

# 08

## REVIEWING THE EXISTING STRUCTURE PLAN FOR FACILITATING THE GROWING CHANGES IN THE ECONOMIC, SOCIAL AND ENVIRONMENTAL NEEDS OF NEGERI SEMBILAN.

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### ABSTRACT

The review of Negeri Sembilan State Structure Plan 2045 complies with the amendments or review of the state's five years' development plan. This planning document presents the strategies, policies, and general proposals that cover the whole state. The review also considers changes in policies at the state level to align with the policies at the national level. The process of preparation of the State Structure Plan is in accordance with the manual of PLANMalaysia. The review of Negeri Sembilan State Structure Plan 2045 consists of 5 development thrusts, 34 policies, 98 strategies, and nine high impact projects.

**Keywords:** Structure plan, development plan, planning system, Functional Interdependence Development Zone, project impact  
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### PROJECT INTRODUCTION

State Structure Plan (SSP) is a written statement on the policies and general proposals related to the development and use of land. The document covers social, economic and physical environment aspects of the area. The preparation of the State Structure Plan of Negeri Sembilan 2045 is based on Part III, Section 8 to 11, Town and Country Planning Act 1976 (Act 172). The primary purpose of this paper is to review the State Structure Plan of Negeri Sembilan to formulate policies, strategies and proposals that are applicable for the state until 2045 due to changes in development.

The study area covers the entire Negeri Sembilan State, located on the west coast of Peninsular Malaysia. Negeri Sembilan State consists of seven (7) districts, namely Seremban, Port Dickson, Jempol, Tampin, Kuala Pilah, Rembau and Jelebu (Figure 1 & 2), with a land area of 665,635.85 hectares.



Figure 1 and 2: Location Plan of Negeri Sembilan  
Source: Negeri Sembilan Structure Plan 2045

### METHODOLOGY

Figure 3 shows the process and stages involved in the preparation of a State Structure Plan Negeri Sembilan 2045

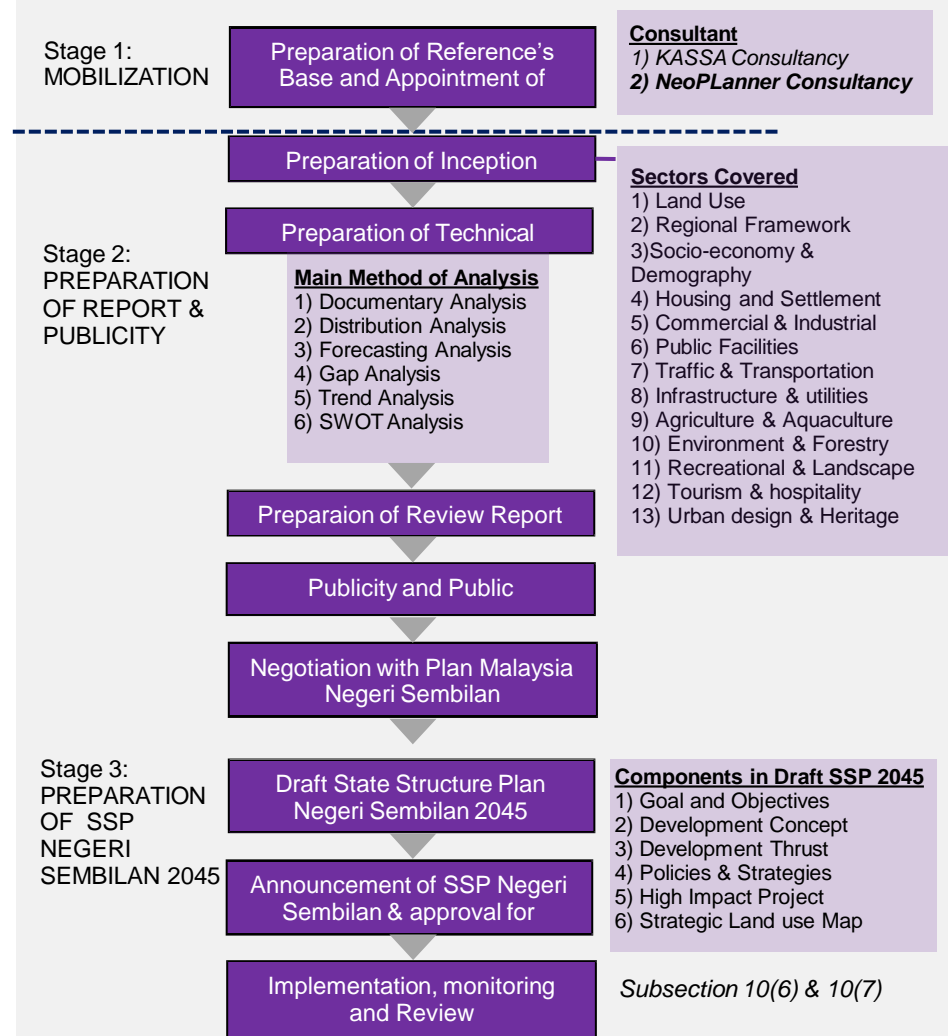


Figure 3: Process and Stages involved in the preparation of the State Structure Plan

# DEVELOPMENT CONCEPT

## ‘Functional Interdependence Development Zone’

This development concept shows both Primary and Secondary Development Zones in Negeri Sembilan (Figure 4) , which depend on each other. Every zone has its specific functions based on the current opportunities and prospects to support each other directly and indirectly.

The interdependency of every zone is shown through the relationship between both zones (Figure 5). The primary development zone contributes to the economic productivity with commercial, high-tech industries, physical developments, and the tourism sector. Meanwhile, the secondary development zone contributes to economic productivity through agro-production, eco-tourism and supporting industrial activities.

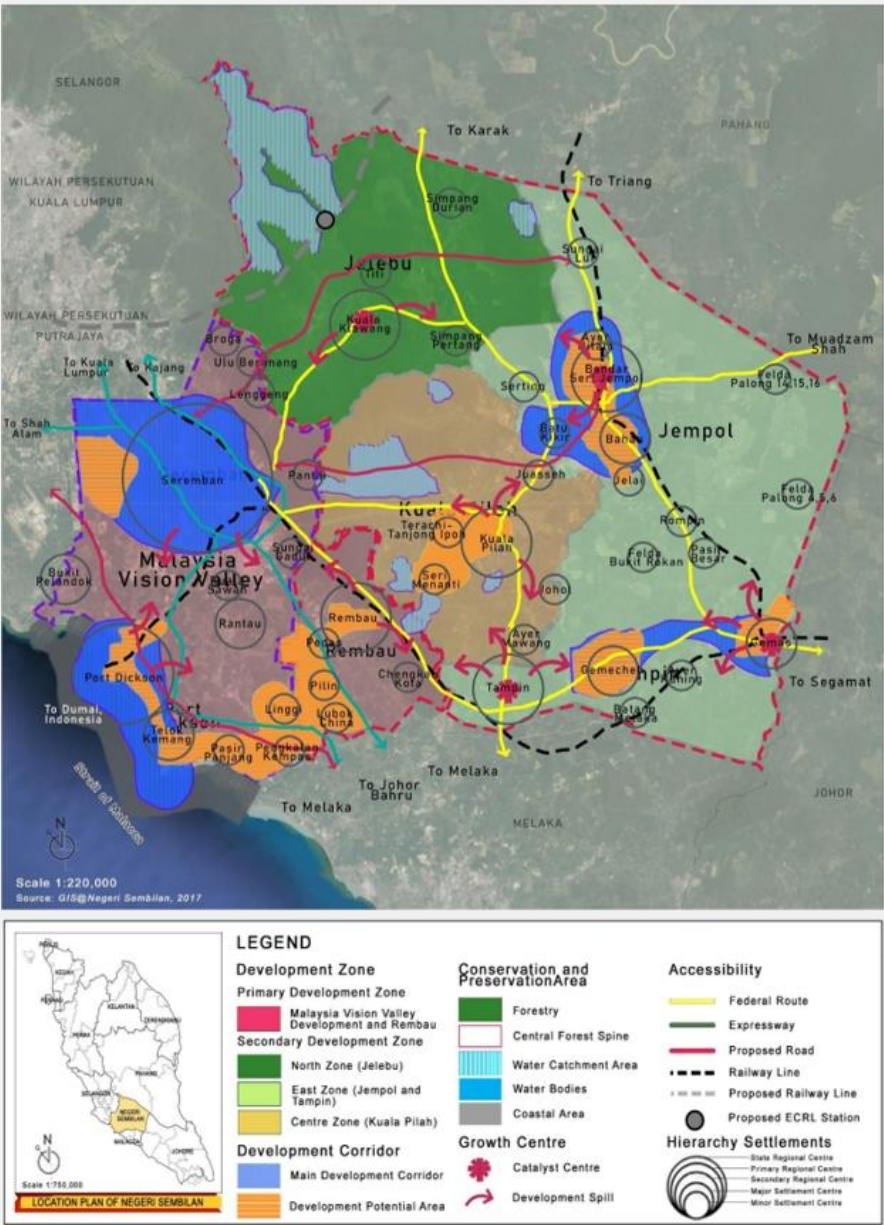


Figure 4: Development Concept of Negeri Sembilan State Structure Plan 2045  
Source: Negeri Sembilan Structure Plan 2045

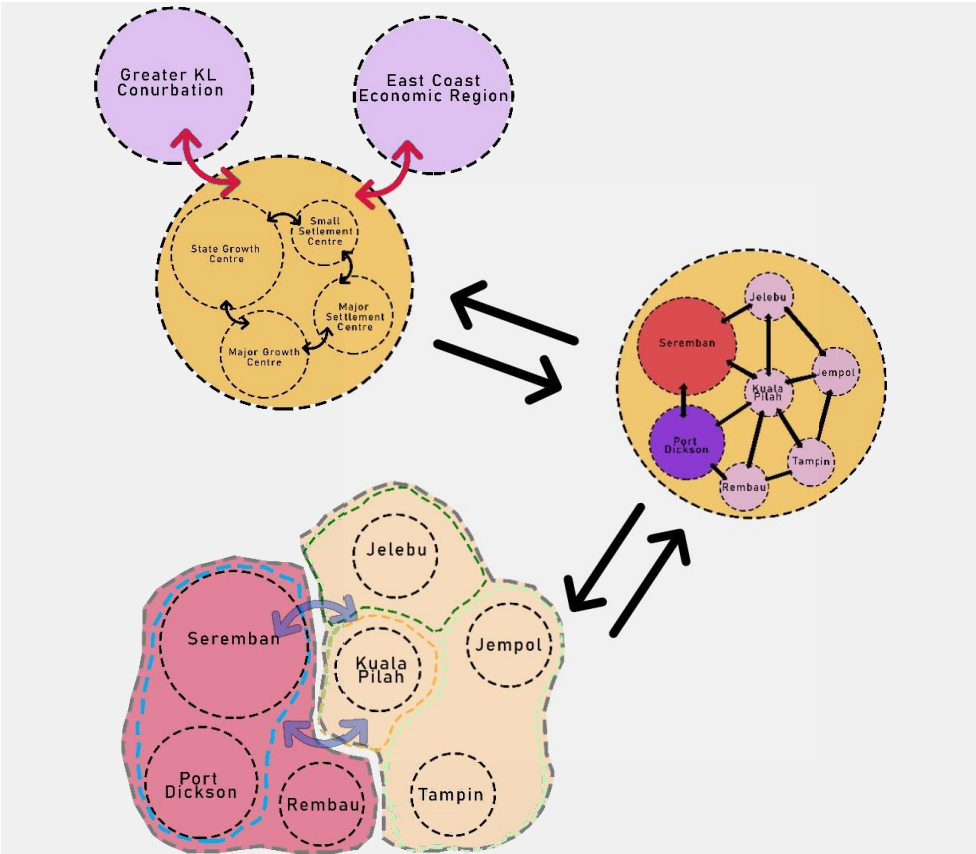


Figure 5: Process of Development Concept  
Source: Negeri Sembilan Structure Plan 2045

# DEVELOPMENT THRUST



## MAJOR FINDINGS: NEGERI SEMBILAN

### STRATEGIC ISSUES

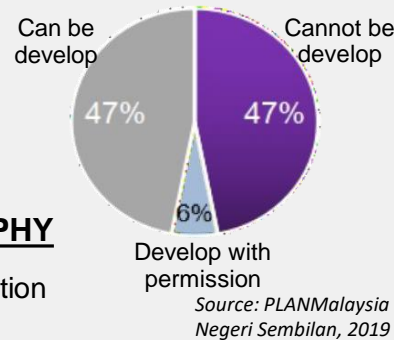
- Inefficient management on development of customary land and vacant land
- Increase in Unemployment rate
- Shortage of housing supply than the demand, and lacking in the development of affordable housing.
- High rate of non-revenue water (NRW)
- Profit loss of tourism sector due to COVID-19 pandemic issues

### 1) LAND USE

Total Area of Negeri Sembilan:  
**665,567 hectares**

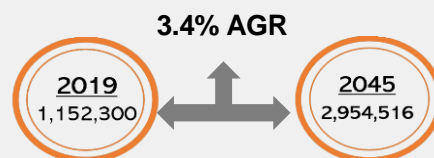
Source: PLANMalaysia  
Negeri Sembilan, 2019

Figure 6: Land availability for development in Negeri Sembilan



### 2) SOCIO-ECONOMY & DEMOGRAPHY

Existing & Projected Number of Population



Method of Projection  
Population Projection by  
Committed Development

Household Income

Table 1: Household Income of population in Negeri Sembilan

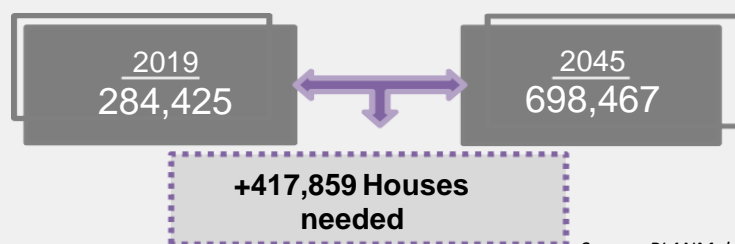
INDICATORS	2019
Average Monthly Household Income (Rm)	6,707
Median Monthly Household Income (Rm)	5,005
Gini Coefficient	0.391

Source: Department of  
Statistics Malaysia, 2019

In 2019, **40%** of population categorized under B40 group while 20% comes from T20 group.

### 3) HOUSING

Existing & Housing Projection



Source: PLANMalaysia  
Negeri Sembilan, 2019

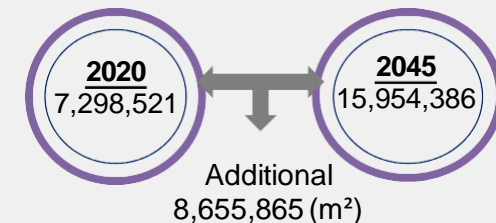
### 4) COMMERCIAL & INDUSTRIAL

Total Area of Commercial:  
3603.26 ha

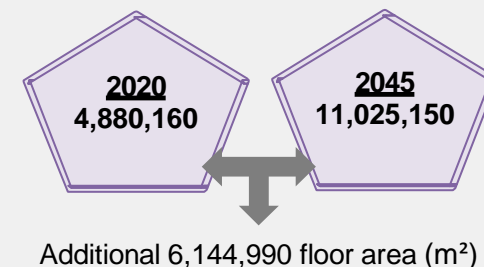
Total Area of Industrial:  
4,218.38 ha

Source: PLANMalaysia Negeri Sembilan, 2019

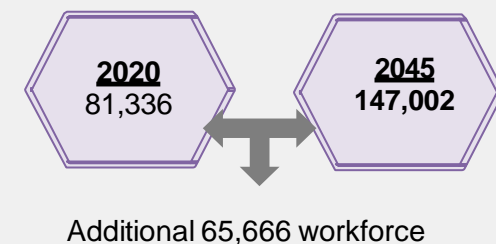
Projection of Commercial Floor Space (m<sup>2</sup>)



Projection of Industrial Floor Area(m<sup>2</sup>)



Projection of Industrial Workforce



### 5) TRAFFIC AND TRANSPORTATION

3 Main Accessibility in Negeri Sembilan

Table 2: 3 main accessibility in Negeri Sembilan

	Accessibility	Length
(E2)	Kedah-Johor (North-South)	337.5KM
(E29)	Seremban-Port Dickson	992.6KM
(E21)	Kajang-Seremban (LEKAS)	3,616.87KM

Source: PLANMalaysia Negeri Sembilan, 2019

Public Transportation in Negeri Sembilan

Main bus service operator:  
**MyBUS Cityliner**

Main rail service operator:  
**KTMB & KTM ETS**

Figure 7: KTM station in Negeri Sembilan



Source: KTM Berhad

## PROJECT 1: HALAL PRODUCT INDUSTRIAL PARK

Previously, the **Rembau Halal Hub project** was proposed to ensure that all products achieve the halal and quality standard. Halal Product Industrial Park aims to improve existing functionalities and activities by providing manufacturing services for halal goods. Subsequently, adding central parks in this project allows the youth or adult group to have training in the plantation sector.



Figure 8: Halal product by JAKIM (Source: JAKIM)

- This project is to be located at Pedas MIEL industrial Park near Rembau, which covers 25 hectares (Figure 9)
- This project is named **Halal Product Industrial Park**. The park emphasizes halal product held by JAKIM and SIRIM.
- Halal Product Industrial Park establishes a valid certification for IKS products to ease the entrepreneurs to market their products widely.



Figure 9: Proposed location for Halal Product Industrial Park  
Source: Negeri Sembilan Structure Plan 2045

## PROJECT IMPACT



### Physical

- ✓ Halal Product Industrial Park will become the first halal hub in Malaysia which promote Negeri Sembilan, and at the same time will boost the population growth



### Economy

- ✓ This project will ensure Negeri Sembilan's products are marketable competitively strong at the national level.



### Social

- ✓ Increase the living standard of population by providing job opportunities in this project industry especially those from B40 groups



### Environment

- ✓ Provide a central park in Halal Product Industrial Park with components such as herbs & vegetables to create a green environment towards the area.

Figure 10 & 11: Examples of Halal Hubs in other countries  
(Source: SSP Negeri Sembilan, 2045)



## PROJECT 2: KUALA PILAH CULTURAL CENTRE

This project improves the previous project that was named **Negeri Sembilan Cultural Centre**. The centre focuses on the whole state of Negeri Sembilan. However, this project changed it to **Kuala Pilah Cultural Centre** and will only focus on Kuala Pilah District. This move aligns with the development concepts that emphasize promoting heritage products in the district.



Figure 12: Street food festival in Milan, Italy (Source: Google image)

- This project is to be located at Bandar Seri Menanti in a district of Kuala Pilah (Figure 13). The project will consist of 2 components that focus on heritage and cultural tourism and the character of heritage tourism in Seri Menanti Royal Town.
- This project encourages initiatives to promote diversity of heritage products and the natural beauty of Negeri Sembilan. The focus group is the residents of Klang Valley and surrounding areas and tourists from other countries.

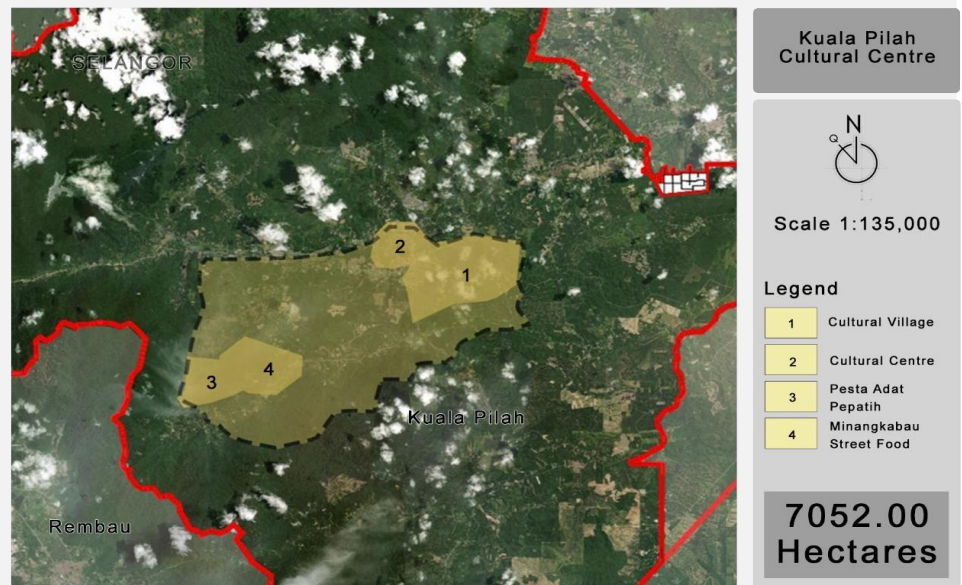


Figure 13: Proposed location for Kuala Pilah Cultural Centre  
Source: Negeri Sembilan Structure Plan 2045

## CONCEPT PLAN

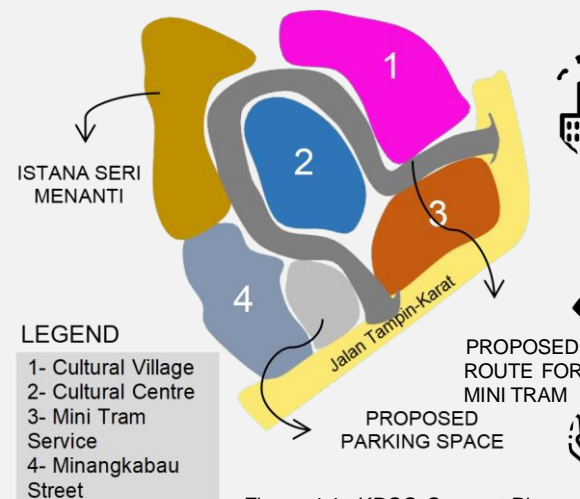


Figure 14: KPCC Concept Plan  
Source: Negeri Sembilan Structure Plan 2045

## PROJECT IMPACT



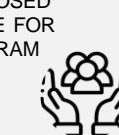
### Physical

- ✓ Improve maintenance of traditional villages in terms of road infrastructure and utilities.



### Economy

- ✓ Enhance economy and income of local people.



### Social

- ✓ Enhance image and identity of towns and traditional villages in Kuala Pilah.

### PROJECT 3: NEGERI SEMBILAN KITCHEN VALLEY

This project, located at Jempol and Gemas, was previously named **Food Valley**. The same project is upgraded to **Negeri Sembilan Kitchen Valley** by improving the functionality and facilities from the previous project. This project relates to goals that focus on the progressive economy at the southern region concept of Negeri Sembilan (Figure 15,16,17).



Figure 15: Gemas focusing on beef and livestock production (Source: SSP Negeri Sembilan, 2045)



Figure 16: Jempol focusing on Agriculture and freshwater production (Source: SSP Negeri Sembilan, 2045)

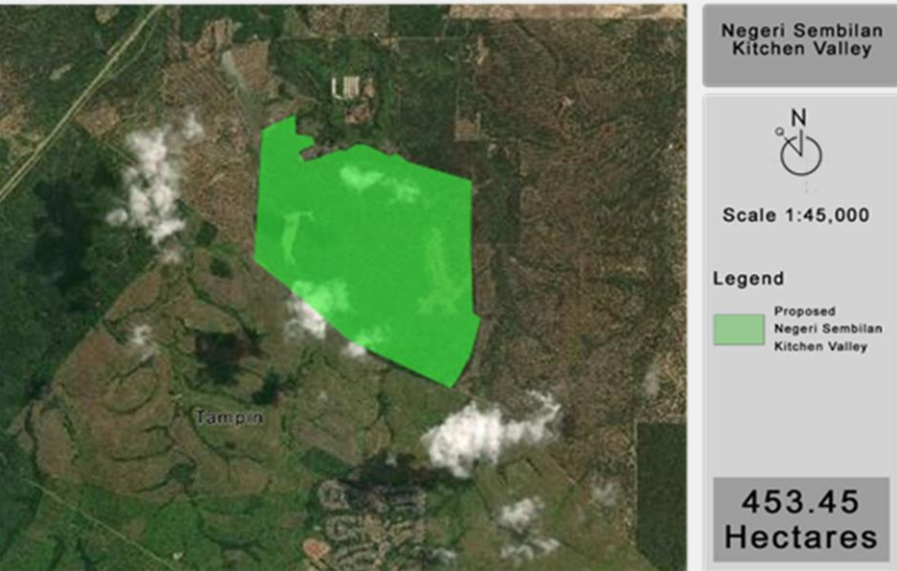


Figure 17: Proposed location for Negeri Sembilan Kitchen Valley  
Source: Negeri Sembilan Structure Plan 2045

### PROJECT IMPACT

- Physical**

  - ✓ Agropolitan production centre with systematic and productive hubs
  - ✓ Better facilities for agriculture commercial and promotional activities.
- Economy**

  - ✓ Provide the local area with an overflow of growth of job opportunities
  - ✓ Increase state and country economic growth in agriculture sector
- Social**

  - ✓ Increase the living standard of population by providing job opportunities in this project industry especially those from B40 groups

Figure 18 & 19: Examples of agro-based activities in Negeri Sembilan (Source: SSP Negeri Sembilan, 2045)



### PROJECT 4: NILAI EDUCATION CITY

This project is proposed to be established at Mukim Nilai as an Education City. The proposal is based on the major findings where Nilai consists of 6 existing education hubs and is located in the MVV development zone for Education and Technology (Figure 20,21 and 22).



Figure 22: Proposed location for Nilai Education City  
Source: Negeri Sembilan Structure Plan 2045

### PROJECT IMPACT

- PHYSICAL**

Promote transit-oriented development. (TOD)
- ENVIRONMENT**

Increase economic productivity in Negeri Sembilan
- ECONOMY**

Preserve and develops more open spaces.
- SOCIAL**

Create highly skilled workforce and employable community

## PROJECT 5: NEGERI SEMBILAN BLUE-GREEN INFRASTRUCTURE

This project aims to improve the urban drainage systems that have shifted from traditional approaches based on flood control to integrated designs in line with current conditions. Modern drainage systems have to take into account aspects such as reducing flash flood occurrences, treating rainwater before it flows to rivers, stabilizing groundwater through the process of permeation, preserving flora and fauna in riverine ecosystems, and enhancing the aesthetic value of new development sites.

### PROJECT COMPONENT

#### GREEN STORMWATER

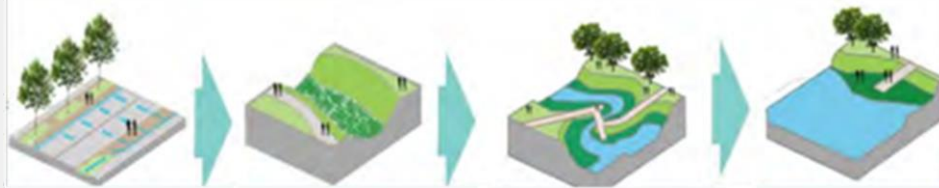


Figure 23: Green Stormwater

Source: Global Designing cities initiative- Green Infrastructure& Management

#### WATER SENSITIVE URBAN DESIGN

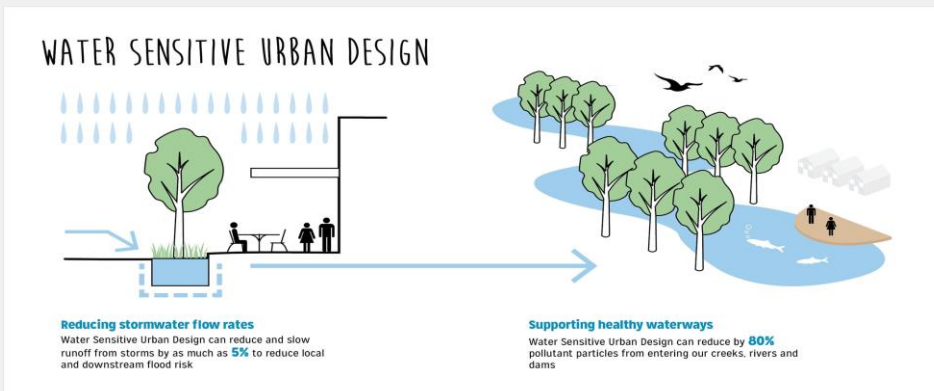


Figure 24: Water Sensitive Urban Design

Source: Global Designing cities initiative- Green Infrastructure& Management

#### RAIN GARDEN

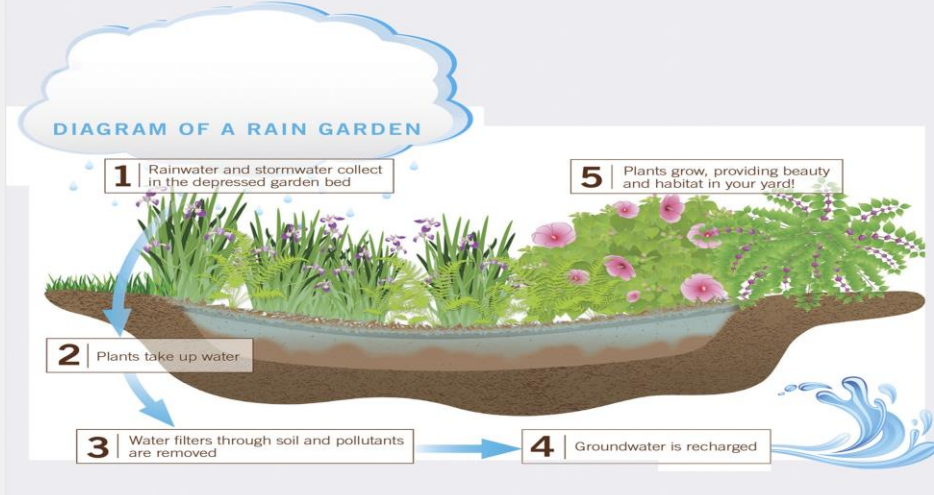


Figure 25: Rain Garden

Source: Global Designing cities initiative- Green Infrastructure& Management

### PROPOSED LOCATION

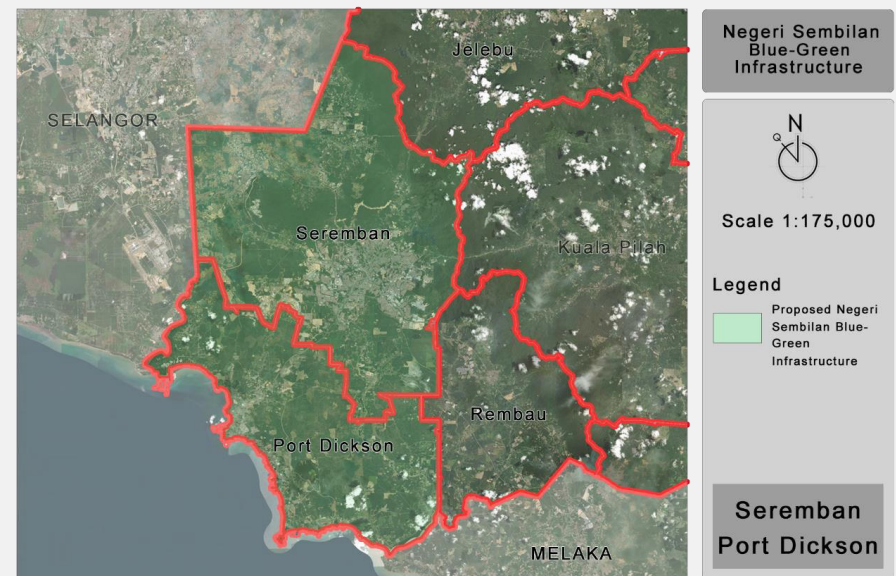


Figure 26: Proposed location for Negeri Sembilan Blue Green Infrastructure

Source: Negeri Sembilan Structure Plan 2045

### PROJECT IMPACT

#### PHYSICAL

Potential blue and green infrastructure as part of urban landscape

#### ECONOMIC

Reduce the risk of flood disaster will provide better conditions for economic activities.

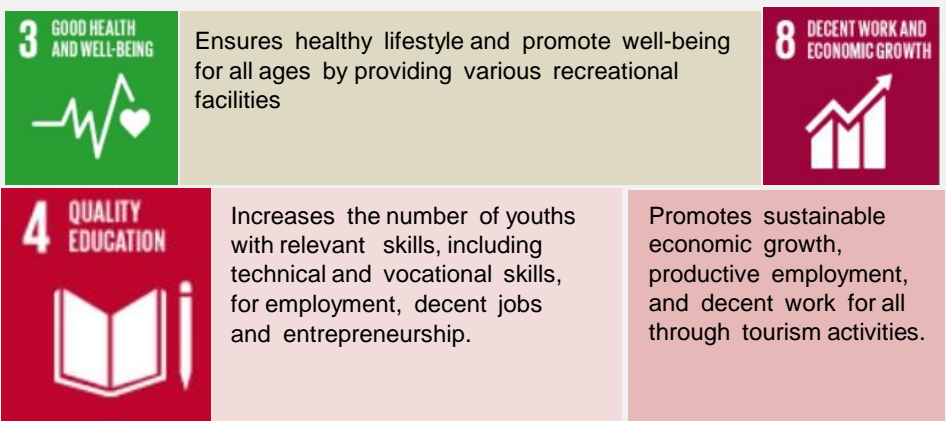
#### ENVIRONMENT

Improve the quality of water runoff before entering the rivers.

#### SOCIAL

Reduce flood risk and bolster climate resiliency of the communities.

### TOWARDS SUSTAINABLE DEVELOPMENT GOALS



## PROJECT 6: BUS RAPID TRANSIT IN NEGERI SEMBILAN

This project is to provide BRT Network that covers the Primary Development Zone. It consists of three new corridors for BRT development that integrates Seremban, Rembau and Port Dickson (Figure 27, 28). The difference between the existing BRT corridor in MVV development with this new proposed corridor is the ability to expand the corridor to other potential areas that tend to be growth centre areas such as Nilai Education City. Rembau is included in the area as it is also in the Primary Development zone with the potential as a growth centre.

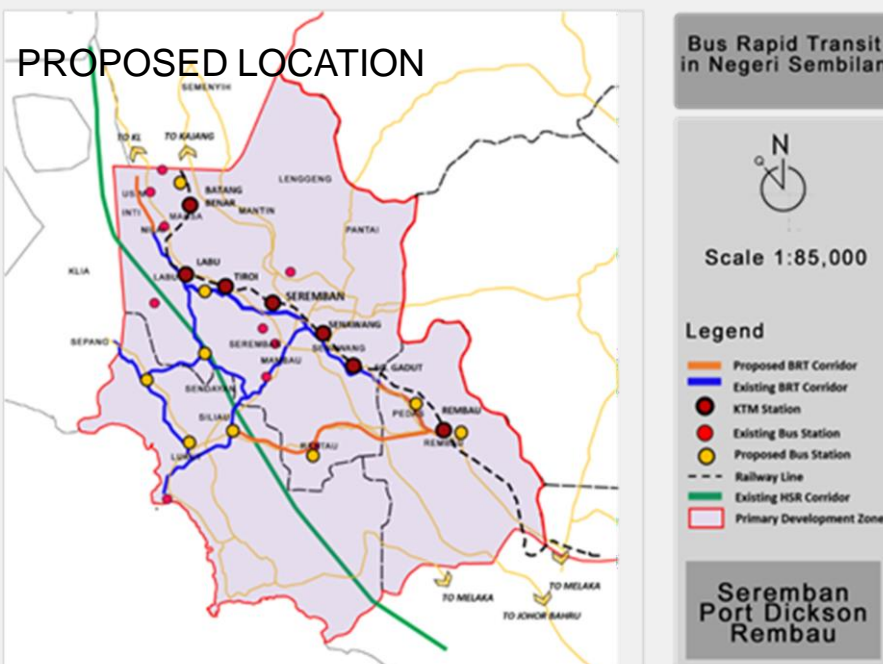


Figure 27: Proposed location for BRT in Negeri Sembilan  
Source: Negeri Sembilan Structure Plan 2045

## CONCEPT PLAN

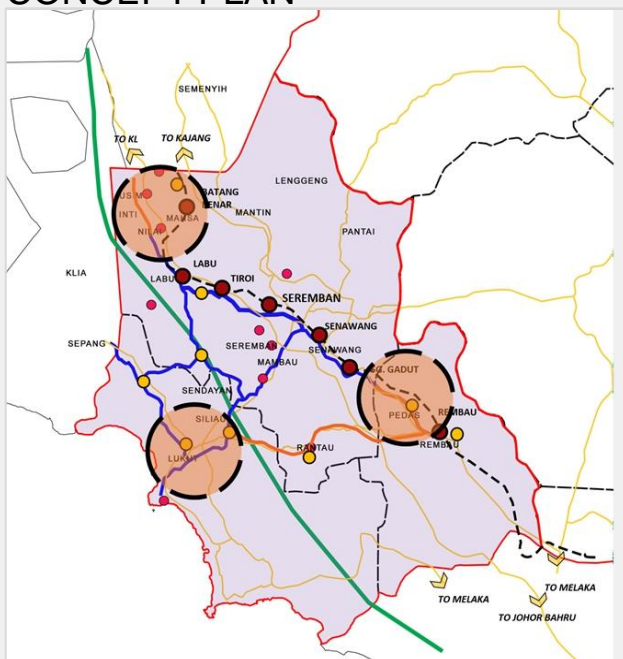


Figure 28: Concept plan for BRT in Negeri Sembilan  
Source: Negeri Sembilan Structure Plan 2045

### ADDITIONAL BRT CORRIDOR

- 1) Seremban – Labu – Nilai – USIM
- 2) Seremban – Senawang – Sg Gadut – Rembau
- 3) Rembau – Rantau – Siliau – Port Dickson

## PROJECT IMPACT

### Physical

- ✓ The bus, Bus Rapid Transit encourages walking activity among the communities due to the BRT stations are set relatively further apart compared with regular bus stops.
- ✓ Reduce travel times by segregation of BRT lane from mixed traffic

### Economy

- ✓ Bus rapid transit system would increase the number of employed people in urban areas and merely a shift of workers from one job to another or sector to another.
- ✓ Support economic and socioeconomic development through enhanced local reachability.

### Environment

- ✓ Bus rapid transit system minimizes the air pollutants that reduce greenhouse gases (GHG) in urban areas.

### Social

- ✓ Bus rapid transit systems provide valuable public health benefits in reducing road fatalities, crashes and injuries.

## EXAMPLE OF BRT IN CLEVELAND HEALTHLINE



Figure 29 & 30: BRT in Cleveland Healthline (Source: nacto.org, 2019)

## TOWARDS SUSTAINABLE DEVELOPMENT GOALS

<b>8 DECENT WORK AND ECONOMIC GROWTH</b> 	Strengthen economic growth by providing high-quality bus-based transit system that delivers fast, comfortable, and cost-effective services in Negeri Sembilan.	Provide access to a safe, affordable, accessible and sustainable transport system since the BRT project promotes green transportation system.
<b>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</b> 	Support economic development and human well-being, ensure the affordable and equitable access for all.	
<b>11 SUSTAINABLE CITIES AND COMMUNITIES</b> 		



# PROJECT 9: SEREMBAN- PORT DICKSON LOW CARBON RESIDENTIAL AREA

The development of low-carbon communities encourages the development or redevelopment of residential areas that incorporate green and low-carbon neighbourhood concepts in urban design.

## CASE STUDY: CHANGXINDIAN



Figure 38: Low carbon community- Changxindian (Source: Zhou Rougu Architecture Photography, 2009)

Changxindian is the first low carbon community in Beijing. The community emphasizes the importance of efficient management of energy, water, and encouraging the development of green transportation modes and preserving the quality of the natural environment. The choice is an indicator in preparing and achieving low carbon targets.



- Located in Seremban and Port Dickson, both areas have a high density of population that meet the demand.
- Carbon footprints in environment sectors required the application of the low carbon residential concept.
- Implementation of sustainable building design and functions.

## PROJECT COMPONENT



Smart Home Technology



Transit Oriented Development



User Friendly



Safe Neighbourhood

## PROJECT IMPACT



**INCREASE**  
POPULATION



**IMPROVE**  
THE ENVIRONMENTAL  
QUALITY



**PROMOTE**  
HARMONIOUS SOCIETY

# CONCLUSION

To conclude, the provision of the State Structure Plan is vital for one particular state as it is one of the development plans in Act 172. According to the Inception and Technical Report, the preparation of Negeri Sembilan State Structure Plan 2045 (review) is installed at the first and second stages of this study. This study aims to make Negeri Sembilan a resilient state by 2045 through a progressive economy, liveable community, and green technology. Hence, various policies, strategies and high impact projects have been developed to realise the aim.

# ACKNOWLEDGEMENT

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# REFERENCES

- Yaakup, A., Masser, I., Sulaiman, S., Kassim, H. M., & Idris, R. (2009). GIS based planning support system for the state of Negeri Sembilan, Malaysia. *Malaysian Journal of Environmental Management*, 10(1), 102-117.
- Ferrão, J., Mourato, J. M., Balula, L., & Bina, O. (2013). Functional Regions, Urban-Rural Relations and Post 2013 Cohesion Policy.
- Hutchinson, F. (2016). Evolving paradigms in regional development in Malaysia.
- Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia (2016), Rancangan Fizikal Negara ke-3, retrieved from <https://www.planmalaysia.gov.my>
- PLANMalaysia (2016), Rancangan Struktur Negeri Sembilan 2045.
- Eleventh Malaysia Plan (2016-2020), Economic Planning Unit, Prime Minister's Department, Retrieval date: December 2020.
- Review of The National Water Resources Study (2000-2050) and Formulation of National Water Resources Policy, Ranhill Consulting Sdn.Bhd, Retrieval date: December 2020
- State Structure Plan of Negeri Sembilan 2045, PLAN Malaysia @ Negeri Sembilan, Retrieval date: December 2020.
- Technical Report SSP Negeri Sembilan 2045, PLANMalaysia, Retrieval Date: 2015.
- National Broadband Initiative, Malaysian Communications and Multimedia Commission, Retrieval date: December 2020.
- Draft Kuala Lumpur Structure Plan 2040, Town Planning Unit, Kuala Lumpur City Hall (DBKL), Retrieval date: December 2020.