



**TRANSPORTATION AGENCY OF
NORTH SUMATRA PROVINCES**

**BUS RAPID
TRANSIT
(BRT)
MEBIDANG
PROJECT**

NATIONAL AND REGIONAL SUPPORTING POLICY

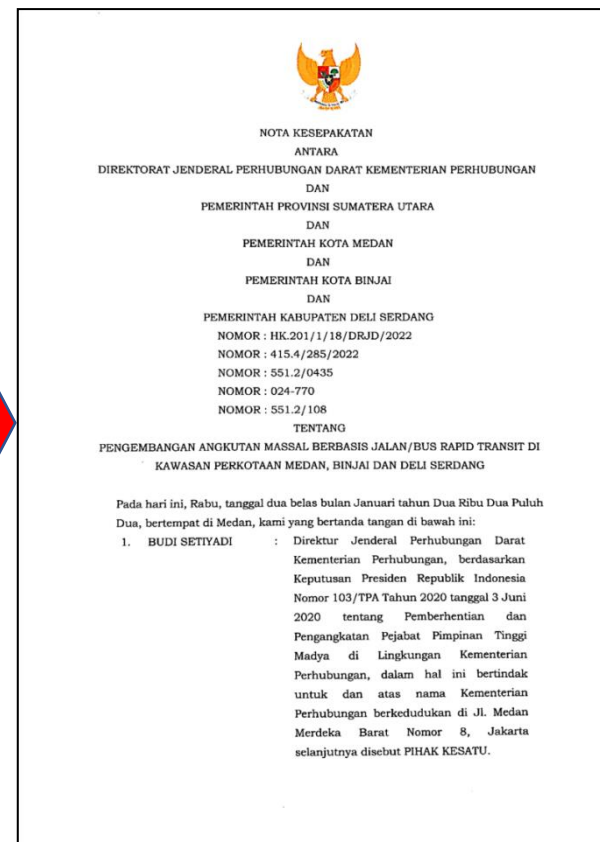
RPJMN 2020-2024

Major Project	Manfaat Proyek	Indikasi Pendanaan (Trilyun)	Pelaksana
Sistem Angkutan Umum Massal Perkotaan di 6 Wilayah Metropolitan: Jakarta, Surabaya, Bandung, Medan, Semarang, dan Makassar	Berkurangnya potensi kerugian ekonomi akibat kemacetan di wilayah metropolitan	118,8 (APBN, APBD, Badan Usaha)	Kemenhub, KemenPUPR, Pemda, Badan Usaha (BUMN/ Swasta)

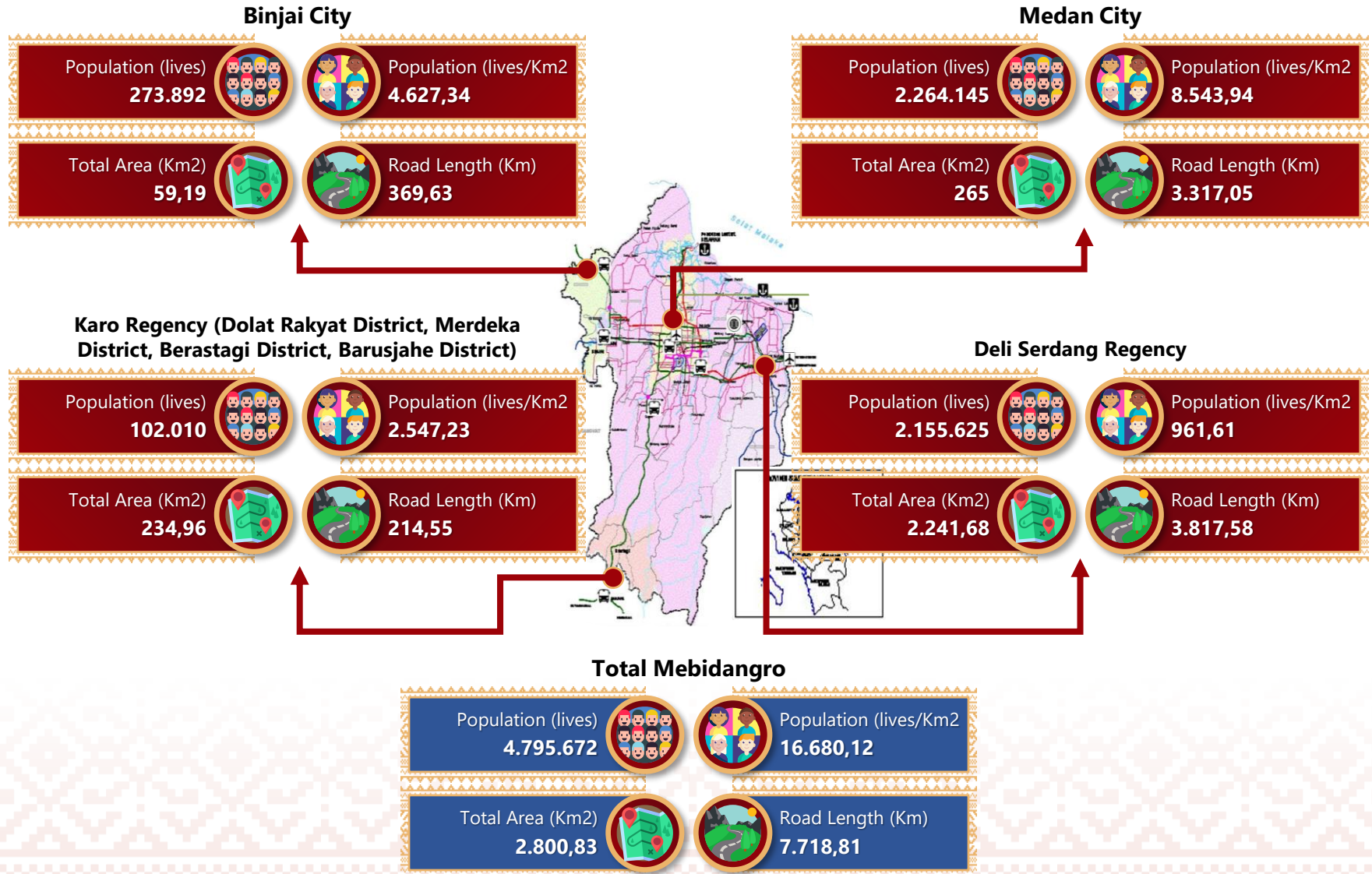
RPD PROVSU 2024-2026

Rencana pembangunan BRT Mebidang yang merupakan bagian program “Indonesia Mass Transit Project” (MASTRANS) dilaksanakan dalam rangka implementasi Major Project RPJMN 2020 – 2024 Pembangunan Sistem Angkutan Umum Massal Perkotaan di 6 Wilayah Metropolitan (Jakarta, Bandung, Medan, Surabaya, Semarang, Makassar)

MOU Between MOT, North Sumatera Province and Sub Region Mebidang



...this is a good condition to provide mass vehicle that can connect to several regions.

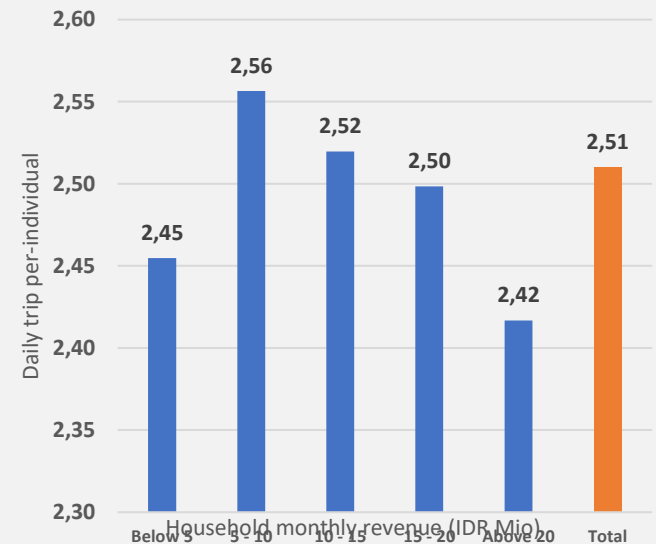
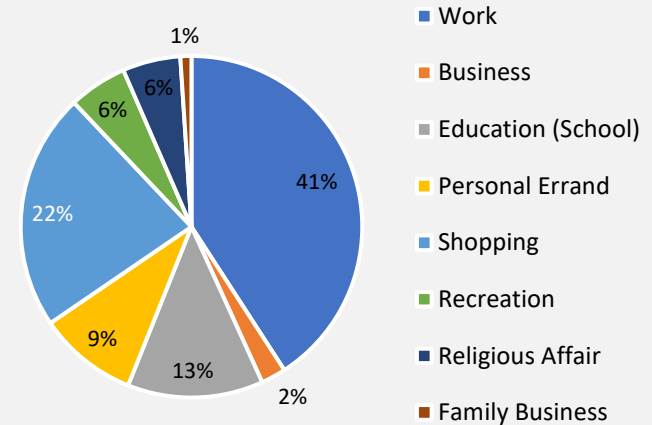


MOBILITY RATES IN THE MEBIDANGRO AREA

- **4,8 million trips per day**
Comparable with Medan City previous studies. (pre-COVID)
DKI Jakarta = ±20 million trips per day
- **One average person spends ± IDR 12.005 everyday for transport**
Way lower and more fragile than Jakarta City (IDR 25.500/day)
- **One average person spends ± 35 min each day for transport**
Jakarta = 136 min/day
Low value due to over-usage of motorbikes, challenge for public transportation to rival:
Must promote safety and comfort of public transportation, not travel speed
- **2,5 trips per day per person**
Higher mobility for work and education, shopping

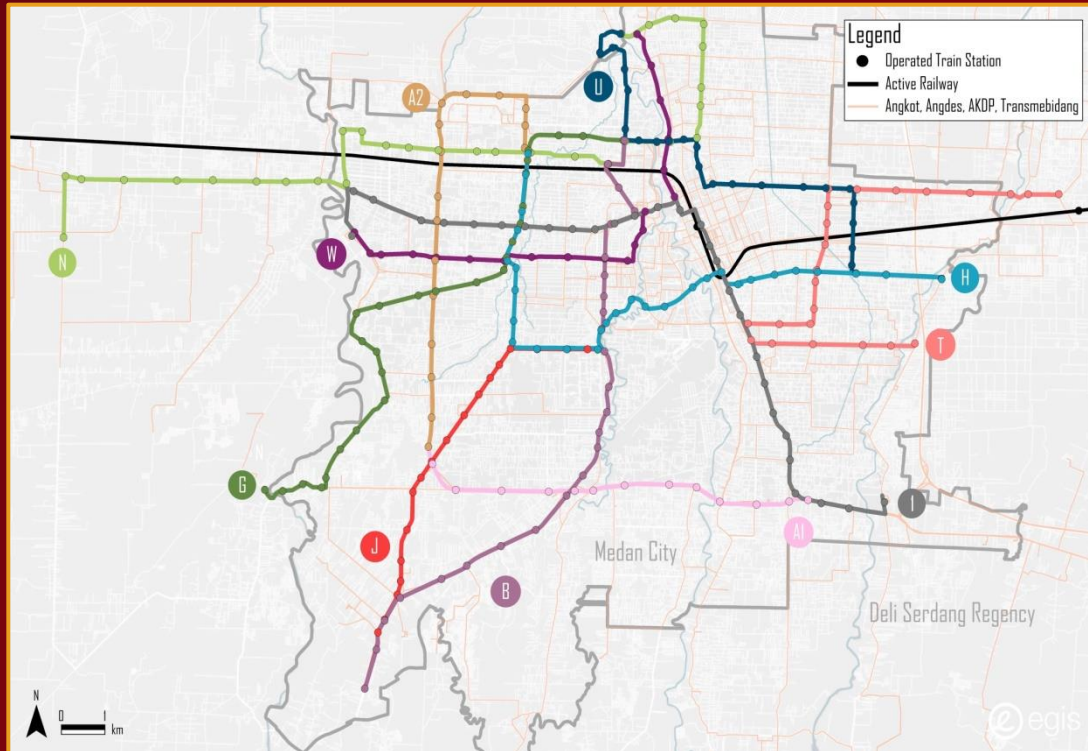
- This must be taken into account in the **design of future routes for mass rapid transit**
- Will be used for **proposed rerouting of angkots for adapted coverage of paratransit**
- **Corridors composed with schools and work places** mobility generators must be served

People travel more for work, education places & shopping (source: SUMP surveys)



Mobility of inhabitants is framed by revenues: higher individual mobility for households with low revenues (source: SUMP surveys)

2023, the first mass transit line will be built is BRT Mebidang



to 2023

BRT Mebidang Line 1

Corridor : Pinang Baris - Amplas

Length : 18 km

Station : 23 stations

Ridership : 210.000 pax/day

to 2028

Corridor H

Corridor : Helvetia – Denai

Service : Level 1 (for example BRT)

Line : 15 km – 29 stations

Ridership : 202.000 pax/day

CAPEX : IDR 1,5-1,9 T (USD 105-130 million)

Year : 2026

Corridor U

Corridor : Sumarsono – Denai

Service : Level 2 (for example Tramway)

Line : 13 km – 25 stations

Ridership : 187.000 pax/day

CAPEX : IDR 3,3 – 4,1 T (USD 230-280 million)

Year : 2026

to 2035

Corridor G

Corridor : Bunga Sakura - Jl. T. Amir Hamzah

Service : : Level 2 (for example Tramway)

Length : 15 km

Station : 27 stations

Ridership : 222.000 pax/day

CAPEX : IDR 3,5-4,3 T (USD 240-295 million)

Year : 2030

to 2035

Corridor T

Corridor : Denai - Batang Kuis

Service : Level 1 (for example BRT)

Length : 14 km

Station : 23 stations

Ridership : 197.000 pax/day

CAPEX : IDR 1,4-1,8 T (USD 98-120 million)

Year : 2030

to 2035

Corridor B

Corridor : Simalingkar - Jl. T. Amir Hamzah

Service : Level 3 (for example LRT)

Length : 16 km

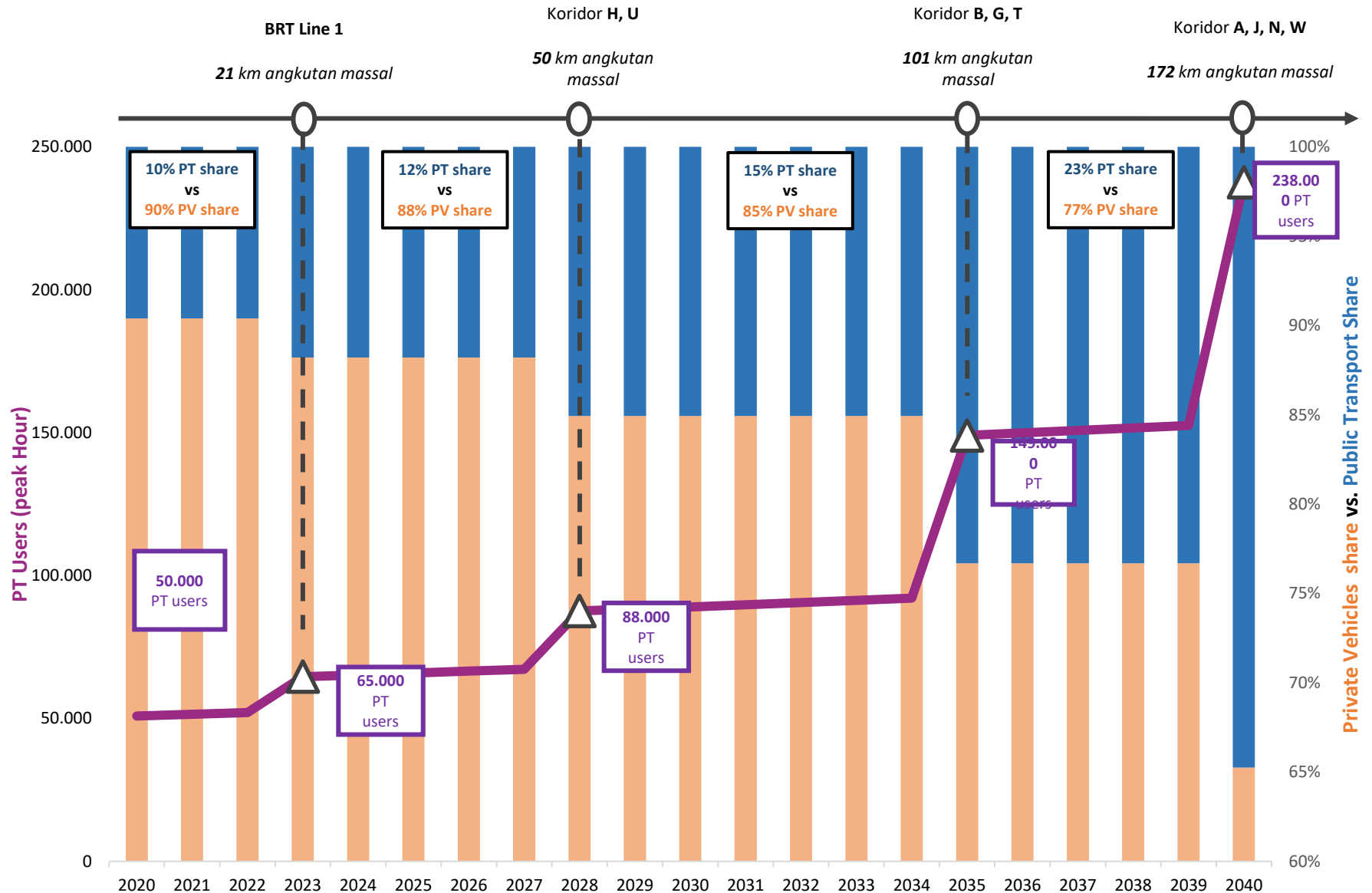
Station : 25 stations

Ridership : 260.000 pax/day

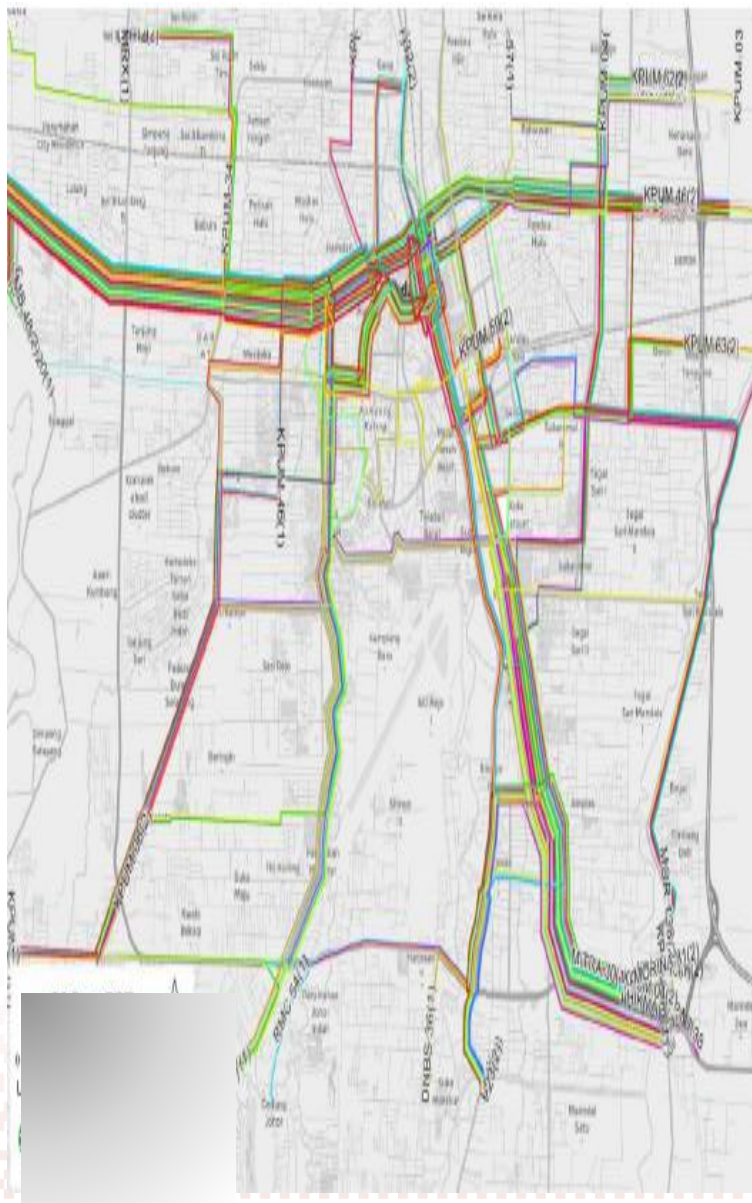
CAPEX : IDR 9,9-12,1 T (USD 680-830 million)

Year : 2030

Evolution of the use of public transport with the development of public transport networks



BRT MEBIDANG ROUTE SERVICES



Asal	Tujuan	Panjang Rute	Jlh Bus (Unit)
1. Medan Helvetia	Pusat Pasar	11 Km	16
2. Medan Helvetia	Terminal Amplas	20,7 Km	30
3. Percut Sei Tuan	Amplas	21,2 Km	30
4. Unimed	Amplas	16 Km	23
5. Setia Budi	Amplas	15,3 Km	22
6. Medan Tembung	Amplas	12,3 Km	18
7. Kp. Lalang	Deli Tua	21,9 Km	31
8. Kp. Lalang	Amplas	21,8 Km	31
9. Belawan	Villa Malina Indah	30,9 Km	44
10. Kp. Lalang	Mandala	18 Km	26
11. Pinang Baris	Amplas	21 Km	30
12. Pinang Baris	Unimed	17,5 Km	25
13. Pinang Baris	Mandala	20,9 Km	30
14. Pinang Baris	Belawan	31 Km	44
15. Belawan	Amplas	30,1 Km	43
16. Binjai	Pusat Pasar	22,7 Km	32
17. Mabar	Amplas	25,4 Km	36
Total		357.7 Km	515

FINANCIAL PROJECTION

1. TARIF

Tabel 11.15 Proyeksi finansial sistem BRT

	FY19	FY23	FY28	FY33	FY38
Biaya (Rp)					
Pembayaran ke Operator ('000)	295.514.697	345.710.398	420.609.559	511.735.841	622.604.896
Biaya Pengelolaan Sistem ('000)	72.668.674	85.012.070	103.430.182	125.838.631	153.101.935
Biaya Perawatan Infrastruktur 1% ('000)	11.290.000	11.290.000	11.290.000	11.290.000	11.290.000
Total Cost	379.473.371	442.012.468	535.329.741	648.864.472	786.996.831
Pendapatan (Rp)					
Penumpang/ Hari	282.499	356.648	413.453	423.893	434.597
Pendapatan - Tarif 5000 ('000)	433.635.447	547.454.761	699.701.748	790.900.529	810.871.758
Pendapatan - Tarif 6000 ('000)	520.362.537	656.945.714	839.642.098	949.080.635	973.046.110
Pendapatan - Tarif 7000 ('000)	607.089.626	766.436.666	979.582.448	1.107.260.740	1.135.220.462
Operating Profit/(loss)					
Skenario Tarif 5000 ('000)	54.162.077	105.442.294	164.372.008	142.036.057	23.874.927
Skenario Tarif 6000 ('000)	140.889.166	214.933.246	304.312.357	300.216.163	186.049.279
Skenario Tarif 7000 ('000)	227.616.256	324.424.198	444.252.707	458.396.269	348.223.630
Operating Cash Flow					
Skenario Tarif 5000 ('000)	54.162.077	393.793.431	1.087.805.849	1.704.320.821	2.070.646.587
Skenario Tarif 6000 ('000)	140.889.166	882.682.096	2.212.036.817	3.553.525.383	4.722.694.574
Skenario Tarif 7000 ('000)	227.616.256	1.371.570.762	3.336.267.785	5.402.729.946	7.374.742.560

ASUMSI

Biaya Infrastruktur (Rp)	1.129.000.000.000
Inflasi/tahun	4%
Penyesuaian tarif / 5 tahun	5%
Peningkatan penumpang / tahun	6% tahun 1-5
	3% tahun 6-10
	0.5% 11-20yr

Tarif

Skenario 1	Rp 5000
Skenario 2	Rp 6000
Skenario 3	Rp 7000

Sumber: ITDP

NPV, IRR and BCR value calculation

Year	Costs		Revenue with Tariffs		
	Investment	operational			
	Rp1,129,000,000,000		Rp5,000	Rp6,000	Rp7,000
1		Rp442,012,468,000	Rp547,454,761,000	Rp656,945,714,000	Rp766,436,666,000
2			Rp432,556,848,198	Rp475,832,115,165	Rp498,462,972,164
3			Rp303,798,499,694	Rp293,318,969,502	Rp261,437,479,107
4			Rp189,659,907,750	Rp153,882,305,406	Rp110,581,151,134
5			Rp105,247,774,851	Rp68,706,741,340	Rp37,720,086,566
	TOTAL	Rp1,571,012,468,000	Rp1,578,717,791,492	Rp1,648,685,845,413	Rp1,674,638,354,971
NPV			5th year	5th year	5th year
IRR			12,5%	17,5%	25%
BCR			1.005	1.05	1.07

From the table above it can be seen that during the 5 year project period the following results were obtained :

For a rate of 5,000, - with a period of 5 years, the interest rate is 12.5%/year, a BCR of 1.005 is obtained, with an annual cash flow (in flow) as shown in the table;

For a rate of 6,000, - with a period of 5 years, the interest rate is 17.5%/year and BCR 1.05

For a tariff of 7,000, with a 5 year project period, the open rate is 25%/year and the BCR is 1.07.

2. ADVERTISEMENT

Sumber: TransJakarta

Item	Advertisement Space	Harga (Rp/Tahun)
1	Kaca belakang	69.000.000
2	Kaca samping belakang	190.000.000
3	Seluruh kaca samping	390.000.000
4	Setengah badan bus	690.000.000
5	Seluruh badan bus	1.500.000.000

Kombinasi	Jumlah Space	Harga (Rp/Tahun)
Minimum	1	69.000.000
Maximum	1	69.000.000
	3	390.000.000
	5	1.500.000.000
	Total	1.959.000.000

Sumber: ITDP

3. TRANSIT ORIENTED DEVELOPMENT (TOD)

Depot Pinang Baris

Administrative space and staff facilities area:
"people-oriented"
comfortable working environment

Public space:



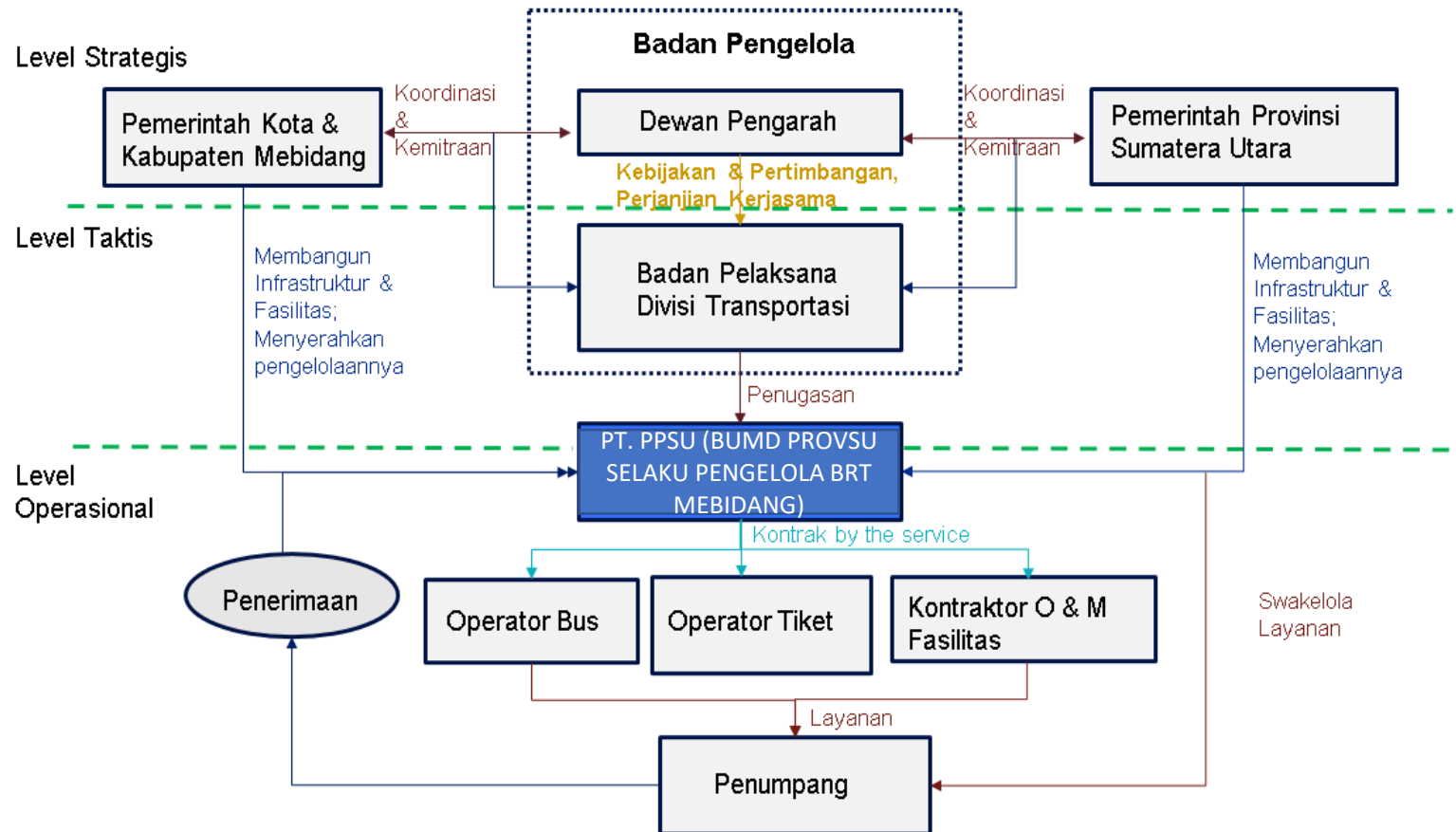
3. TRANSIT ORIENTED DEVELOPMENT (TOD)

Depot Amplas



MANAGEMENT INSTITUTION

Konsep Lembaga BRT Trans Mebidang dengan BUMD-SU sebagai Pengelola





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