

Subterranean freight requires a minimum tunnel excavation radius of
2.823m

20 km tunnel through basalt

Cost estimate = $(\pi r^2 L) \times \$1,500 / m^3 = \$751m$

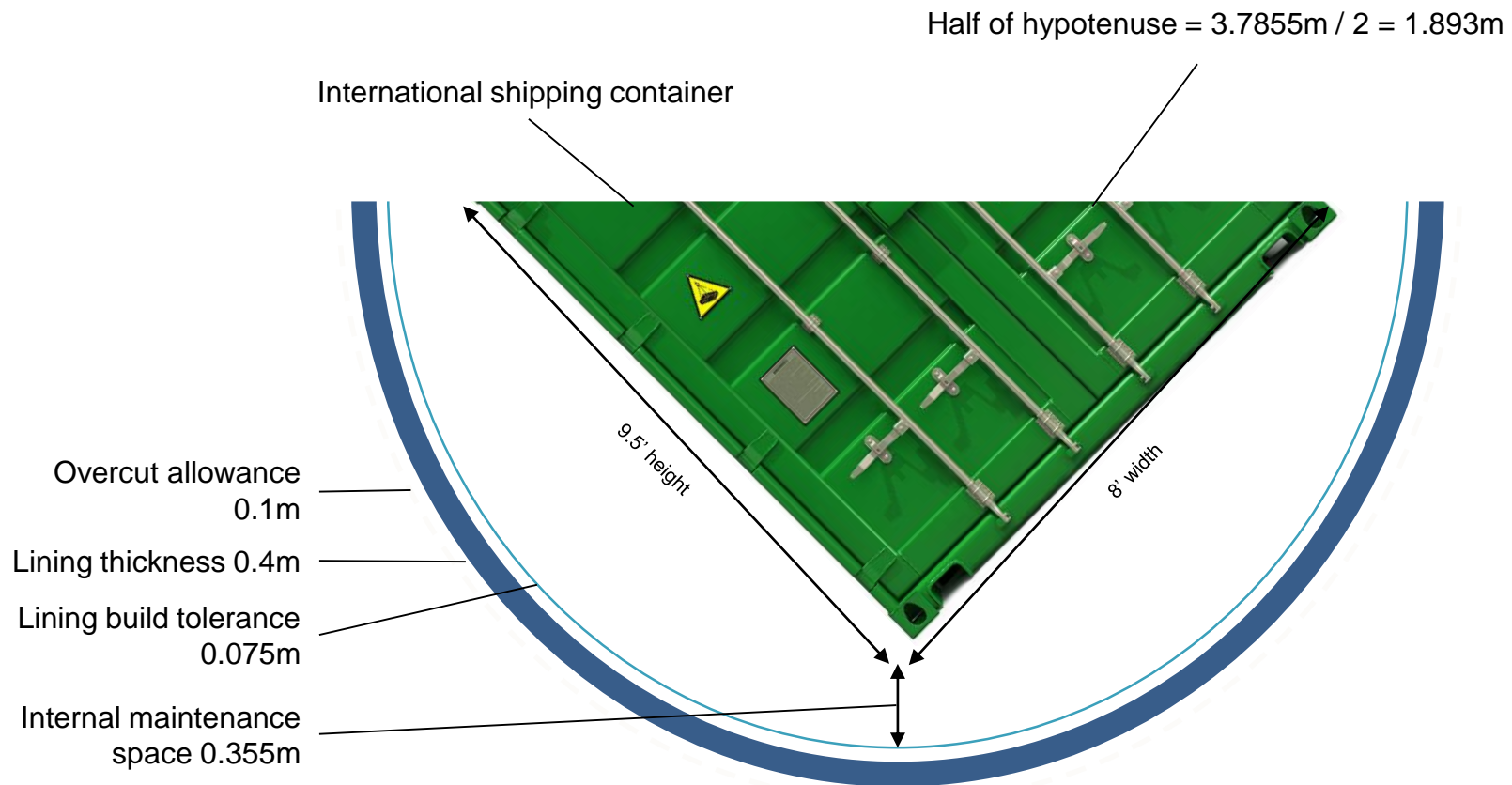
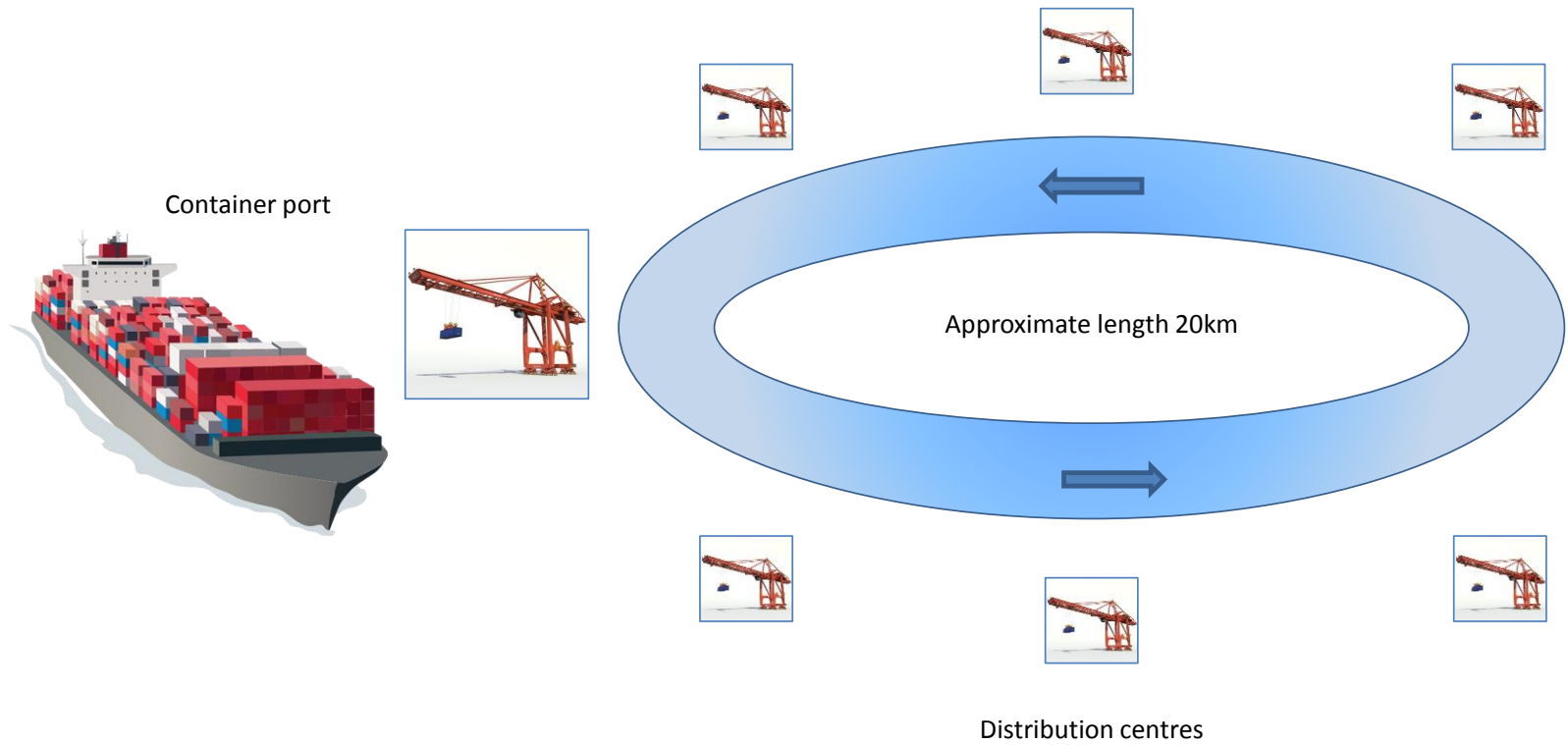


Figure 2. Transport from container port to strategic distribution centres



Freight Tunnel for Melbourne passed first economics test ACE16

- I like it.
- You have underestimated the Economic Benefits
 - Left out noise reduction
 - Left out the benefits to congestion on the Western Ring Road
 - BUT overstated the value of lives and serious accidents saved
- Please spend the \$2 billion “Perth Freight Link”.
 - Currently frozen by the Supreme Court of WA
 - Your freight tunnel will not hurt the environment.
 - If WA does not spend \$2bn the Commonwealth will take it back.

Perth Freight Link \$2b

Mayor of Fremantle

- December 2016 – focus on next Minister for Transport
- Early March 2017 WA changed government
- Late March - focus on Kwinana

Mayor of Kwinana

- Focus on 15 years ahead – Indian Ocean Gateway
- Land side access under Dampier to Bunbury gas pipe
- <http://indianoceangateway.com.au/>

Staff April 2017



FREIGHT TUNNEL FOR MELBOURNE - Peer Reviews, ARC, R&D (April -)

Risk engineer and Tunnelling engineer

Economists and Actuary

Local heavy automotive manufacturing firm

- Safe?
- Geometry – will it fit?
- Cost?

Swinburne University of Technology

- Masters intern student business intelligence
- Senior lecturer, business and innovation, ARC industry linkage

R&D grant

Economic Capital Costs

	ACE 16	ACE 17	Quality of ACE17
	\$m NPV at 4%	\$m Raw	
Tunnel	1039	751	Medium - High
Vehicles (800)	178	400	Medium
Hoists	247	247	
ICT	523	100	
Electricity Supply		100	
Ventilation		100	
Project Management		100	
IP		100	
Fire Services		50	
River Crossing	185	0	
Contingency		0	
TOTAL	2172	1948	

\$2 to move a container a km

capital cost only

operating costs modest

\$40 to move a container 20 km

\$ 2000 million to move 50 million containers at a million per annum over 50 years

Economic Benefits - update on ACE 16

	ACE 16	ACE 17
	Mar-16	Change to July 2017
Road Vehicles Saved	690	DOWN
Congestion Benefits to remaining road users	675	UP
Vehicle Operating Costs saved	540	DOWN
Social (crash costs)	345	DOWN
Environmental (health costs)	86	UP
Producer Surplus	-11	DOWN
Noise reduction	0	UP UP
Wider Economic Benefits	0	Not needed?
Value of Real Options for several projects	0	UP UP
Threat of competition for other projects	0	UP
TOTAL	2325	UP a little

Overcoming Barriers to Innovation

Wrong initial focus to protect IP through patents	18 paid staff signed confidentiality agreements
Poor documentation	ACE 16 and 17 presentations, CGE 17 conference, Journal? Swinburne Masters intern
Cash Flow	Core economics work
Wary of politics	even-handed to all parties
Succession Planning	WEN help please?