PRIME MINISTER'S DEPARTMENT

ISKANDAR MALAYSIA SINCE 2006

ISKANDAR REGIONAL DEVELOPMENT AUTHORITY

[City to City Knowledge Exchange Programme]

Implementation Strategies for Smart Integrated Mobility Management System and Evidenced Based Urban and Transport Planning for Iskandar Malaysia

By

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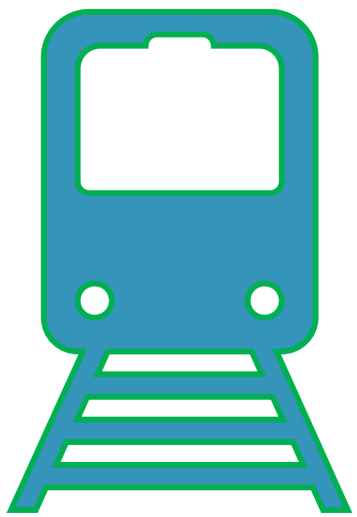
Presentation Outline



- **Smart Integrated Mobility Management System, the project**
- **Iskandar Malaysia, the location for the project**

- **Main deliverables and Current project Status**
- **Challenges, Intervention and Lesson Learnt**

Mobility as Key Urbanization Challenges for the Region

Case for Action

- IM experiencing a **rapid growth** in population, to reach about 3 million by 2025, from 1.5 mil in 2005 and currently at 2.1 mil population – excluding Singapore visitors
- Currently – Limited **reliable public transportation options,** have significant effect on the mobility of people and goods,
- Beside providing Bus Rapid Transit in near future, a long-term solution required to **optimise transportation network and services** to move people and goods within IM and neighbouring country
- **Integration** and **mobility improvement** is a key focus and the Global Future Cities Programme (GFCP) aims to address this through the Iskandar Malaysia Project.

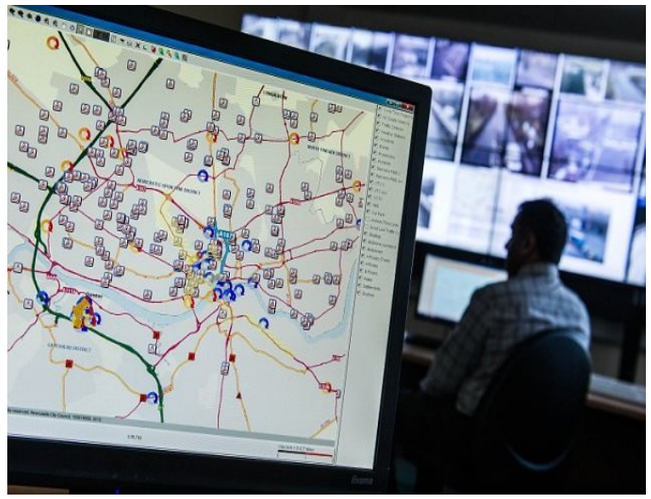
Source: MottMcdonald SIMMS – Global Future Cities Program 2021

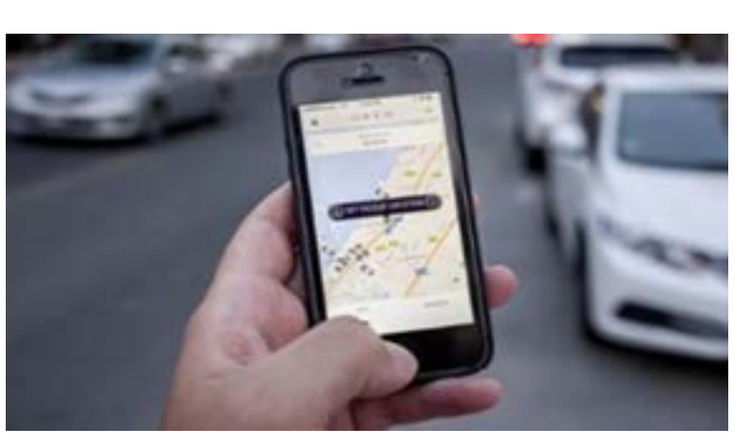
What is SIMMS - Smart Integrated Mobility Management System?

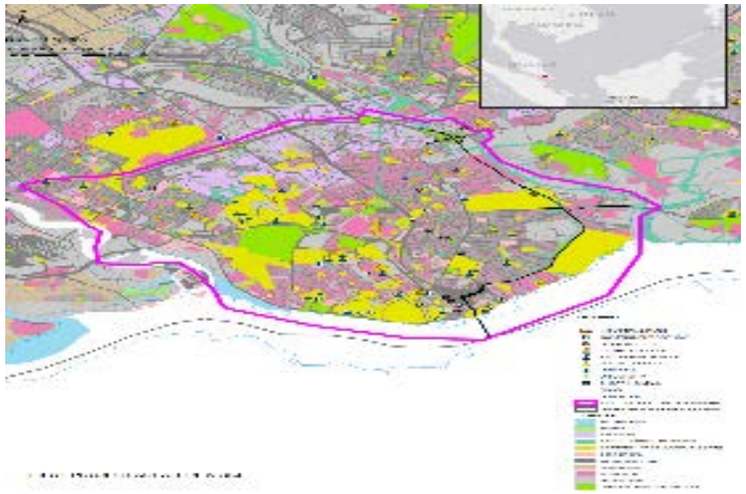
Integrated Mobility Management System

Bringing it all together as SIMMS:

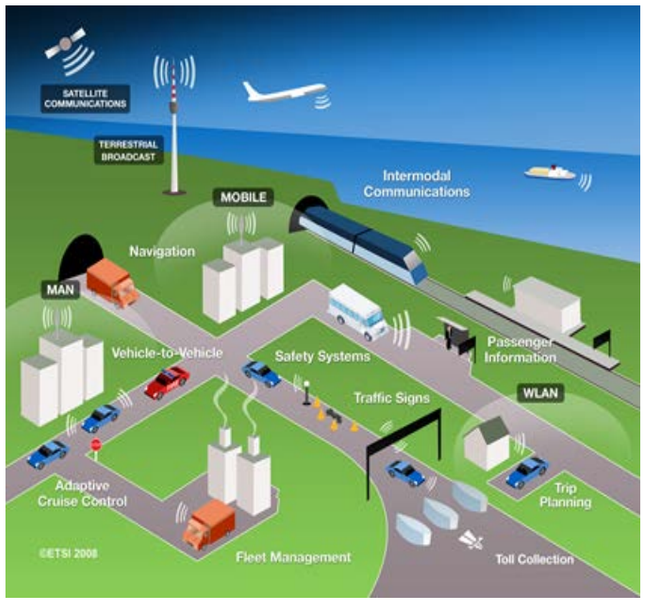
- a system that uses data (via smart technologies and Integrated Transportation System component) to allow for management of transportation networks in Iskandar Malaysia.





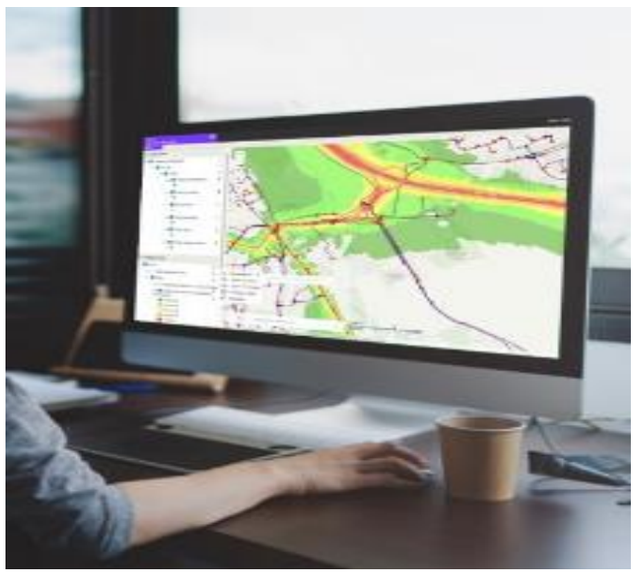


The Global Future Cities Programme deliver two interventions for Iskandar Malaysia



1. Provide an Implementation Strategy for a Smart Integrated Mobility Management System (SIMMS)

- Optimise road network.
- Minimise traffic congestion, reduce GHG, air & noise pollution.
- Attain efficiency gains for travel time and cost, mobility management.
- Allow data collection for Evidence based Urban and Transport Planning (E-bUTP).



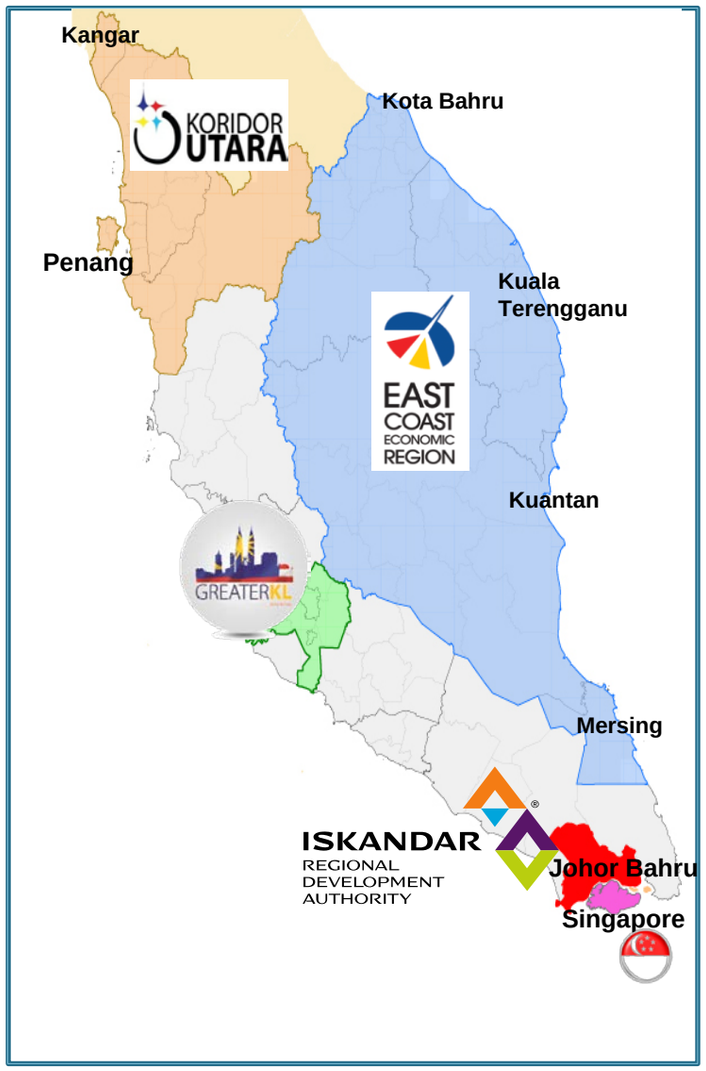
2. Create Enabling Conditions for Data Utilisation and Management for Evidence-based Urban and Transport Planning (E-bUTP)

- Integrate and utilise data for sustainable planning.
- Improved understanding of travel needs of GESI groups.
- Better understanding of how to promote modal shift to public transport.
- Efficiency gains in planning processes.
- Data sharing across different sectors & authorities.

The project coverage – Iskandar Malaysia region with 3 cities and 2 municipalities

Global and Regional Context

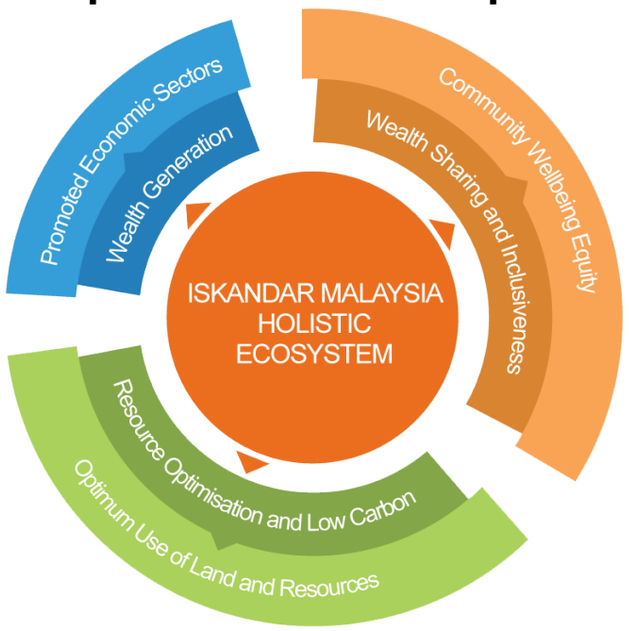
- Established in **2006.**
- An economic development corridor in the **Southern Johor, Malaysia**.
- Encompasses an area of **2,217 sqkm**, which is **3 times bigger** than Singapore.



Iskandar Malaysia covers **FIVE** local planning authorities.

Alignment of SIMMS to Iskandar Malaysia agenda

Comprehensive Development Plan : 2014 - 2025)



Circle of Sustainability

Low Carbon Society Action Plans

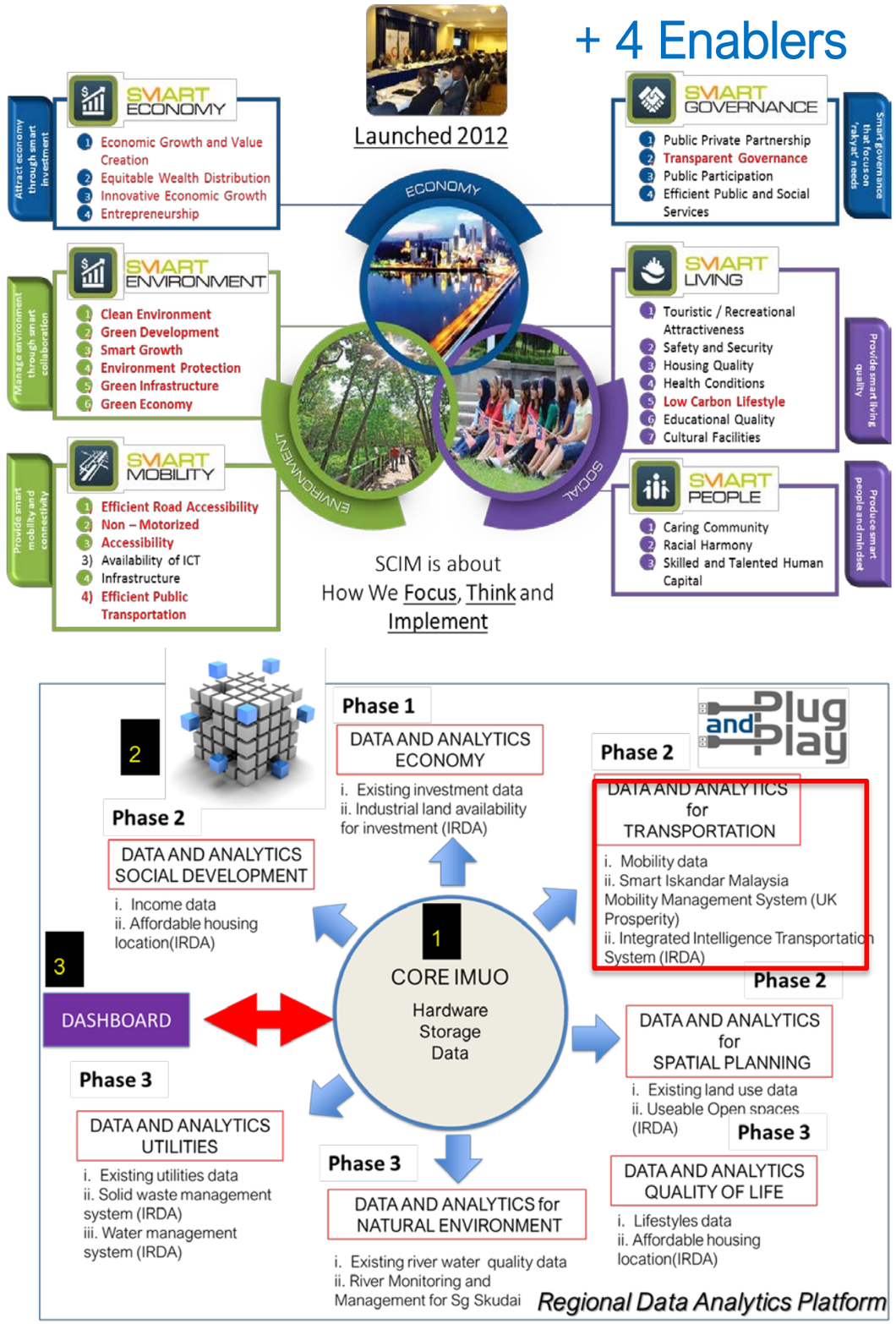
58% reduction of GHG emission intensity

40% emission reduction from BaU

2025

Base year 2010

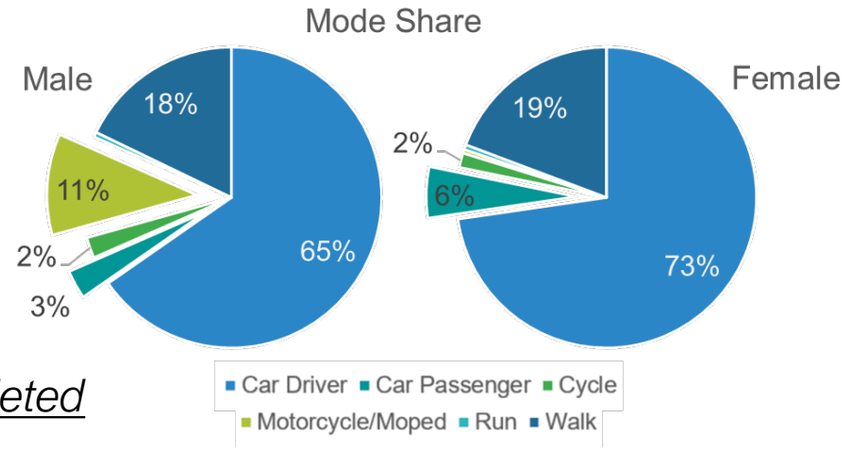
Smart City



The 7 Output for SIMMS - Iskandar Malaysia

Source: Mott Macdonald SIMMS – Global Future Cities Program 2021

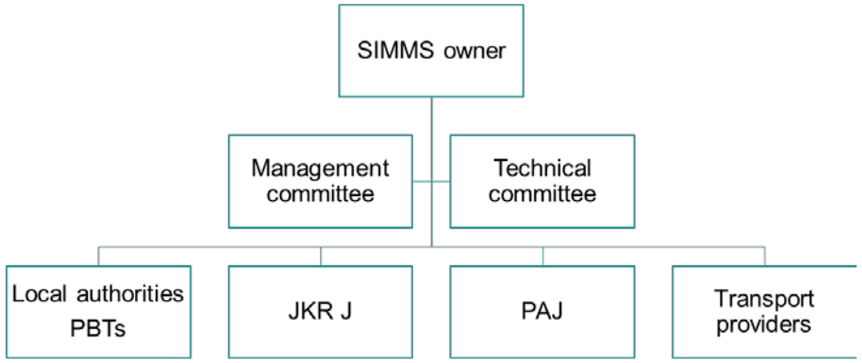
Baseline Assessment and Analysis and Stakeholder Engagement Plan



Completed

Output 1 : Baseline Assessment and Analysis

- Framework Development for SIMMS and for Data Utilisation and Management for Evidence-based Urban and Transport Planning



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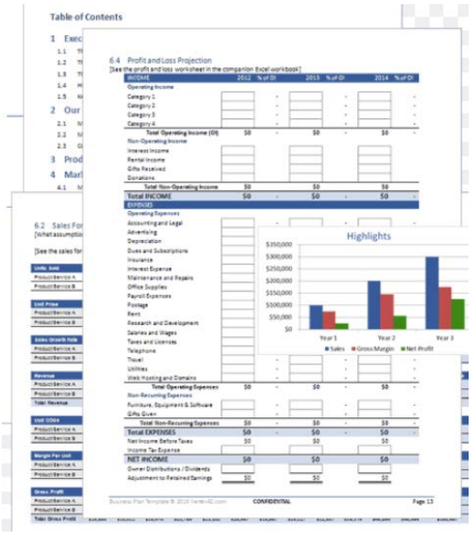
Output 4 : Governance Framework

- Cost, procurement, business plan
- Data Utilisation and Management for Evidence-based Urban and Transport Planning – cost, governance



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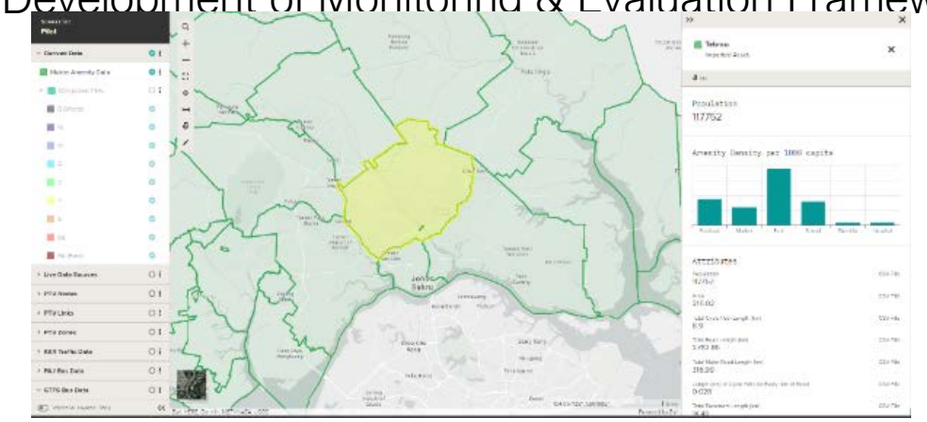
Output 5: Operational, Business & Financial Model

- Identification of Existing Tools
- Development of Monitoring & Evaluation Framework



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Output 7: Monitoring Framework and social, Environmental and Economic Impact Assessment

Output 2: Intervention 1 - Implementation Strategy for SIMMS and ITS Masterplan and Implementation Plan

draft/work in progress

Source: Mott Macdonald SIMMS – Global Future Cities Program 2021

- Definition of Success Factors
- **Technical Design** of SIMMS
- **Technical Specifications** and **Roadmap**
- Facilitating the **Sustainable Long-term Operation** of the SIMMS

Interventions 1 & 2 leading to full realization of SIMMS & enabling conditions for E-bUTP

SIMMS PILOT

PART A
Smart GIS database/ portal

PART B
Traffic/ Transport Simulation Model

PART C
Traffic Management Application

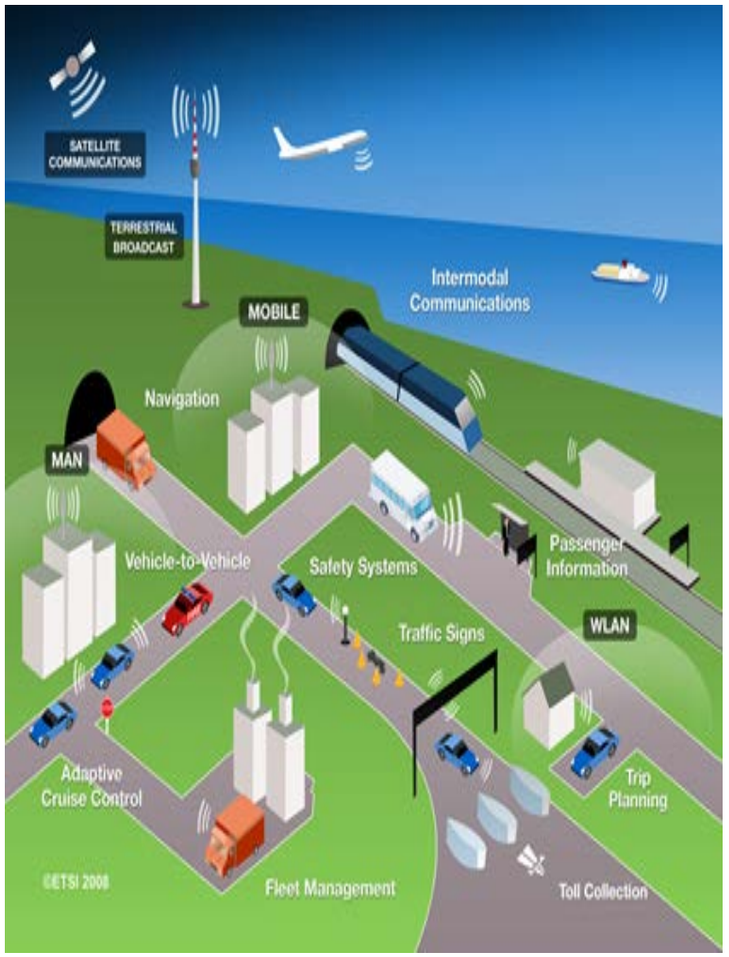
Part A & Part B continue during procurement phase for SIMMS

Part C 'paused' during procurement phase

FULL DEPLOYMENT

- **Procurement completed**
- **Operator engaged**
- **Infrastructure in place**
- **Full SIMMS roll-out**

*"Application of **technologies** to improve **efficiency** by better **enabling** and **managing** transport **services***



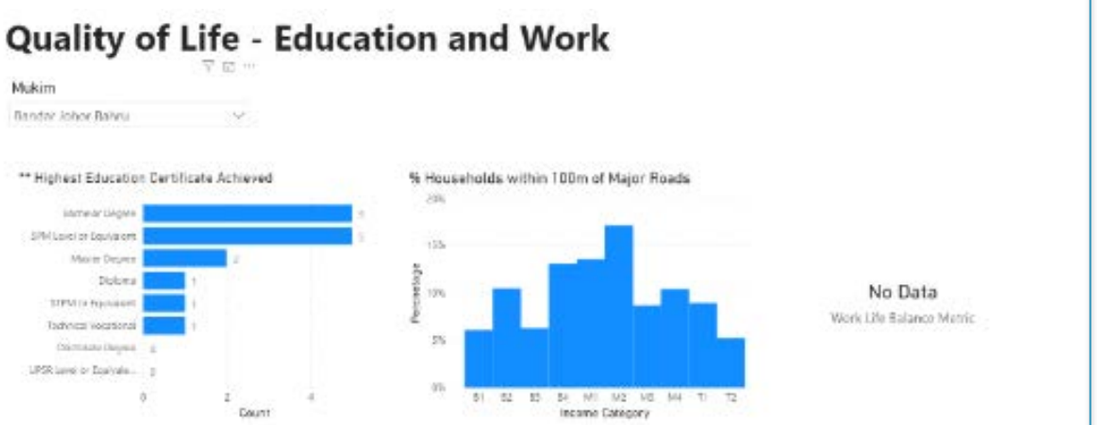
Output 3: Intervention 2 - Creating enabling conditions for data utilisation and management for evidence based urban and transport planning

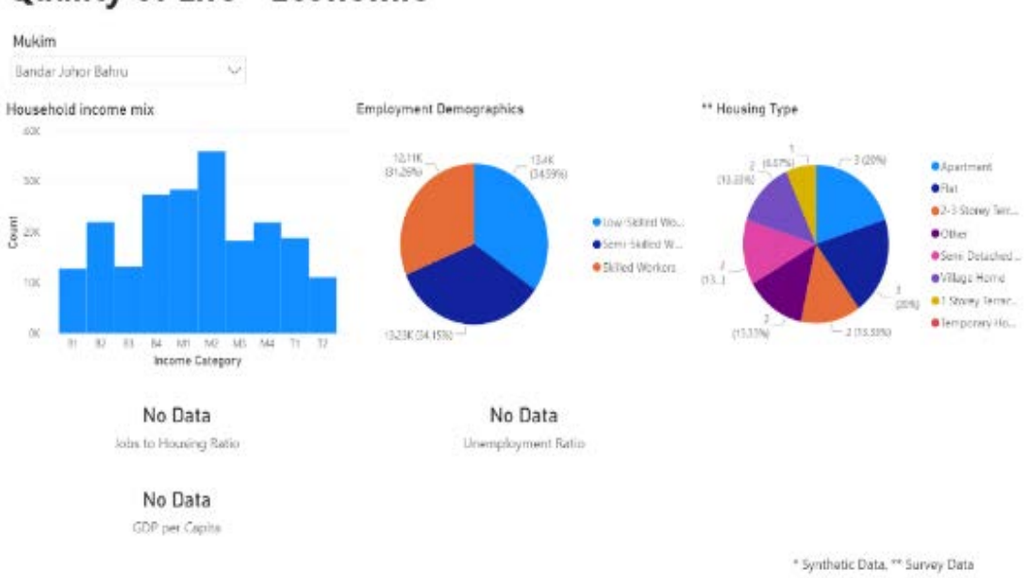
draft/work in progress

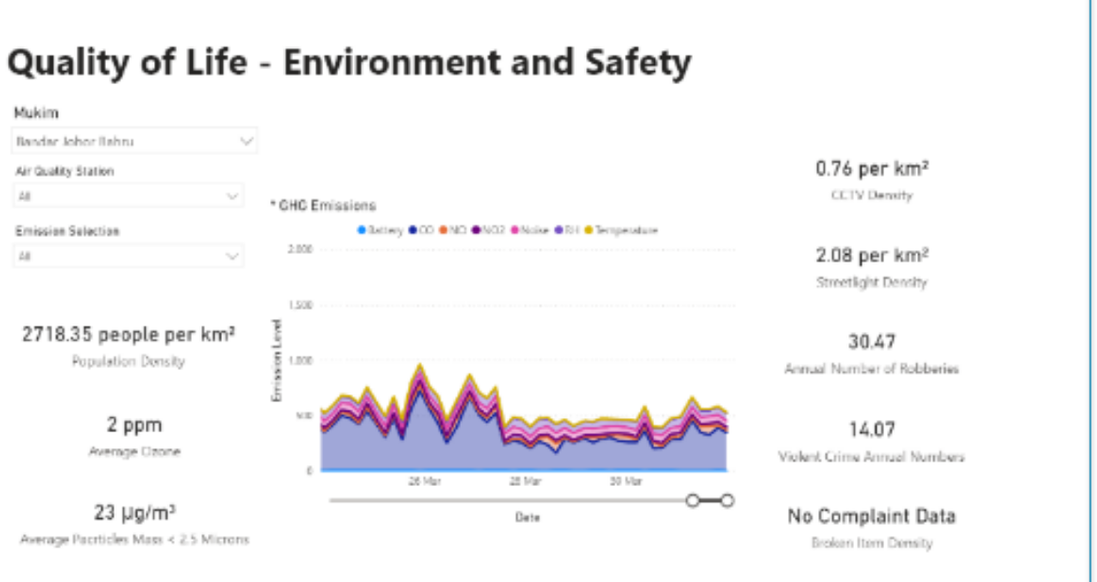
Source: Mott Macdonald SIMMS – Global Future Cities Program 2021

- Definition of Success Factors
- Technical Design to Enable Data Utilisation
- Capacity Building

- **Technical Design** to Enable Data Utilization
- **Technical Specifications** for Tender Documents
- **Smart GIS**







Data gathering and catalogue completed - dashboard

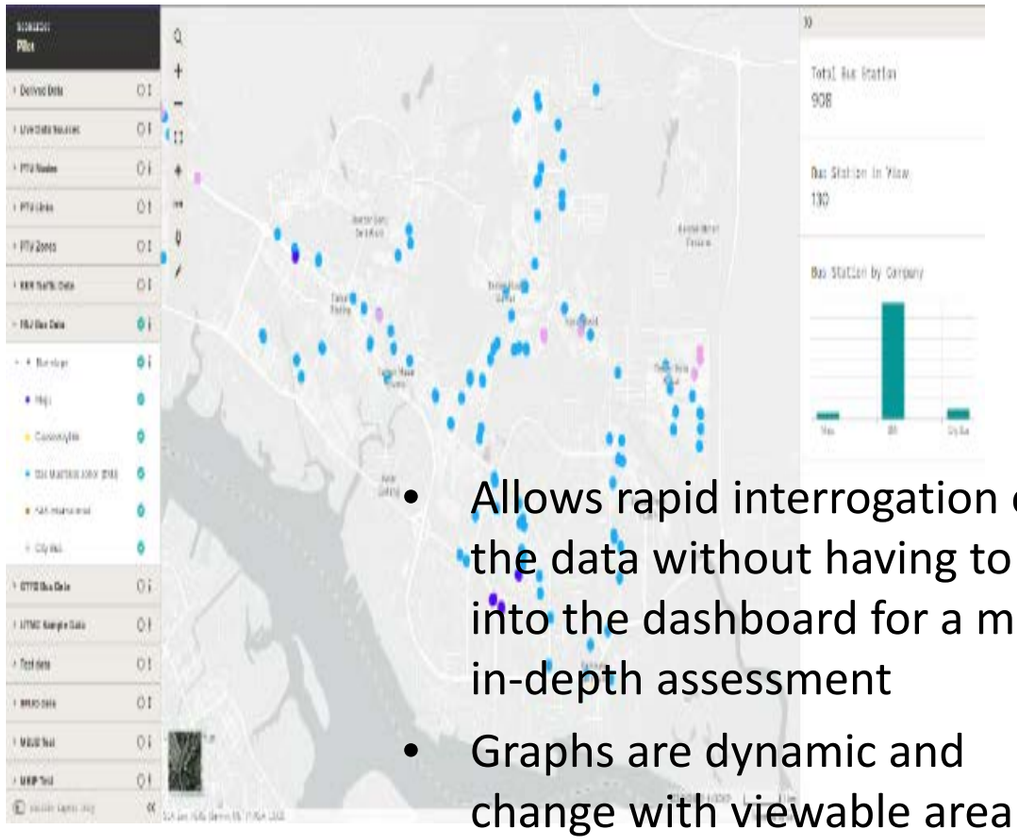
Output 6: Pilot Projects

draft/work in progress

Source: Mott Macdonald SIMMS – Global Future Cities Program 2021

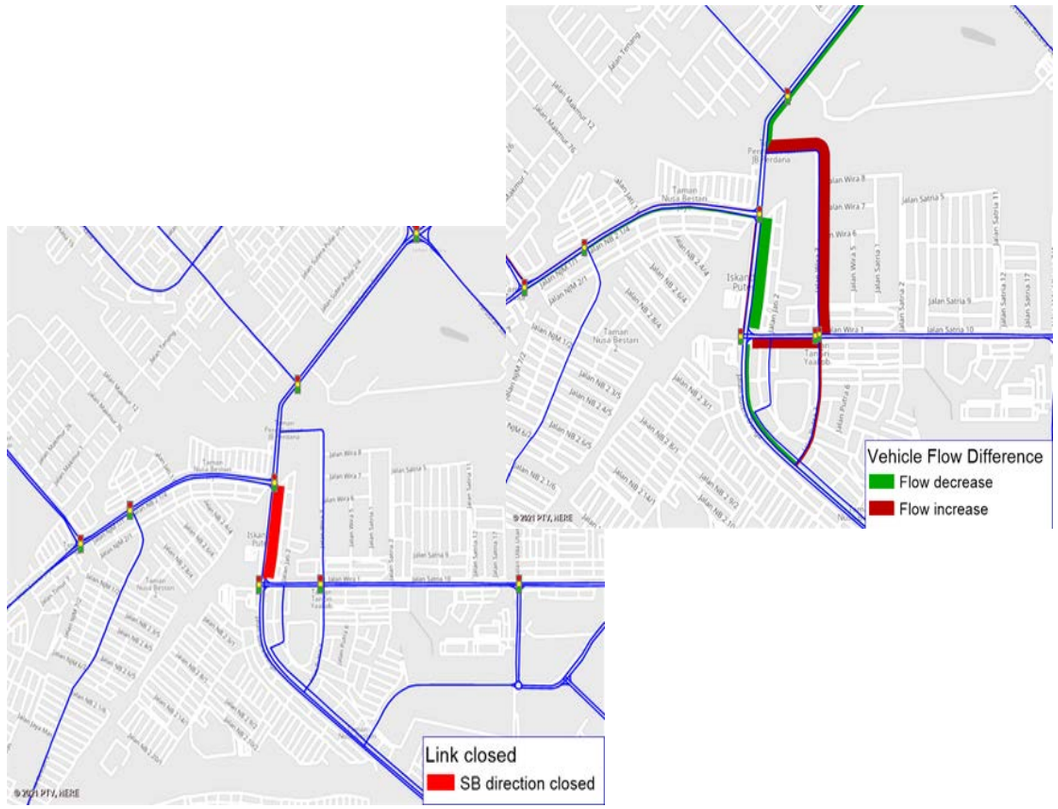
- Project Selection
- Pilot project design –
  - Traffic modelling,
  - ITS Hardware Control Centre Layout,
  - ITS software,
  - Smart GIS,
  - Integration, Test, Commission and Launch SIMMS

Draft / Work in progress



- Allows rapid interrogation of the data without having to go into the dashboard for a more in-depth assessment
- Graphs are dynamic and change with viewable area of map

Smart GIS pilot for Spatial Management



example of the application of the mesoscopic model

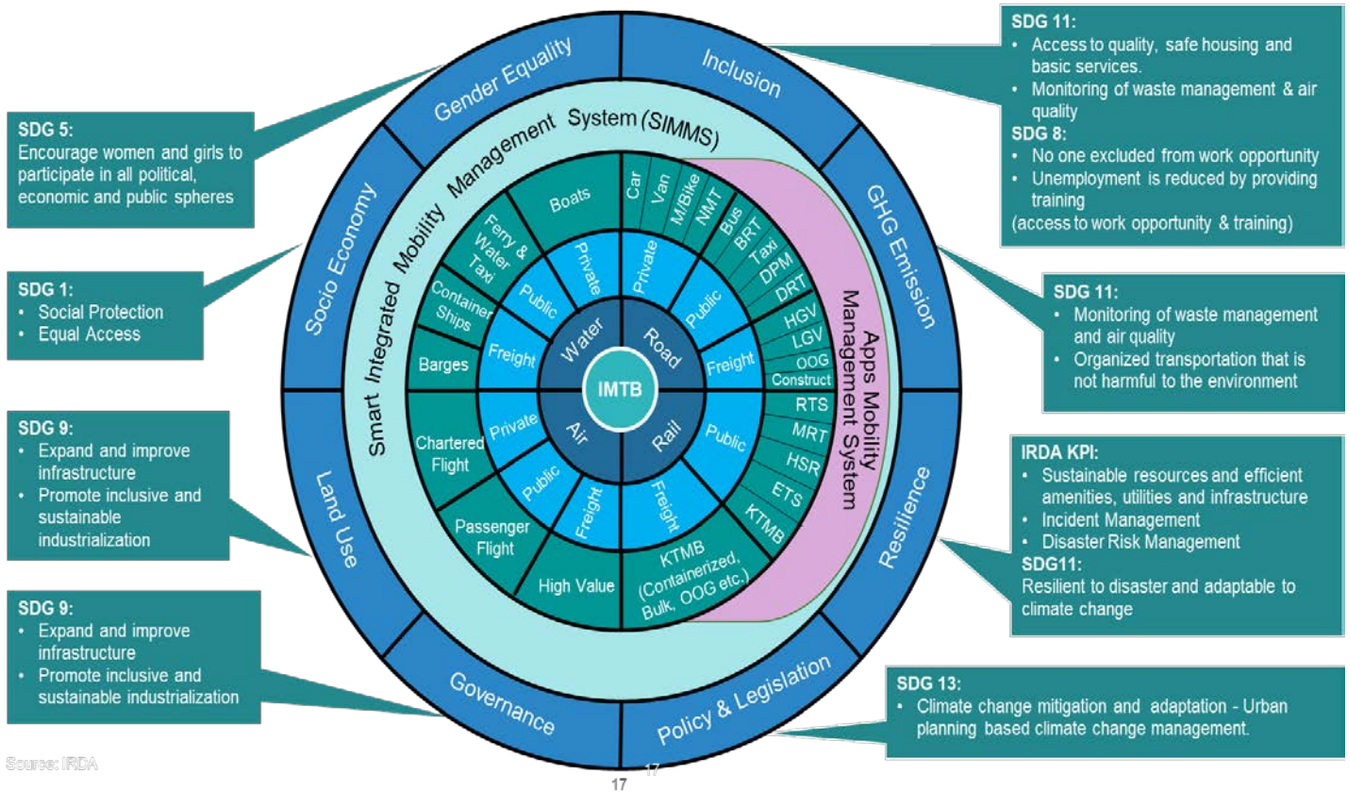
Transport Model on Pilot area

GESI - Gender, Equality & Social Inclusion as SDG tools

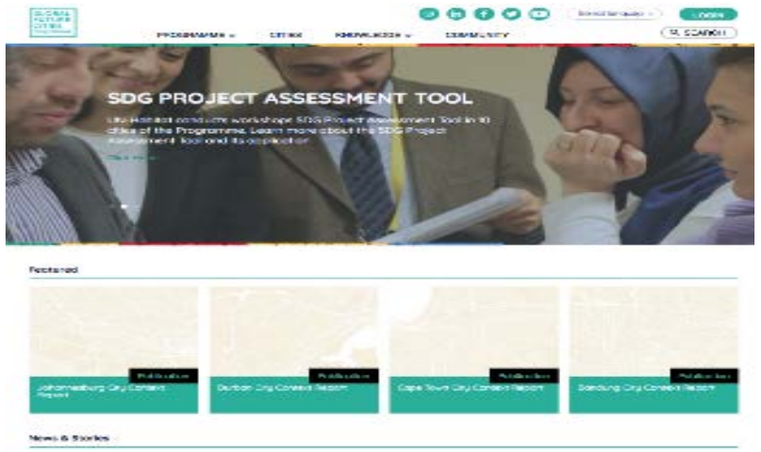
Source: UN Habitat –GESI program for SIMMS

Interventions 1 & 2 are expected to have a variety of interlinked GESI, environmental and economic impacts such as:

- **Gender, Equality & Social Inclusion (GESI)** is built into SIMMS, with **improved mobility** leading to **reduced travel costs & duration**, improving accessibility particularly for low-income users;
- **Empowerment** of women, persons with disabilities (PWDs), low income and other marginalised groups in the mobility and data sectors through **capacity building**;
- A **healthier** and less stressful urban environment due to **increased road safety**, **reduced air and noise pollution**, and more sustainable and evidence-based urban and transport planning.
- **Reduced congestion** and shortened journey times leading to **reduction in GHG** emissions and other pollutants, including micro-particles;
- More **economically sustainable urban and transport planning**, and efficiency gained in planning processes due to data sharing across agencies and departments;
- **Increased connectivity** between residential and economic areas and reduced travel times, which contributes to the overall productivity; and **improved employment** and income prospects.

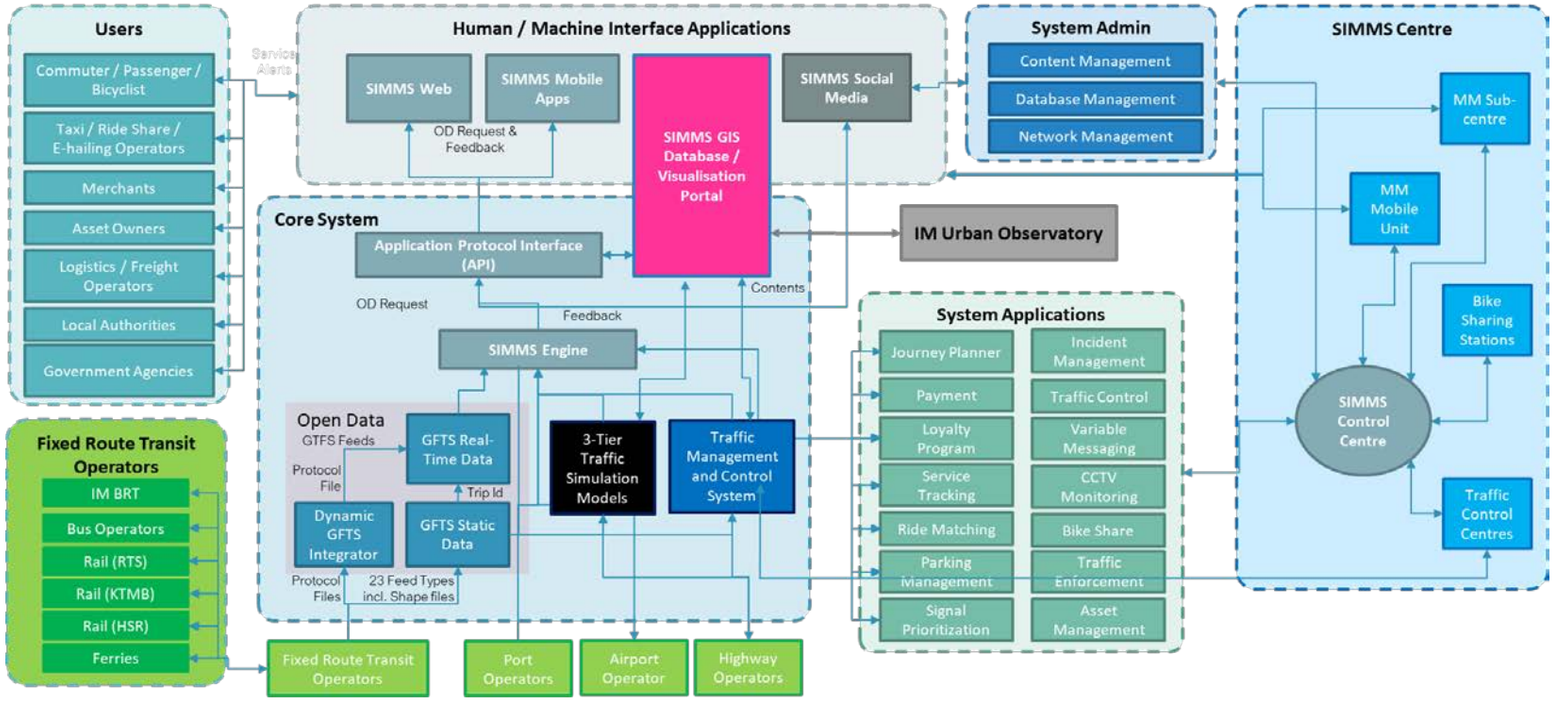


Key Challenges, Intervention and Lesson Learnt

Challenges	Intervention	Lesson Learnt
1. Understanding of overall concept for SIMMS, buy in and inclusiveness - Integrated Mobility Management is a new concept; not many stakeholders expose to the concept - Unsure if the project can enhance mobility in IM - Concern if the mobility system cater for different types of communities	• Formation of Technical and Steering Comm for ownership and buy in • Continuous stakeholder engagement • Awareness and capacity building focus • Formed community driven group to champion – GESI  • Mobile base on line survey	• Engagement to be small and focus • Capacity building at earlier stage to ensure understanding • Key success for project depend on stakeholders and community participation as they are end user and provide input to the user requirement needs 

Key Challenges, Intervention and Lesson Learnt

Challenges	Intervention	Lesson Learnt
2. Data gathering, sharing and privacy - Data in not the same attributes of data set - Data not able to share between operators and agencies - Resistant to sharing of data as lack understanding of data usage - Data privacy and security	• Provide detail explanation and justification for data request • Develop a clear data catalogue to assist integration • Data request from government agencies not private sectors	• Provide example of the data output for clearer picture • Develop MoU as necessary to expedite data sharing



Key Challenges, Intervention and Lesson Learnt

Challenges	Intervention	Lesson Learnt
3. Implementation Cost and self sustaining - Understanding the execution of projects - Budget limitation - How to self sustain the operational cost	• Develop sustainable business model in the study • Location owner solicit for local and international funding parallel to the on going stage of work	• Anticipating funding requirement before completion of project • Develop governance for the implementation and collaborate with others • Develop partnership with existing city for better understanding • Location owner syndicate internally and externally for business partners • Location owner solicit funding before completion of project

Key Challenges, Intervention and Lesson Learnt

Challenges	Intervention	Lesson Learnt
4. Execution agencies and governance - Lack of high level understanding of operational and execution requirements - Execution requires funding and identified agencies might not ready to execute - Concern on limited human resource for execution - knowledge on available technology, systems and implementation - Data security, liability and other data controlled by law	• Develop governance for the implementation • Knowledge sharing between cities - Transport for West Midland for better understanding • Location owner syndicate internally and externally for collaboration partners	• Develop partnership and join custodian for the project in early stage • Team selection should include the right skill sets not only transport planner but to include data analyse, scientist solution architects etc • Data security policy can follow national policy

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