



# Ministry of Transportation Republic of Indonesia



## IMPROVEMENT OF URBAN TRANSPORT SYSTEM IN GREATER JAKARTA INDONESIA (Planning and Development LRT and MRT)

By

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Presented at:

Capacity Building Workshop on Sustainable Urban Transport Index

Colombo, Sri Lanka

30-31 October 2017

# 1

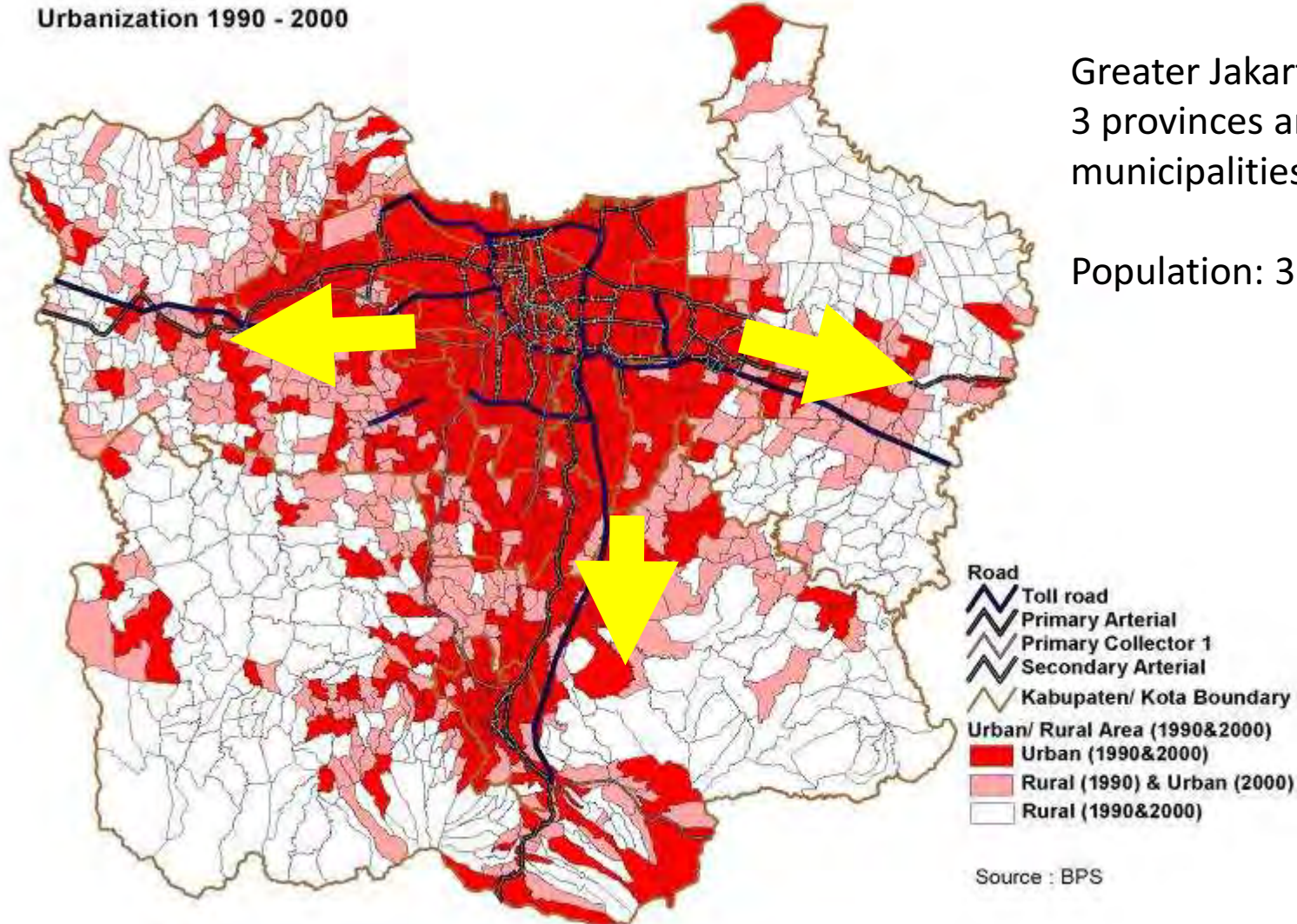
## EXISTING CONDITION



# GREATER JAKARTA (JABODETABEK)

## CHALLENGE : SPRAWL!

Urbanization 1990 - 2000





# Proportion of Commuting Trip



Number of Vehicle :  
24.9 million

Motorcycle:  
18.5 million units ( 74 % )

Private car:  
5.9 million units ( 24 % )

Buses :  
512 thousand units ( 2 % )

Trip = 47.5 million / day

# O/D MATRIX 2015

ZONA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total 2015
1	4,514,137	36,678	151,060	259,766	409,221	189,447	352,430	269,431	124,242	152,088	225,107	116,415	30,450	36,254	29,099	34,076	23,176	6,953,078
2	33,525	780,004	10,158	52,377	4,540	3,842	143,153	4,408	3,078	5,821	18,862	2,087	2,040	8,320	2,089	2,269	2,118	1,078,692
3	148,636	10,917	367,522	29,263	4,713	3,481	15,666	54,366	4,871	5,091	7,397	2,437	3,496	1,990	1,284	1,158	722,8868	663,010
4	232,566	54,131	28,166	719,203	14,029	12,045	136,540	9,536	5,763	12,553	35,088	4,952	2,350	9,988	1,634	3,011	3,344	1,284,899
5	397,448	5,012	4,587	14,544	1,888,969	47,238	35,208	57,123	113,082	145,605	35,660	101,936	5,811	8,880	9,639	15,830	10,490	2,897,062
6	187,253	4,263	4,251	13,192	40,561	1,459,584	42,972	10,361	9,992	68,088	64,726	6,450	3,099	11,244	3,983	9,939	10,847	1,950,804
7	346,843	148,368	14,536	122,564	35,477	39,512	2,785,760	17,175	15,250	28,323	240,476	12,576	5,659	43,695	4,372	5,120	8,861	3,874,568
8	261,313	4,690	56,872	9,955	55,349	10,826	19,290	2,251,927	115,466	16,230	16,781	16,480	27,411	5,382	2,234	2,999	2,406	2,875,609
9	122,807	3,133	4,922	6,316	111,318	10,057	15,946	124,888	3,183,221	16,201	21,149	68,483	178,878	5,611	2,576	3,214	1,849	3,880,570
10	152,300	5,871	4,626	13,922	140,442	67,918	29,047	16,235	18,546	2,505,458	26,420	25,413	2,920	6,071	16,730	46,736	56,393	3,135,049
11	226,972	18,342	7,289	36,006	31,279	64,656	227,466	17,517	21,277	25,225	3,967,599	7,456	3,262	179,845	3,254	4,807	17,756	4,860,008
12	113,042	2,523	2,731	4,874	103,883	9,360	12,196	17,429	65,698	25,749	9,379	1,299,005	20,557	1,731	2,912	10,954	1,759	1,703,782
13	31,125	2,420	3,383	2,240	6,124	3,034	5,755	29,096	182,445	2,939	3,410	20,382	2,471,282	2,346	1,574	27,886	1,846	2,797,286
14	36,490	7,810	2,205	10,184	9,352	10,862	44,863	5,455	6,060	6,391	179,786	1,789	579,1357	2,804,351	914,2318	790,0932	14,101	3,141,982
15	26,902	1,941	1,345	1,745	9,608	3,825	4,426	2,476	2,406	16,643	2,605	3,213	646,1143	1,332	980,764	162,117	115,981	1,337,976
16	34,901	2,488	1,408	2,818	15,453	10,512	4,784	3,368	3,776	47,482	4,985	11,058	28,083	1,640	169,946	1,885,981	73,508	2,302,193
17	21,827	2,501	623,5696	2,852	10,160	10,709	8,054	2,183	2,062	54,642	17,844	1,666	757,6981	16,959	114,991	72,808	2,476,402	2,817,042
Total 2015	6,888,088	1,091,092	665,687	1,301,821	2,890,477	1,956,906	3,883,556	2,892,973	3,877,237	3,134,529	4,877,276	1,701,799	2,787,281	3,145,639	1,347,993	2,289,695	2,821,559	47,553,609

Total Trip in Jabodetabek 2015 : 47.5 million / day



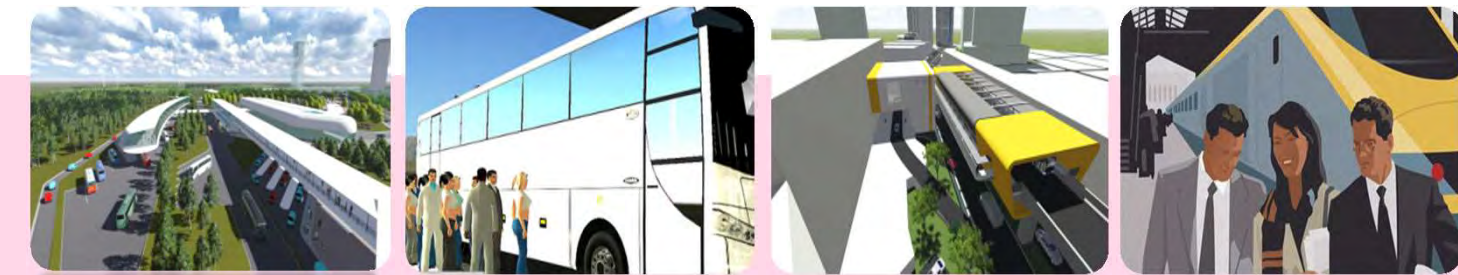
## Current Major Problems of Transport in Greater Jakarta (Jabodetabek)



### Worsening Traffic Jam

- Significantly decreased vehicle speed since 10 years ago
- In Jakarta, average speed at peak hour 10km/hour
- Volume Capacity Ratio (VCR) in metropolitan area exceeded 1
- Economic losses due to traffic congestion up to USD 1.3 billion (2010), and predicted to be USD 6.5 billion in 2020;

# 2



## KEY PERFORMANCE INDICATORS

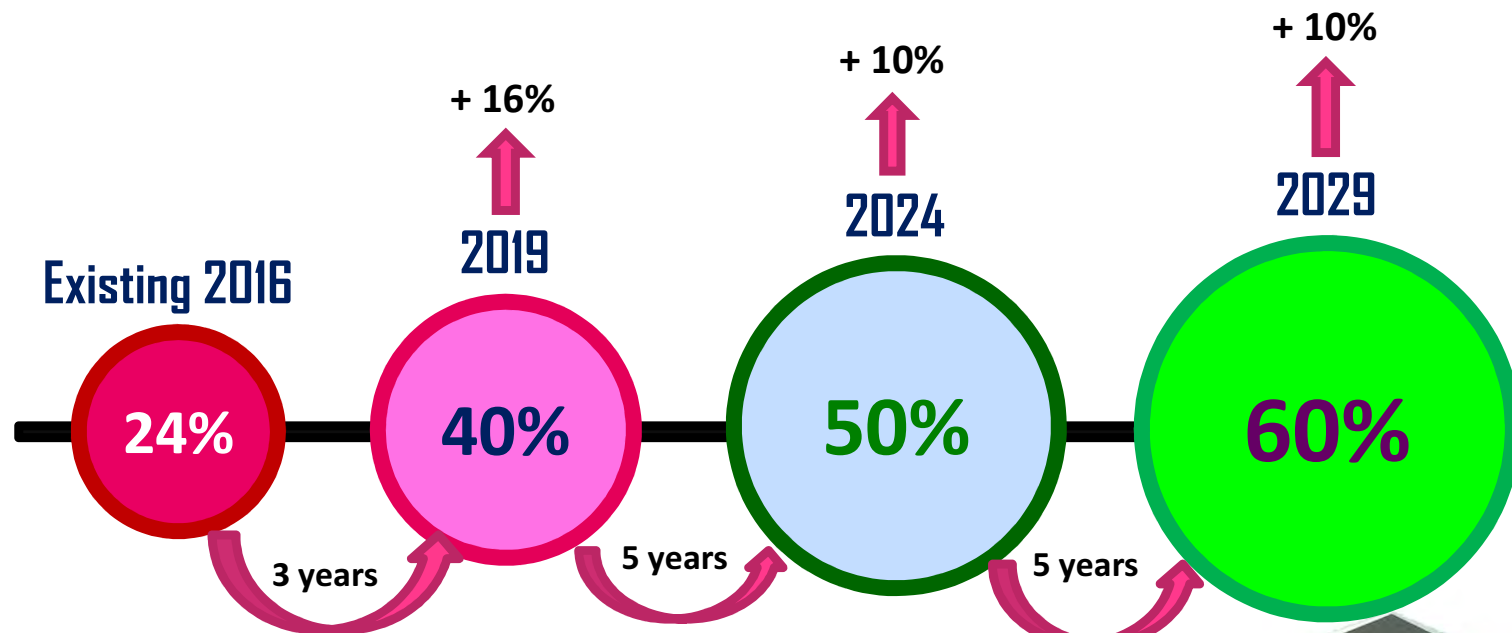
# KEY PERFORMANCE INDICATORS



1. Public transport share is 60 %
2. Maximum travel time from origin to destination is 1.5 hours at peak hours.
3. Minimum average speed is 30 km / h at peak hours.
4. Coverage of public transport services in urban areas is 80 % of the length of the road.
5. Maximum walking distance to public transport is 500 m .
6. Each region must have feeder line connected to the trunk line in transit point.
7. The transit must have facilities for pedestrians and car park and ride, with the maximum transfer distance between mode is 500 m.



# MAIN TARGET : INCREASE PUBLIC TRANSPORT SHARE

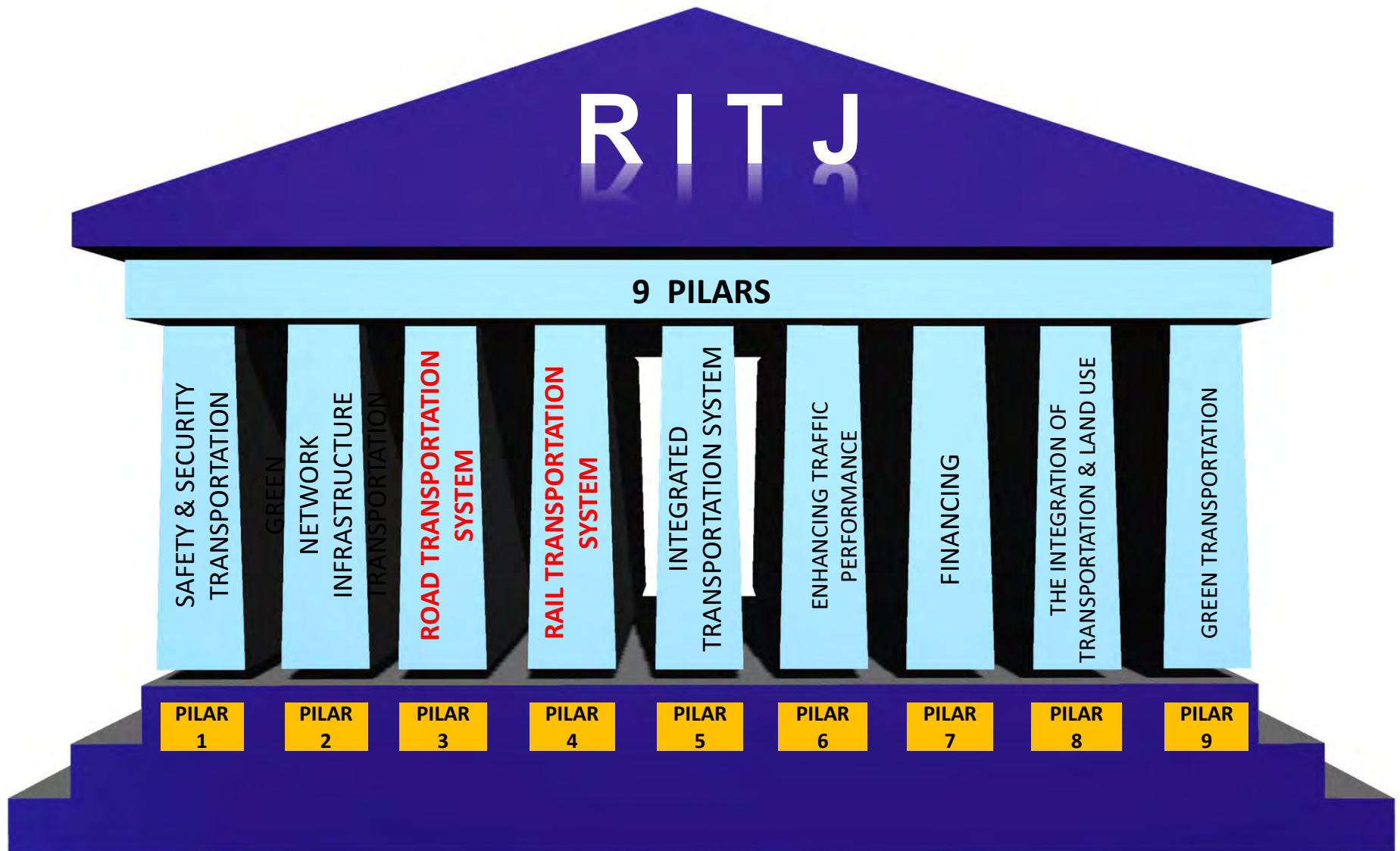


# 3

## THE WAY FORWARD



# MASTER PLAN OF GREATER JAKARTA TRANSPORTATION (RENCANA INDUK TRANSPORTASI JABODETABEK)





# EXISTING TRANSPORTATION NETWORK MAP BRT - COMMUTER LINE - REGULAR BUS - FEEDER



**BADAN  
PENGELOLA  
TRANSPORTASI  
JABODETABEK**

## LEGEND

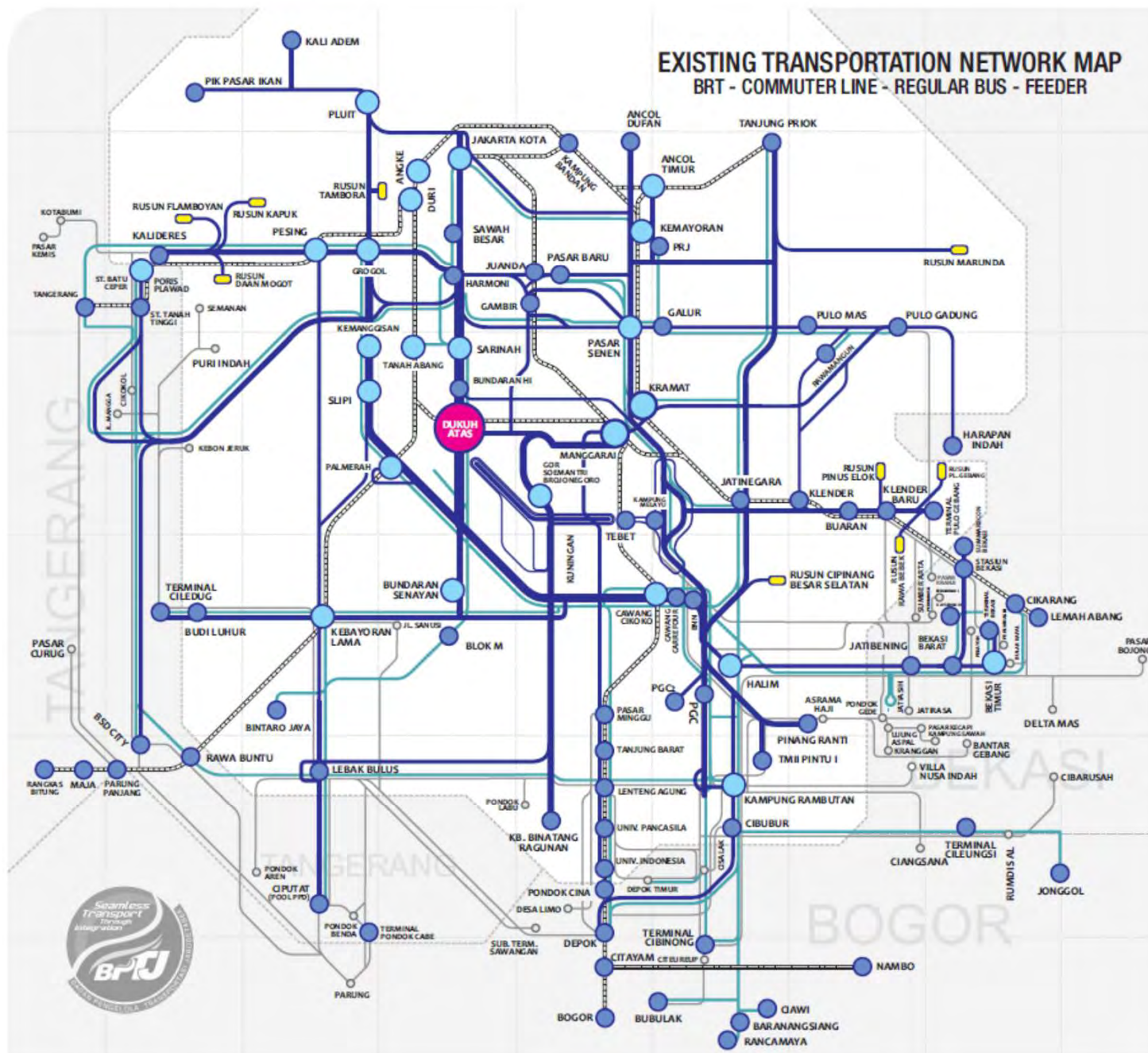
### ROUTES

- TRANSJAKARTA
- REGULAR BUS
- SUBURBAN FEEDER
- COMMUTER LINE
- DKI JAKARTA BORDERLINE

- SMALL NODE (70)
- MEDIUM NODE (25)
- LARGE NODE (1)
- PUBLIC HOUSING FEEDER (9)
- SUBURBAN SERVICE (40)

APPROVED BY:

SUPPORTED BY:





# INTEGRATED FUTURE TRANSPORTATION NETWORK MAP SHORT TERM UNTIL 2019



**BADAN  
PENGELOLA  
TRANSPORTASI  
JABODETABEK**

## LEGEND

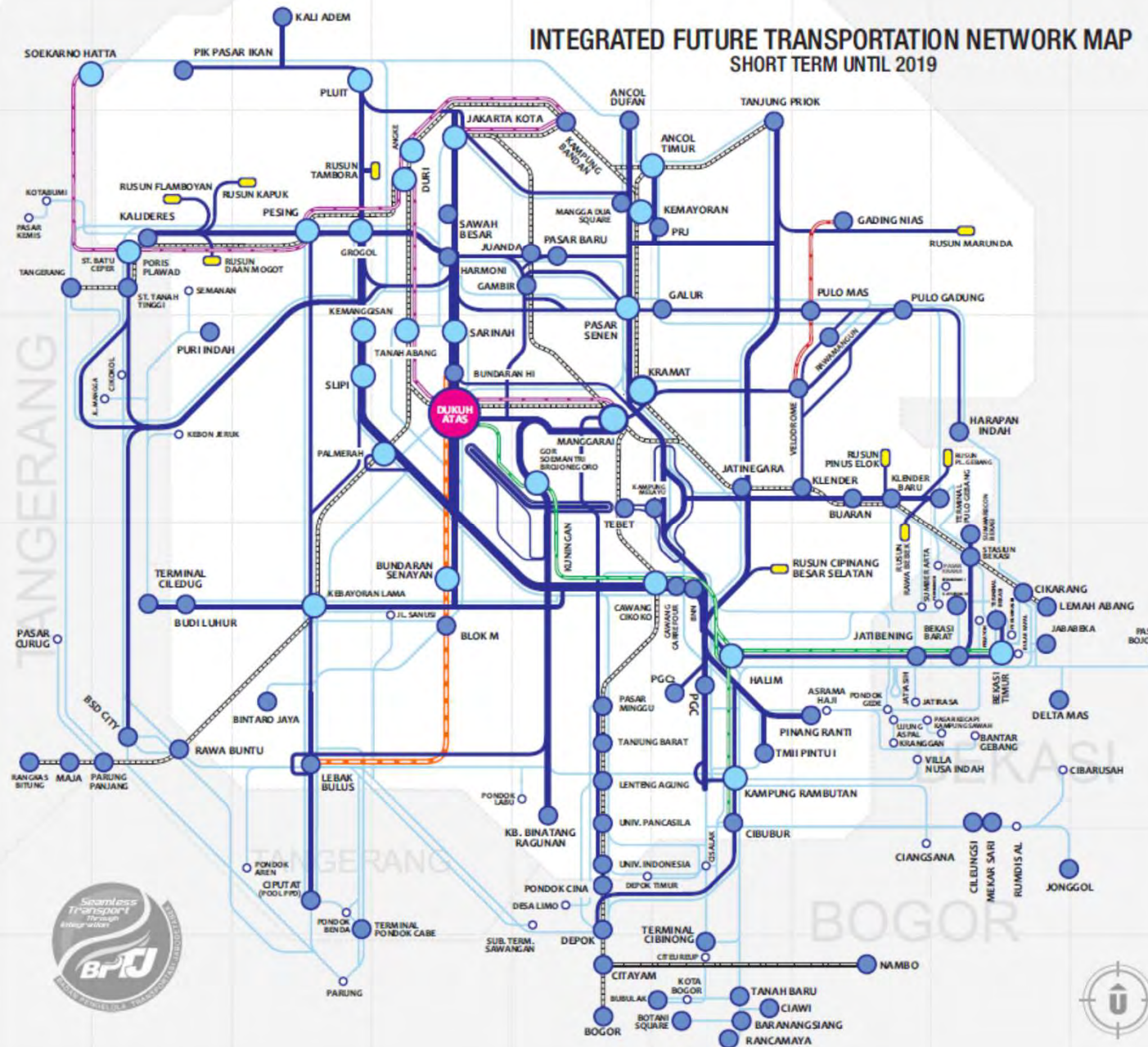
### ROUTES

- TRANSJAKARTA
- TRANSJABODETABEK
- COMMUTER LINE
- LRT - KEMENHUB
- LRT - DKI JAKARTA
- AIRPORT COMMUTER LINE
- MRT
- DKI JAKARTA BORDERLINE

- SMALL NODE (78)
- MEDIUM NODE (25)
- LARGE NODE (1)
- PUBLIC HOUSING FEEDER (9)
- SUBURBAN SERVICE (40)

APPROVED BY:

SUPPORTED BY:



## Existing Public Transport in GJTA

Transport Mode	Service Area	Route Network	Price	Headway
KRL (Commuter Line)	Jabodetabek	Six loop lines	Subsidized-distance based fare	5- 15 min
Transjakarta (Bus Rapid Transit)	Inner Jakarta	14 trunk corridors	Subsidized-integrated price and network	5- 20 min
APTJ (Feeder Transjakarta)	Jabodetabek	24 main route	Highly regulated market price	15 min- 1 hour
Intermediate bus	Inner Jakarta	More than 20	Low regulated market price	Random
Angkot (mini bus)	Jabodetabek	More than 20	Low regulated market price	Random
Taxi	Jabodetabek	-	Distance based fare	-
Jabodebatek Residence Connexion	Jabodetabek	More than 10	Market Price	15 min
Jabodetabek Airport Connexion	Jabodetabek	More than 10	Market Price	15 min



# DEVELOPMENT OF PUBLIC TRANSPORT IN JABODETABEK

1. Commuter Line (CL), PT. KCJ (*operated*)
2. Bus Rapid Transit (BRT), PT. Transjakarta (*operated*)
3. Automatic People Mover system (APMS), Soekarno-Hatta Airport (*operated*)
4. **LRT JABODEBEK, Ministry of Transportation /Adhi Karya**
5. **LRT JAKPRO, Jakarta Government / JAKPRO**
6. **Mass Rapid Transit (MRT), PT. MRT**
7. Airport Railway (CL dan Ekspres), PT. KAI
8. Jakarta – Bandung High-Speed Train (KCIC)
9. Light Rail Transit (LRT), Jababeka

# 4

## LIGHT RAPID TRANSIT (LRT) MOT/ PT. ADHI KARYA



## PROJECT PROFILE

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- **BASED ON PRESIDENTIAL DECREE NO. 98/2015 PT. ADHI KARYA & PT. KERETA API INDONESIA ASSIGNED TO BUILD**
- **TOTAL COST 27 TRILYUN**
  - **IDR 24 TRILIUN FOR INFRASTRUKTUR**
  - **IDR 3 TRILIUN FOR TRAIN**
  - **PT ADHI KARYA & PT. KAI BEAR BUDGET REQUIREMENT OF 9 TRILYUN AND THE REMAINING 18 TRILYUN BY THE BANKING SYNDICATION**



## LRT JABODEBEK

GENERAL  
OVERVIEWPRESIDENTIAL  
DEGREEPRESIDEN  
REPUBLIK INDONESIA

- 3 -

PERPRES 98  
TAHUN 2015

(2) Penyelenggaraan Kereta Api Ringan/Light Rail Transit terintegrasi sebagaimana dimaksud pada ayat (1), terdiri dari Lintas Pelayanan sebagai berikut:

- Lintas Pelayanan Cawang - Cibubur;
- Lintas Pelayanan Cawang - Kuningan - Dukuh Atas;
- Lintas Pelayanan Cawang - Bekasi Timur;
- Lintas Pelayanan Dukuh Atas - Palmerah - Senayan;
- Lintas Pelayanan Cibubur - Bogor; dan
- Lintas Pelayanan Palmerah - Grogol.

(3) Peta Lintas Pelayanan sebagaimana dimaksud pada ayat (2), tercantum dalam Lampiran Peraturan Presiden ini, dan merupakan bagian tidak terpisahkan dari Peraturan Presiden ini.

(4) Selain Lintas Pelayanan sebagaimana dimaksud pada ayat (2), Pemerintah dapat menetapkan Lintas Pelayanan lainnya yang ditetapkan dengan Peraturan Menteri Perhubungan.

## Pasal 2

(1) Pemerintah menugaskan kepada PT Adhi Karya (Persero) Tbk. untuk membangun prasarana Kereta Api Ringan/Light Rail Transit terintegrasi sebagaimana dimaksud dalam Pasal 1, yang meliputi:

- jalur, termasuk konstruksi jalur layang;
- stasiun; dan
- fasilitas operasi.

PRESIDEN  
REPUBLIK INDONESIA

## LAMPIRAN

PERATURAN PRESIDEN REPUBLIK INDONESIA  
NOMOR 98 TAHUN 2015

## TENTANG

PERCEPATAN PENYELENGGARAAN KERETA  
API RINGAN/LIGHT RAIL TRANSIT DI WILAYAH  
JAKARTA, BOGOR, DEPOK, DAN BEKASI

PETA LINTAS PELAYANAN  
PERCEPATAN PENYELENGGARAAN  
KERETA API RINGAN/LIGHT RAIL TRANSIT TERINTEGRASI  
DI WILAYAH JAKARTA, BOGOR, DEPOK, DAN BEKASI



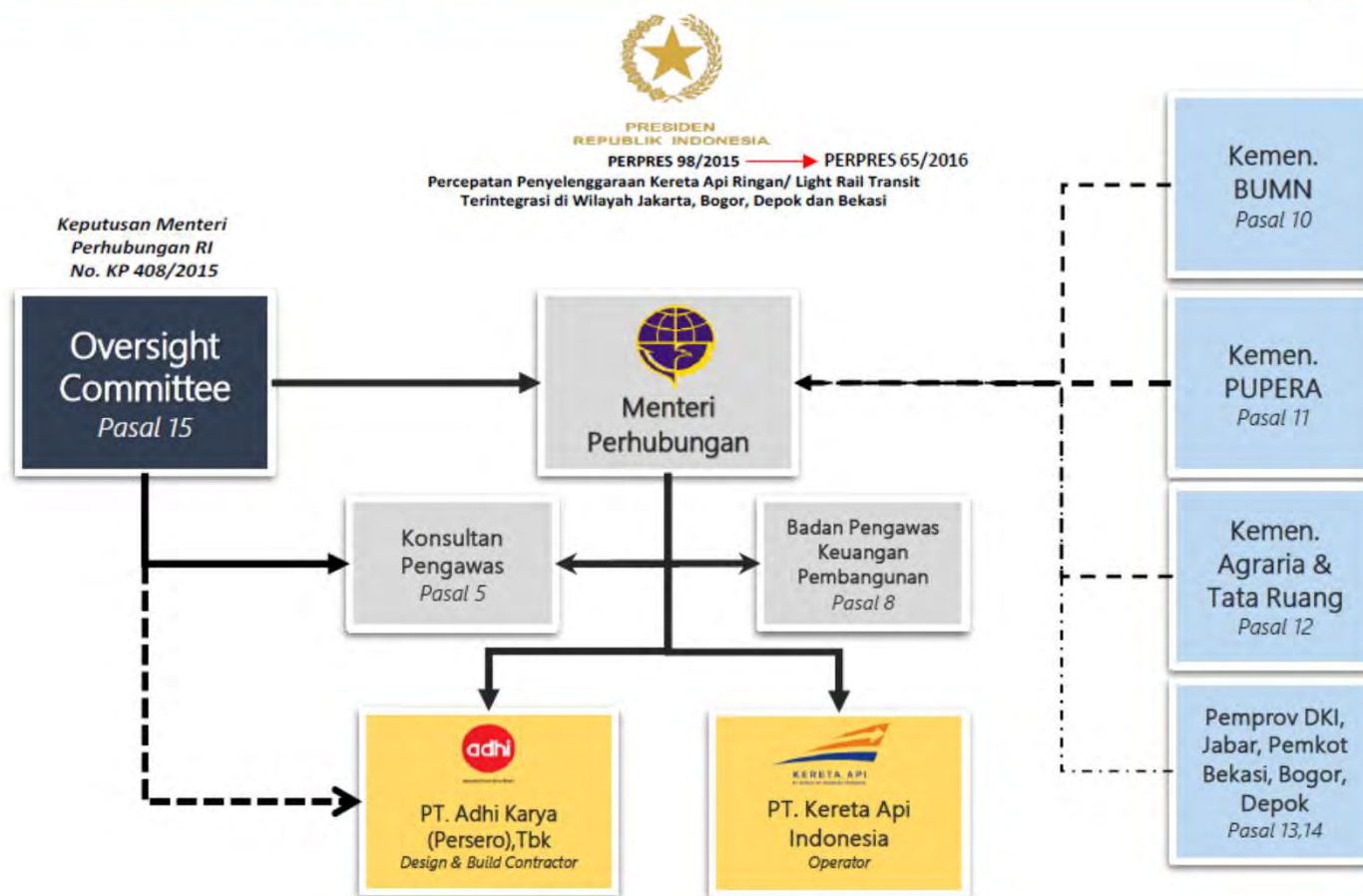
PRESIDEN REPUBLIK INDONESIA,  
td.  
JOKO WIDODO

Salinan sesuai dengan aslinya  
SEKRETARIS KABINET RI  
Deputi Bidang Kemasyarakatan,  
Ratih Nurdiani



Groundbreaking LRT oleh Presiden Jokowi  
Groundbreaking LRT by President Jokowi

## LRT JABODEBEK

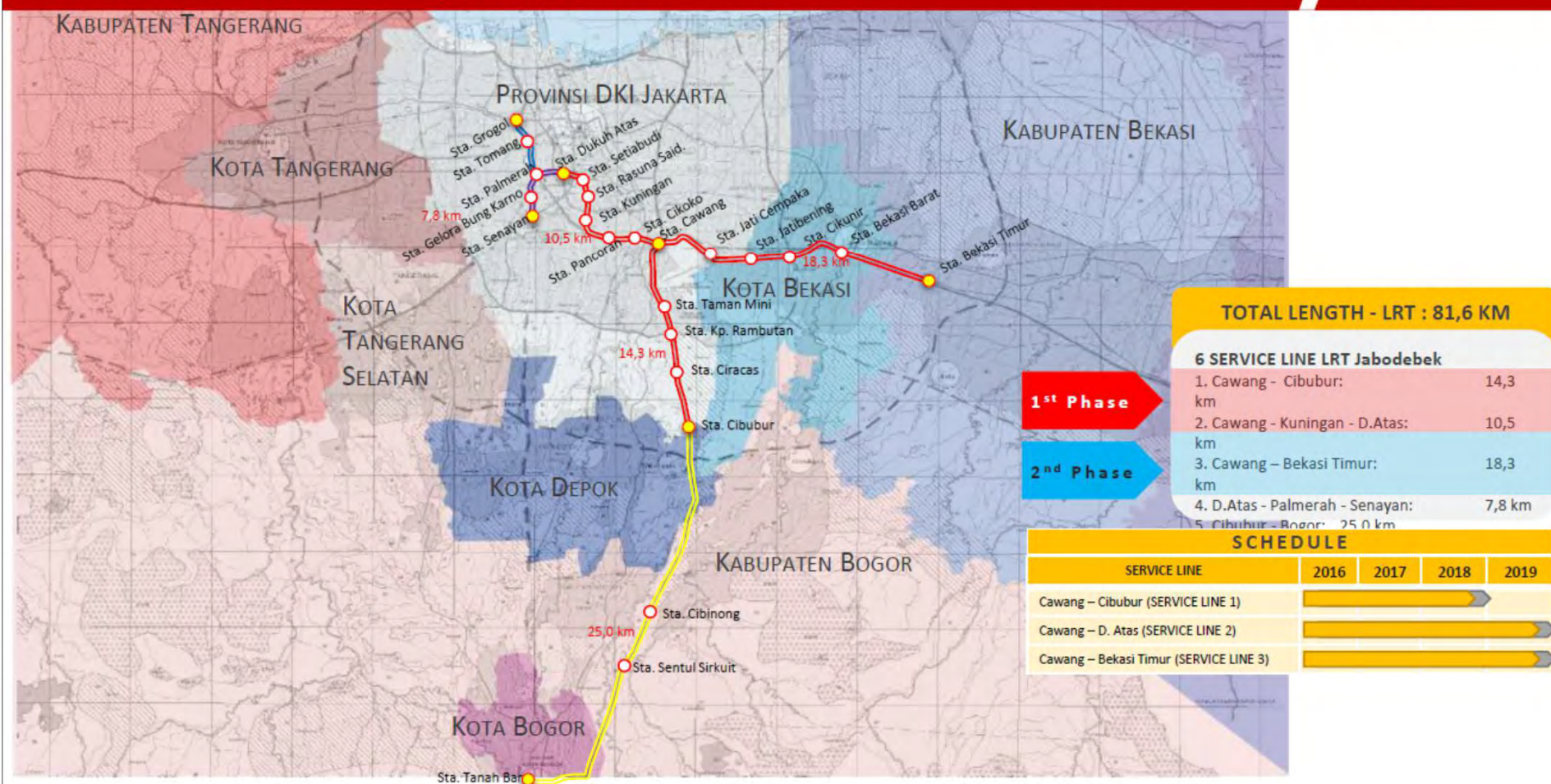
GENERAL  
OVERVIEWCOORDINATION  
CHART



# LRT JABODEBEK

## GENERAL OVERVIEW

## PROJECT STATUS







# TRASE LINTAS PELAYANAN CAWANG – CIBUBUR

LENGTH OF TRACK 14,3 KM

PROGRES ON AUGUST 2017

37%







# TRASE LINTAS PELAYANAN CAWANG – BEKASI TIMUR

LENGTH OF TRACK 18,3 KM

PROGRES ON AUGUST 2017

17%



**LRT** LIGHT RAIL TRANSIT  
DEPARTEMENT

PT. ADHI KARYA (Persero), Tbk.

12

**adhi**  
beyond construction





# TRASE LINTAS PELAYANAN CAWANG - DUKUH ATAS

LENGTH OF TRACK 10,5 KM

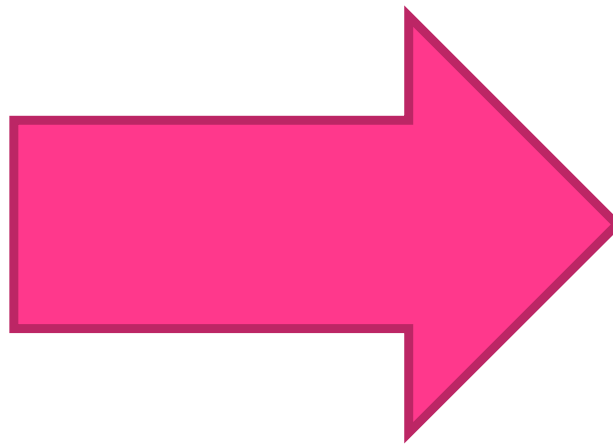
PROGRES ON AUGUST 2017

3 %



## Video Progres LRT MOT/ADHI KARYA

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# 5

## LIGHT RAPID TRANSIT (LRT) JAKPRO



## PROJECT PROFILE

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- **BASED ON PRESIDENTIAL DECREE NO. 99/2015, JAKARTA GOVERNMENT TO ASSIGNED REGIONAL OWNED ENTERPRISES TO BUILD AND OPEARATE RAILWAY**
- **GOVERNOR DECREE NO. 213/2015 AND 211/2016 ASSIGN PT. JAKPRO TO DEVELOP LRT**
- **TOTAL COST 6,8 TRILYUN FROM LOCAL BUDGET (GOVERNMENT JAKARTA)**

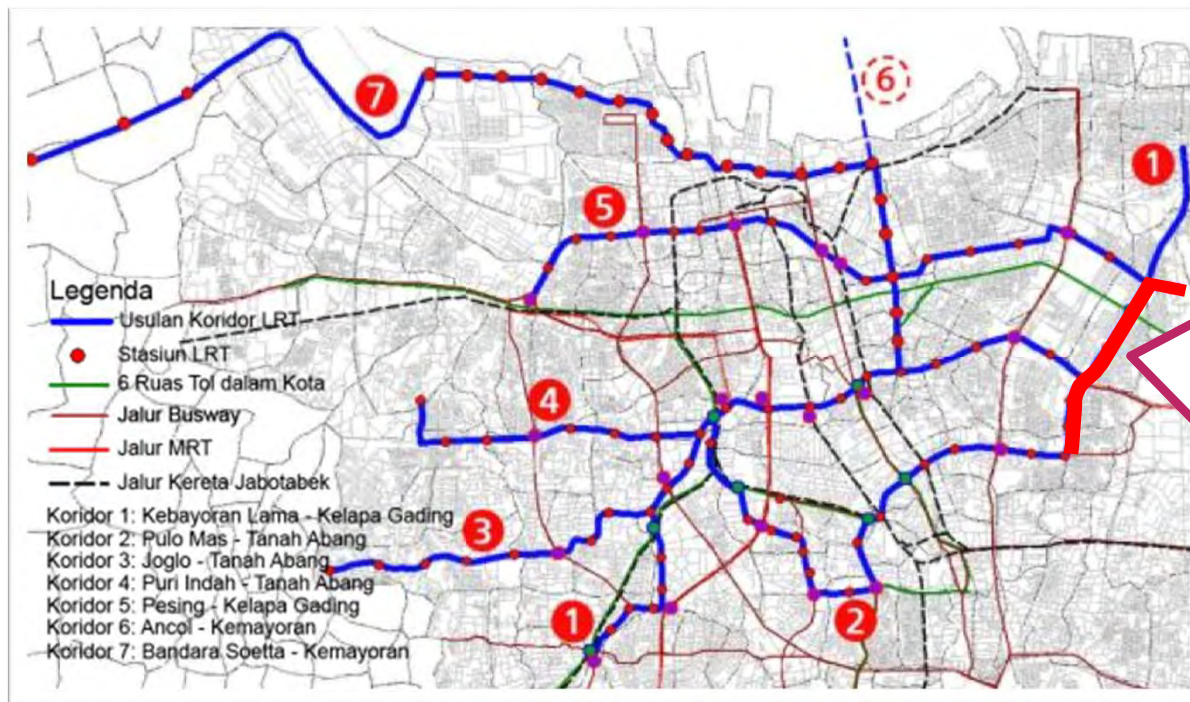
## LEGAL BASIS LRT JAKARTA



PerGub DKI Jakarta No. 213 Tahun 2015 sudah direvisi menjadi PerGub DKI Jakarta No. 211 Tahun 2016



# 7 CORRIDOR LRT NETWORK IN JAKARTA

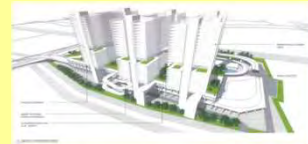


- **Total length of track for Asian Games 2018:  $\pm 5,8$  km**  
(including Depo)
- **Number of station LRT: 6**  
Elevated Station





## CORIDOR 1 (FASE 1)



Depot LRT  
Gading Nias



Kelapa Gading Mall Station



Kelapa Gading Boulevard Station



Pulomas Station



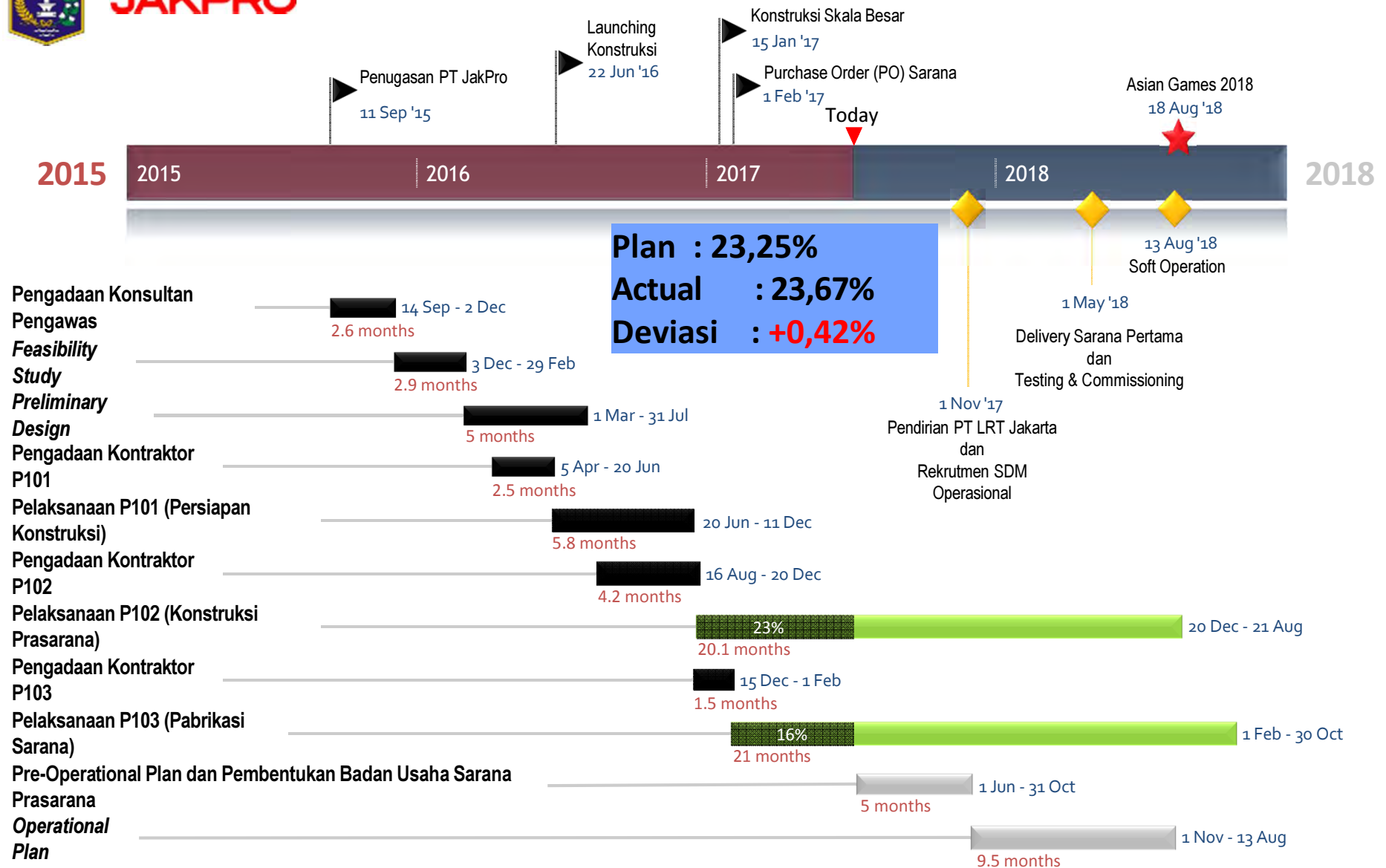
Equestrian Station



Velodrome Station

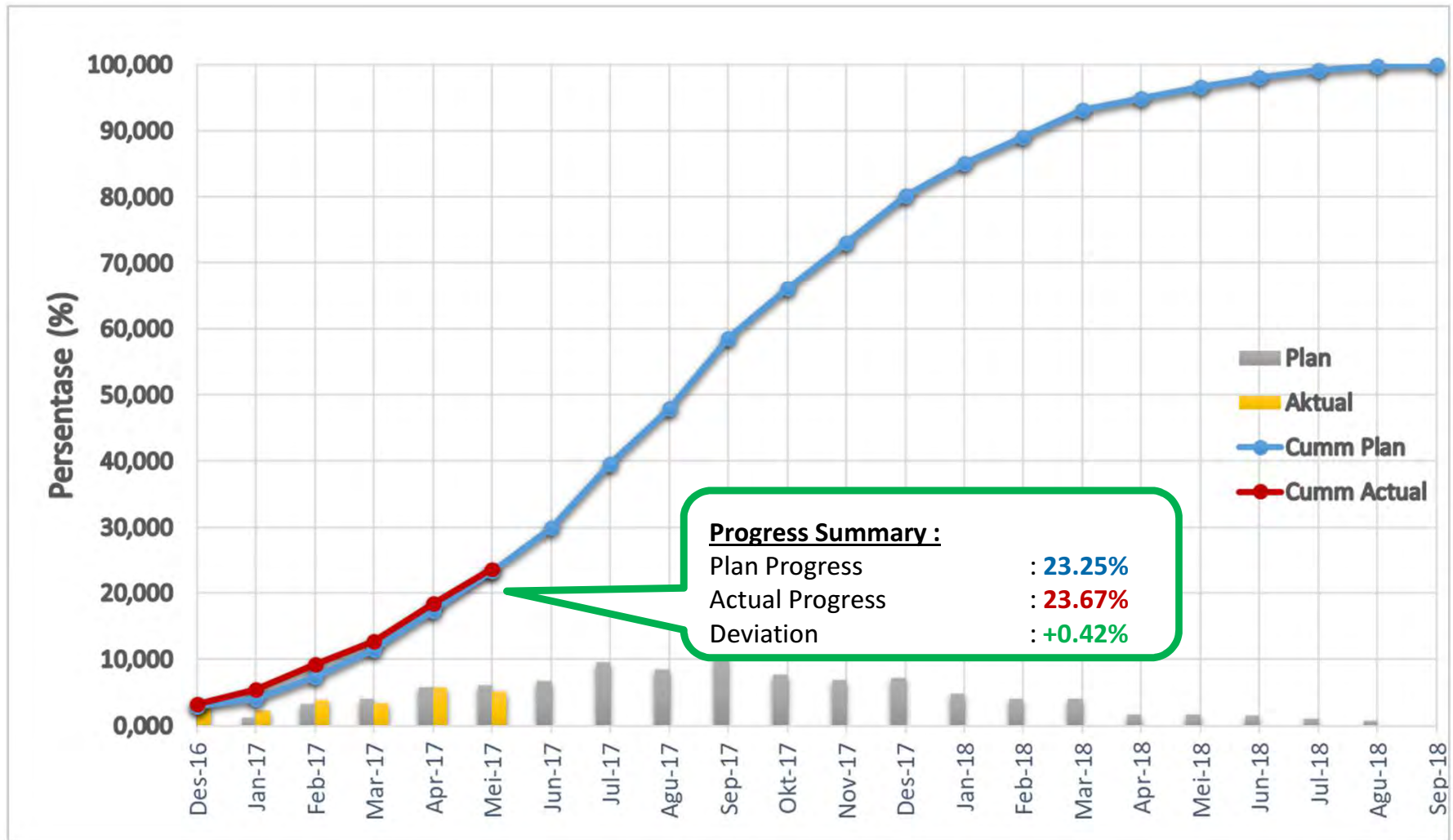


# JAKPRO





# PROGRESS IMPLENTATION LRT JAKARTA



Update per tanggal 26 Mei 2017



Progress Pembangunan Depo LRT



Pekerjaan Konstruksi Pondasi Viaduct di Section 5B



Pekerjaan Konstruksi Pondasi Viaduct di Section 5A

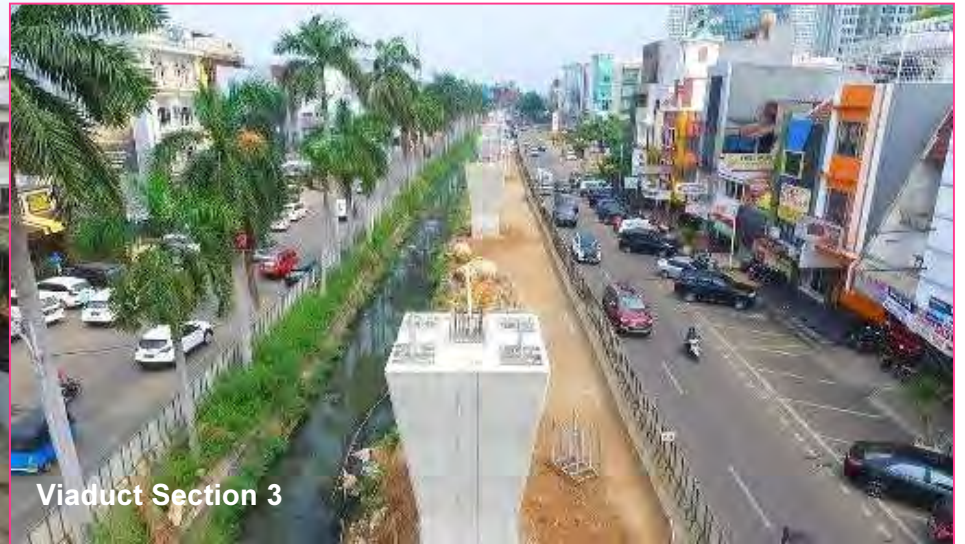


Pekerjaan Konstruksi Pondasi Rencana Stasiun Mall Kelapa Gading

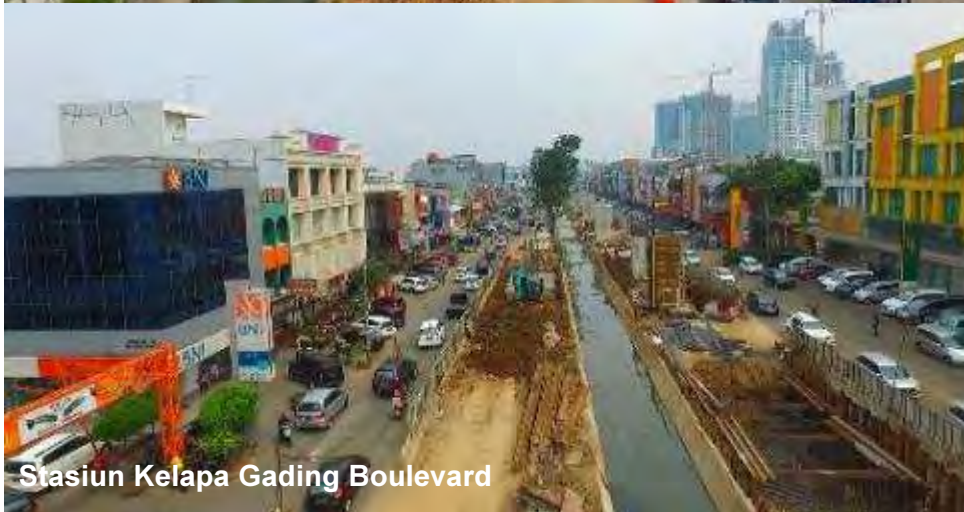




Viaduct Section 4



Viaduct Section 3



Stasiun Kelapa Gading Boulevard



Stasiun Pulomas





Viaduct Section 2



Stasiun Pacuan Kuda



Viaduct Section 1



Stasiun Velodrome





Pembesian Pier Head di pier 140 di section 5A



Proses pembesian pilecap di P153L



Pembesian Box Pilecap di RPSS Di Depo



Pembuatan Lantai kerja di Ramp P12 area Depo





Seremoni Erection Box Girder at P68



Box Girder Erection di  
P68 Section 3



Loading Test Segment Box Girder at P68  
Section 3



Girder Launcher di P68  
Section 3

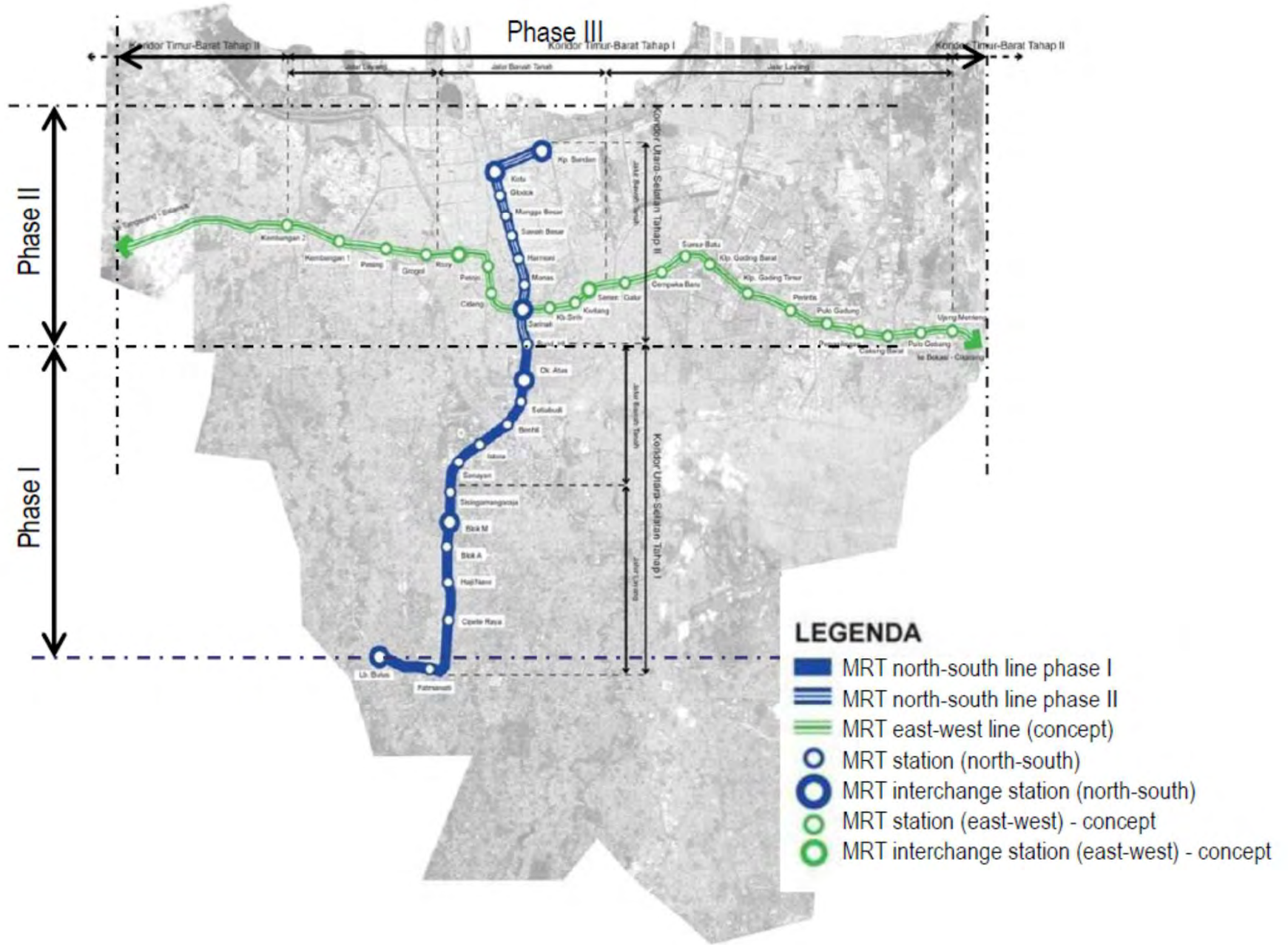


# 5

## MASS RAPID TRANSIT (MRT)



# MRT NETWORK

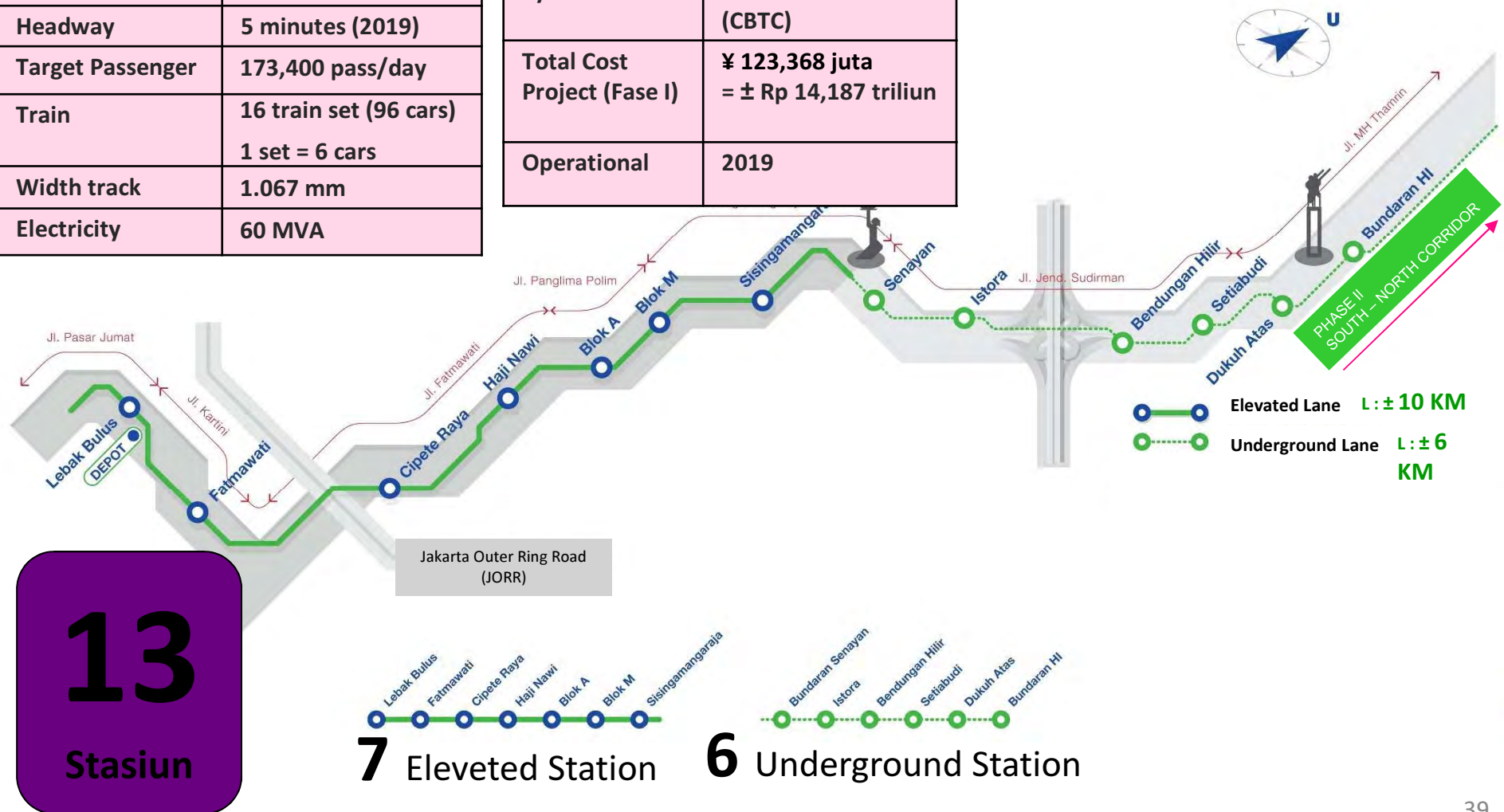


## INFORMASI

Travel Time	± 30 menit
Length of track	± 16 km
Distance between station	0,8 – 2,2 km
Headway	5 minutes (2019)
Target Passenger	173,400 pass/day
Train	16 train set (96 cars) 1 set = 6 cars
Width track	1.067 mm
Electricity	60 MVA

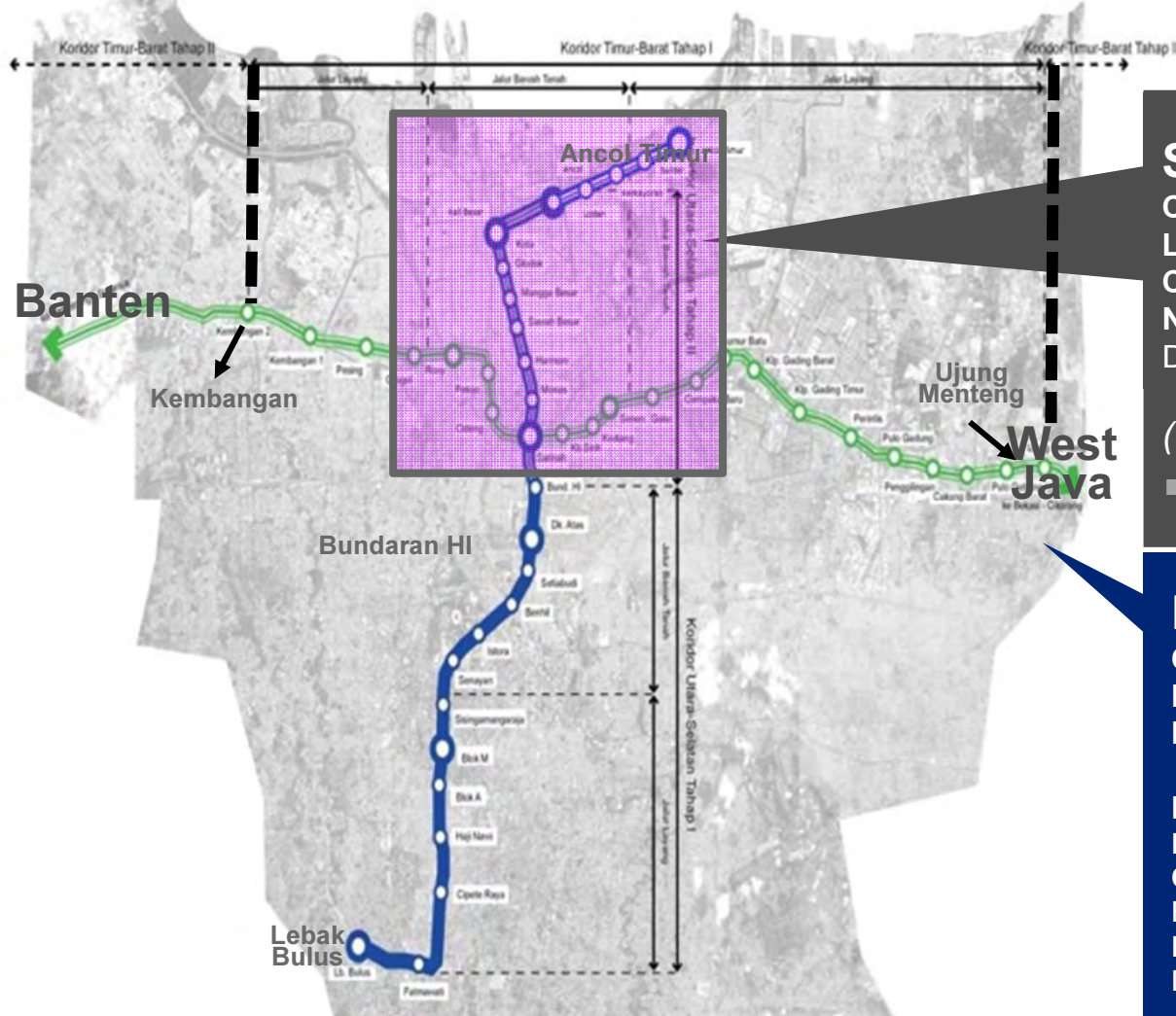
Operation System	Automatic Train Operation (ATO)
Signaling System	Communication-Based Train Control (CBTC)
Total Cost Project (Fase I)	¥ 123,368 juta = ± Rp 14,187 triliun
Operational	2019

# FITUR MRT JAKARTA FASE I SOUTH-NORTH CORRIDOR (LEBAK BULUS – BUNDARAN HI)





## FITUR MRT JAKARTA PHASE II SOUTH-NORTH (FASE II) & EAST - WEST



### South-North (Fase II)

**Corridor:** Bundaran HI – Ancol Timur

**Length of track:** ± 13.5 Km

**Construction Method:** Underground

**Number of Stations:** 12 (including 1 Depo)

*(Start in 2018)*

### East – West

**CoRidor:** Cikarang – Balaraja

**Length of track :** ± 87 Km

**Number of Stations :** 41

**Fase I:** Ujung Menteng – Kembangan

**Length of track :** ± 27 Km

**Construction Method :** Underground and Elevated

**Number of Stations :** 22 (including 2 Depo)

*(Target konstruksi pada 2020)*

## PROGRES CONSTRUCTION

### PROGRES KONSTRUKSI Per 30 September 2017



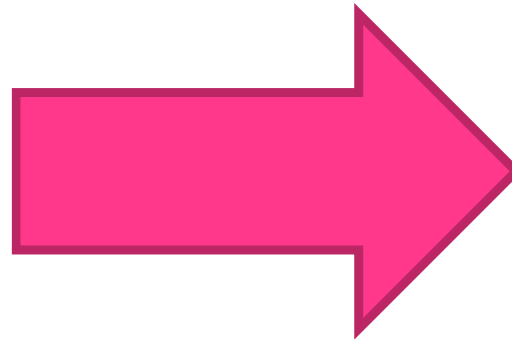
OVERALL

80,15%



## VIDEO PROGRES MRT

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# Thank You Terima kasih

