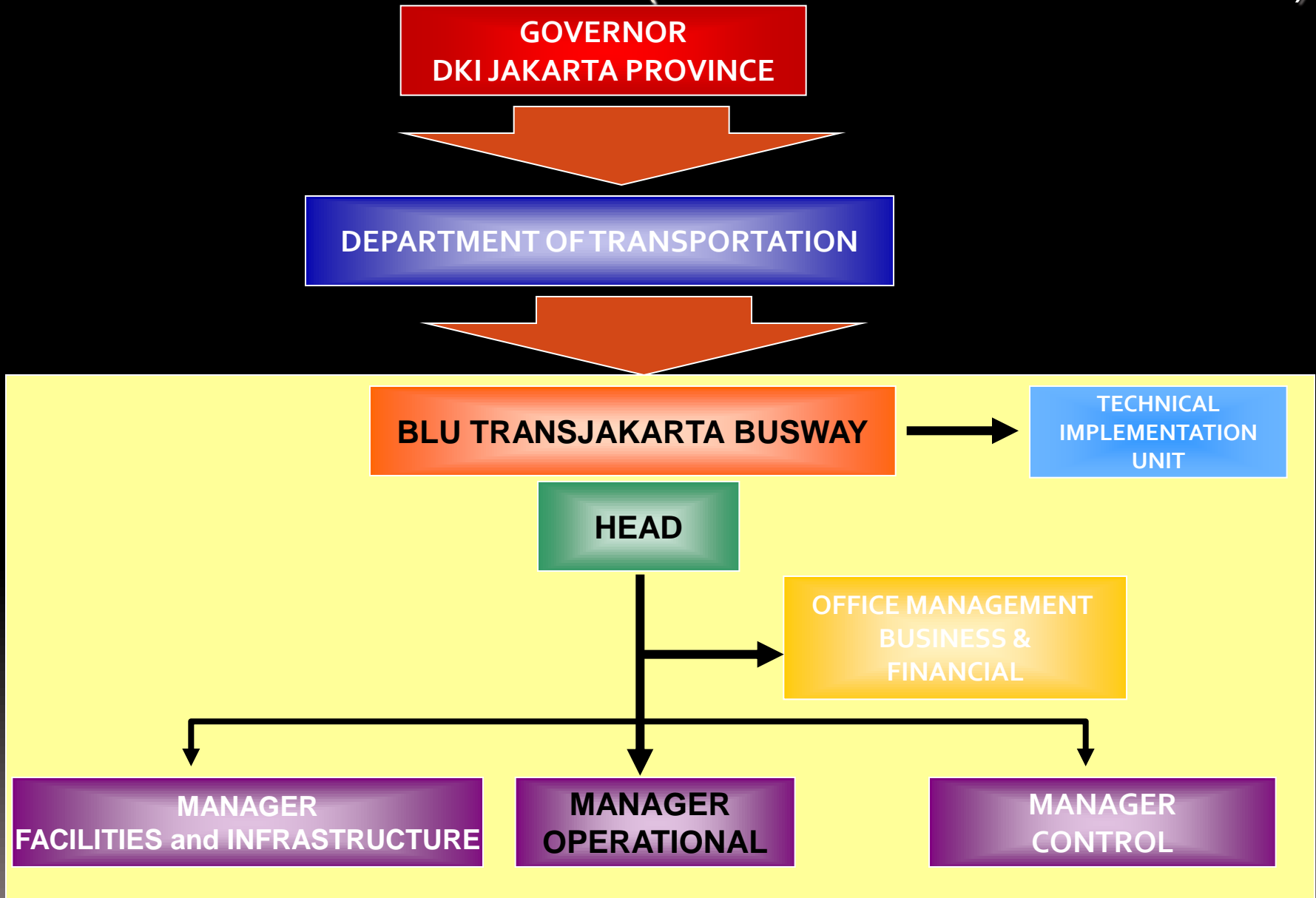
* only operational expenses

TRANSJAKARTA PASSENGERS TRENDS IS INCREASING

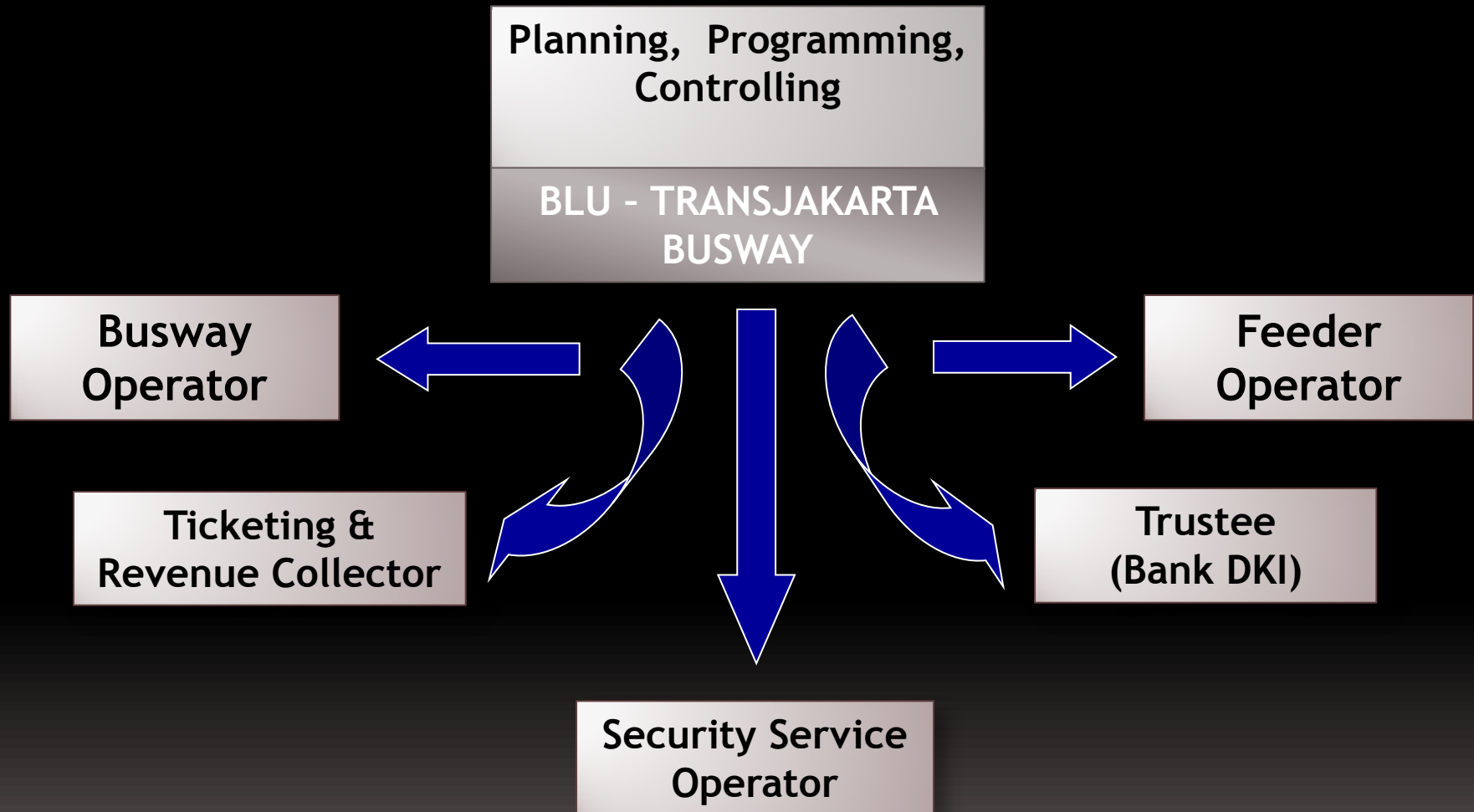


Decreasing of passengers/km because capacity of corridor 1 had reached saturated point and maximum capacity of other corridor and network effect not reached. It needs better quality services, including operating articulated bus

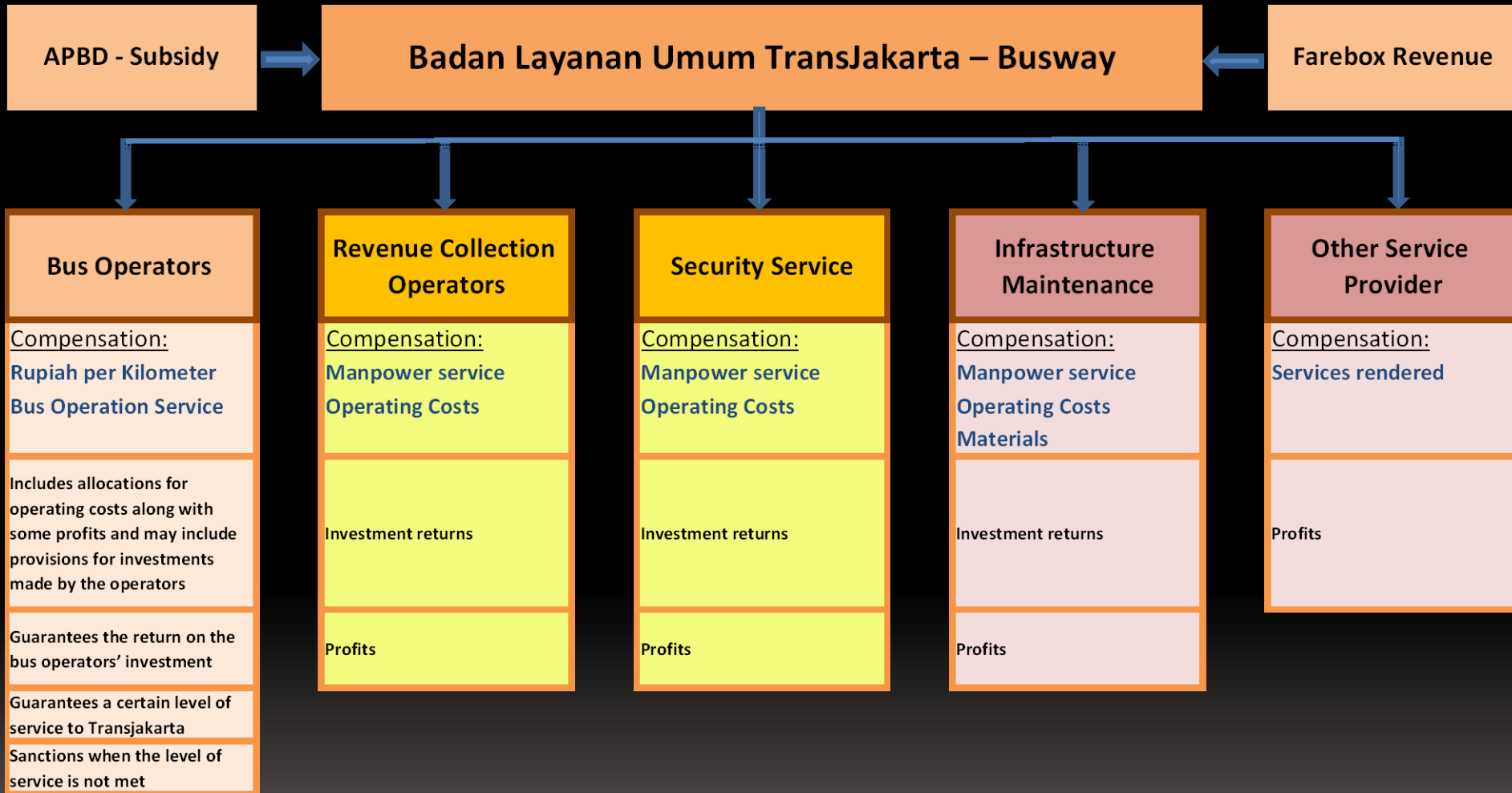
Organization and Management of BLU Transjakarta Busway (Governor Decree Number 84/2004)



MANAGEMENT OF BUSWAY IMPLEMENTATION



Business Process



A map of Transjakarta bus corridors is shown at the top of the slide. It features several colored lines (green, orange, blue, red) representing different bus routes across the city. A circular marker with the number '10' is visible on the right side of the map. The name 'T.J. PRIOK' is also visible on the map.

BUS OPERATION – TRANSJAKARTA

- Length Corridor : 143,35 Km (8 Corridor)
- Number of Shelter : 142 shelter
(station spacing ~ 1000 m)
- Fleet Size : 426 buses
- Number of Operator : 6 operators
- Number of Depot Bus : 7 Depot
- CNG Station : 6 CNG Stations
(only 4 station available)
- Ticket Cost : IDR 3.500 & 2.000 (5-7am)

PERFORMANCE - TRANSJAKARTA BUSWAY



• Ridership :

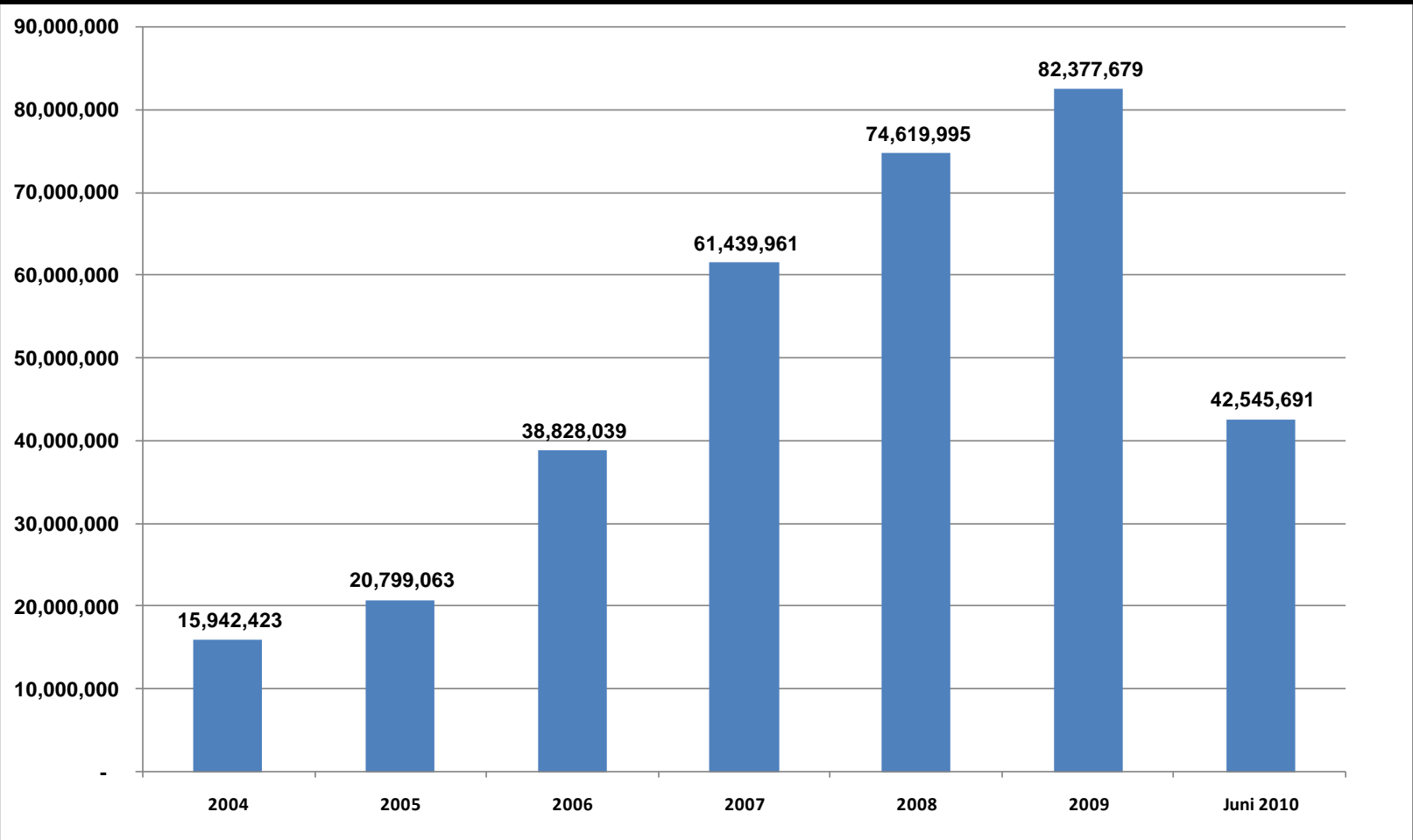
– 2004	: 15.942.423
– 2005	: 20.798.196
– 2006	: 38.828.039
– 2007	: 61.446.334
– 2008	: 74.619.995
– 2009	: 82.377.679
– Juni 2010	: 42.545.691

• Cost Recovery :

– 2004	: 89,91%
– 2005	: 97,51%
– 2006	: 75,18%
– 2007	: 59,37%
– 2008	: 60,94%
– 2009	: 61,30%

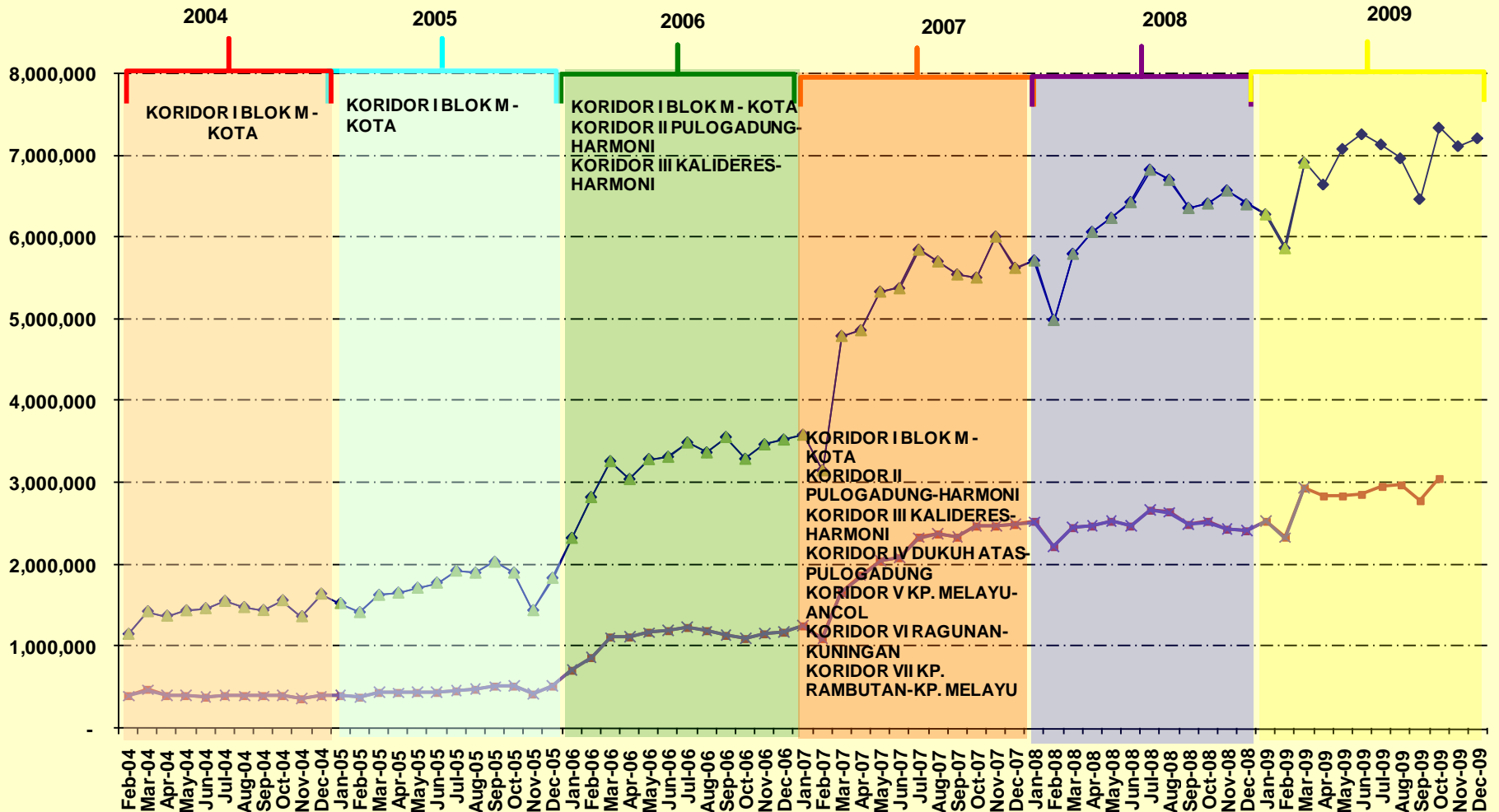
Ridership : 270.000 pax/day

RIDERSHIP 2004 – 2010



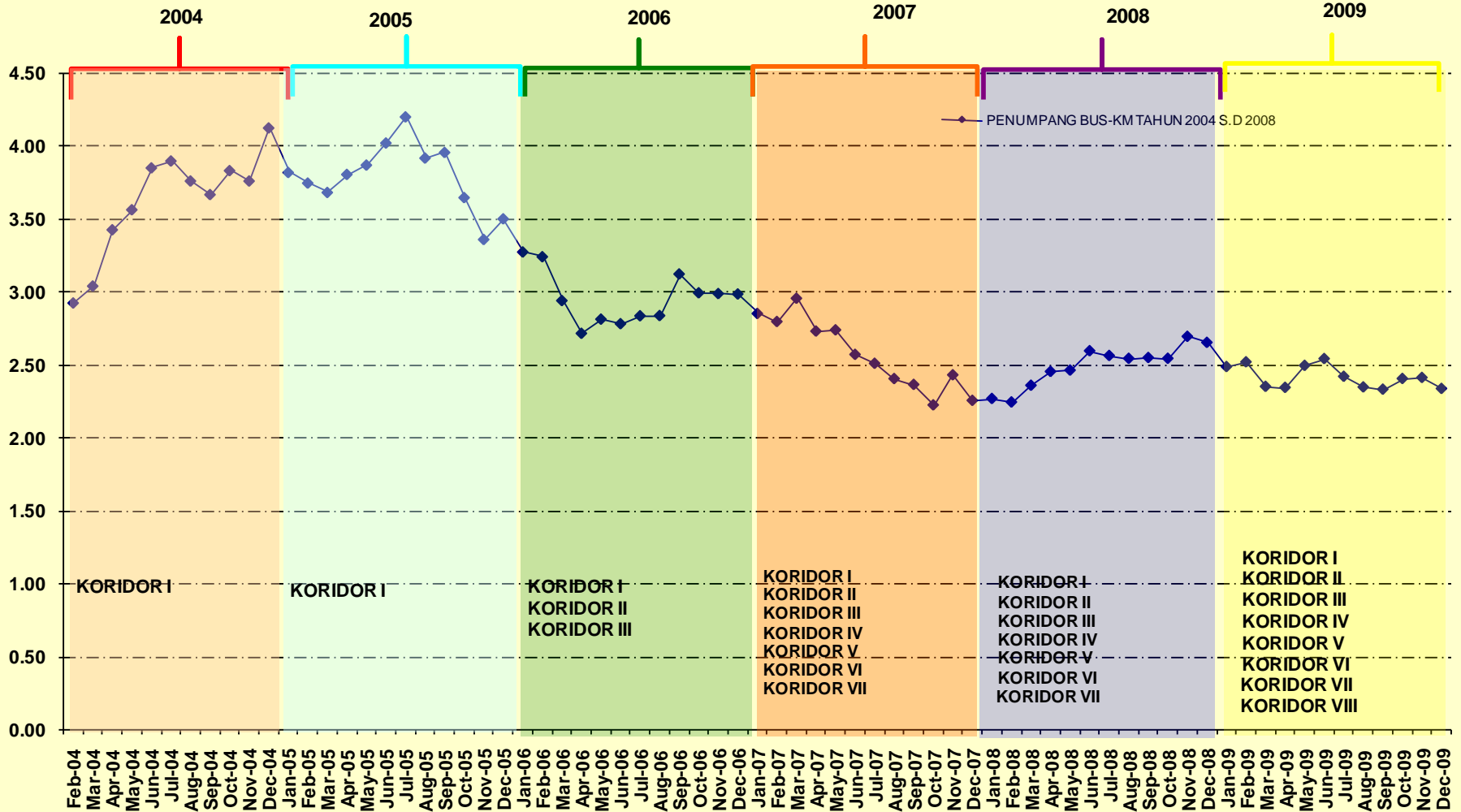
Passenger vs. Bus-Km 2004 - 2009

PASSENGER VS BUS-KM 2004 - 2009



Passenger per Bus-Km 2004 - 2009

PASSENGER PER BUS-KM 2004 - 2009



The Fleet

Line/ Koridor	Line Description	Length (km)	Bus Type/Brand						Total
			Mercy	Hino	Daewoo	Hyundai	Huang Hai (Artic)	Komodo (Artic)	
Koridor I	Blok M - Kota	12,9	28	63					91
Koridor II	Pulo Gadung - Harmoni	14			55				55
Koridor III	Harmoni - Kalideres	19			71				71
Koridor IV	Pulo Gadung - Dukuh Atas	11,85			36	12			48
Koridor V	Kp. Melayu - Ancol	13,5					10	13	23
Koridor VI	Ragunan - Kuningan	13,3			53				53
Koridor VII	Kp. Rambutan - Kp. Melayu	12,8		34	29	22			85
	Total	97,35	28	97	244	34	10	13	426

OPERATOR BUS BUSWAY

Line/Corridor	Bus Operator	
	Existing Operator/Consortium (as a compensation)	Tender
I (BLOK M-KOTA)	PT. JAKARTA EXPRESS TRANS (JET)	
II (PULO GADUNG-HARMONI)	PT. TRANSBATAVIA (TB)	
III (KALIDERES-HARMONI)	PT. TRANSBATAVIA (TB)	
IV (PULO GADUNG-DUKUH ATAS)	PT. JAKARTA TRANS METROPOLITAN (JTM)	PT. PRIMAJASA
V (KP.MELAYU-ANCOL)	PT. JAKARTA MEGA TRANS (JMT)	PT. EKA SARI LORENA TRANSPORT
VI (RAGUNAN-KUNINGAN)	PT. JAKARTA TRANS METROPOLITAN (JTM)	PT. PRIMAJASA
VII (KP.RAMBUTAN-KP.MELAYU)	PT. JAKARTA MEGA TRANS (JMT)	PT. EKA SARI LORENA TRANSPORT

Fee to the operator (Rp/km)

Cost Component	JET	TB	JTM	JMT Articulated Bus	JMT	Lorena Articulated Bus	Lorena	PP (Line 4)	PP (Line 6)
Investment	-	4,784.44	4,647.87	11,316.45	4,647.87	8,125.71	3,301.07	2,837.51	2,837.51
Direct Cost		4,581.23	5,178.00	8,327.39	5,178.00	5,828.04	4,677.86	5,143.98	5,099.09
Overhead		2,066.02	1,741.40	2,584.60	1,741.40	1,931.55	905.57	946.01	841.12
Profit		1,126.28	691.94	1,091.20	691.94	775.96	558.34	609.00	594.02
Fee Rp/km	8,802	12,557.97	12,259.21	23,319.64	12,259.21	16,661.26	9,442.85	9,536.50	9,371.74

In Rupiah (IDR)

Strategic Business Plan for Transjakarta Busway

Institutional change from Public Service Board to State-Owned Company to implement more responsive and professional service

Bus investment is carried out by the government to reduce the operational cost and the subsidy.

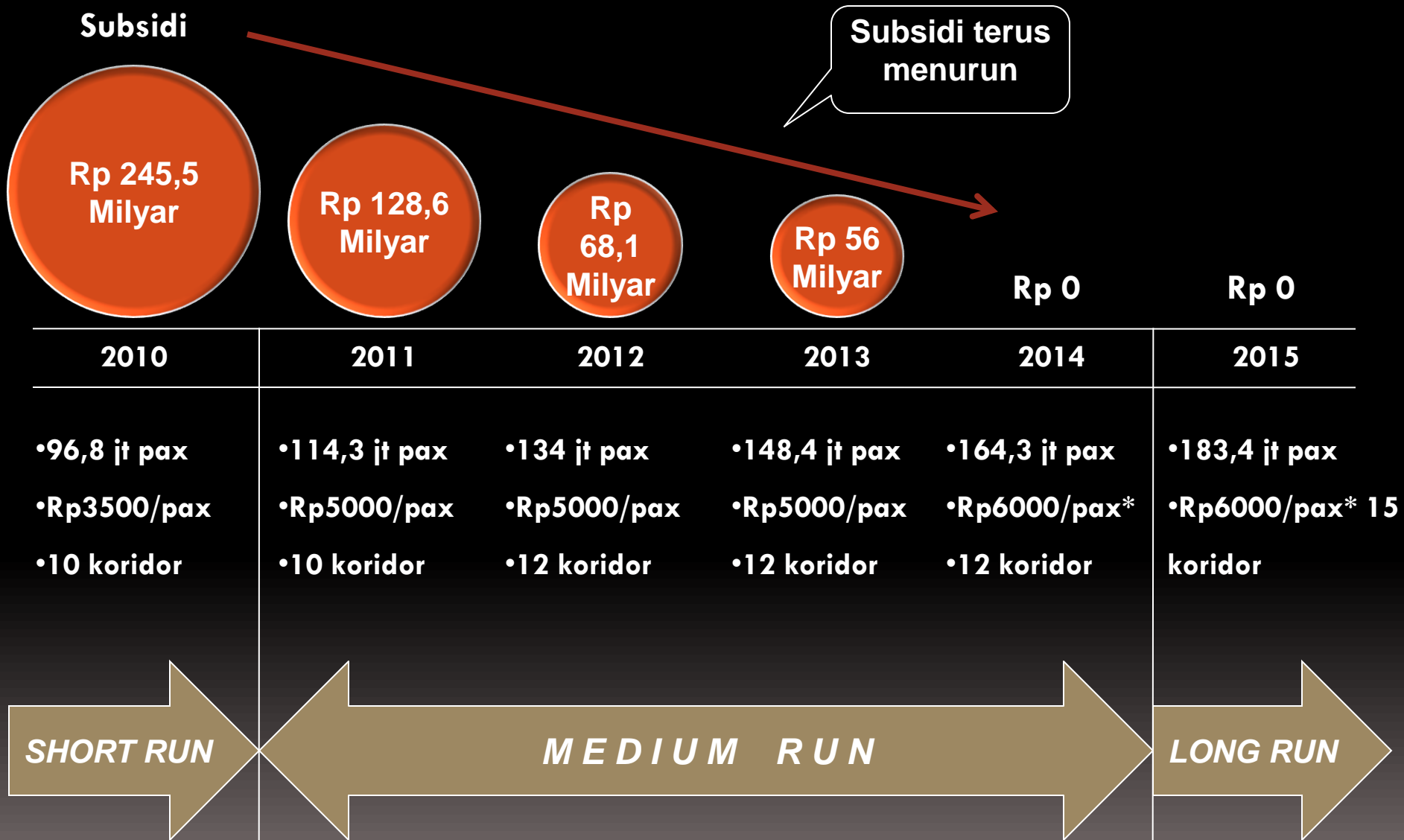
Adjustment on Operator's fee due to the raise of fuel price and inflation rate

Adjustment on busway passenger's fare

E-ticketing implementation for all corridors in 2011

Quality Enhancement based on Minimum Service Standard/Service Level Agreement (SLA)

FINANCIAL PLAN TRANSJAKARTA



*estimasi tarif penyesuaian inflasi

BLU Transjakarta Target in 2010

O&M Cost Recovery Ratio > 70%

Farebox Revenue Rp. 300 Billion Fare Rp. 3.500

Bus-km Production < 45 million km

Ridership > 90 million

Waktu Tunggu < 10 menit

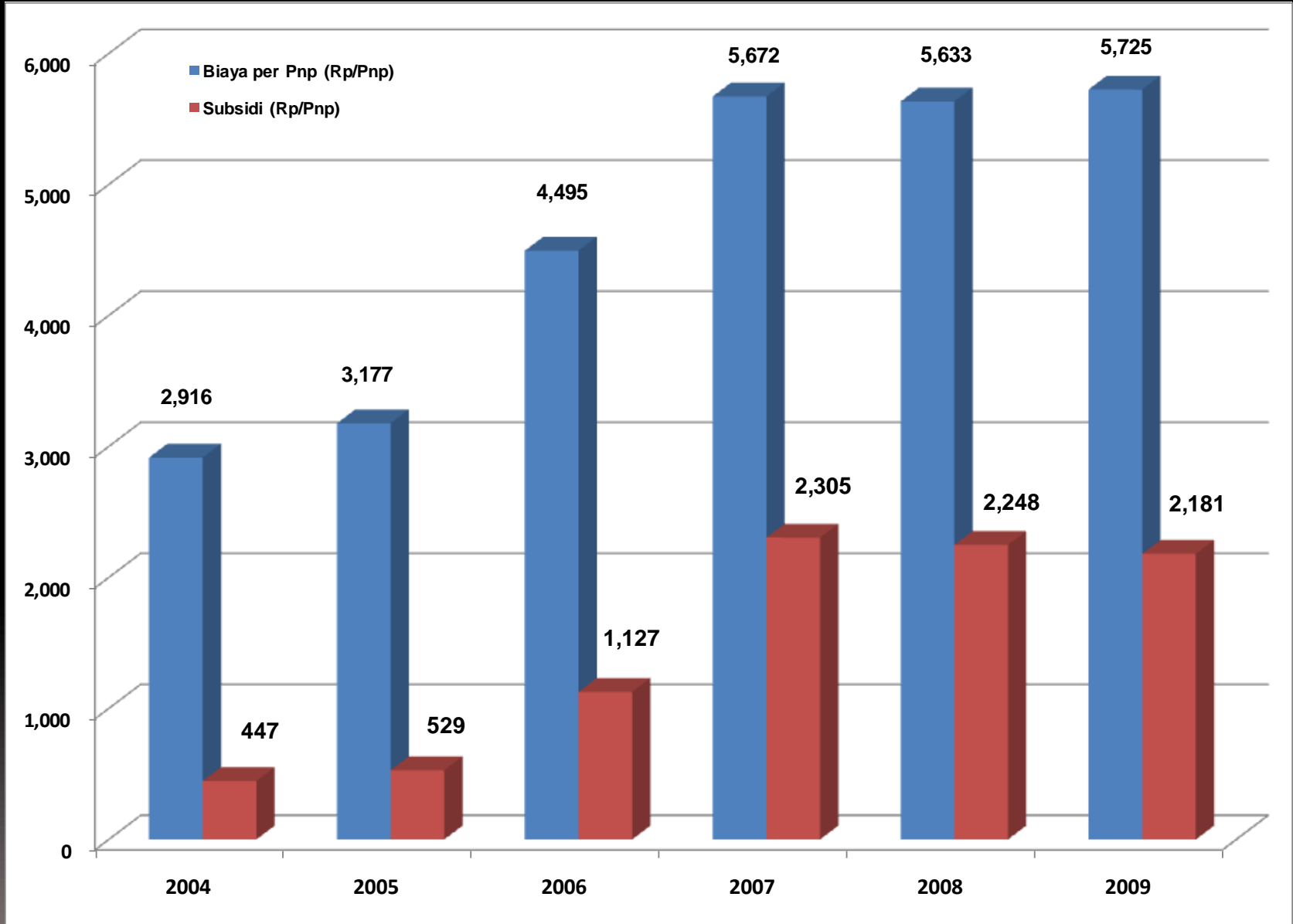
O&M Cost per pax < Rp. 6000

O&M Cost per km <Rp.13.000

Bus Corridor : 10

Towards ideal institution

Subsidy per Passenger 2004 - 2009





MAJOR OPERATIONAL ISSUES FOR BUS OPERATION

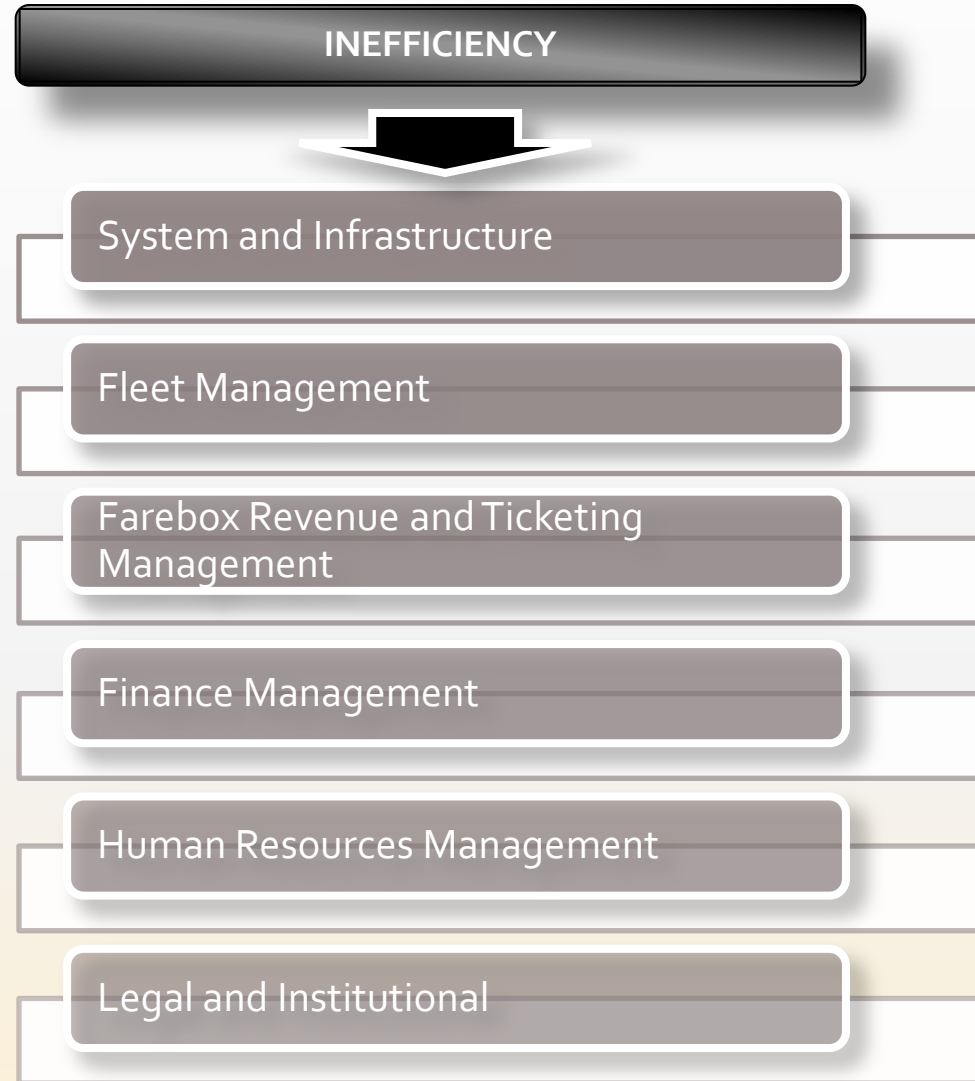


ISSUES AND PROBLEMS IN MANAGING TRANSJAKARTA BUSWAY

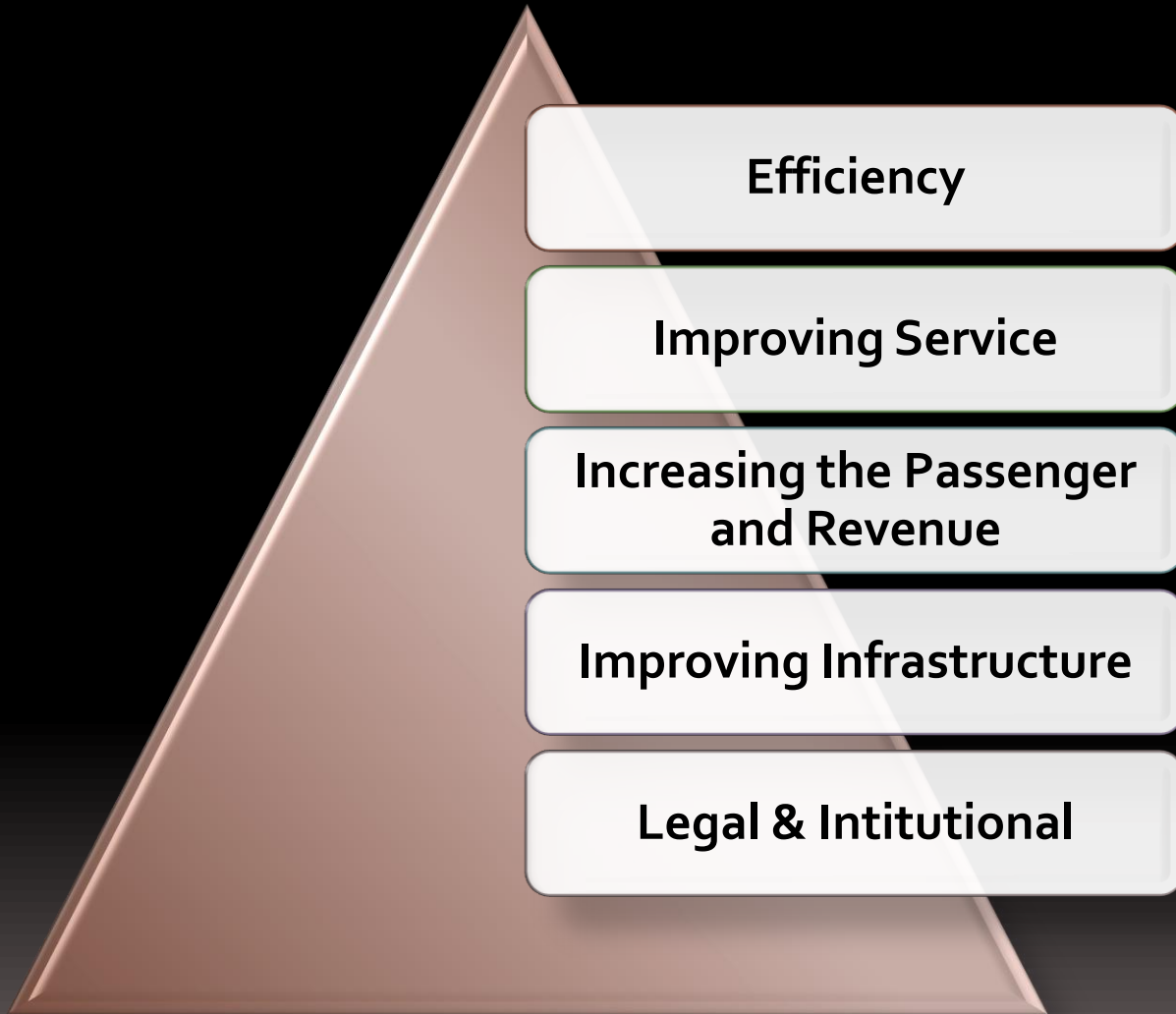
Major issue in managing Transjakarta Busway is inefficiency at the most fields, such as technical infrastructure, operation, management, legal and institutional aspect.

Things that happened in the implementation area is the reflection of what happened during planning process, operation/service.

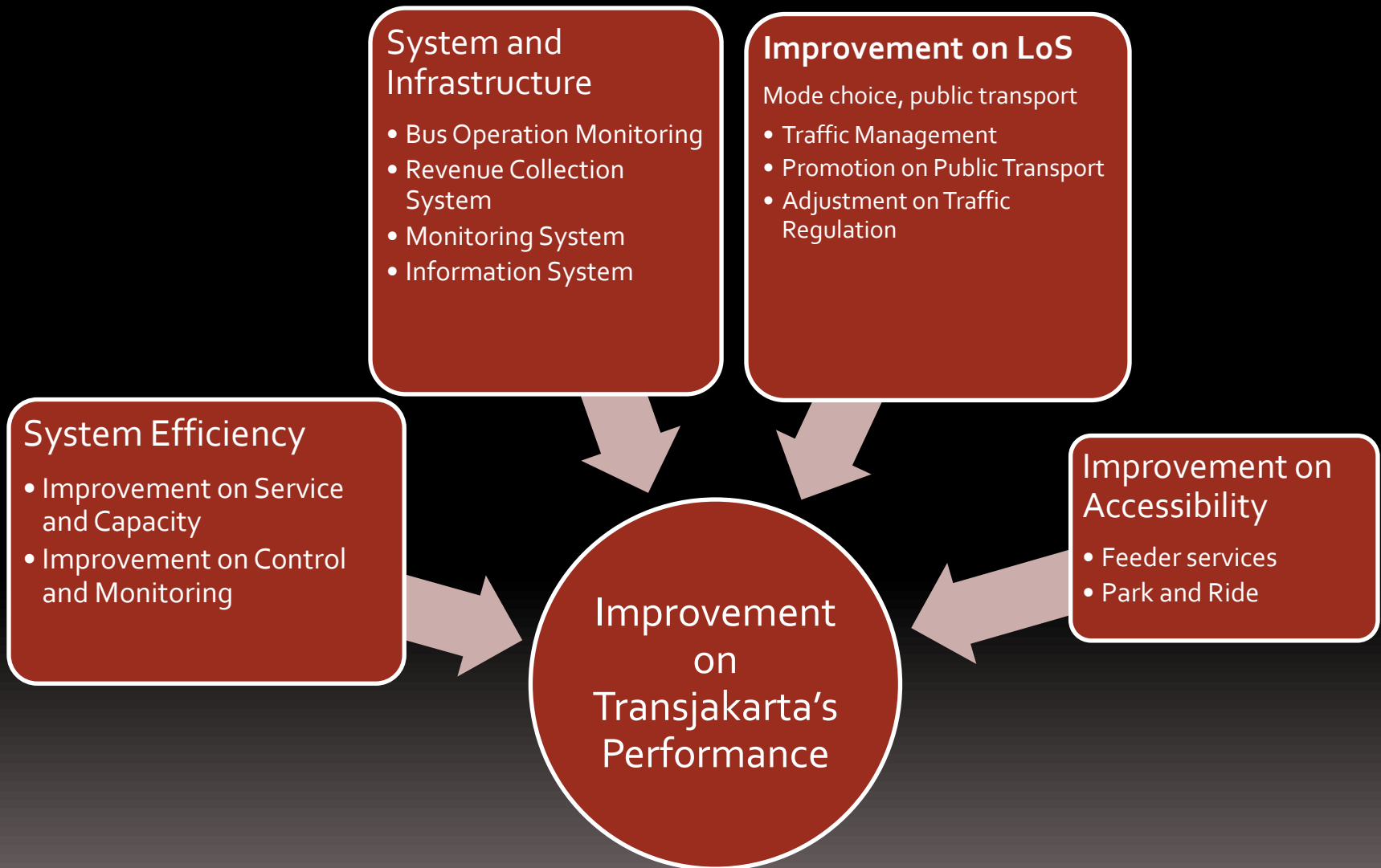
Enhancement and supports are needed to improve this condition.



BLU Transjakarta Busway : Major Program

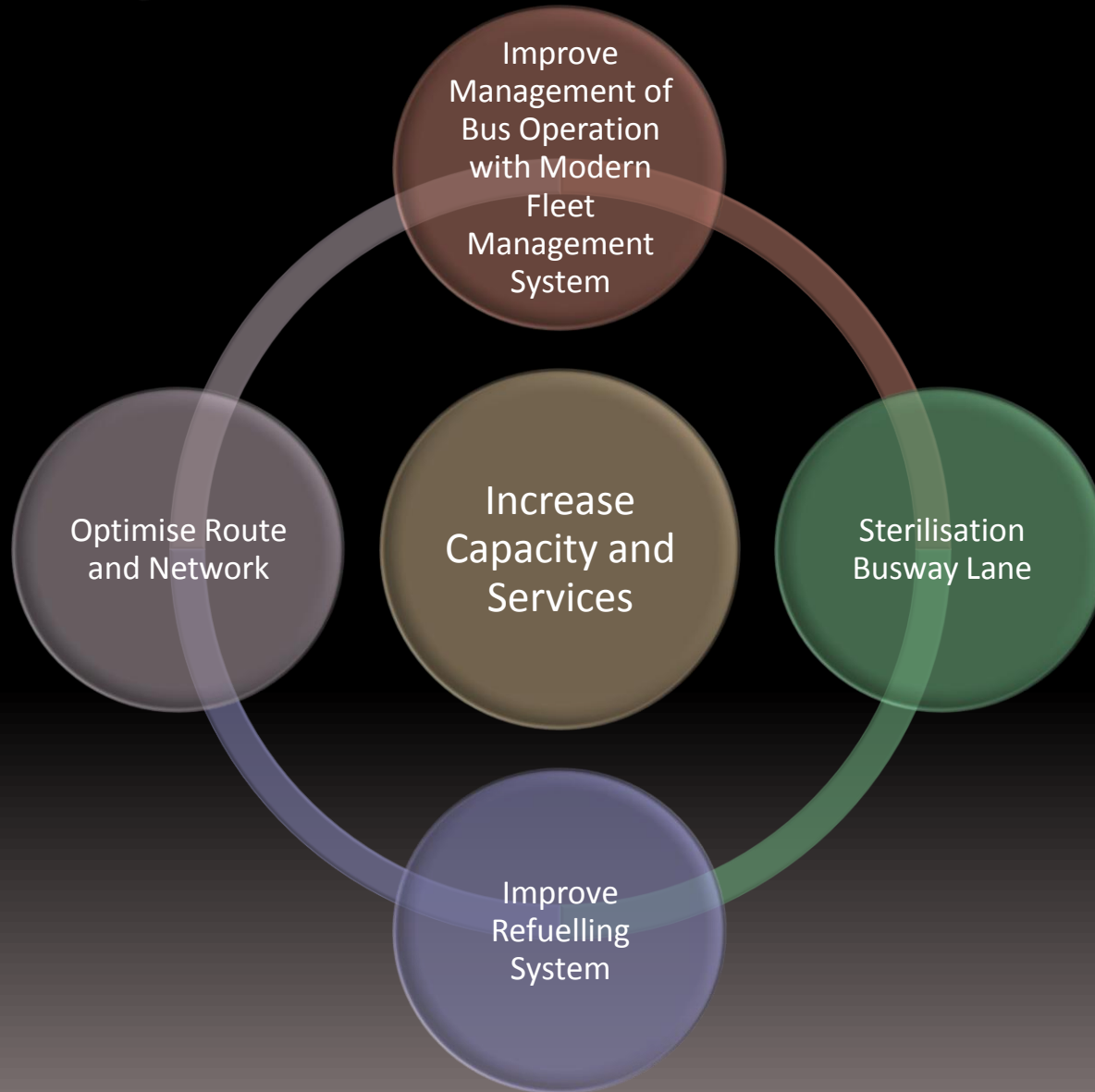


Strategy to Improve the Performance of Transjakarta Busway

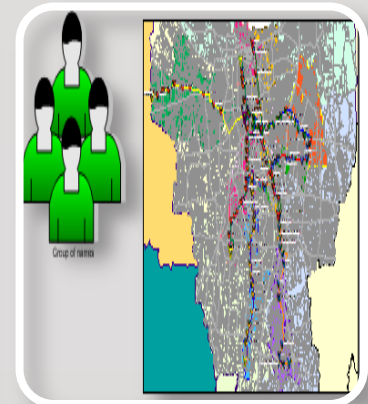
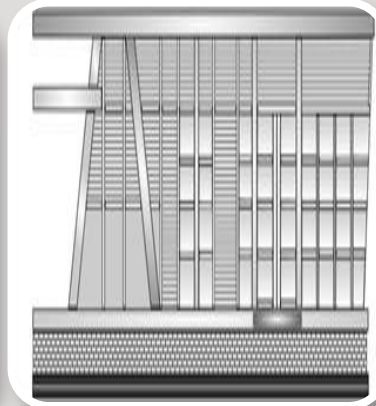
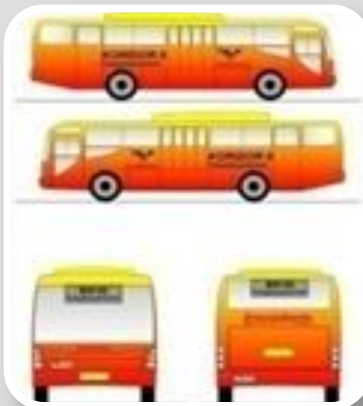


Efficiency

Improve Level of Service



Future operation



Bus Operation

- Vehicle Tracking and Monitoring
- Fleet Management and Operations Optimization
- Monitoring and Control of Maintenance Program
- Application and Enforcement of Bus Priority

Ticketing

- Financial Management and Revenue Verification
- Monitoring and Control of Operation
- Supervision
- Monitoring Passenger Flow
- Integrated "E-payment"

Infrastructure

- Repair and Maintenance
- Monitoring and Control of Operation
- Supervision

Security, Supervision and Control

- Communications
- Monitoring and Control of Operation
- Supervision

Improvement on System Efficiency

Modern Fleet Management

Route Planning

- Hardware and Software
 - Public Transport Planning
 - Optimized Route and Network
- Recruitment and Training

Bus Operation Optimization

- Hardware and Software
 - Bus Scheduling
 - Operation Planning Optimization
 - Fleet Optimization
 - Driver Assignment
- Recruitment and Training

Improvement on Monitoring and System Control

- Fleet Monitoring System
- Integrated Control Center
- Communication System
- Personnel Training

Improvement on System Efficiency **Reliability on Gas Re-fuelling System**

Issues :

- Lack of Gas Station/ Refuelling Parties system
- Lack of Gas Supply
- Pricing Policy for Gas for Public Transport Sector

Supply CNG

Related Institution

- Ministry of Energy and Natural Resources
- Ministry of the State Owned Company
- Provincial Government of Jakarta
- PGN (State Owned Company)
- Pertamina (State Owned Company)

Third Party

- Petross Gas
- T-Energy
- Others

Potential Third Party

- Mother and Daughter CNG Suppliers

Solution Alternatives

- Existing Party
(On-Line System)
- Potential Third Party
(Mother and Daughter System)



Supporting Policy

- Pricing Policy
- Open Bidding

Issues of Using CNG for Busway Operation

■ In-efficiency :

- Limited Number of CNG Station causes long refueling time and looses
- CNG quality : High moisture and oil content causes higher maintenance cost
- CNG for domestic and industry consumption – no standarisation for transport use
- Higher consumption per 1 liter equivalent to gasoline only 1.3 km (spec 1 : 2.1 km)
- There is no standarisation for the workshop and repair and maintenance procedures

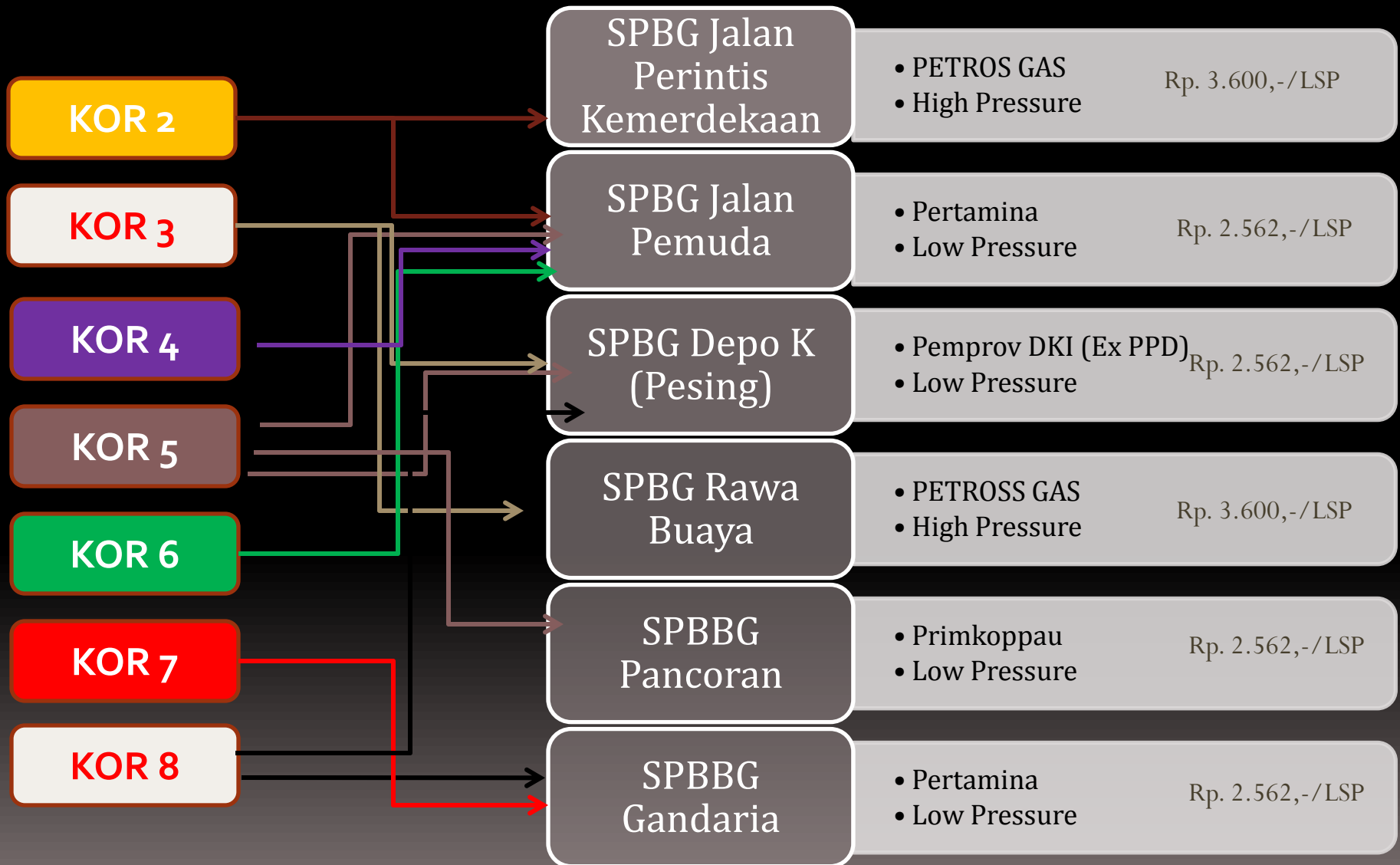
Bus and Taxi Queues at CNG Refuelling Station



CNG Supply

Location CNG Station	CNG Supply	Condition	Capacity (20 hours operation)
Jl Daan Mogot ex Depo K	PT Pertamina	2 nozzles @ 6 buses per hour	240Buses
Jl Pemuda	PT Pertamina	2 nozzles @ 5 buses per hour	200 buses
Jl Raya Pasar Minggu Pancoran	PT Pertamina	1 nozzle @ 2-3 buses per hour	30 buses
Jl Raya Bogor Gandaria	PT Pertamina	1 nozzle @ 2-3 buses per hour	24 buses
Jl Perintis Kemerdekaan (PT Petross Gas)	PT PGN	Fast Fill @ 6min per bus CNG Quota 800.000 m3 per month	200 buses
Jl Rawa Buaya (PT Petross Gas)	PT PGN		200 buses
Total			894 buses

BUS REFUELING FLOW



CNG Supply for Transjakarta Busway (Existing 335 CNG buses)

- Requires 670 refueling
- The Capacity if 6 CNG Stations – only 894 refueling --- shares with other bus operator taxi, paratransit etc
- Any failure -- Disaster

FILLING TIME FOR CNG BUS

OPERATOR	TRANS BATAVIA						JAKARTA TRANS METROPOLITAN				
	CORRIDOR 2		CORRIDOR 3		EXPRESS ROUTE		CORRIDOR 4		CORRIDOR 6		
	TIME	BUSES	MINUTES	BUSES	MINUTES	BUSES	MINUTES	BUSES	MINUTES	BUSES	MINUTES
PEAK - MORNING											
05-00 - 06-00											
06-00 - 07-00											
07-00 - 08-00											
08-00 - 09-00											
OFF PEAK											
09-00 - 10-00											
10-00 - 11-00											
11-00 - 12-00											
12-00 - 13-00											
13- 00 - 14-00											
14-00 - 15-00											
15-00 - 16-00											
PEAK - EVENING											
16-00 - 17-00											
17-00 - 18-00											
18-00 - 19-00											
19-00 - 20-00											
20-00 - 21-00											
21-00 - 22-00											

FILLING TIME FOR CNG BUS

OPERATOR

JAKARTA MEGA TRANS

EKA SARI LORENA TRANSPORT

SERVICE ROUTE

CORRIDOR 5

PGC-ANCOL

PGC-SEZEN

CORRIDOR 5

CORRIDOR 7

CORRIDOR 8

TIME

BUSES

MINUTES

BUSES

MINUTES

BUSES

MINUTES

BUSES

MINUTES

BUSES

MINUTES

BUSES

MINUTES

PEAK - MORNING

05-00 - 06-00

06-00 - 07-00

07-00 - 08-00

08-00 - 09-00

OFF PEAK

09-00 - 10-00

10-00 - 11-00

11-00 - 12-00

12-00 - 13-00

13-00 - 14-00

14-00 - 15-00

15-00 - 16-00

PEAK - EVENING

16-00 - 17-00

17-00 - 18-00

18-00 - 19-00

19-00 - 20-00

20-00 - 21-00

21-00 - 22-00

56-68

1

63

2

33-79

98

2

90-100

5

43-63

1

49

80-85

1

110

1

105

1

65

1

86

7

40-71

2

45-77

3

58-80

6

75-165

1

105

3

76-97

2

80-120

90

1

138

2

40

3

59-62

5

79-119

1

65

3

135-141

3

77-145

3

76-102

1

147

91-100

2

3

70-90

1

92

1

50

2

65-93

3

43-56

1

115

4

38-55

1

90

1

77

2

44-46

Improvement on System Efficiency **Busway Lane Sterilization**

Issues :

- Increasing travel time, decreasing service speed
- Decreasing fleet productivity
- Increasing the potency of traffic accident

Enforcement and Monitoring Related Institution

- BLU Transjakarta Busway
- Ditlantas POLDA Metro Jaya
- Dinas Perhubungan – Pengendalian Operasional

Monitoring Hardware

- CCTV

Keyword: Coordination

Solution Alternatives

- Installment Traffic Barriers
- Additional Personnel



Supporting Policy

- Traffic regulation that maintains the exclusivity of busway lane

Violation to the Exclusive Busway Lane



“ cars and motorcycles need more space “
Busway took their lanes???????????



Transjakarta Busway's Need

Infrastructure

- Integrated Electronic/computerized ticketing/fare collection system with high security and reliability
- Integrated Control Center to control and monitor the bus operation and service
- Data and Sound Communication Network connects with infrastructure system, personnel and MIS.
- Availability of CNG supply and its quality
- Further improvement, facility inside the bus stops, accessibility, transfer facilities, etc.

Management

- Improvement in personnel capability by technical, operational and finance training
- Enhancement on Standard Operation Procedure for Bus Operation, Ticketing, Infrastructure, etc.
- System improvement on staffing system, recruitment and remuneration system
- Improvement on Controlling and Monitoring of Fare Collection System, Bus Operation, Infrastructure, Security, etc.
- Purchase of supporting software to enhance bus operation planning, ticketing system, asset management, finance system, etc.
- BLU Transjakarta Busway to promote the standard of ISO 9001-2000 quality management system as an eligible public service

Legal & Institutional

- The best institutional model suitable for the needs of Transjakarta Busway, due to the extensive scope of work and interaction between other sectors.
- The Decree of Minister of Internal Affairs No. 61 Year 2007 comprehensively regulates the public service board better than Governor's Decree No. 48 Year 2008
- Revision of Governor's Decree No. 48 Year 2006 due to Minister of Internal Affairs Decree No. No.61 Year 2007.
- Segregation of responsibility between regulator and operator to anticipate conflict of interest.
- Other Regulation to support Transjakarta Busway management
- Improvement and enhancement of Third Party Contract

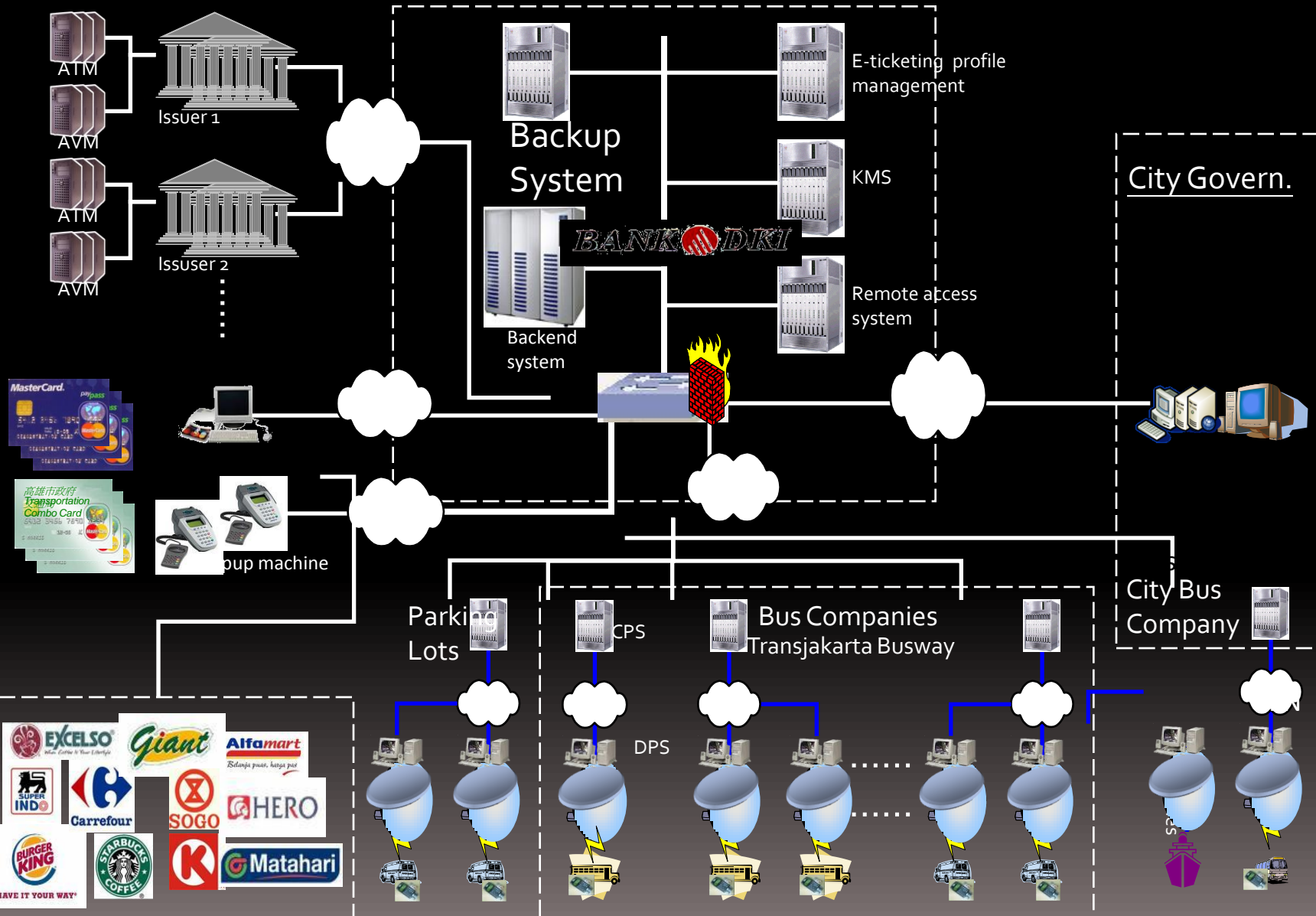
Integrated Road/Rail Transport

- PT Route Integration
 - combination of bus routing pattern to support the rail transport
 - Park N Ride facilities to support rail transport
- Facilities Integration
 - integrating terminal facilities between rail modes
 - integrating road/rail based facilities
 - integrating pedestrians facilities to PT terminals
- Ticketing Integration
 - common ticketing medium to facilitate efficient transfer from one PT mode to another

Improve Level of PT Usage

- Traffic management giving priority to PT operations
- Providing PT information to users
 - Web-based
 - Physical road-side signages
- Creating a network of pedestrian walkways conducive for PT users

E-ticketing Architecture Diagram (End Game)



CONCLUSION

Transjakarta has served more than 294 million trips from 2004 to 2009, has successfully changed the paradigm of transport behavior of all stakeholders (users, operators and government).

Transjakarta, as the current alternative of public transport system provided by the City Government, is still needed comprehensive policies to maintain good services for passengers and support the operation aspects.

THANK YOU

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