



社会经济研究中心
**SOCIO-ECONOMIC
RESEARCH CENTRE**

Part 3:

Carey Island's port: Is it a "Need" or "Want" ?

Statement of objectives

- The idea of developing Carey Island's port was conceptualised following the remarks that existing ports in the Port Klang area will hit maximum capacity. In early 2017, Port Klang Authority (PKA) had announced existing ports in the area will reach maximum capacity by 2025.
- In April 2017, MMC Corporation Bhd has signed two agreements: (1) The first one with Adani Ports and Special Economic Zone Ltd (APSEZ) to conduct a feasibility study of Carey Island as an extension of Port Klang; and (2) Second MoU with Sime Darby Property Bhd and APSEZ to study the feasibility of developing an integrated maritime city in Carey Island.
- In July 2018, another feasibility study under new administration will be independently conducted and commissioned by Port Klang Authority (PKA). As of now, previous government had not issued approval for the Carey Port. Transport Minister Anthony Loke indicated that the project will be private initiative-driven if the Parliament approved.
- The objectives of this working paper are to provide an overview of the port development in Carey Island and also to assess the potential of the Carey Island project that can enhance the surrounding development.

Scope of the study

Section 1: An overview of Carey Island

- Illustrate some facts, the development status and hinterland connections about Carey Island.

Section 2: Site and location analysis

- Describe the land ownership of Carey Island, including an estimation of opportunity cost on Sime Darby Plantation's arable land and palm oil revenue if Carey Port has to be implemented.

Section 3: Maritime market assessment

- Look at the prospects of containers' throughput and future port capacity in Peninsular Malaysia. Next, analyse the feasibility of Carey Port development based on the projection of container traffic and port capacity in 2020, 2030 and 2050.

Section 4: Conclusion

- Assess the benefits, challenges, potential pitfalls and risks of port-industrial city project at Carey Island.

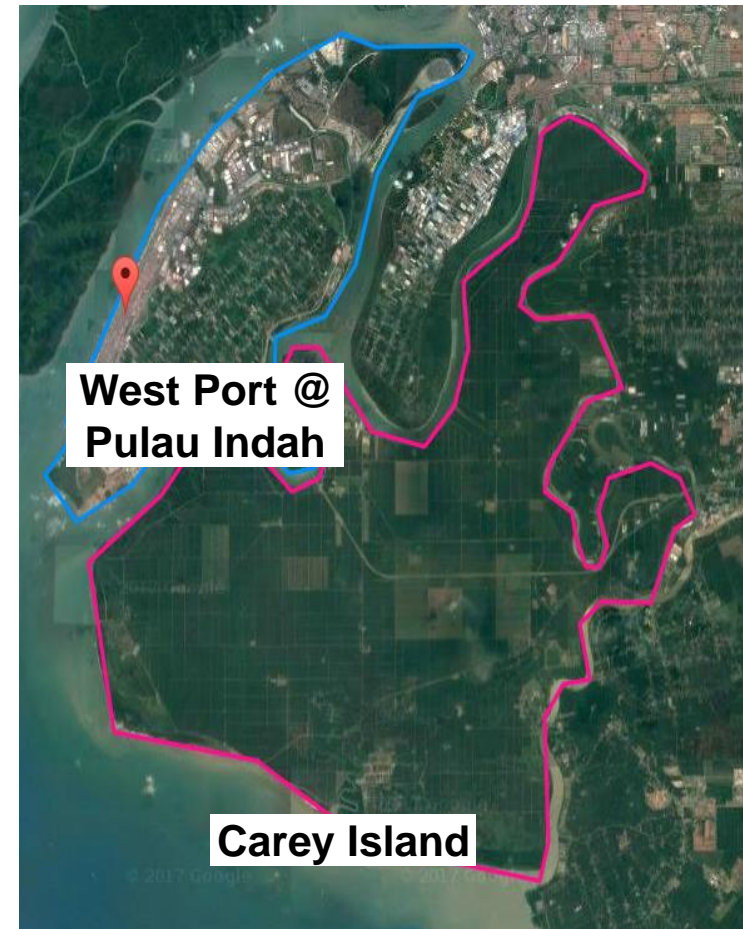
Section 1

An Overview of Carey Island



Some basic facts about Carey Island

- Carey Island is located approximately 16 km from Port Klang.
- It is easily accessible from multiple routes, i.e. via SKVE, West Coast Expressway (will be completed by 2019), KESAS, Federal Highway and North Klang Valley Expressway (NKVE).
- Land size – it is an island covers a total area of 13,000 ha (130 sq km), which is about 1/5 of Singapore.
- Carey Island is located below sea-level. The whole island is bundled up to prevent the island from the risk of flooding resulting from rising seawater.
- Most of its land are oil palm estates owned by Sime Darby Plantation.
- Approximately 1,500 communities residing here, including orang Asli settlements.
- Sime Darby Plantation owns about 11,615 ha. The freehold land is located on the west side while the leasehold land on the east side of Island will be expiring between 2018 and 2109.



Carey Island - New port-industrial city plan

- The idea of 3rd port for Port Klang was brought up in 2010 as part of Port Klang Master Plan (2010-2013). Carey Island was one of the five locations identified. The other four are Pulau Che Mat Zin, Klang Bar Channel, Old Klang Bar Channel and Kampung Batu Laut.
- The Carey Island project is aimed to create additional capacity to cater for future needs. It is seen as a port development to overcome the nearing full capacity of West Port as well as to develop Port Klang as a regional maritime hub on par with the dominant Singapore port.
- The 3rd port ideally would be within Port Klang area where existing Northport and Westport are already operating. The West Port at Pulau Indah currently handles about 80% of the TEUs cargoes of Port Klang. North Port is located next to industrial area of Bandar Sultan Suleiman. West Port is managed by Westports Malaysia while Northport is operated by MMC Corp Bhd.
- The Carey Island port project development has a 20-year time frame, covering an area of over 100sq km. There are 3 phases: (i) integrated port and related infrastructure; (ii) industrial and free trade zone; and (iii) commercial and residential buildings. The project's gross development value could exceed RM1 trillion.
- Two MoUs were signed in April 2017. The first one was with Adani Ports and Special Economic Zone Ltd (APSEZ) and MMC Corporation to study the feasibility of Carey Island as an extension of Port Klang while the second MoU was with Sime Darby Property Bhd and APSEZ to conduct the feasibility study of developing an integrated maritime city in Carey Island.

- In July 2018. Port Klang Authority (PKA) was appointed as an independent consultant to carry the study on the need for a third port. Transport Minister Anthony Loke indicated that the port development will be driven by private initiative if Parliament approves the proposal.
- Total ballpark investment value is estimated at RM200 billion (US\$45.24 billion). Construction of port alone is expected to cost RM39.1 billion (US\$9.39 billion).
- According to MMC Corporation Berhad Annual Report 2017, the port development comprises three phases, covering 2,500 acres (1011.74ha) reclaimed area*. First phase development plan is to build a capacity of 10 million TEUs for container operations and up to 30 million FWTs for conventional cargo operations with the cost of RM12 billion. It is targeted to be operational by 2028.
- The port is envisaged to have an annual capacity of 30 million TEUs. By comparison, Port Klang port handled 11.97 million TEUs in 2017 while Singapore handled 33.6 million TEUs.
- The Annual Report also highlighted the integrated maritime city will be built on Carey's land with 11,000 hectares. Upon completion, the Carey Island project is expected to generate a total of 600,000 job opportunities**, to attract RM50 billion of foreign direct investment and to boost up RM600 billion of national trade value.
- **Is developing a new third port (Carey Island) a must?** Is Port Klang port's capacity hitting bottleneck? Northport and Westport are already in operations and Westports Bhd has recently been given the approval to expand its container terminal. In addition, there is an addition 20 TEUs capacity coming up from Singapore's Tuas by 2020.

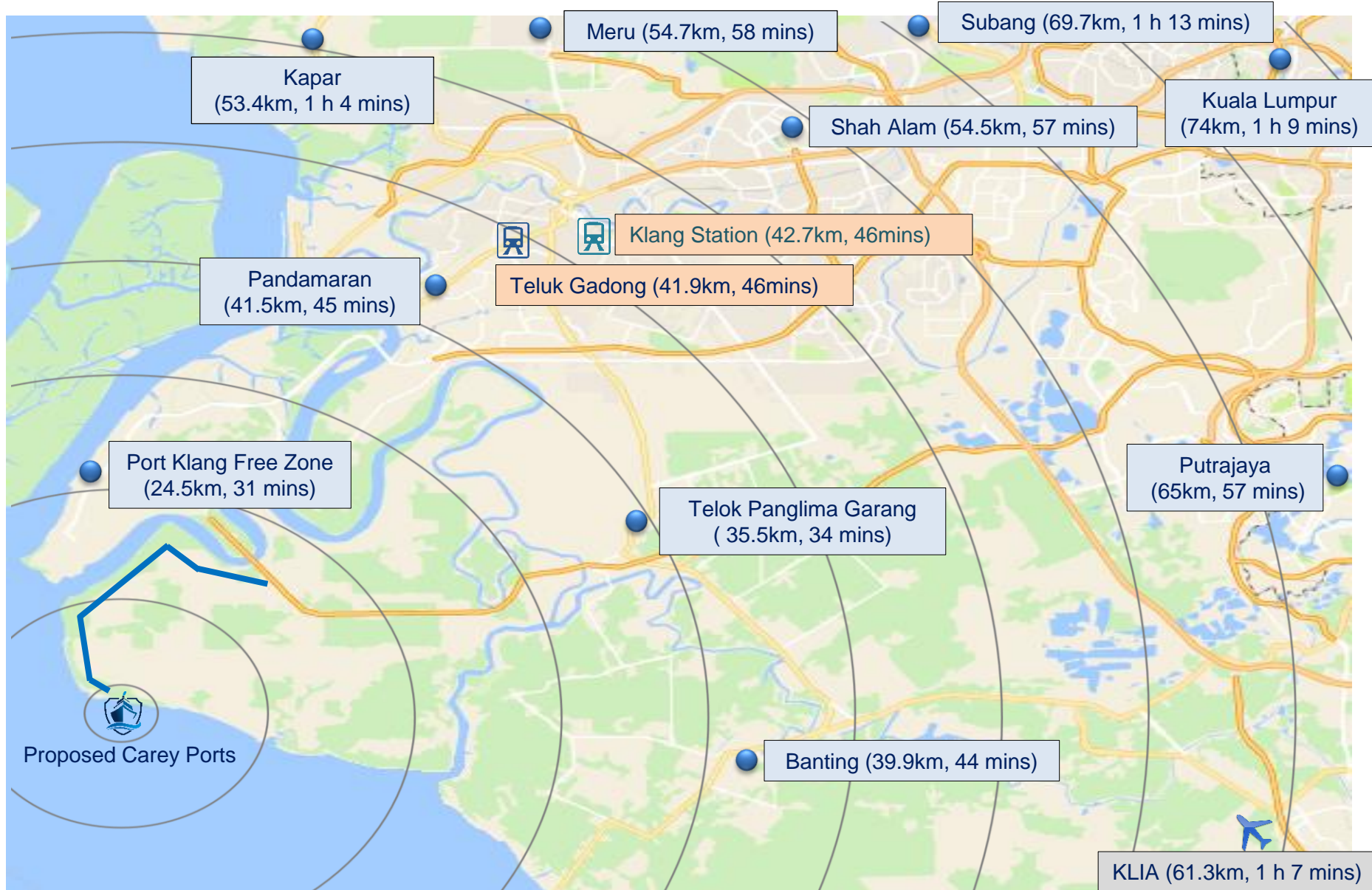
*Note: * The area will have a depth of 17 metres at a distance of 2 to 3 km from the coast. ; **600,000 job opportunities consist of 100,000 direct and 500,000 indirect job opportunities.*

Carey Island development



Source: Logistics and Trade Facilitation Masterplan – Performance Report 2016, draftlogic.com

Hinterland connections with Carey Island



Section 2

Site and Location Analysis



Mega size Carey Island project versus Putrajaya



Carey Island	
Hectare	13,000
Port-industrial city	
Cost	US\$45 billion

Putrajaya

Hectare	4,581.1
Cost	US\$9 billion



1995
Population = 330,000
Housing Units = 67,000

2017 Population (1995-2017) = 86,900
 Residential units (2017 Q4) = 10,849

Over 22 years period:



Achieved:

- 26.3% of planned population
- 16.1% of planned house units

Every 5 year:

- 19,750 population ↑
- 2,465 houses ↑

- Almost all Carey Island's lands are dedicated to oil palm plantation.
- The idea of a new port city development in Carey Island is akin to the development of Putrajaya, whereby the new administrative centre was transformed from the oil palm estate of Prang Besar in October 1996.
- The size of Carey Island is three times of Putrajaya. Putrajaya took 22 years to boost the population to nearly 90,000 persons today.
- The concept between these two is quite different. The Carey Island port city is based on multiplying economic activities such as maritime services, trading, industries, services and property development while Putrajaya was conceptualised as a new administrative centre, moving Federal administrative capital from the congested KL.
- Demand for housing and commercial properties during the pre and post development. The development of well connected infrastructure and affordable housing are critical success factors for this ambitious port-city development plan.

Who are the land owners in Carey Island?

- As Sime Darby plantation owned about 90% land in Carey Island, Sime Darby Property will be the biggest beneficiary if the port project development materialises.
- Most of the land in Carey Island is oil palm plantation while 6% of Carey Island is owned by A&M Realty. The balance of 4% land comprises government's lands, Kampung Melayu Pulau Carey, Kampung Orang Asli, roads, SKVE highway, etc.

	Total titled area (Hectare)	Tenure	Land used area (Hectare)	% of used	Used for
Sime Darby (Annual Report 2002)					
North Estate, Carey Islands	2986.69	Freehold Leasehold	1,109.18 56.40	40%	Plantation
West / South Estate, Carey Islands	5833.96	Freehold	2,828.16	48%	Plantation, factory
East Estate, Carey Islands	2795.00	Freehold	2,201.52	79%	Plantation, factory
Total (Sime Darby)	11615.65	-	6195.26	53%	
A&M Realty Bhd (2017)	769	Freehold Leasehold	Unknown	-	Property, Plantation

Note: *In April 2017, The Edge reported that A&M Realty stated is developing 85 hectares land for several projects such as Homestead@Amverton Cove bungalow lots. Besides, A&M Realty also announced that 283 hectares of land will be developed into a new township which they may launch at 2020.

Source: EdgeFinancialDaily, Sime Darby Annual Report 2002

- According to Sime Darby Annual Report 2017, Carey Island was used for oil palm plantation, oil mill factory and et cetera.

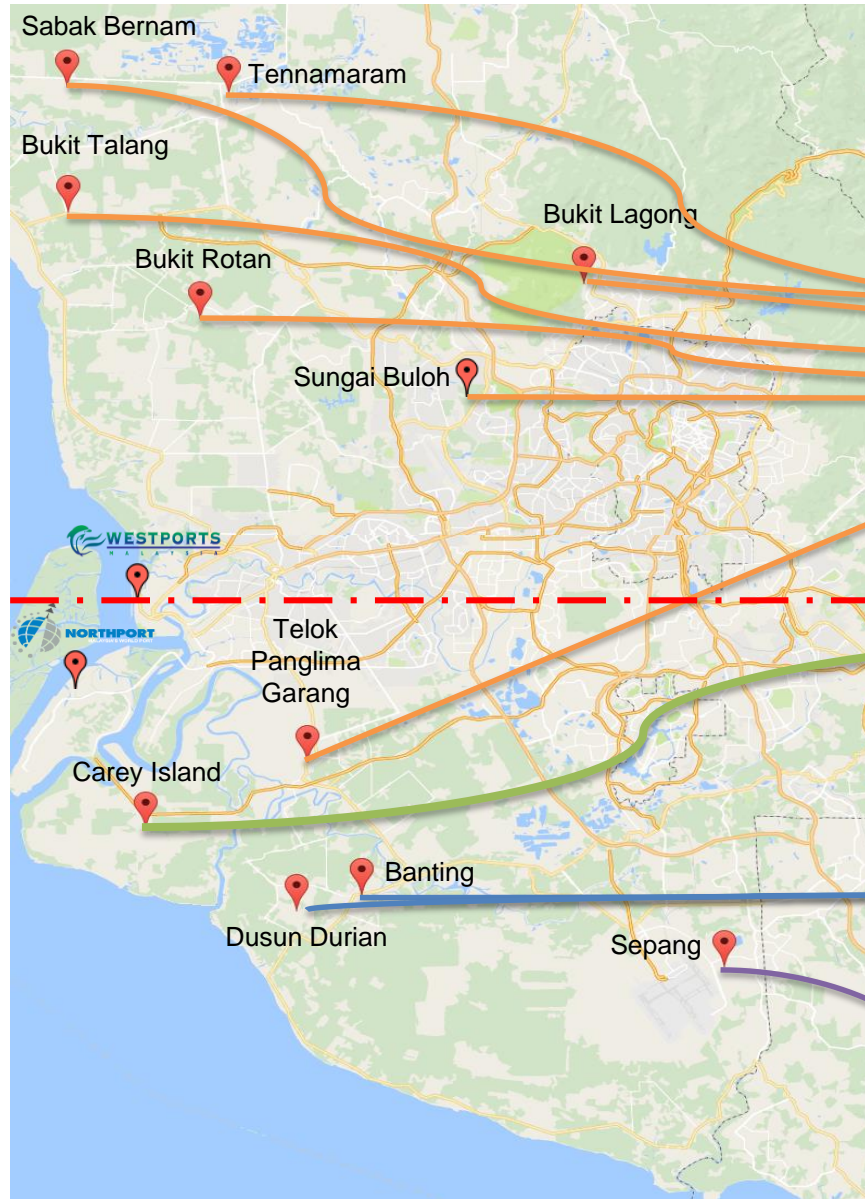
Properties of the Sime Darby Group (As 30 June 2017)

<i>Location (Malaysia)</i>	<i>Tenure</i>	<i>Land area (Hectares)</i>	<i>Year acquisition</i>	<i>Age of building (Years*)</i>	<i>Description</i>
Plantation Properties Upsteam - Selangor Darul Ehsan					
Banting, Bestari Jaya, Bukit Cheraka, Bukit Kerayong, Bukit Lagong, Bukit Rajah, Bukit Rotan, Bukit Talang, Dusun Durian, East Carey Island , Elmina, Sabak Bernam, Sepang, Sungai Buloh, Teluk Panglima Garang, Tennamaram, West Carey Island	Freehold	36,306	1978-2017	1-27	Oil palm estates, 4 palm oil mills, biodiesel and kernel crushing plants, rat bait factory, laboratories, research centres, warehouse and a training centre
East Carey Island , Port Klang, Tennamaram	Leasehold expiring 2018-2083	299	1978-2010	42	Oil palm estates and a bulking plant
Downstream and others – Selangor Darul Ehsan					
East Carey Island , North Port Edible Oil Refinery Complex, Teluk Panglima Garang	Freehold	2	2012	-	Vacant Land
	Leasehold expiring 2076-2105	12	2006-2017	7-9	Refineries and office building

Source: Sime Darby Annual Report 2017

Sime Darby Plantation Properties

Estimated land allocation (Selangor Darul Ehsan)



Total = 36,619 ha
||

Other area
17,077.94 ha
(46.6%)

+

Carey Island*
11,615.65 ha
(31.7%)

+

Banting*#
4,392.23 ha
(12.0%)

+

Sepang*
3,533.18 ha
(9.6%)

53.3%

Note: *2012 data, # include Dusun Durian

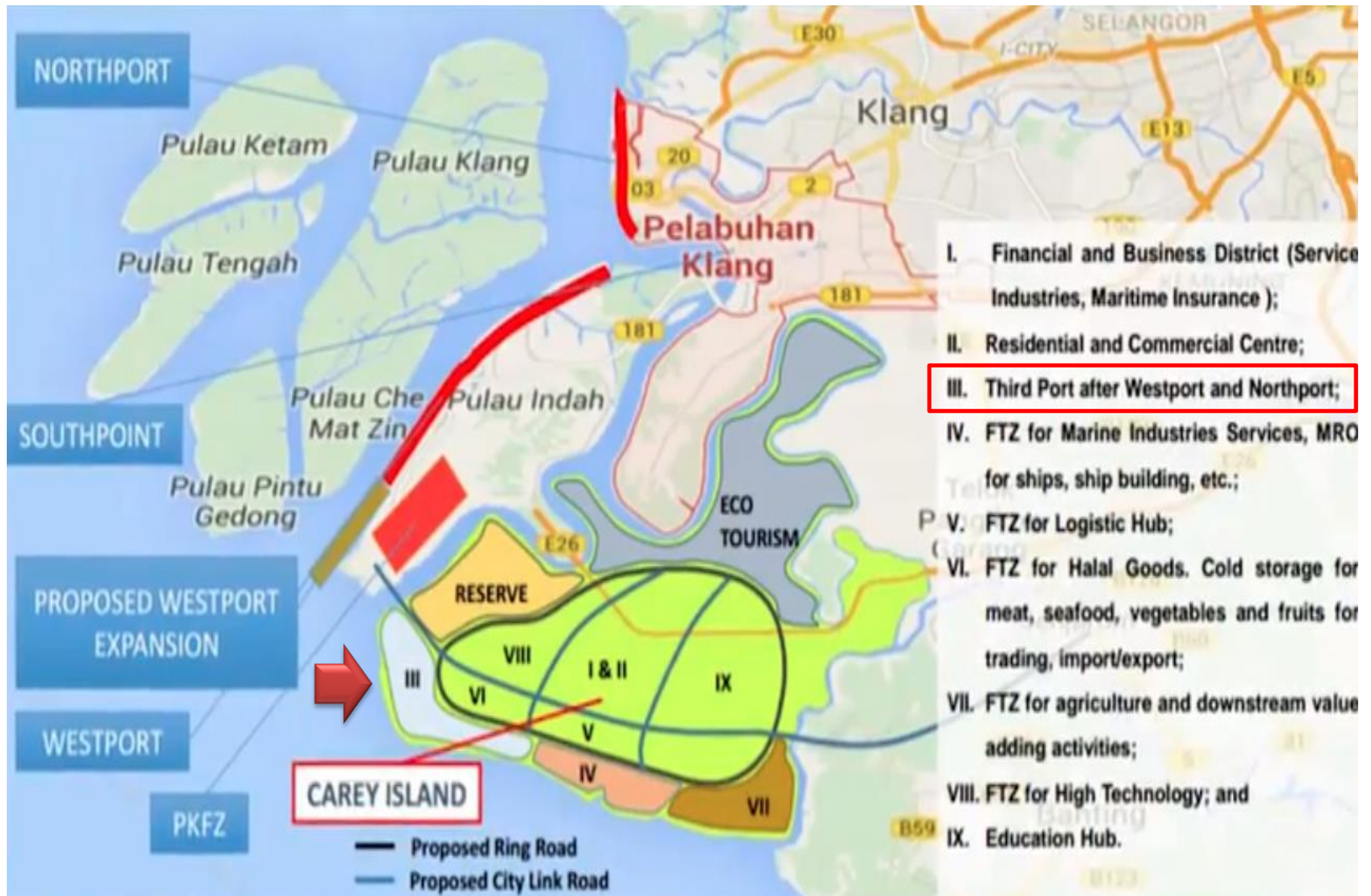
Source: nearby.org.uk, google map, Sime Darby Annual Report 2002 and 2017

- Former Minister of Transport, Datuk Seri Liow Tiong Lai indicated that Carey Island project is under planning and will become a port city. Carey's port is not an individual port while it is a port expansion for Port Klang. (source: *The Star*, November 2017)
- Based on the concept plan, the mega port project potentially can use up about 90% of the land. Carey Island's development will consist of three phases.



Source: *The star*

Flexible concept: 3rd Port Development – Carey Island



Source: The Star

Sime Darby Plantation: Opportunity cost on planted land

- Putrajaya has transformed from a land of oil palm and rubber plantations at Prang Besar belonging to Golden Hope (now merged as Sime Darby). According to Putrajaya Masterplan 1997, land allocation focused on natural environment creation and green energy.
- In 2002, Sime Darby Plantation owned 11,615 hectares land in Carey Island and 53% used for plantation and factories. In 2015-17, the share of planted land was between 90.6% and 91.5%. Similarly, SERC projected Sime Darby Plantation used about 90% of Carey land for palm oil plantation in 2017.
- Tuas Mega Port (65 million TEUs capacity) required 1,400 hectares land. SERC estimated that the land required for development of Carey Island's Port is approximately between 646 and 700 hectares if reclamation is not approved. The Carey Island's Port needs about 6% (700ha / 11615ha) of Sime Darby Carey land.
- Based on the concept development (*slide 15*), the full development of Carey Island needs roughly 90% or 100% of Sime Darby's Carey land, taking away 3-3.3% of total plantation landbank area.

*Estimation on Carey Island's port

	TEUs	=	Hectares
Tuas Mega Port	: 65mil	=	1,400
Carey Island's Port	: 30mil	=	646-700

Source: SERC estimation

Sime Darby Plantation	Total landbank area (hectares)	Total planted (hectares)	Share of planted
2015	348,364	315,849	90.6%
2016	344,783	315,347	91.4%
2017	343,938	314,932	91.5%

Source : Sime Darby website, Sime Darby Annual Report 2017

Sime Darby Plantation: Opportunity cost on palm oil revenue

Sime Darby: Potential loss in crude palm oil revenue

Year	Carey Port (<i>if not approved for reclamation</i>)		Port industrial city (<i>include port</i>)
	646ha*	700ha*	Used 100% of Sime Darby Carey land*
1	RM8.7mil	RM9.4 mil	RM156mil
10	RM87mil	RM94mil	RM1.56bn
15	RM130mil	RM141mil	RM2.35bn
20	RM174mil	RM189mil	RM3.13bn
25	RM218mil	RM236mil	RM3.92bn
30	RM261mil	RM283mil	RM4.70bn

Note: *The table above is calculated based on CPO average prices per tonnes about **RM3,000** and **4.5 tonnes** of CPO per hectare

Source: SERC estimation

*Estimation on Carey Island's port

Tuas Mega Port : 65m TEUs = 1,400ha

Carey Island's Port : 30m TEUs = 646-700ha

Source: SERC estimation

Crude palm oil (CPO) production

Lifetime per oil palm tree : 20 to 30 years

One hectare land : Four to five tonnes of CPO

Source: MPOC

- Sime Darby Plantation owned 11,615.65 hectares of Carey land.
- According to Malaysian Palm Oil Council (MPOC), one hectare land can produce four to five tonnes of CPO. Lifetime per oil palm tree about 20 to 30 years. Average prices per tonnes about RM3,000.
- Sime Darby Plantation will lose its stream of income from CPO:

– For Carey Port

- Per year: RM8.7~9.4 mil
- 15 years: RM130~141 mil
- 25 years: RM218~236 mil

– For industrial city

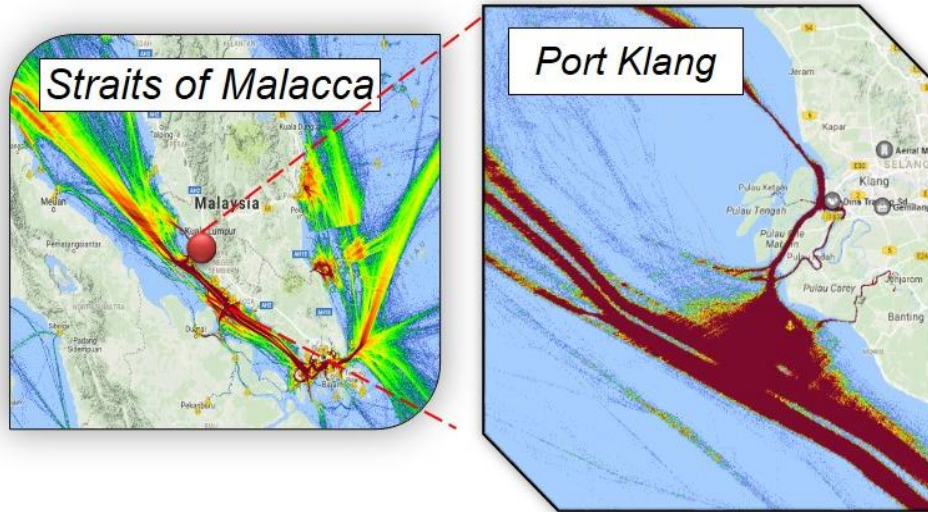
- Per year: RM156mil
- 15 years: RM1.56bn
- 25 years: RM4.70bn

Section 3

Maritime Market Assessment



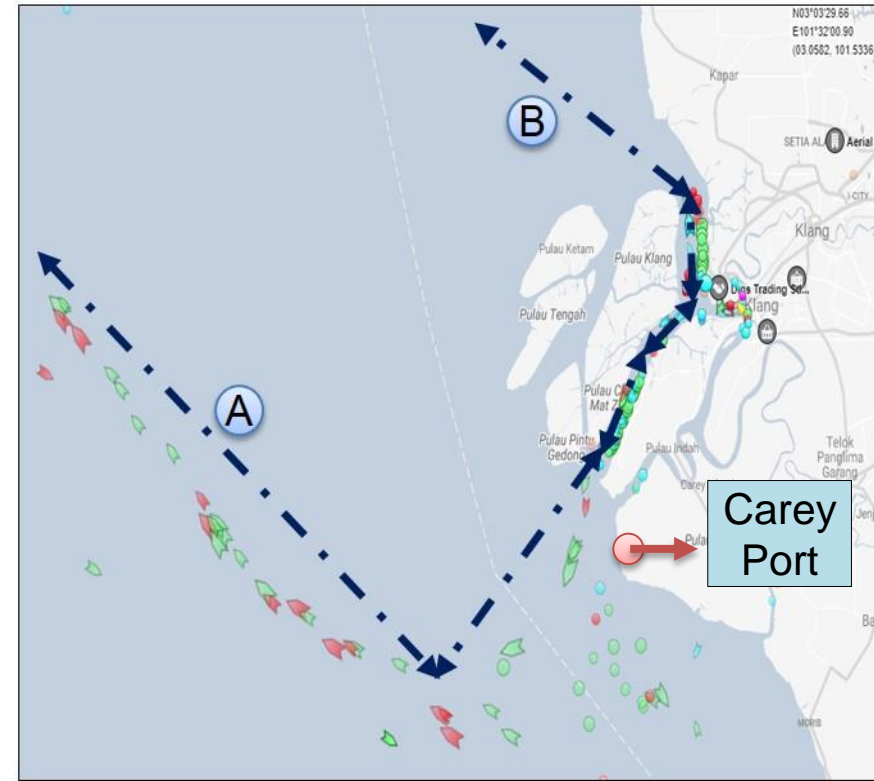
Maritime traffic along Carey Island



The colour* coding represents traffic density in each area, as follows:



- There are enormous vessels bypassing Straits of Malacca daily.
- Port Klang is one of the high traffic density in Strait of Malacca.
- Carey Island is a **strategic location for port.**



- Two routes (A & B) for ships in-and-out within Port Klang. But, the width of Strait is limited. The establishment of Carey Island port can avoid large-sized container ships to occupy the Strait and help to ease traffic congestion at Port Klang in the future.

Note: * Each colour refer to distinct vessels on a daily basis and count positions per square km: Blue = less than 30; Green = 30 to 70; Yellow = 70 to 140; Red = more than 140



- Within the sea district (Area A), the deep water point allows LOA¹ up to 180 metres and permissible draft of not more than eight metres.
- Carey Island's sea landscape is suitable to accommodate different type of vessels.
- Current port operators might need to relocate southern entrance boarding ground if Carey Island's port is built.



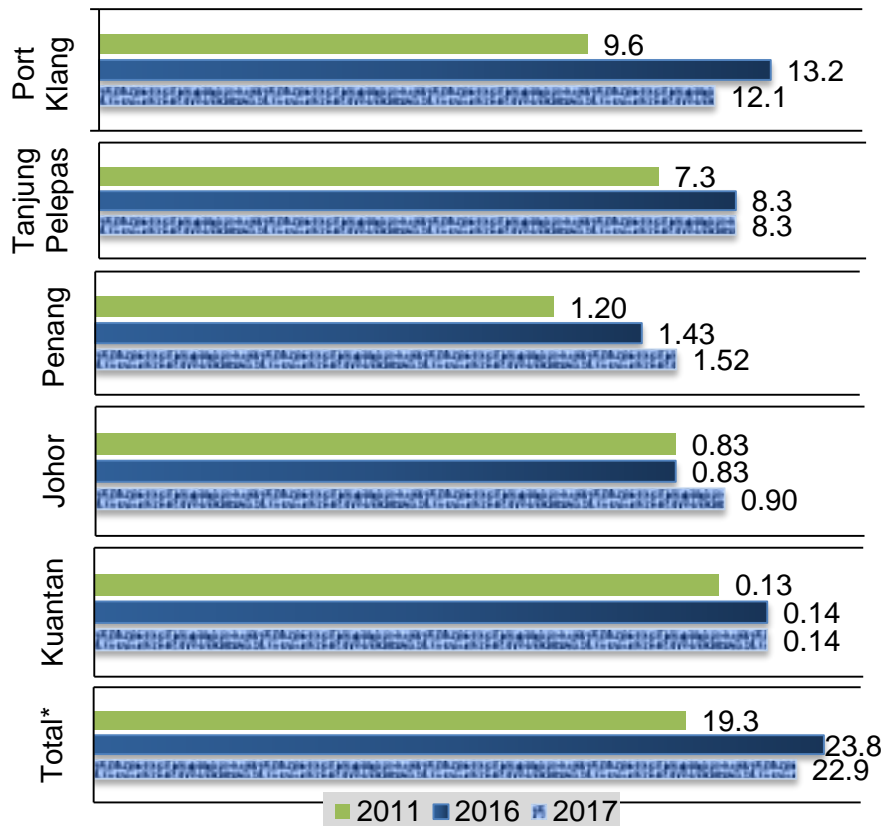
South boarding ground to each ports

Source: Port Klang - Marine Handbook 2016

Note: 1= Length overall (of the ship)

Container throughput in Peninsular Malaysia

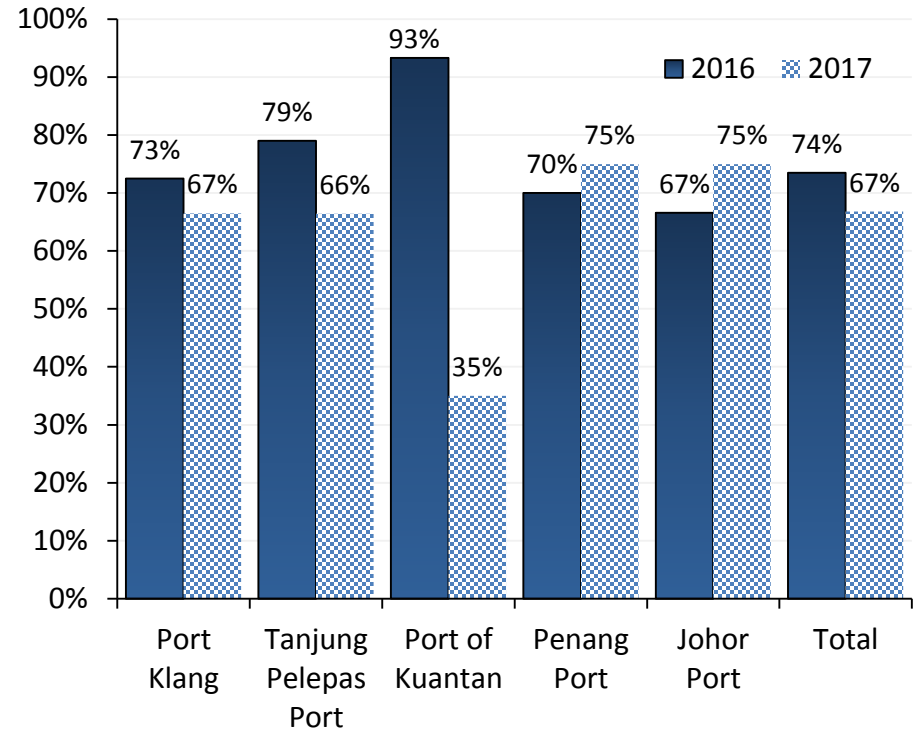
Container throughput by port (TEUs million)



Note: *2011 included Tanjung Bruas Port (Melaka) while no data available in 2015 onward

Source: Minister of Transport, Malaysia (MOT)

Port utilization rate

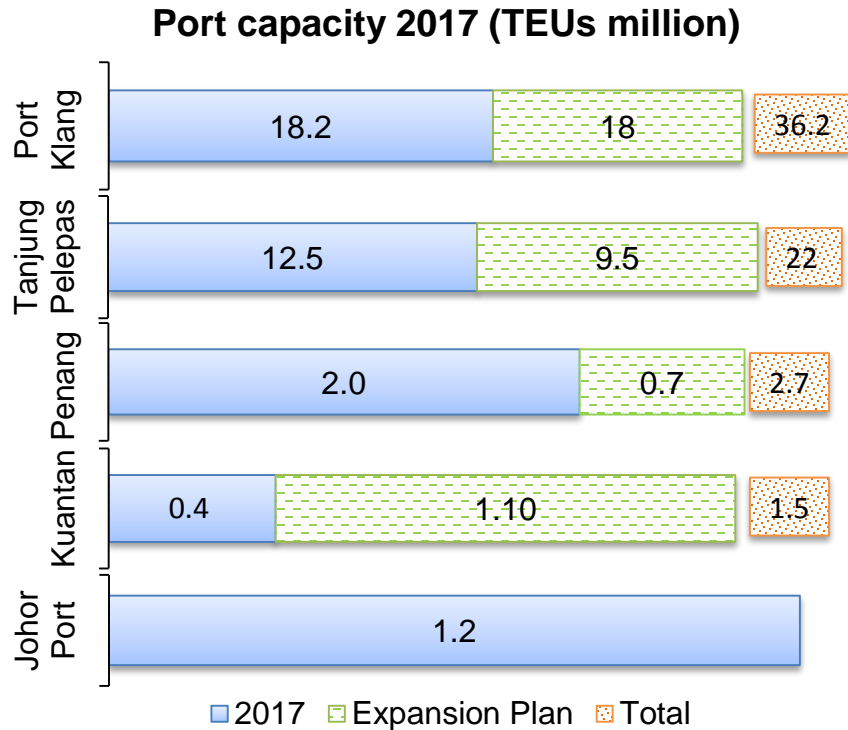


Note: Kuantan Port capacity: 2016: 150,000 TEUs, 2017: 400,000 TEUs.

- Container throughput has been growing in Peninsular Malaysia between 2011 and 2017.
- But, the new shipping alliance formed in 2017 had impacted Port Klang container throughput.

- Excluding Kuantan port, ports' utilization rate in Peninsular Malaysia was about 65%-75%. If global container throughput grows about 6%, the ports' utilization rate may reach 80% to 90% in the following years.

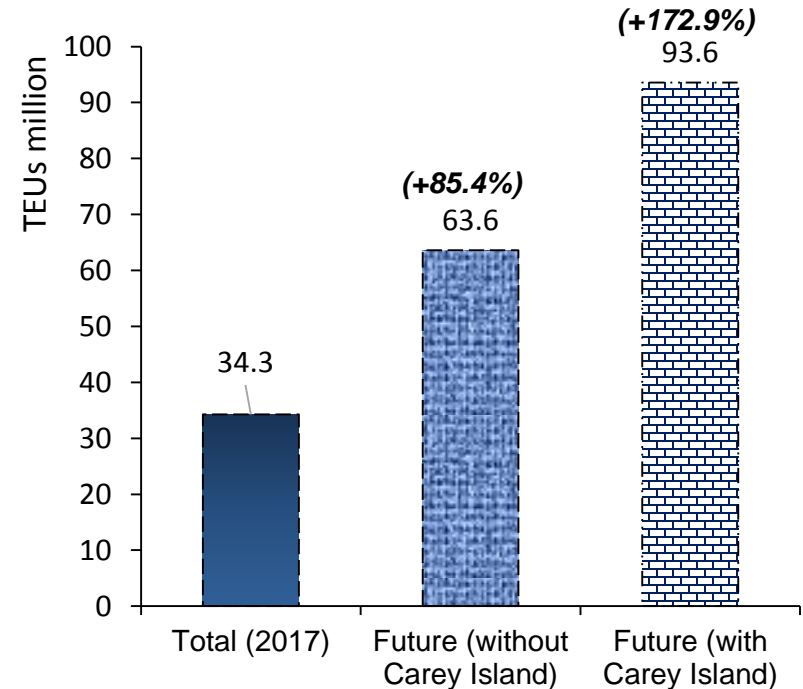
Peninsular Malaysia port's capacity: Now and the future



Source: Various sources

- With the expansion plan, Port Klang will become the largest port capacity in Malaysia, with a total of 36.2 million TEUs capacity.
- Excluding Tanjung Pelepas, other ports are not focusing on container throughput expansion in the future.

Peninsular Malaysia's total ports' capacity and future capacity



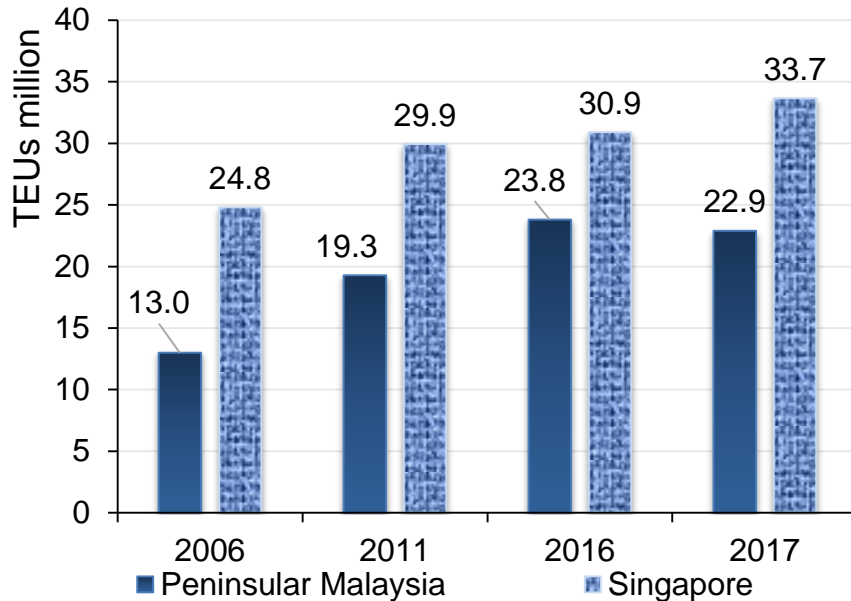
- Total port capacity is about 34.3 million TEUs in 2017.
- **Without Carey Island**, total port capacity will increase by 85.4% to 63.6 million TEUs.
- **With Carey Island**, the capacity will jump significantly to 93.6 million TEUs (+172.9%).

Peninsular Malaysia's current port capacity (TEUs), total container throughput (TEUs), utilization rate (%) and future capacity (TEUs)

Port	Capacity (TEUs million)		Container throughput (TEUs million)		Utilization rate (%)		Capacity (TEUs million)	
	2016	2017	2016	2017	2016	2017	Future	
Port Klang	18.2	18.2	13.2	12.1	72.5	66.5	36.2	
Tanjung Pelepas	10.5	12.5	8.3	8.3	79.0	66.4	22.0	
Kuantan	0.15	0.40	0.14	0.14	93.3	35.0	1.5	
Penang	2.0	2.0	1.4	1.5	70.0	75.0	2.7	
Johor	1.2	1.2	0.8	0.9	66.6	75.0	1.2	
Total	32.4	34.3	23.8	22.9	73.5	66.8	63.6	
<i>Source: MOT, various sources</i>							(+) Port of Carey Island =	30.0
							Total	93.6

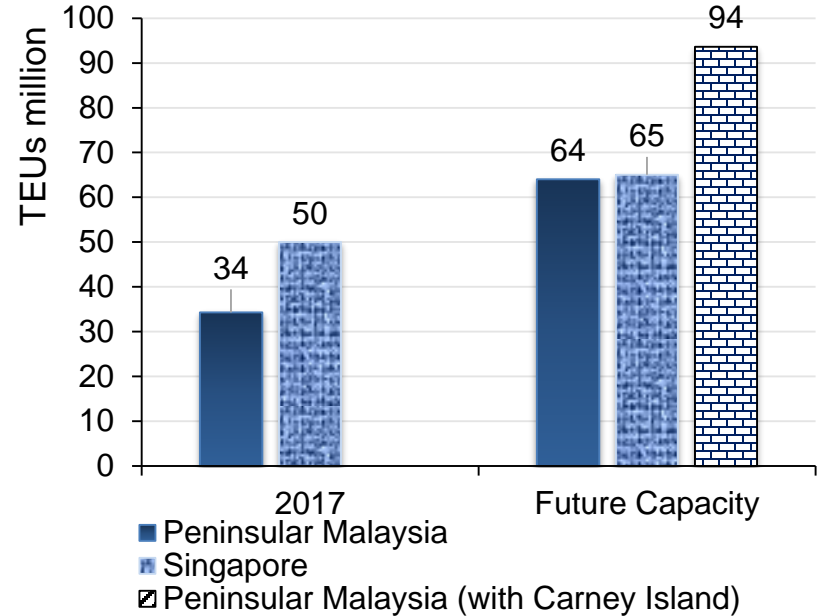
A comparison of container throughput / port capacity between Malaysia and Singapore (Supply)

Container Throughput



- In 2017, Singapore's port utilisation rate was 67.4% compared to Peninsular Malaysia (66.8%).
- Total container throughput in Singapore was higher than Malaysia by about 10.8 million TEUs.
- The TEUs gap between Malaysia and Singapore has narrowed from 12 million to 10 million in 2006-2011 and 2011-17.

Container Capacity (TEUs)



- Currently, Peninsular Malaysia's port capacity still less than Singapore by 16 million TEUs.
- With Carey Island port, Malaysia's ports' capacity will more than Singapore by 29 million TEUs.
- Whether Malaysia can take over Singapore will depend on the demand and the capability of services providers.

Ports development along Strait of Malacca (TEUs)

Capacity

Port	2017	2018-2020	2021-2030	2031-2050	
Peninsular Malaysia	Port Klang	18.2m →	22.2m →	29.2m* →	36.2m
	Tanjung Pelepas	12.5m →	13.5m →	22m	
	Kuantan	0.40m →	1.5m		
	Penang★	2.0m →	2.7m		
	Johor	1.2m			
	Melaka Gateway★	n/a			
	Tanjung Bruas★	n/a			
	Carey Island (Proposed)	→		10.0m	20m
Singapore	Singapore	50m →		65m	
Sumatra, Indonesia	Belawan	1.2m →	2m		
	Kuala Tanjung		0.5m →	20m	
	Batu Ampar★	0.6m →	Potential to increase up to 2m		
	Tanjung Sauh★		Designated as 3m		
★ Other: Malahayati, Tanjung Pinang, Dumai, etc					

★ = Expandable

Note: *Westport's capacity will be increased by 14 million TEUs between 2020 and 2040. Assume the capacity will be increased by 7 million TEUs in 2030. Another 7 million TEUs will be built from 2030 to 2040.
n/a = Not Applicable

Container traffic at main ports around Strait of Malacca

- Despite the share of Strait of Malacca (SOM) to ASEAN dropped from 64.9% in 2009 to 55.2% in 2017, SOM container traffic grew 3.9% pa from 42.4 million TEUs in 2009 to 57.7 million TEUs in 2017. The decline in share was due to more foreign manufacturing investments located in Greater Mekong Subregion. From time to time, the number of new ports were established to cater for exports of goods and imports of raw materials.



	2009	2012	2015	2016	2017
	Million TEUs				
World	472.2	613.9	687.7	701.4	752.7
ASEAN	65.4	83.8	93.6	94.5	104.1
Strait of Malacca	42.4	52.2	55.8	56.5	57.7
Peninsular ports*	15.2	19.8	23.2	23.8	22.9
Singapore	26.6	31.6	31.7	31.7	33.7
Belawan port	0.6	0.8	0.9	1.0	1.1
	Share %				
ASEAN to World	13.9	13.7	13.6	13.5	13.8
Strait of Malacca to ASEAN	64.9	62.4	59.6	59.9	55.2
Strait of Malacca					
Peninsular ports	35.8	37.9	41.6	42.1	39.7
Singapore	62.7	60.5	56.8	56.1	58.4
Belawan port	1.4	1.5	1.6	1.8	1.9

Note: *Peninsular ports are Port Klang, Tanjung Pelepas, Johor, Penang, Kuantan
Source: UCTAD, World Bank, MOT and Pelindo 1

Analysing the position of Carey Port

- Based on “ITF Transport Outlook 2017”, ASEAN’s sea traffic is expected to register strong positive growth over the next decade. The Strait of Malacca will remain the main bridge to connect between the Indian Ocean and Pacific. In 2017, Strait of Malacca accounted for about 55% share of ASEAN container throughput. This share is used to calculate Strait of Malacca’s projected container throughput in 2020, 2030, and 2050.
- With the existing port facility, Malaysia and Singapore are handling almost all the containers’ traffic in Strait of Malacca. We caution that Sumatra’s port development will be an added pressure in maritime industry in the years ahead. Kuala Tanjung International Hub Seaport started operation in March 2018 (*local company collaborated with Rotterdam Port Authority and DP World*). Indonesian government has planned to build a transshipment containers in Tanjung Sauh and hence, will pose competition to Strait of Malacca.
- In the past, Singapore held at least 55% share of container throughput in Strait of Malacca. Malaysia held approximately 40~45% share whereas Indonesia (Ports in Sumatra) accounted less than 5% share.
- In SERC’s viewpoint, some container volume will be diverted from Malaysia and Singapore to Sumatra’s ports in the future. SERC analysis assumed that Strait of Malacca’s container traffic ratio of Singapore, Peninsular Malaysia and Indonesia (*Sumatra*) at 50%:40%:10% respectively.

- Our analysis of future port capacity and container throughput demand within Strait of Malacca are as follows (*refer to Slide 30*):

- **By 2020**

Ports capacity in Peninsular Malaysia and Singapore would achieve 73-76% utilization rate. Sumatra may not have sufficient capacity but is ready to service the container traffic. Extra containers from Sumatra will be diverted to either Peninsular Malaysia or Singapore.

- **By 2030**

Port expansions in Singapore and Indonesia will be completed. Singapore port almost reaching 100% utilisation rate or possible overcapacity. Sumatra's ports will continue to build up their customer base and enhance their shipping linear connectivity with the world.

Without Carey's Port, Peninsular Malaysia would achieve about 90% port utilization rate. However, with Carey's Port, port utilization rate will drop to 76.0% and 15.8 million TEUs capacity will be available. Meanwhile, Melaka deep seaport and Tanjung Bruas Port have yet to announce the port capacity masterplan. Peninsular Malaysia's ports would suffer underutilize capacity if all ports expansion or development are completed at the same time. A price war will occur within domestic market.

- **By 2050**

Ports capacity in Singapore and Sumatra are not sufficient to cope with increased container traffic. Peninsular Malaysia with or without Carey Port also faces insufficient port capacity. Before 2050, Strait of Malacca would require a new port or an alternative sea route is developed to ease the traffic congestion in Strait of Malacca.

- In conclusion, our analysis indicate that the development of Carey's port is **deemed a necessity to handle enormous container traffic between 2030 and 2050**. Alternatively, one could consider to develop the port before 2030 if the following conditions are fulfilled:
 - i. Port Klang's utilization rate will need to achieve about 85% to 90%
 - ii. Port utilization rate in Peninsular Malaysia is above 75%
 - iii. No room for expansion of existing ports
 - iv. Carey Port is not a threat or compete with the existing ports
 - v. Future size of vessels require the latest port facility and technology as existing ports are incapable of upgrading and handling the demanding container traffic volume

Projection of container traffic and port capacity in 2020, 2030 and 2050

Container Traffic

	2017	Share (2017)	2020	2030	2050
Sea Area	TEUs million	%	TEUs million		
Total (World)	753	100	985	1095	2177
Southeast Asia	104	14	138*	231	520
Strait of Malacca	58	55	76*	127*	286*

Note: *Calculated based on % share in 2017

Source: OECD, UCTAD, ctf2020.info, SERC computation

Port capacity

	2017	2018-20	2021-30	2031-50	2017-50
Country	TEUs million				
Singapore	50	50	65	65	+15
Sumatra, Indonesia*	1.8	3.1	27	27	+25.2
Malaysia					
Peninsular Malaysia	34.3	41.1	56.6	63.6	+29.3
Peninsular Malaysia (With Carey Port)	34.3	41.1	66.6	93.6	+59.3

Note: *Ports related to Strait of Malacca

Source: SERC computation

Strait of Malacca (Demand vs Supply)

	2017	2020	2030	2050
Singapore				
Capacity (TEUs million)	50.0	50.0	65.0	65.0
Container traffic (TEUs million)	33.7	38.0	63.5	143.0
Utilization rate (%)	67.0	76.0	98.0	220.0
Peninsular Malaysia				
Capacity (TEUs million)	34.3	41.4	56.6	63.6
Container traffic (TEUs million)	22.9	30.4	50.8	114.4
Utilization rate (%)	67.0	73.0	90.0	180.0
Peninsular Malaysia (+ Carey Port)				
Capacity (TEUs million)	34.3	41.4	66.6	93.6
Container traffic (TEUs million)	22.9	30.4	50.8	114.4
Utilization rate (%)	67.0	73.0	76.0	122.0
Sumatra, Indonesia				
Capacity (TEUs million)	1.8*	3.1	27.0	27.0
Container traffic (TEUs million)	1.1	7.6	12.7	28.6
Utilization rate (%)	61.0	245.0	47.0	106.0

 Insufficient capacity

Note: The table formed based on “Container traffic” and “Port capacity” table in Slide 30.

Initially, Malaysia and Singapore handled about 99% of Strait of Malacca’s container traffic. However, Indonesian government is developing Kuala Tanjung Port with assisted by Rotterdam Port Authority and DP world. And, there is a few potential port development such as Batam and Tanjung Suah to increase competitiveness within Strait of Malacca. Thus, SERC estimates Strait of Malacca of container traffic ratio of Singapore, Peninsular Malaysia and Sumatra (Indonesia) are 50%:40%:10%.

Source: SERC computation

Section 4

Con**clu**sion

A magnifying glass with a black handle and a silver frame is positioned over the word 'Conclusion'. The lens of the magnifying glass is centered over the letters 'clu', which are significantly enlarged and appear to be floating above the rest of the word. The word 'Conclusion' is written in a bold, black, sans-serif font.

Benefits of port-industrial city project at Carey Island

Port

- Some of the important socio-economic benefits of ports are as follows:
 - a) Fuels economic and commercial activities as it is an important link of hinterlands to facilitate movement of goods to and from hinterland. Positive spillovers and multiplier effects on more than 140 sub-sectors. It increases international trade (both exports and import), contributing to industrialization in the hinterland as well as around ports;
 - b) Development of port city surrounding the port, spurring the economic activities like banking, finance, Insurance, logistic etc;
 - c) Increase in employment both directly and indirectly in port-related activities and supporting services such as transportation, logistics, banking and insurance; and
 - d) Development of infrastructure enhances good accessibility to major transportation network, including railways and roads. Such infrastructure would make our exports more competitive and as a spillover effect provide world class infrastructure to businesses and exporters.

Benefits of port-industrial city project at Carey Island (Contd)

Port-industrial city

- Potential for positive externalities to neighboring areas. The project would add value in terms of raising prospects of higher property prices on the island and surrounding locations. This was evident from the development of Westport in 1990s, which had boosted property development projects in Klang area over the span of 20 years.
- The speeding up of urbanization process would help to achieve balanced regional and equitable development. The relationship between the Carey port and city area is difficult to examine now, but like West Port, the port development has resulted in property development boom in Klang and Port Klang area.

Challenges of port-industrial city project at Carey Island

- The Carey Island port may result in intra-ports competition. There are a number of major ports-related projects in the pipeline. These include the RM12.5 billion Kuala Linggi International Port in Melaka, which will start construction soon and the upcoming RM43 billion Melaka Gateway, which includes a deep sea port and cruise terminal.
- Singapore is also constructing a big terminal at Tuas, which has 65 million TEUs capacity. Phase 1, which is slated for completion in early 2020s, is expected to handle about 20 million TEUs a year.
- Kuala Tanjung Port started operation in the first quarter of 2018 with 500,000 TEUs capacity. Subsequently, the port will be the first largest container terminal with 20 million TEUs capacity in Sumatra in 2023.
- Being a greenfield and a late entrant, it can be an uphill task for Carey Island to establish shipping alliances. The challenge for Carey Island is whether it has the capacity, productivity and service quality to be on par and to compete with the existing hubs in Strait of Malacca such as Tanjung Pelepas, Singapore and Port Klang.
- The Carey Island's port project may disrupt the idyllic and tranquillity of Carey Island. Carey Island's port project threatens to disturb ancestral homes of native Mah Meri.

What are the potential pitfalls and risks?

- As this mega project would take many years of construction, any disruptions to domestic economic and business cycles as well as global macro factors can disrupt the progress of port development. Investees in the project have to consider their payback period and returns, and the high risk of borrowings.
- Where is demand for the new port? How much port capacity, for example, do we really need bearing in mind that we had spent billions developing the Port of Tanjung Pelapas (making it one of the largest container ports in the region) and that not all of our ports are operating at full capacity?
- Malaysian ports might not have enough cargos for international liners to make a call.
- Digitalisation and automation of seaport would increase the speed of loading and unloading of containers. Efficiency port services will be the key for future rather than quantity of port.
- Oversupply of capacity if another mega port city will be built in Batam Island or Sumatra region. The Kra Canal project will affect the development of Carey Island's port project.
- Basic infrastructures such as road, industrial zone and etc. can be built in the short term. However, the establishment of well-connected between each of transport modes may require more time to build and integrate.

SWOT analysis: Carey Island's port



Strengths

- Geographical advantages
- Prepare to cope with future demand of container throughput
- Design to handle large-sized container ship equipped with the latest equipment
- A collaboration project among two nations



Weakness

- Hardly achieve competitive pricing and full capacity in the early stage
- Concerns about payback period and high risk of borrowings



Opportunities

- Generate employment opportunities and promote economic growth
- Good investment prospects (infrastructure, manufacturing, energy and real estate)
- Increase intra-ASEAN trade
- Enhance the infrastructure connectivity with the world



Threats

- Underutilize of capacity if another mega port to be built in Strait of Malacca (SOM)
- Threatens to disturb ancestral homes of native Mah Meri
- Environmental issues

The myth and scepticism about Carey Island's port project

- A new 3rd port at Carey Island would require huge infrastructure based on its existing landscape that requires massive dredging works or construction of breakwater structures. It is extremely capital-intensive project. Do both APSEZ and MCC have sufficient funding? If not, who will finance the project? Carey Island's Port is estimated to cost RM39.1 billion investment. How possible MMC or the partners going to raise funding and from where?
- APSEZ is the biggest Indian port operator and had the 2nd highest container traffic (FY2016-17: 4.2 million TEUs) in India. From business perspective, Carey Island's port project is part of business expansion for APSEZ since they are planning to become top container port operator in India. Indian Prime Minister Narendra Modi is promoting "Made in India" campaign, which is aimed at making India an international manufacturing hub. Thus, will Carey Island's port project support India's "go out strategy" in future?
- Why China is not involved in the Carey Island's port project? China has invested in Kuantan Port and East Coast Rail Line (ECRL)* which connects Kuantan Port and Port Klang. Malaysia-China Kuantan Industrial Park (MCKIP) is established to promote China's manufacturing investment in Malaysia. Carey Island's port should be an indispensable project to secure China's seaborne trade between eastern and western region.

Note: *refer to appendix

Summary: Carey Island's port

- Seaborne trade is hardly can be substituted with either air or land transport. Strait of Malacca (SOM) will has enormous traffic over next few decades as world trade and intra-ASEAN trade are expected to grow at rapid rate annually.
- Most of Carey Island's lands are owned by Sime Darby Plantation. Carey port development would require about 700 hectare land, which makes up about 6% of 11,615.65 hectare Carey land from Sime Darby Plantation. For Port Industrial City (*include port*), Sime Darby Plantation ought to sacrifice entire palm oil plantation in Carey Island. Sime Darby Plantation's total landbank area will reduce by 3-3.3%.
- The development of Carey Port is to cater for future needs as West Port and North Port have almost reached the maximum port expansion.
- Since the formation of a new shipping alliance, Port Klang's container volume has declined by 9.8% from 13.2 million TEUs in 2016 to 11.9 million TEUs in 2017. Overall, Peninsular Malaysia's port utilization rate was 66.8% in 2017.
- From maritime perspective, **it is not economical viable for the construction of Carey Island's port to be ready by 2025 or 2028** on account of the following reasons: (a) A number of existing ports expansion will be completed by 2030. Peninsular Malaysia's ports capacity will expand to roughly 56.6 million TEUs in 2030 (34.3 million TEUs in 2017); (b) Melaka deep seaport and Tanjung Bruas Port would be participating in transshipment industry between 2018 and 2030; and (c) Ports' capacity will be underutilized in Peninsular Malaysia, triggering a stiff domestic competition.

- In contrast, it cannot be denied that Carey Island's port would create **positive spillovers and multiplier effects to businesses and people**. Most importantly, it can reduce the traffic congestion in Port Klang. With its strategic location geographically, Carey Island's port can be realized faster than our expectations if the port integrates with innovation, latest technology, efficient services and competitive pricing.
- Alternatively, it will be interesting to see how developments projects such as Singapore's Tuas, Myanmar's Dawei, Thailand's Laem Chabang, and other smaller ports development plans will complement or pose a threat to the Carey Island in the process of transforming South-East Asia into a massive regional hub (Please refer to previous research paper on "Strait of Malacca").
- Lastly, new mega ports or hubs being developed along Strait of Malacca are likely to benefit the shipping lines, and to some extent the importers/exporters in the future.

Appendix

- **East Coast Rail Line (ECRL)**
- **Alternative scenario for SOM**

East Coast Rail Line (ECRL)



No	From	To	Distance
Phase 1			km
1	Wakaf Bharu	Kota Bharu	10.3
2	Kota Bharu	Jelawat	21.9
3	Jelawat	Tok Bali	10.9
4	Tok Bali	Kampung Raja	18.3
5	Kampung Raja	Penarik	52.8
6	Penarik	Kuala Terengganu	24.5
7	Kuala Terengganu	Kuala Telemong	13.8
8	Kuala Telemong	Pengkalan Berangan	16.5
9	Pengkalan Berangan	Dungun	49.3
10	Dungun	Kemasik	36.1
11*	Kerteh Spurline	Kemasik	20.8
12	Kemasik	Chukai	19.8
12.1*	Kemaman Spurline	ECRL Line	12.7
13	Chukai	Cherating	14.4
14	Cherating	Kuantan Port City	12.2
15.1	Kuantan Port Spurline	Kuantan Port City	10.2
15	Kuantan Port City	Kota SAS	24.7
16	Kota SAS	Gambang	19.8
18	Gambang	Maran	56.1
19	Maran	Mentakab	40.5
20	Mentakab	Bentong	49.4
21	Bentong	Gombak Utara	30.9
22	Gombak Utara	ITT Gombak	9.0
Phase 2			
*	ITT Gombak	Port Klang	87.7

Note: * = Estimation

Strait of Malacca (Demand vs Supply) – 50% share of ASEAN

	2017	2020	2030	2050
Singapore				
Capacity (TEUs million)	50.0	50.0	65.0	65.0
Container traffic (TEUs million)	33.7	34.5	57.75	130.0
Utilization rate (%)	67.0	69.0	89.0	200.0
Peninsular Malaysia				
Capacity (TEUs million)	34.3	41.4	56.6	63.6
Container traffic (TEUs million)	22.9	27.6	46.2	104
Utilization rate (%)	67.0	67.0	82.0	164.0
Peninsular Malaysia (+ Carey Port)				
Capacity (TEUs million)	34.3	41.4	66.6	93.6
Container traffic (TEUs million)	22.9	27.6	46.2	104.0
Utilization rate (%)	67.0	67.0	69.0	111.0
Sumatra, Indonesia				
Capacity (TEUs million)	1.8*	3.1	27.0	27.0
Container traffic (TEUs million)	1.5	6.9	11.6	26.0
Utilization rate (%)	61.0	223.0	43.0	96

 Insufficient capacity

Note:
The table formed based on “Container traffic” and “Port capacity” table in Slide 30 with **the assumption of Strait of Malacca hold 50% share of ASEAN.**

Initially, Malaysia and Singapore handled about 99% of Strait of Malacca’s container traffic. However, Indonesian government is developing Kuala Tanjung Port with assisted by Rotterdam Port Authority and DP world. And, there is a few potential port development such as Batam and Tanjung Suah to increase competitiveness within Strait of Malacca. Thus, SERC estimates Strait of Malacca of container traffic ratio of Singapore, Peninsular Malaysia and Sumatra (Indonesia) are 50%:40%:10%.

Source: SERC computation



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