

*JC3 Journey to Zero Conference 2023  
Thematic Breakout Session 4 - Sustainable cities  
24 October 2023 | Sasana Kijang, Bank Negara Malaysia*



# Iskandar Malaysia: Low Carbon Journey

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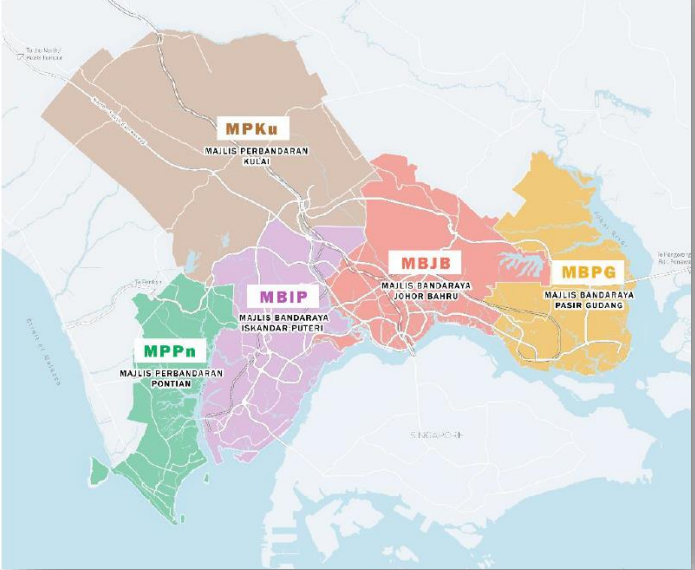


# ABOUT ISKANDAR MALAYSIA

❖ Established in 2006. **Iskandar Malaysia** is an **Economic Development Corridor** booming in Southern **Johor, Malaysia**, encompasses an area of **2,217 km<sup>2</sup>**

❖ Iskandar Regional Development Authority (**IRDA**) is a Federal Statutory body, established through an Act of Parliament Act 2007 (Act 664)

## Covers 5 Local Authorities



## Our Roles



## Comprehensive Development Plan



**CDP III 2022-2030 Resilient & Inclusiveness**  
Transform Iskandar Malaysia to be resilient and future proof as well as make growth more equitable

## Leadership & transparency on climate change action



❖ Iskandar Malaysia is recognised as CDP Global Ranking Cities **A List** in 2019, 2020 & 2022

## Alignment at State and Local Government



**Johor Sustainable Development Plan (PPMJ) 2030**



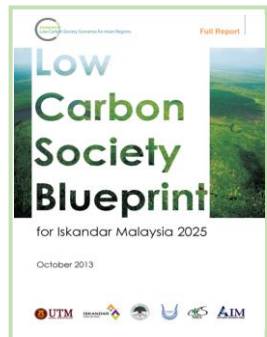
**Johor Green Growth Roadmap (Supported by UKPACT)**

INVEST WORK PLAY LIVE

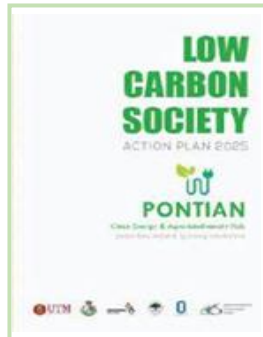


# CHARTING ISKANDAR MALAYSIA'S LOW CARBON AND SUSTAINABLE ENVIRONMENT

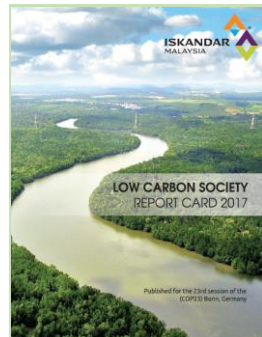
- ✓ Iskandar Malaysia is the **pioneer city** in Malaysia to drive low carbon initiatives **since 2009**
- ✓ Iskandar Malaysia managed to **complete the LCS Development Cycle** from **Science to Policy**, Action and Monitoring.
- ✓ The new LCSBPIM Climate Action Plan 2030 launch in 2022 inclusive of both climate **mitigation** and **adaptation** action.



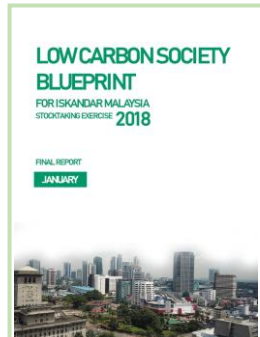
Low Carbon Society Blueprint for IM 2025



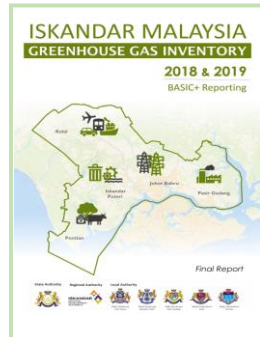
LCS Action Plan 2025 for 5 Local Authorities



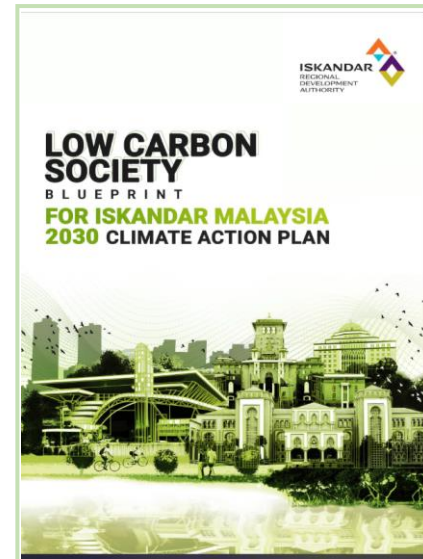
LCS Report Card



LCS Blueprint Stocktaking Exercise



IM GHG Inventory 2015-2019



Low Carbon Society Blueprint for Iskandar Malaysia 2030 Climate Action Plan



Climate Mitigation Target  
Reducing the intensity of GHG emission by up to **70%** by 2030 compared to the 2010 level



Climate Adaptation Goal  
To develop cities and society that are resilient towards climate change

SCIENCE TO POLICY

ACTION/IMPLEMENTATION

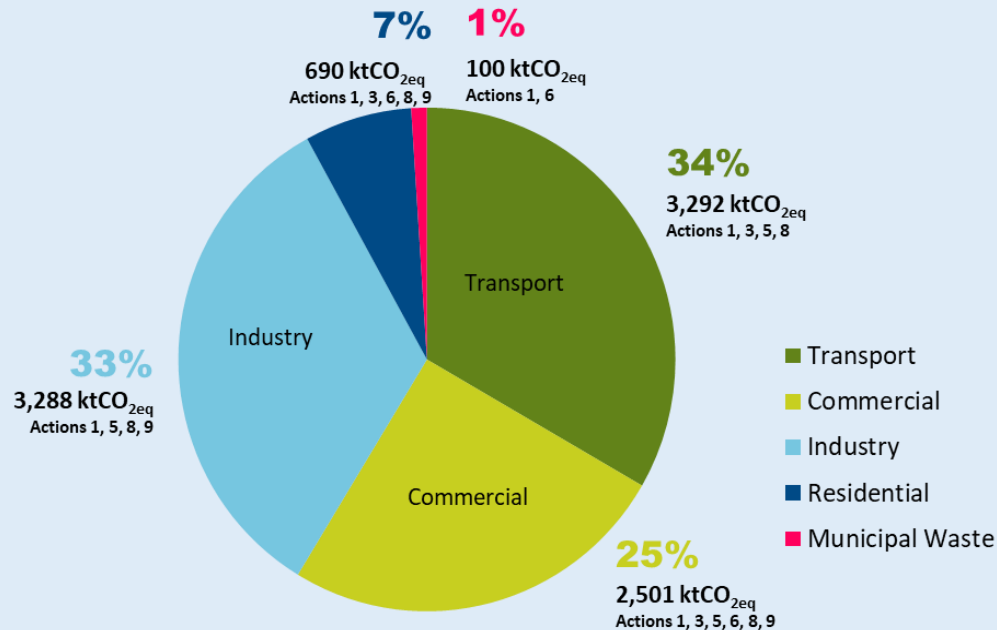
MONITORING



# SUPPORTING GLOBAL ACTIONS TOWARDS NET-ZERO EMISSION BY 2050 AND CLIMATE RESILIENCY

## CLIMATE MITIGATION TARGET

Reduction in Greenhouse Gas Emission Intensity (base 2010) by **70%**



Iskandar Malaysia 2030 Sectoral GHG Emission Reduction Potential (ktCO<sub>2eq</sub>) and Contributing LCS Actions

## CLIMATE ADAPTATION TARGET

Coordinate and facilitate multiagency platforms and collaborations in developing a climate-resilient city and community

1

FLOOD RISK



To increase the **city and community's resilience against flood risk** and lessen damage to property and death by 50% by 2030.

2

SEA LEVEL RISE



To increase Iskandar Malaysia's **resilience against sea water level rise by 50%** by 2030, especially to protect all beach natural resources and communities.

3

COASTAL EROSION



To increase Iskandar Malaysia's **resilience against coastal erosion impact** by 50% by 2030, specifically safeguarding natural coastal resources and communities.

4

COMMUNITY



To increase the Iskandar Malaysia **community's resilience and adaptation capacity** towards 2030 through community-based programmes.



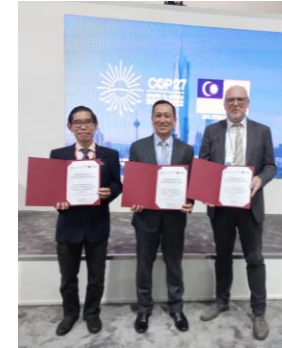
# INTERNATIONAL COLLABORATION



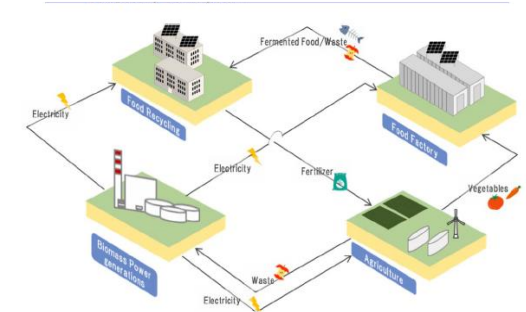
Member for GCOM -Global Covenant of Mayors for Climate & Energy Since 2017



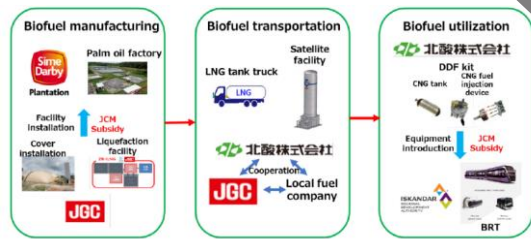
One of the 5 selected cities under the UNDP-GEF-funded Green Technology Application for Low Carbon Cities (GTALCC) programme.



Collaboration with Deltares and UTM - Iskandar Malaysia Coastal Resilience And Climate Adaptation Centre



City to City Collaboration City of Kitakyushu- Realizing Industrial Symbiosis with CO2 Free Energy and Industrial Symbiosis.



Collaboration between the City of Toyama- Urban Development Projects through Decarbonized Transportation using Bio-fuel, BaaS initiative, and Low Carbon Zone.



UK Foreign Commonwealth Office Prosperity Fund - Smart integrated mobility management system and Capacity building on data analytics.



West Midlands Combined Authority

City to City Collaboration: with West Midland Combined Authority, Birmingham on Transportation & Mobility



U.S. Trade and Development Agency - implementation plans for the Iskandar Malaysia Urban Observatory (IMUO)



# LOW CARBON PROGRAMME IMPLEMENTATION AND MONITORING

## ACTIONS / IMPLEMENTATION

- Completed more than 60 programmes with 200 still ongoing.



Iskandar Malaysia Ecolife Challenge



Segget River Revitalization Project



Partnership for Interdisciplinary Studies for Shoreline Ecosystem



Sudut Lestari @ Perpustakaan Sultan Ismail



Green Accord Initiatives Award



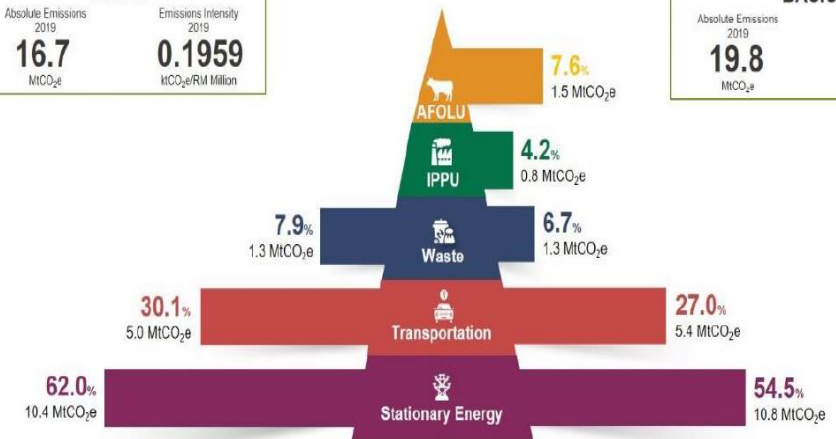
Bas Iskandar Malaysia Bas Ekspres Transit

## MONITORING

- The **FIRST** region in Malaysia to use and comply with recognised international standard – the Global Protocol for Community-scale Greenhouse Gas Emission (**GPC**)
- Iskandar Malaysia's **GHG Inventory 2019** - the emissions intensity of GDP shows a **significant decrease of 19.7%** using 2010 as the base year.

BASIC	
Absolute Emissions 2019	Emissions Intensity 2019
16.7	0.1959
MtCO <sub>2</sub> e	ktCO <sub>2</sub> e/RM Million

BASIC+	
Absolute Emissions 2019	Emissions Intensity 2019
19.8	0.2320
MtCO <sub>2</sub> e	ktCO <sub>2</sub> e/RM Million



AFOLU: Agriculture, Forestry and Other Land Use ; IPPU: Industry Processes and Product Use

Note: MtCO<sub>2</sub>e – million tonnes of carbon dioxide equivalent



# LOW CARBON PROGRAMME IMPLEMENTATION- Quadruple Helix Collaboration



## Johor Bahru City Council Sudut Lestari - Library Sultan Ismail, Johor Bahru

- Promotes environmental education, environmental activities, eco-friendly lifestyles, and implement capacity buildings programmes.
- Collaboration with City of Kyoto, Kyoto Environmental Activities Association (KEAA), Johor Bahru City Council (MBJB), Iskandar Regional Development Authority (IRDA) and Japan International Corporation Agency (JICA) from 2021 until 2025.

## Iskandar Puteri City Council Low Carbon Community Grant

- To fund community projects related to low carbon.
- 71 projects by local champion.
- The grant was awarded by the Iskandar Puteri City Council (MBIP) through a quadruple helix collaboration with Universiti Teknologi Malaysia (UTM), Iskandar Regional Development Authority (IRDA), Johor State Education Department (JPNJ) and SWM Environment Sdn Bhd.

## Iskandar Malaysia Eco-life Challenge

- Create awareness of Low Carbon Society (LCS) among students, teachers, families and communities in achieving the target of carbon reduction.
- A high impact project organized by Johor State Education Department (JPNJ), Iskandar Regional Development Authority (IRDA) and Universiti Teknologi Malaysia (UTM) since 2013.
- Main Partners: Iskandar Puteri City Council (MBIP), SWM Environment Sdn. Bhd., Ranhill SAJ Sdn Bhd and Sunway Iskandar Sdn Bhd.



# PRESERVATION & CONSERVATION INITIATIVES BY GOVERNMENT



**Tanjung Piai National Park (2018)-**  
Revetment and breakwater  
(RM 78 million)



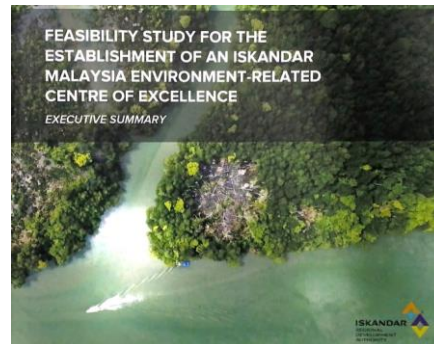
**Pulau Kukup National Park (2016)-**  
Infrastructure enhancement  
(RM 6 million)



**Sungai Pulai Forest Reserve (2016)-**  
Survey of Boundary and Installation of  
Numbered Markers (RM 1 million)



**Sungai Johor Strategic Framework (2019)-** Plans and initiatives to protect and enhance Sungai Johor.



Feasibility Study for the Establishment of Environment-related Centre Of Excellence (2019)



Malaysia Biodiversity Information System (MyBIS) (2018-2020)



Partnership for Interdisciplinary Studies for Shoreline Ecosystem (since 2016)



# ADAPTIVE PLANNING FOR CLIMATE CHANGE AND BIODIVERSITY CONSERVATION IN COASTAL ECOSYSTEMS

## Coastal Data Repository

- **One-stop centre for knowledge and innovation in the planning and management of coastal ecosystems**
- **Stocktaking and coordinate coastal ecosystem related programmes** in Iskandar Malaysia such as conservation, research, restoration, community outreach and education



## PESISIR Coastal Observatory

- Geospatial Study- phase 1 (2021)
- **Tracking coastal changes** over extended periods of time.
- **Monitoring coastal environment** through observatory systems e.g. sensors for salinity, temperature, pressure, water current speed, array of temperature sensors, underwater camera etc.



## Disaster Risk Reduction – Coastal Risk

- **Assessing coastal risk from natural hazards through modeling** and other means.
- Identify various measures; structural and nonstructural, for **risk reduction in coastal areas.**
- Integrate **DRR into climate adaptation planning.**
- Develop a list of actions to reduce the risk in coastal areas.



ADAPTATION FUND

### End Goal:

One stop centre for coastal related initiatives & Partnership for betterment of coastal area

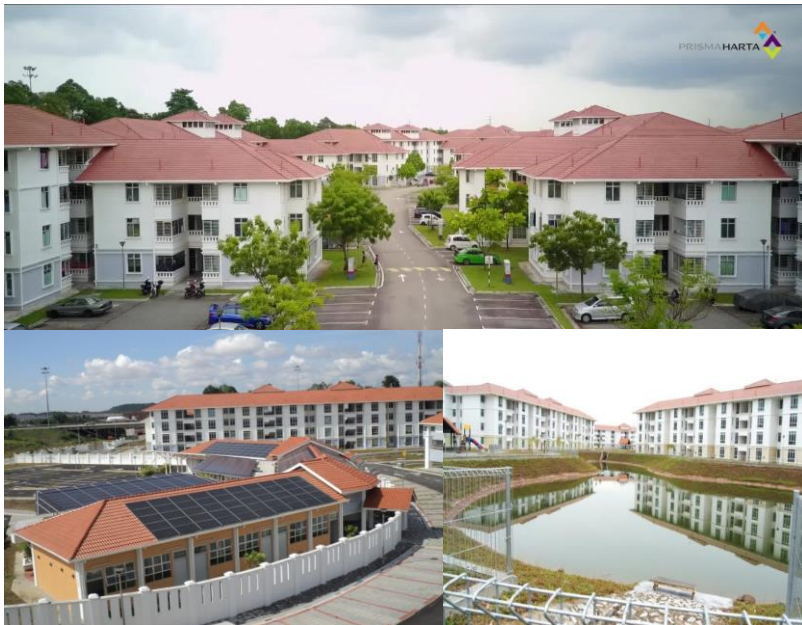
Decision making based on data

Tracking and monitoring coastal changes

Enhance Rehabilitation effort

# KEY STRATEGIC PROJECT : RUMAH ISKANDAR MALAYSIA

- ✓ Rumah Iskandar Malaysia is a **transit house project** funded by the Federal Government through RMK 9 on state land in 2012.
- ✓ **1500 units in an area of 60 acres** and managed by Prisma Harta Sdn Bhd, a 100% wholly owned subsidiary of IRDA
- ✓ **Quality rental housing with improved public facilities.**
- ✓ **Higher quality living environment** for the community with **sustainable development anchored by green technology and environmentally friendly features** : 90% industrialised building system (IBS), electricity generation from solar cells-210 kwh, Rainwater Harvesting ponds, green paint-reflect 95% of sun, cool roof system.
- ✓ Monthly **programme with community** on collection of recyclable and regularly conduct environmental programme and activity.



## Achievements



2<sup>nd</sup> place in Prime Minister's Innovation Award 2014



**66% Cheaper**

Average monthly rental rate per square foot



**97%** Residents are satisfied with the facilities provided.

### ENVIRONMENT



### ECONOMIC



### SOCIAL



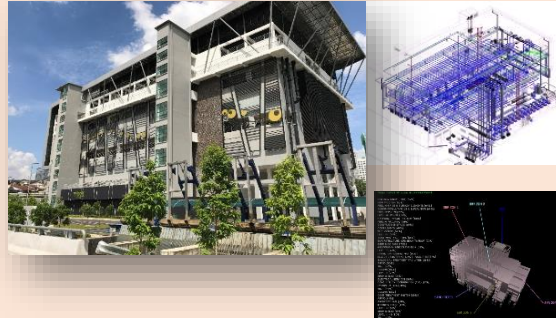


# KEY STRATEGIC PROJECT : SG. SEGGET REJUVENATION



## PACKAGE :

01



### Centralised Sewerage Treatment Plant (CSTP)

- **SCOPE** - Construction of Centralised Sewerage Treatment Plant (CSTP)
  - ✓ Capacity of 150,000 PE
  - ✓ Treated Effluent Achieved Standard A

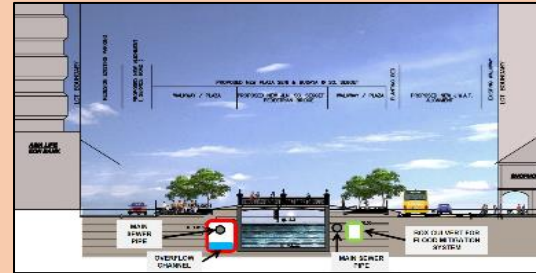
Integrates 2 world class infrastructure system to achieve Class II B water quality:

- ✓ **Sequencing Batch Reactor (SBR)** system
- ✓ **Supervisory Control and Data Acquisition (SCADA)** monitoring system
- **STATUS:**
  - Construction completed in 2017.
  - The treated water from CSTP successfully achieved **Class II B** and discharged back to *Sungai Segget*. Water is **reuse** as **water feature in artificial swale** (by gravity) for Package 3

\*1<sup>st</sup> combined sewer system (sewerage + drainage) in Malaysia  
 \*1<sup>st</sup> vertical CSTP in Malaysia

## PACKAGE :

02



### Flood Mitigation and Sewerage System

- **SCOPE** - Construction of new river channel, flood mitigation system, and installation of main sewer pipes

### Re-engineering and improvement of the underground *Sungai Segget* channel :

- ✓ Channel design for 100 years ARI
- ✓ Reconstruction of flood channel
- ✓ Construction of new drainage and pumping system for low lying area
- ✓ **SCADA system for flood monitoring**

### • STATUS :



- Construction completed in 2017.
- **No flood on *Sungai Segget* and *Jalan Wong Ah Fook* since this package completed until today.**

## PACKAGE :

03



### Sungai Segget Beautification and Landscape Works

#### • SCOPE :

- ✓ Construction of landscape works (hardscape/softscape)
- ✓ Upgrading of *Jalan Wong Ah Fook*
- ✓ Painting works on building façade



#### • STATUS :

- ✓ Construction completed in April 2022.

### SUSTAINABLE DEVELOPMENT GOALS



### Achievements

Number of tourists  
**16 mil (2019)**  
 vs **6.42 mil (2015)**

GDV  
**RM91b**

From **Class IV** to **Modified Class IIB Standard A**

New Trade Area  
**15.8 mil sq.ft**  
 ↑ 25.4% (from 2017)

**NO** flooding occurred in urban areas.

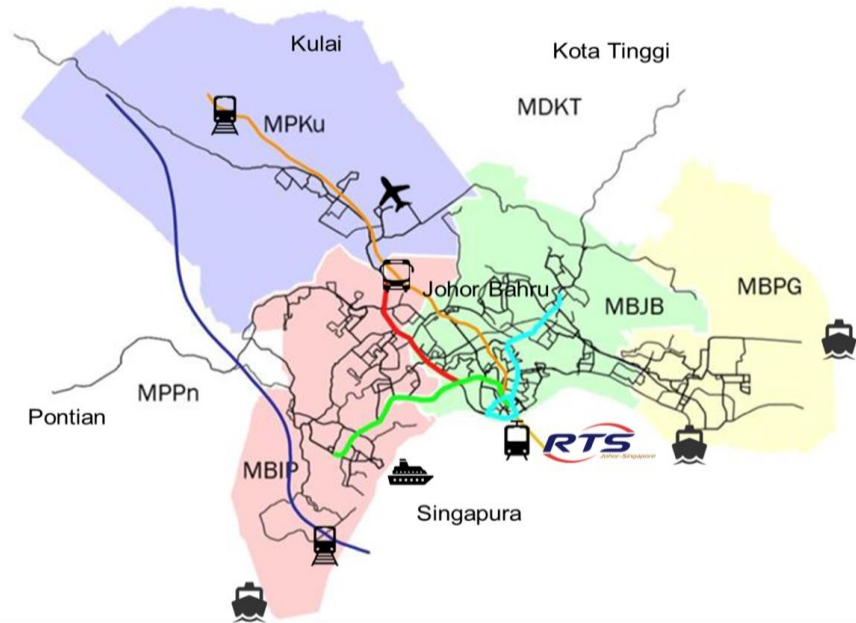
**71%** **POSITIVE RESPONSE** with facilities provided





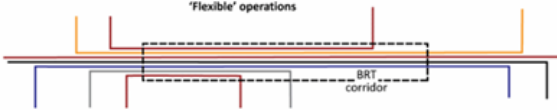





# KEY STRATEGIC PROJECT : ISKANDAR RAPID TRANSIT



- **RM 1.2 billion** – DE for infrastructure.
- **RM 1.5 billion** – private sectors - on operations management system, rolling stocks, ticketing system, fleet management, control centre, etc.
- **Revenue Risk?**



 <p><b>Catchment</b> <b>90%</b> ↑ 39%</p>	 <p><b>Frequency</b> <b>10 – 30 min.</b> ↑ 50 – 160 min.</p>
 <p><b>Routes</b> <b>92</b> ↑ 47</p>	 <p><b>Total Fleet</b> <b>780 (2030)</b> ↑ 389 (2019)</p>
 <p><b>3 Trunk, 47 Direct &amp; 42 Feeder</b></p>	 <p><b>Daily Ridership</b> <b>344,500 (2030)</b> ↑ 29,000 (2019)</p>
 <p><b>Length</b> <b>1,954km</b> ↑ 710km</p>	 <p><b>Local Operators</b> <b>1 Jenama, IRT</b> ↑ 7 bus operators</p>

# THANK YOU

More info through IM website



SCAN ME



IskandarMalaysiaOfficial



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