



**Bi Modal Terminals...  
are these the real terminals in  
Victoria's Freight Futures Strategy?**

(Associate Professor)

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# Current International Interest in Australian Rail and Wharves

- Debt Refinancing
- Sale of QR
- Fast link from Sydney to Melbourne
- Fast terminal operations
- What if a new stevedore picks off Bne, Syd and Melb? Rail then....

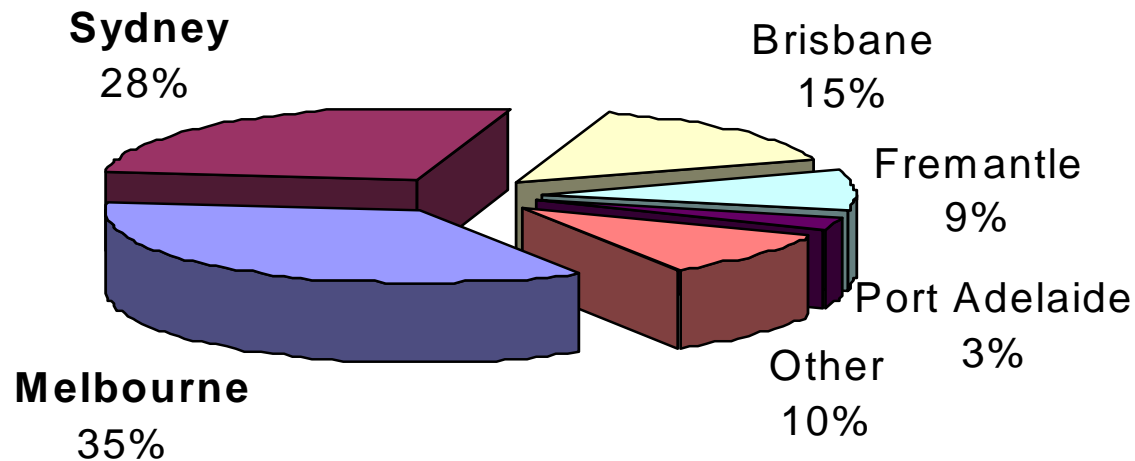
# **Melbourne (closer to home)**

Population – 3.9 Million

Australia's Largest Non Mining  
based Freight City

# Melbourne – Australia's Largest Container Port

## Australian Container Trade Market Share (2006/07)



# Freight Future's Purpose

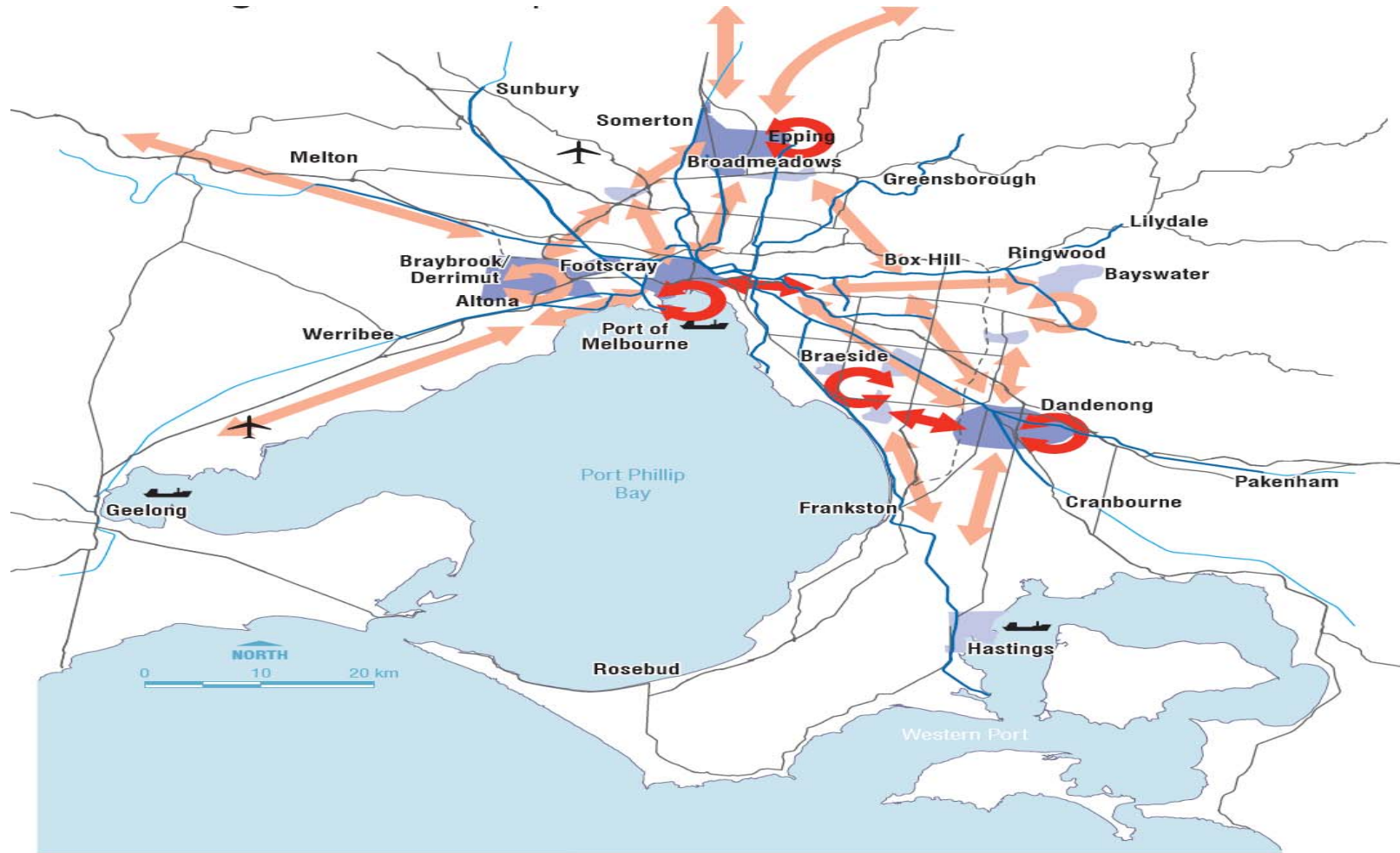
**“The overarching purpose of *Freight Futures* is to drive the development of an efficient, sustainable freight network for the future that balances the needs of the growing Victorian economy and population with the quality of life aspirations of the Victorian community.”**

**The four prongs:**

- Efficiency / Productivity
- Network Capacity
- Sustainability
- Dampening **Freight Exposure**

| <b>Freight Today</b>   | <b>Freight Future</b>   |
|--|---|
| <b>Approximately 606,000 freight vehicles are registered in Victoria.</b>          | <b>By 2030, there will be approximately 1.12 million freight vehicles registered in Victoria, an increase of 85%.</b> |
| <b>Approximately 490,000 Light Commercial Vehicles are registered in Victoria.</b> | <b>By 2030, Victoria's LCV population alone will be approaching one million vehicles, an increase of 104%.</b>        |
| <b>Approximately 22,250 articulated trucks are registered in Victoria.</b>         | <b>By 2030 there will be over 40,000 articulated trucks registered in Victoria, an increase of 80%.</b>               |
| <b>Approximately 3,500 ships visit the Port of Melbourne per annum.</b>            | <b>By 2030 there are forecast to be 5,500 ship visits to the Port of Melbourne per annum, an increase of 57%.</b>     |

# There is a better way !!



- Major road
- Major road project
- Melbourne metropolitan rail network
- Rail (non metropolitan)

- Freight activity areas (major/medium)
- Heavy/medium freight flows - between
- Heavy/medium freight flows - within
- Port
- Airport

# Principal Freight Network's Freight Activity Centres!!





# Initial Terminal Models on the HPFN



- Major road
- - - Major road project
- Melbourne metropolitan rail network
- Rail (non metropolitan)

Principal Freight Network

- Freight activity areas (major/medium)
- Principal Freight Network - HPFN



**Terminals**



**Donnybrook**



Port  
Airport

# Super Urban Container/Freight Trucks

(Performance Based Standards - HPFVs)



Dutch Mini B Triple (Urban and Regional)



Australian Super B Double

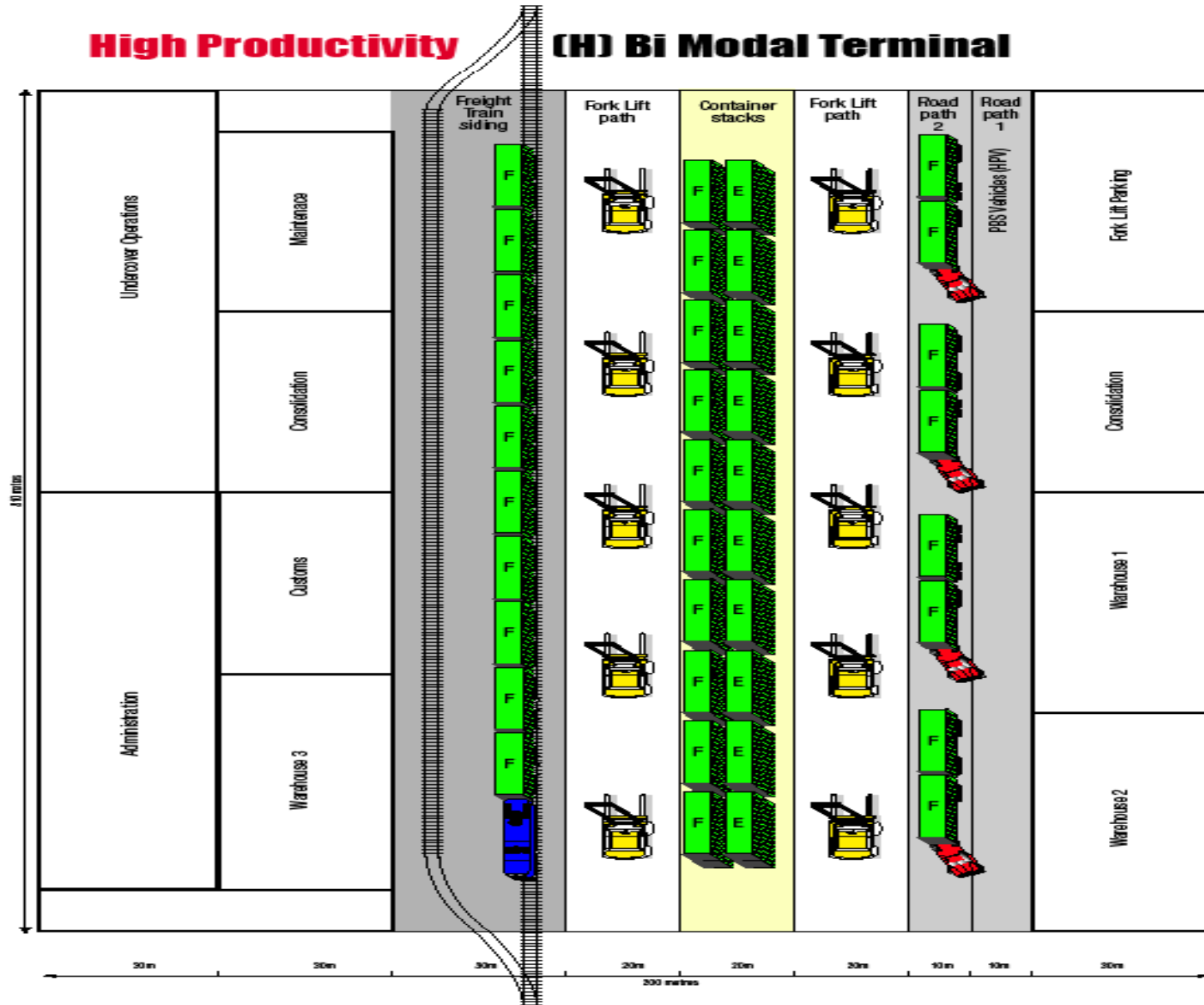
And Australian A Doubles

For Port Ops

# What are BI Modal Terminal at the Freight Activity Centres?

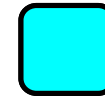
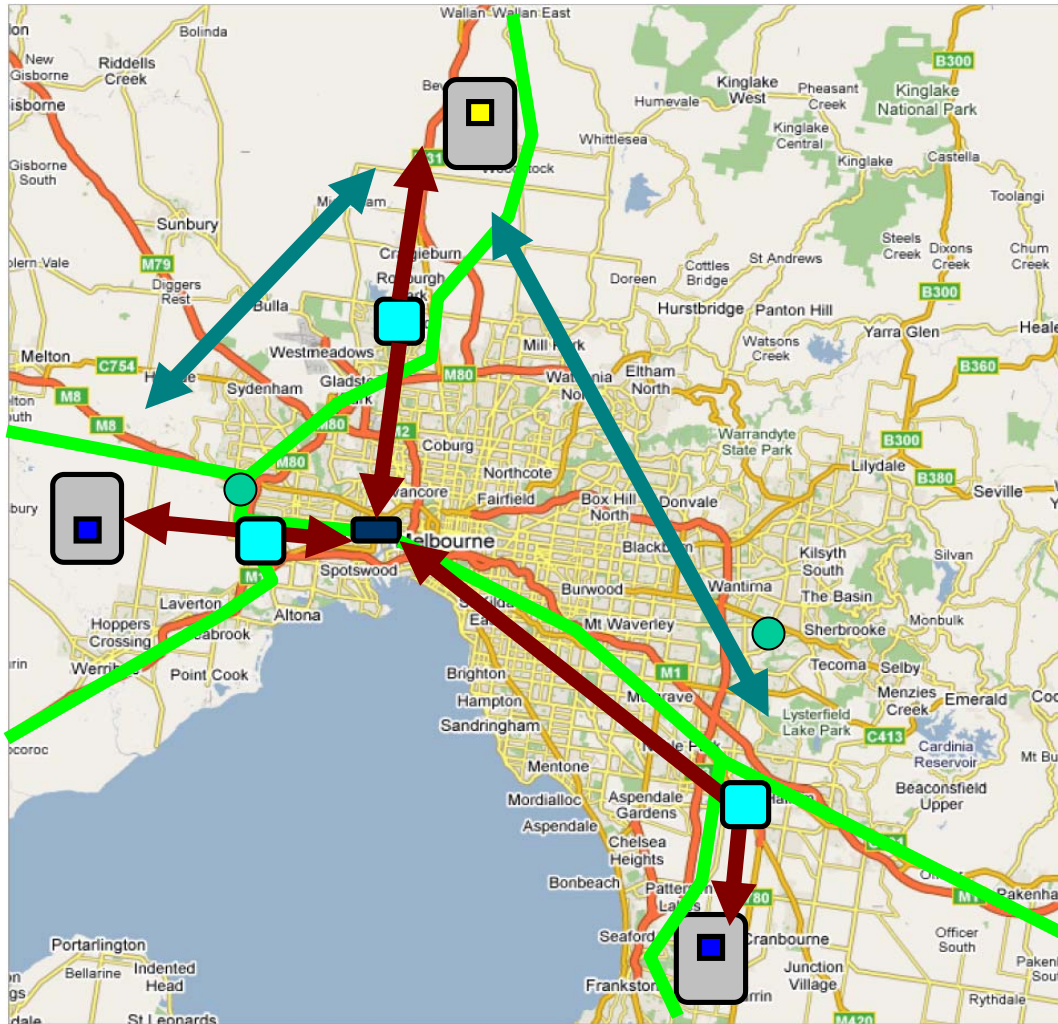
**High Productivity**

**(H) Bi Modal Terminal**

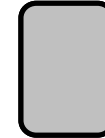


# Principal Freight Network

## New Generation Bi-Modal Terminals ??



Stage 1 Terminals –  
Somerton, Altona,  
Dandenong



Freight & Logistics  
Development Zone



New Interstate Rail  
Terminal –  
Donnybrook



Port of Melbourne  
Freight Terminal



Longer Term  
Common User  
Terminals –  
Wyndham, South  
East



Rail Connections –  
existing and planned

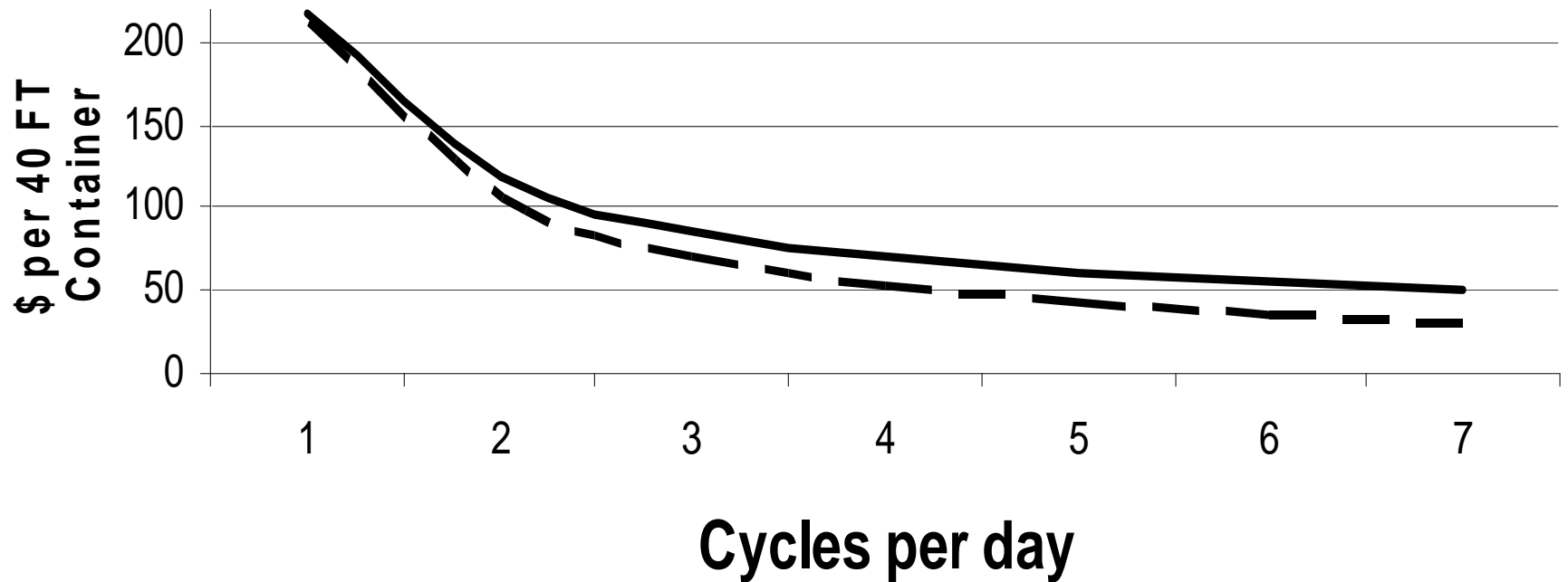


Concentrated HPFV  
flows – Port to  
Terminal



Inter-Terminal HPFV  
Flows

# Bi-Modal Terminal Movement Cost (\$ per Forty Foot Container)



— Rail Shuttle Costs — Super Bdouble Costs

# Productivity and Greenhouse Benefits for PBS and Urban Rail Freight Terminals Network in 2031 Simulation Analysis

|                              | <b>Future Productivity Scenarios: 2031 on the Melbourne HPFV Network</b> |   |   |
|------------------------------|--|---|---|
| <b>Performance Indicator</b> | <b>Do Nothing</b>  | <b>Performance Based Standards only</b> | <b>Performance Based Standards &amp; Urban Rail Freight Terminals</b> |
| <b>Trucks Saved</b>          | <b>0%</b>  | <b><u>-23%</u></b>                      | <b><u>-43%</u></b>  |
| <b>Vehicle Movements</b>     | <b>0%</b>  | <b><u>-28%</u></b>                      | <b><u>-51%</u></b>  |
| <b>Network Kilometres</b>    | <b>0%</b>  | <b><u>-30.5%</u></b>                    | <b><u>-42%</u></b>  |
| <b>Fuel Use</b>              | <b>0%</b>  | <b>-13%</b>                             | <b>-13%</b>   |

Source: DoT Modelling 2008

# Thoughts for Melbourne

- Governments have a significant role in the freight network
- It can be planned, developed and regulated  
Both the Roads, Freight Precincts and the terminal Network!!!
- New vehicle technology, specialist rail shuttles, PBS vehicles and specialized Bi-Modal terminals can work !!

# Many Operational Questions

- Which Authority Regulates the Network?
- Can each terminal operator operate a train?  
Or more?
- How long to stay off standard gauge?
- Who will be in the new consortia?
- What about the ICT Systems
- The future looks good....