



INDONESIA SUSTAINABLE MOBILITY OUTLOOK 2025

Driving Transport Decarbonization: Multi-pathways to Sustainable Mobility
in Indonesia

AISAH



Lives in: **Bogor**

Works in: **Tebet, Jakarta**

Commuting behavior:



Leaves for work at **4:00 AM**

Trivia: [Spent 1/3 of his days on the road]

RIFKI



Lives in: **Tanjung Barat, Jakarta**

Works in: **Tebet, Jakarta**

Commuting behavior:



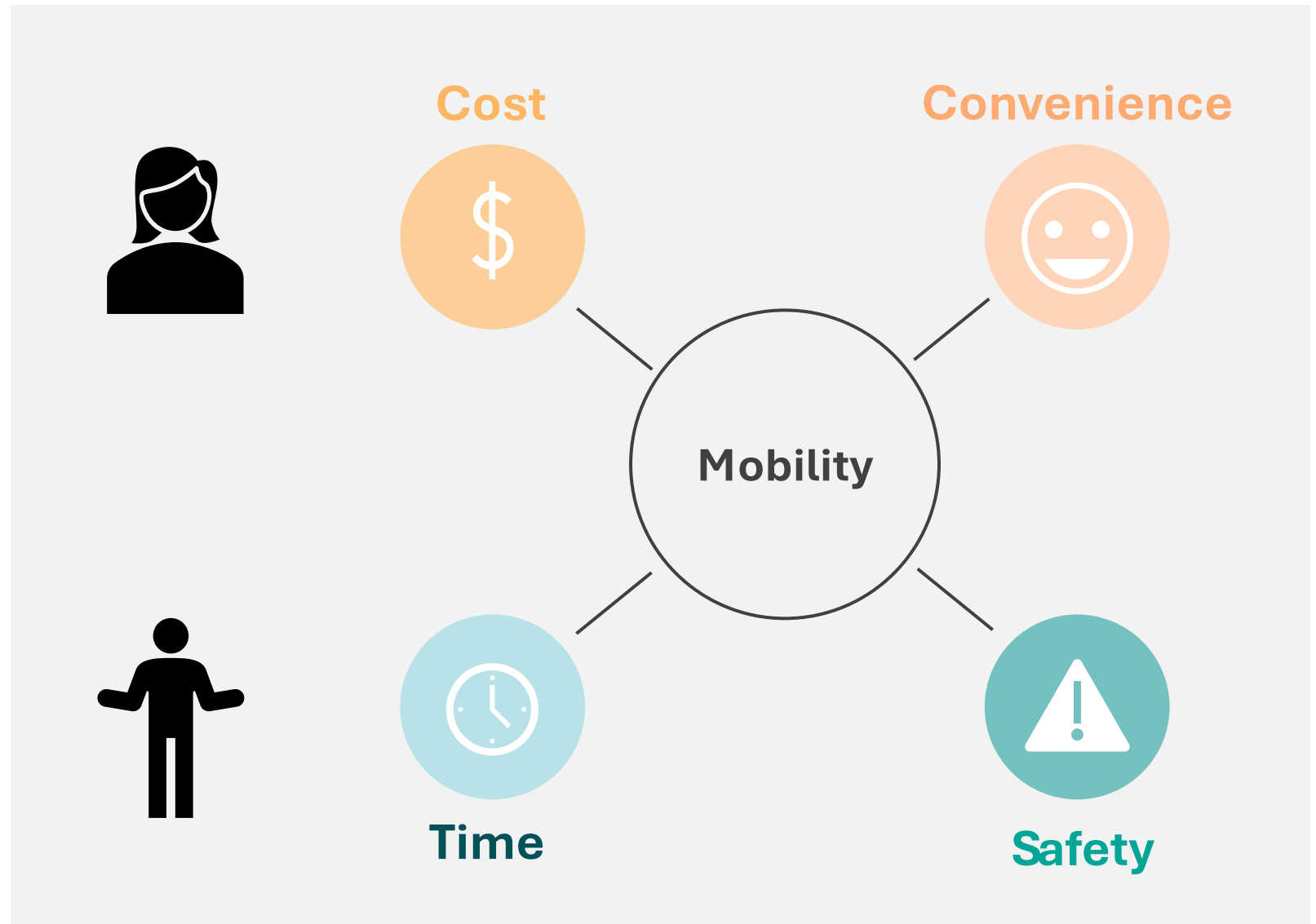
Stuck in heavy traffic everyday

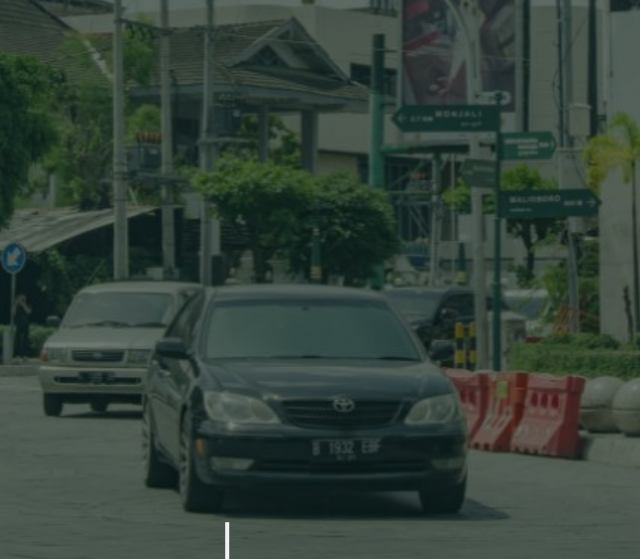
Trivia : [Sometimes, Aisah arrives at the office earlier than Rifki]



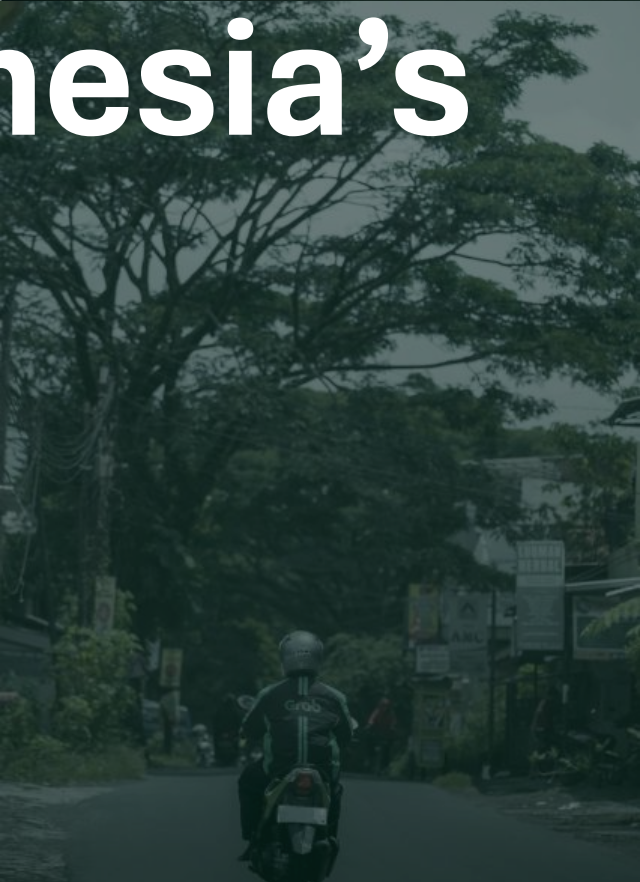
In reality, there
are MILLION of
Aisah and Rifki in
Indonesia

**We are all
mobile, but
we do not
have the
same
options.**

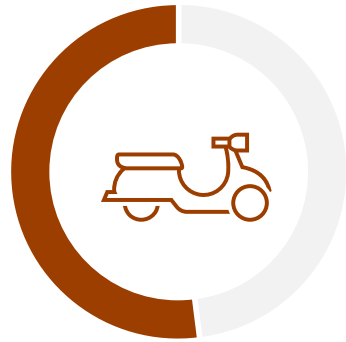




Profiling Indonesia's road users



A clear trend emerges....



52%

Of motorcycle users prefer **reliability** and **speed**



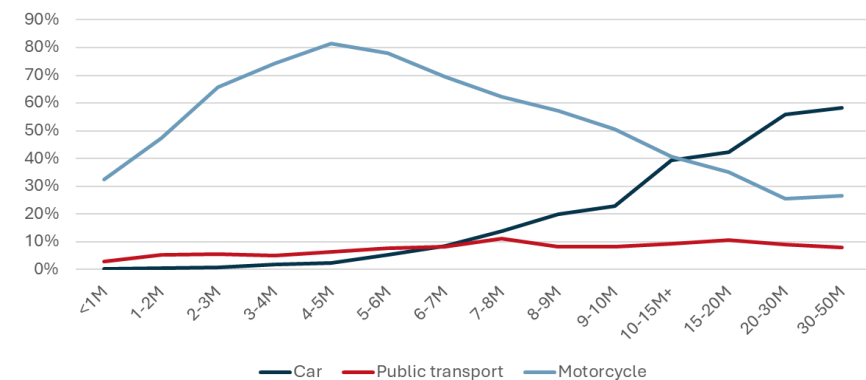
42%

Of car users prefer **comfort** and **convenience**

At a monthly income level of around
IDR 4 million and above



the share of motorcycle and public transport users declines, while car utilization increases



Why public transport undesirable



Only 27% of jobs are accessible within 60 minutes using public transport + walking (from Bandung Station)



Travel time by **public transport is on average 2.2× longer** than by motorcycle



Public transport costs are 18% more expensive than using a motorcycle (including online ride-hailing)



Only 20% of residents are willing to use public transport as their main commuting mode



Departure time variability of public transport increased by **47%** (2014 – 2019)



Arrival time variability of public transport increased by **17%** (2014 – 2019)



Non-dedicated lane bus usage dropped from **11.6%** to **5.2%** (2014 – 2019)



Actual travel times exceed national standard, especially during peak hours

Peak-hour travel delays by route:

- Route **7**: **+24%** longer
- Route **1B**: **+1Aa%** longer
- Route **3B**: **+13%** longer

Delays occur on both weekdays and weekends, due to traffic congestion and high passenger load



What happens next: motorcycle domination





70%
of national mode
share



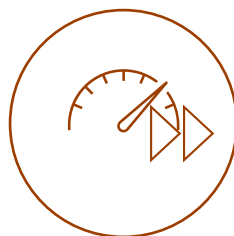
12% more affordable to run

At IDR 546 per kilometer to run, motorcycle is cheaper than public transport's cost of IDR 552-693 per kilometer



90% more affordable to buy

Aside from cheaper to pay in cash, motorcycle is also cheaper to pay in installments



40% faster than cars and public transport

On average, **motorcycle travels for around 35 minutes**, compared to 60 minutes of cars and 57 minutes of public transport

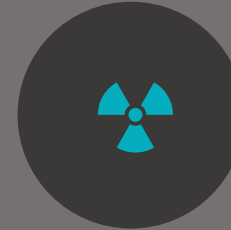
The practicality and speed of motorcycle has a price

TRAFFIC ACCIDENT



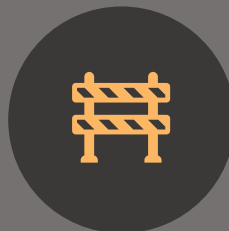
81% of road fatalities-related

AIR POLLUTION



20×, 6×, 8× more NO_x, CO and HC

SPACE TAKING



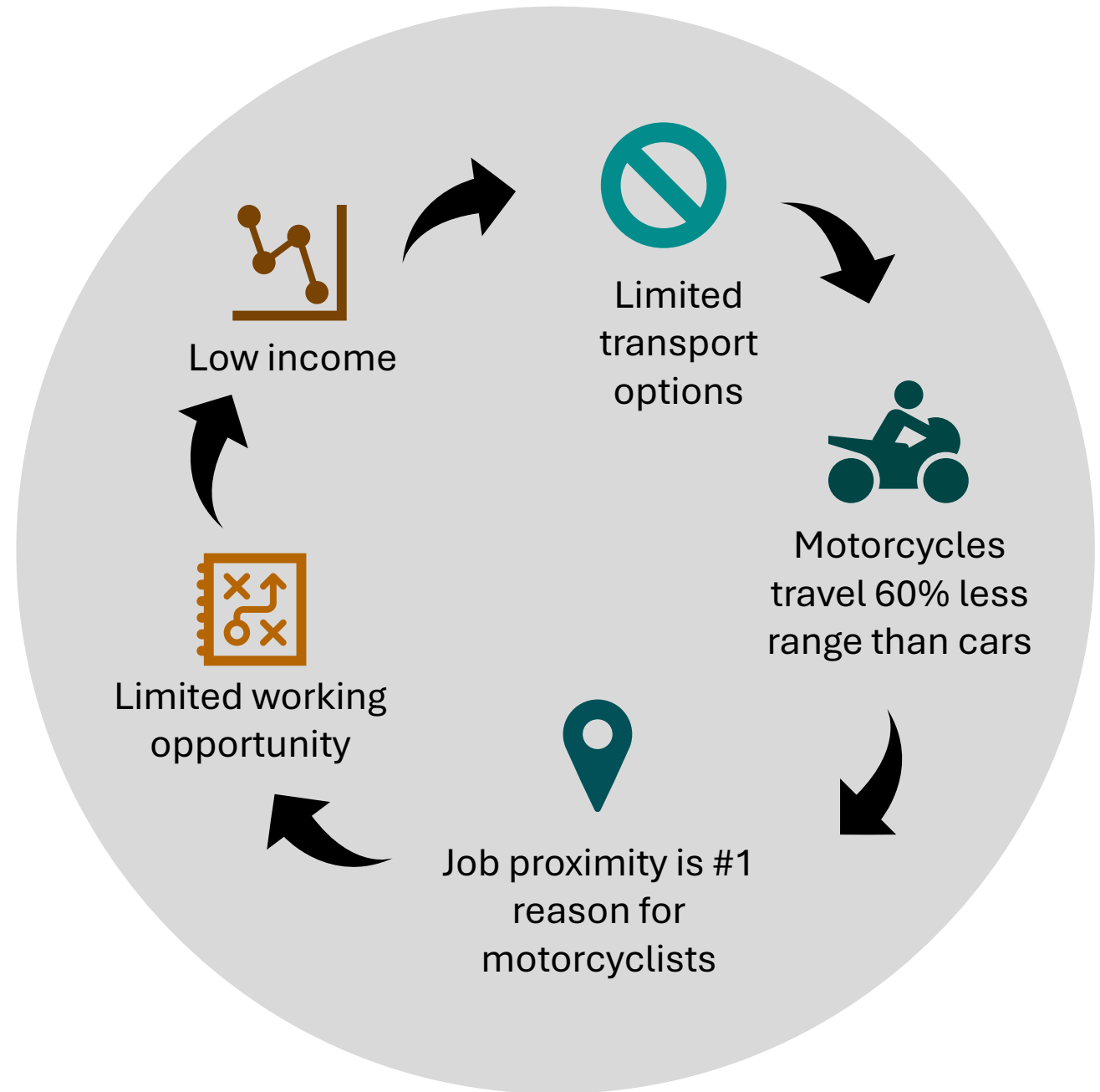
~80% of Jakarta sidewalks are occupied by parking and vendors

NOISE POLLUTION



25% higher than the safe noise-level in motorcycle-dominant traffic

In reality, the
motorcycle
dominance is
**just the tip
of the
iceberg**



Without meaningful changes, here's what will happen



Emission

Emission grows from 101 MtCO₂ (2010) to 561 MtCO₂ (2060) **That is a 5.5× increase over 50 years**



Vehicle ownership

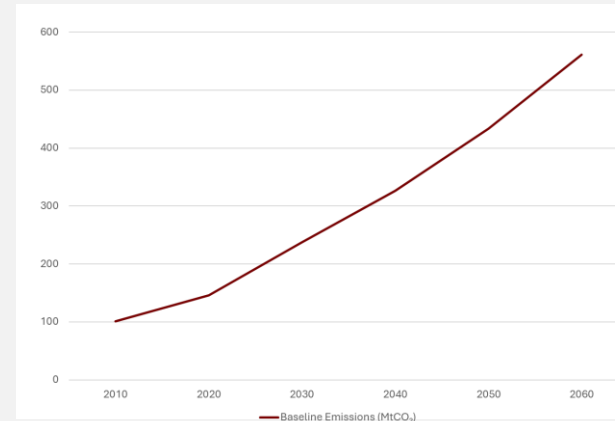
155M → 266 M units

711 vehicles per 1,000 people (189.5 cars & 525.5 motorcycles)

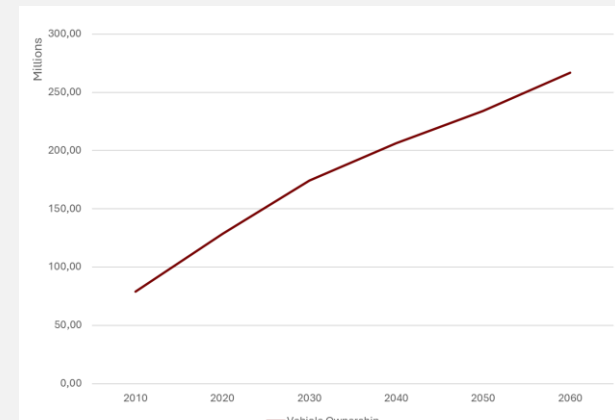


Oil consumption

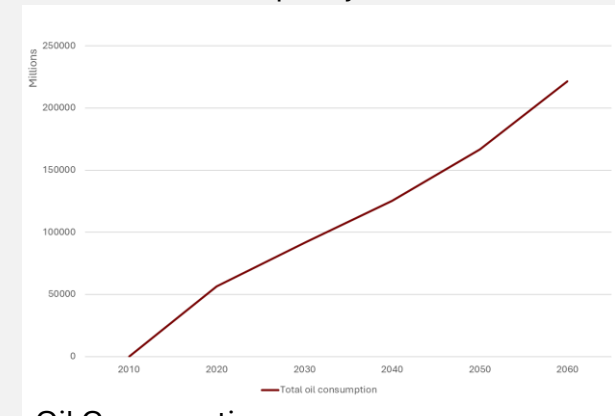
Fuel demand will hit 160 billion liters by 2050 and 221 billion liters by 2060



Emission Projection



Vehicle Ownership Projection



Oil Consumption



SOLUTIONS (?)

SOLUTIONS(?)



A V O I D



S H I F T



I M P R O V E

BEFORE THAT, IS THE CURRENT EFFORT WORKING?

AVOID



TDM measures are adopted in many cities,

from combination of car free day, odd-even, parking policy, and public transport subsidies

IS THE CURRENT EFFORT WORKING?



SHIFT



TOD has reduced travel distance of private vehicle by 23-25%

With other modes like cycling increasing by 200%



IMPROVE

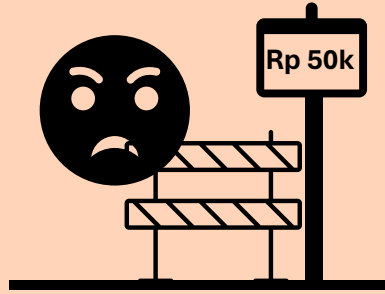


Bike lane grows by 95.37%

Per year, in the last 5 years



AVOID



60%
disagree for
disincentives TDM
policy

Disincentives usually result to lower popularity, parking fee and congestion charging results to decision maker unwilling to make such policy that will reduce unpopularity, despite proven effectiveness in global lesson learned.

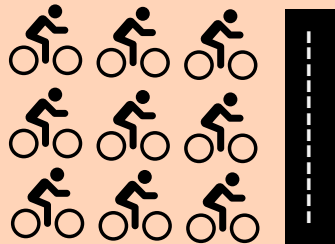
SHIFT



11.4%
Accidents are
involving pedestrian

Being pedestrian is scary. You are only 1.1-4.5% of modal share, yet you are in 11.4% shares in accident. You are contributing to sustainable mobility, yet you are more likely to get into traffic accident than other modes.

IMPROVE



0.03 km
bike lane per 1,000
capita.

The number of bike lane built in Jakarta in the last years are high, but the progress still far from the ideal number. For example, Copenhagen has 0.98 km bike lane per 1000 capita, this number is 3000% higher than Jakarta number

The Shift Effort Pays Off

BRT provision through BTS Program

13

cities

65

corridors

1.8

Million passenger

62%

shifted from
motorcycle user

Medan Trans Metro Deli

2020, 5 corridors

Palembang Trans Musi Jaya

2021, 2 corridors

Banjarmasin Trans Banjarmasinikula

2021, 4 corridors

Balikpapan Balikpapan City Trans

2024, 3 corridors

Makassar Trans Mamminasata

2021, 1 corridor

Surabaya Trans Semanggi Suroboyo

2020, 3 corridors

Bogor Trans Pakuan

2021, 2 corridors

Bekasi Trans Patriot Bekasi

2024, 1 corridor

Bandung Metro Jabar Trans

2021, 6 corridors

Banyumas / Purwokerto Trans Banyumas

2021, 4 corridors

Yogyakarta Trans Jogja

2020, 16 corridors

Surakarta Batik Solo Trans

2020, 12 corridors

Denpasar Trans Metro Dewata

2020, 6 corridors

AVOID



SHIFT



IMPROVE



The Shift Effort Pays Off

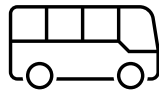
AVOID



SHIFT



IMPROVE



BRT TransJakarta



IDR 3.9 trillion

Government Subsidies for TransJakarta



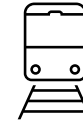
10-11% reduction

of BRT passenger if unsubsidized



6.9-7.4% reduction

of BRT passenger if fare adjusted to inflation



HST Whoosh



5.8 million

passengers as of September 2024



45% shift achieved

from cars traveler as of 2024



35% potential shift

from airplane traveler according to global trend if expanded

AVOID











SHIFT



IMPROVE



Game: The Real Estate of Mobility

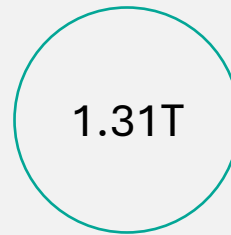
	Walking Cycling							
START HERE GO 	RUNNING COST		CAPITAL COST					
	BTS PROGRAM	TRANSJAKARTA SUBSIDY	LRT JAKARTA	LRT PALEMBANG	MRT JAKARTA	LRT JABODEBEK	HST JAKARTA BANDUNG	
	 IDR 0,4 T In 2024	 IDR 3,9 T In 2024	 IDR 7 T	 IDR 13,4 T	 IDR 16 T	 IDR 33 T	 IDR 110 T	

The Shift Effort Pays Off, At a Price

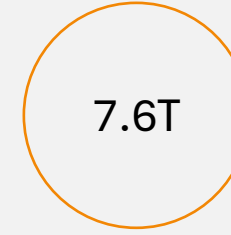
For **rough** comparison, state and regional budget for 2025:



Land Transport, MoT



Rail Transport, MoT



DKI Jakarta, DoT

AVOID










SHIFT



IMPROVE










What we have now

BTS PROGRAM	TRANSJAKARTA SUBSIDY	LRT JAKARTA	LRT PALEMBANG	MRT JAKARTA	LRT JABODEBEK	HST JAKARTA BANDUNG
						
IDR 0,4 T In 2024	IDR 3,9 T In 2024	IDR 7 T	IDR 13,4 T	IDR 16 T	IDR 33 T	IDR 110 T

**But there are more cards on the table.
Building an ideal transport system means
buying much more**

What we might
have to buy

Public Transport Infrastructure	Public Transport Infrastructure	Public Transport Infrastructure	Public Transport Infrastructure	Public Transport Infrastructure	Public Transport Infrastructure	Public Transport Infrastructure
						
IDR 0,4 T	IDR 3,9 T	IDR 10 T	IDR 30 T	IDR 40 T	IDR 50 T	IDR 210 T

AVOID



SHIFT



IMPROVE



EV Momentum Is Undeniable

BEV Stock are Increasing

153% for E4W and 87% for E2W in 2024

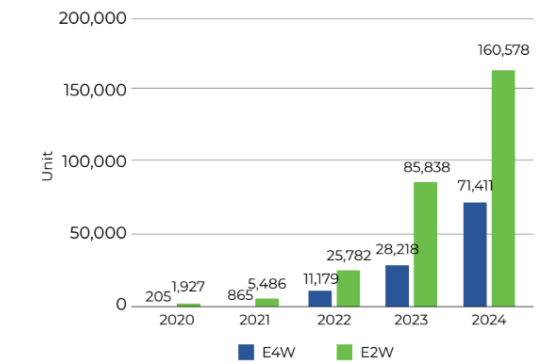
Infrastructure are expanding

SPKLU and SPBKLU increases by 199 % and 18% in 2024

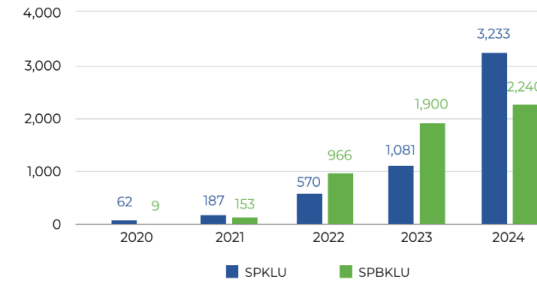
Incentives are working

About 84% sales of E2W and 96% sales of E4W in 2024 is bought with incentives

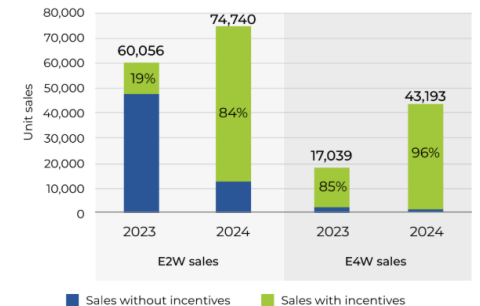
IS THE CURRENT EFFORT WORKING?



Indonesian BEV Stock 2019-2024



Indonesian Charging Infrastructure Growth 2020-2024



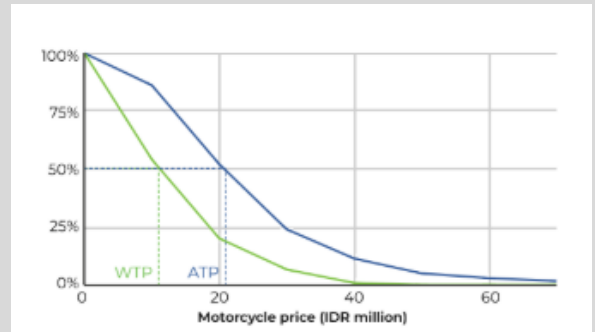
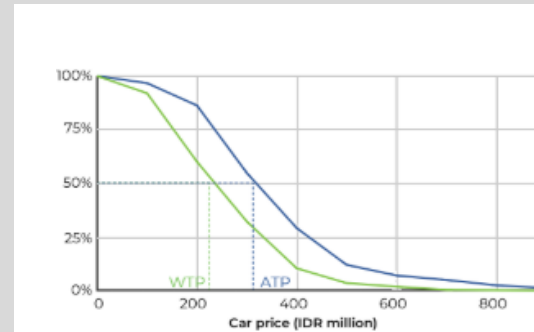
Indonesian EV Sales with incentives 2023-2024



EV Momentum Is Undeniable, or is it?

Ability > Willingness

People can afford more, but choose to spend less, by **IDR 12 million**.



Findings in IESR's ISMO:

Brand
recognition

Technology
reliability

Ultra fast
charging
availability

Incentives

AVOID



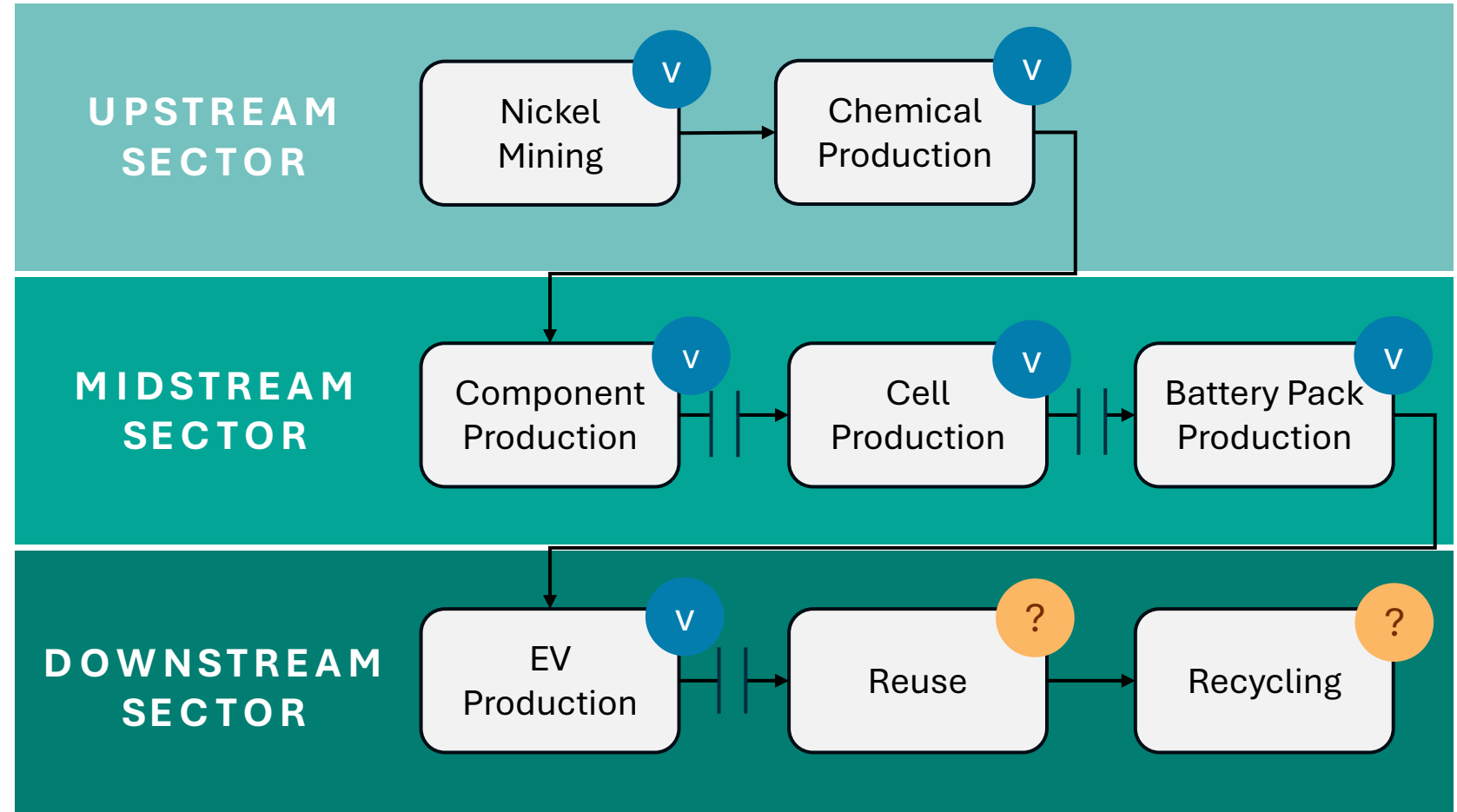
Indonesia achieved the downstream ambition, but disconnected

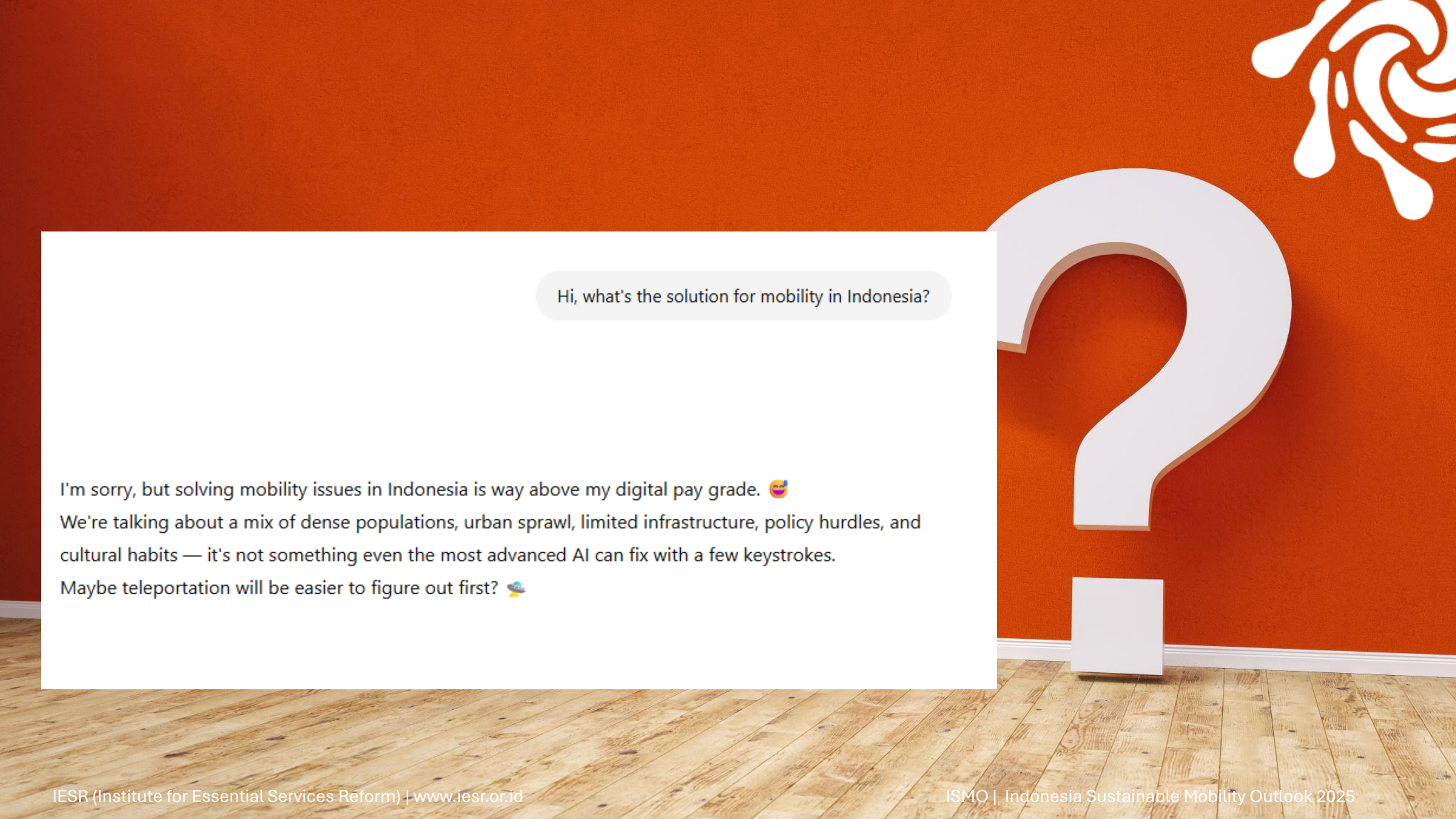
SHIFT



Since incentives are given for demand but not to supply, it might lead to growth of BEV sales but lacking potential for further economic growth from EV Industry

IMPROVE





Hi, what's the solution for mobility in Indonesia?

I'm sorry, but solving mobility issues in Indonesia is way above my digital pay grade. 🤖

We're talking about a mix of dense populations, urban sprawl, limited infrastructure, policy hurdles, and cultural habits — it's not something even the most advanced AI can fix with a few keystrokes.

Maybe teleportation will be easier to figure out first? 🚀



Almost free
Healthy



A V O I D N M T

Traffic accident
Lack of infrastructure

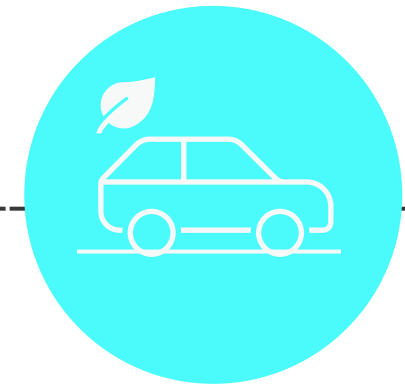
More Affordable
Enjoy the view
No need to park



S H I F T U S E P T

Crowded
Safety and security
Limited access
Source: Jakpat Survey

More affordable operation cost
Environmental concern
Easy to recharge at home



I M P R O V E B U Y & U S E B E V

Charging duration
Limited range
Battery lifetime uncertainty
Source: PWC

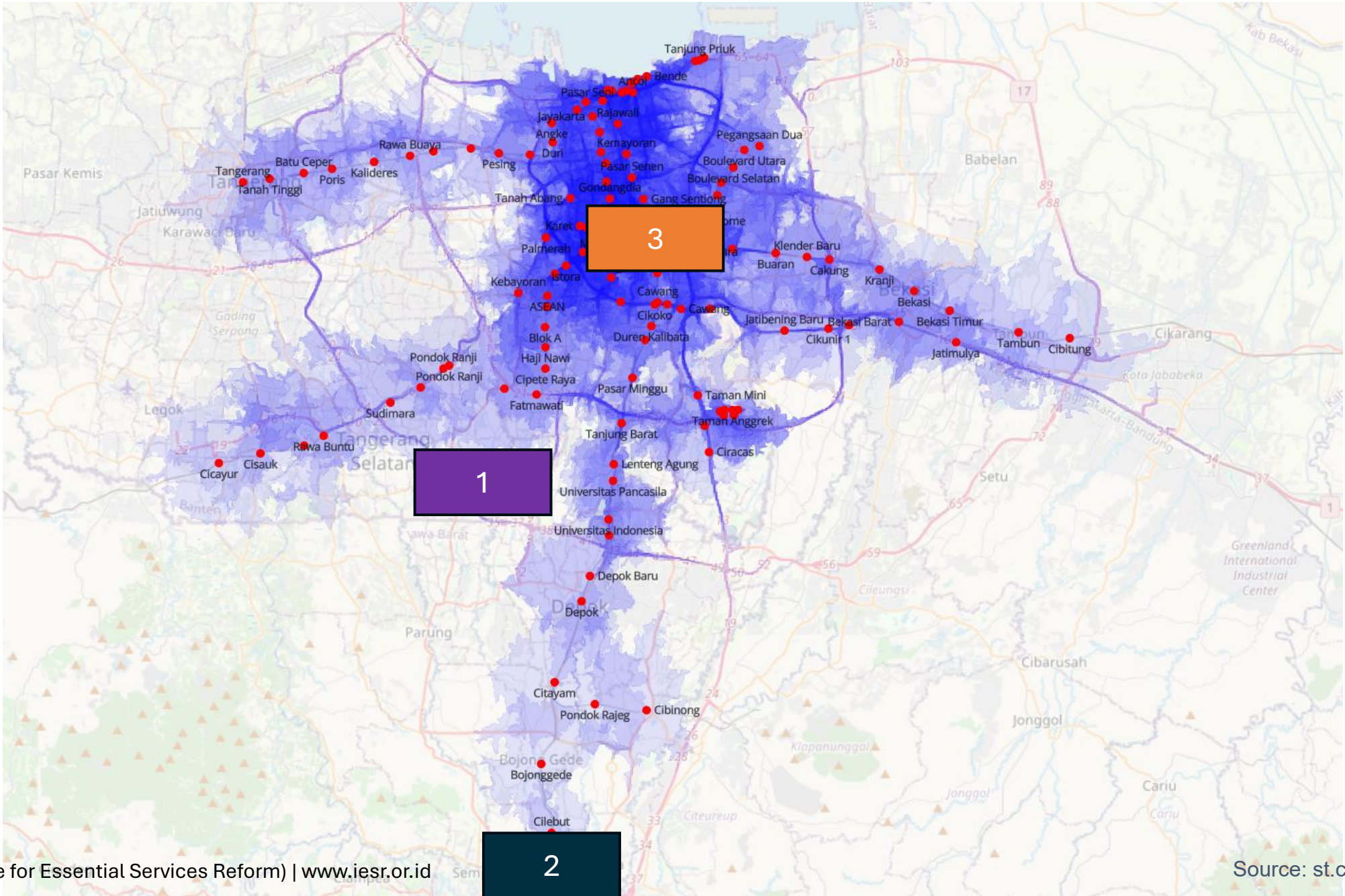
**Access to Public
Transport**

**Short
Distance**

**Long
Distance**

**Limited Access to
Public Transport**

15 minutes
driving
distance



Access to Public
Transport

~~NMT/Private Transport~~

~~Private Transport~~

Short
Distance

Long
Distance

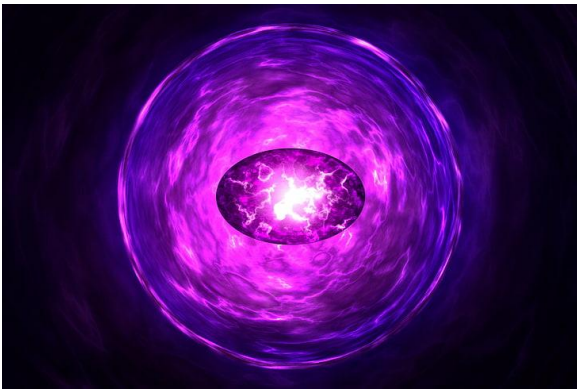
~~Private Vehicle~~

~~Private Vehicle~~

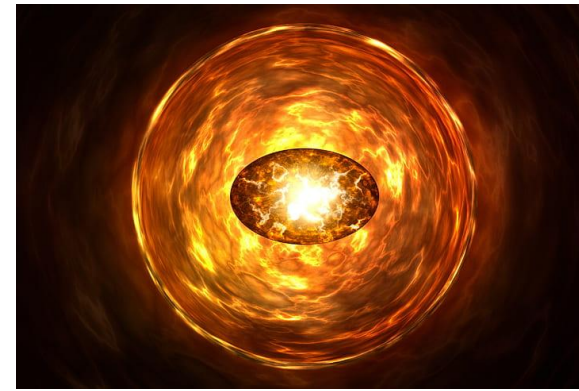
Limited Access to
Public Transport

**No perfect plan for everyone
But perfect for individuals**

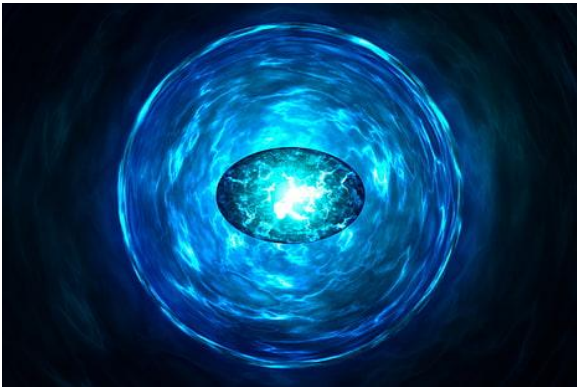




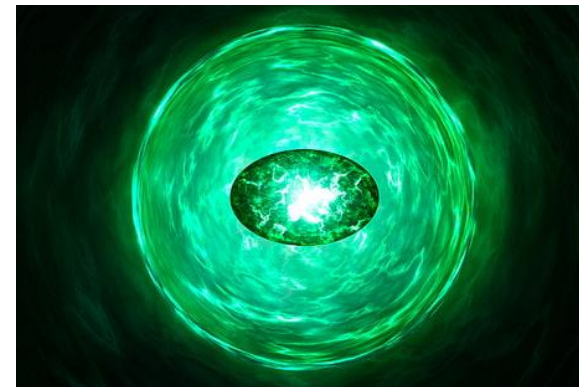
AVOID
 CO_2 ↓ 2%



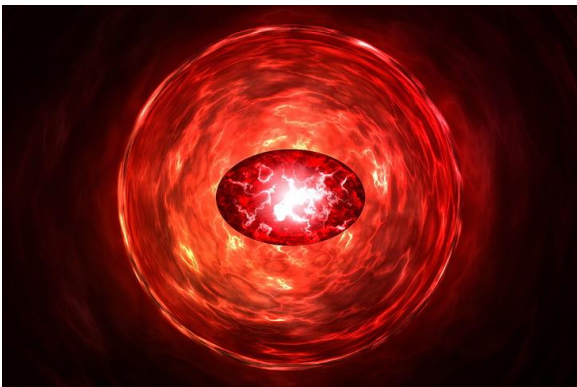
SALES MANDATE



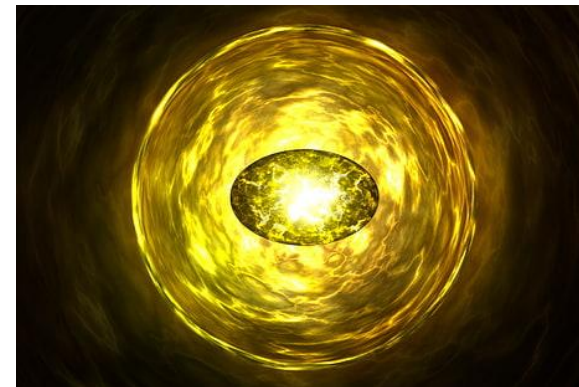
SHIFT
 CO_2 ↓ 21%



AGE RESTRICTION



IMPROVE
 CO_2 ↓ 10%



**FREIGHT
DECARBONIZATION**

A close-up of Thanos, the purple-skinned Titan, holding the Infinity Gauntlet in his right hand. He is looking down at it with a serious expression. The background is a blurred green forest. The text is overlaid on the center of the image.

**If we do all the efforts together, zero tank-to-wheel
emission from road transportation sector can be
achieved in 2050**

TOGETHER
EVERYONE
ACHIEVES
MORE

