

Tuesday 4<sup>th</sup> April 2023 Engineering New Zealand Auckland University, Owen Glenn Building, 12 Grafton Road, Auckland NZ

## Travel demand strategies for the worlds largest special events – lessons for Auckland

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## This preso looks at big event TDM with lessons for Auckland









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## Last week I was supposed to be at a corporate free invited breakfast at the Melbourne Grand Prix this week...heres why...

Melbourne Grand Prix Transport Access





## Lets provide free access taxis!







## All Taxis (3,000) = 9,000 event access trips



#### The Sums

- 3,000 taxis
- Say 3 person access trips per taxi
- 3 \* 3,000 = 9,000





Have you ever seen 3,000 cars?





## Have you ever seen 3,000 cars?



## That's not the problem; what about the other 191,000 visitors you need to get to the site



Access to the Melbourne Grand Prix

Volume of Travel





# Car access is impractical; only one mode has the capacity and effectiveness to carry mass crowds







#### Public transport is the only REAL form of 'Shared Mobility' which can carry people at scale







#### Transit is the only low footprint mode that can carry high volumes at low environmental impact







Engineering studies demonstrate significant line capacity and speed advantages of Metros vs other modes – Cities have NO practical choice other than Metros for capacities above 20Kphpd at speed



Note:

























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## London is one of the most congested cities in the world









# Hosting the Olympic games represents the biggest city transport planning challenge in the world

- Cities will experience the largest demand for travel in their history
- Trip Demand:
  - Olympic Family and Spectators
  - Base Load usual city resident travel
- Media scrutiny means the actions of planners are watched by a worldwide audience







## Games related travel is of three types; base load, spectator and olympic family







## The Olympic Family is of 5 types with a range of transport level of service committed

Scale of Participants and Transport Resources – Sydney 2000

Market	Size	Services
T1-T3 – Olympic VIP's	4,650	Olympic Car Fleet – 4,700 vehicles
T4 – Athletes	10,800	Athlete Bus Network
T4 – Officials	7,600	Officials Bus Network 3,850 Buses
T5 – Media	19,800	Media Bus Network
Total	42,850	

Source: Based on Bovy, P. 'Transport and Exceptional Public Events' ECMT Feb 2002





## Spectators vary between 3-9 M tickets – Atlanta/London were the largest in history









### Pre COVID Olympic Travel Demand has been growing









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## All Olympic transport strategies aim to maximise available transport capacity





Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





## **5 key TDM strategies are adopted**



Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





E. Public Transport Emphasis	London 2012	Beijing 2008	Athens 2004	Sydney 2000	Atlanta 1996	Sa La 20
Expanded public transport system (particularly rail)	~	√	✓	J	\$	Janein Janein Contraction
Rail capacity enhancement	1	1	~	✓		Softer 30 42 + 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2
Free spectator/Olympic family public transport	\$	✓	~	J		
Park and Ride	*	✓	~	✓	Bit Block	

Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





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E. Public Transport Emphasis	London 2012	Beijing 2008	Athens 2004	Sydney 20	Atlanta Salt Lake Expanded Public Transport Systems
Expanded public transport system (particularly rail)	\$	~	5		
Rail capacity enhancement	*	4	5		
Free spectator/Olympic family public transport	\$	4	5		
Park and Ride	4	1	1		

Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





E. Public Transport Emphasis	London 2012	Beijing 2008	Athens 2004	Sydney 2000	Atlanta 1996	Salt Lake 2002	
Expanded public transport system (particularly rail)	\$	4	1		R	nigi	Well designed crowd handling Separate platform loading/unloading Estimated Capacity = 50,000 pax/ hour
Rail capacity enhancement	*	4	1				
Free spectator/Olympic family public transport	1	4	1				
Park and Ride	1	✓	1	1	4	1	

Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





E. Public Transport Emphasis	London 2012	Beijing 2008	Athens Sydney Atlanta Salt 2004 High Capacity Bus Design
Expanded public transport system (particularly rail)	4	✓	Rio 2016
Rail capacity enhancement	~	√	
Free spectator/Olympic family public transport	1	4	
Park and Ride	1	1	✓

Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





### Investment in quality mass transit is critical to success



Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





## Travel capacity measures – site concentration, crowd spreading, delivery runners!



Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





## **Dedicated lanes for the Olympic Familty guarantee priority capacity**



Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





## Travel behavior change is at the core of the capacity creation measures



Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





# Employee travel planning and traveler messaging aim to change behavior and perceptions/ expectations

#### Employer Travel Planning

- 533 assignments covering 611,000 employees.
- Mail drop to 45,000 businesses in central London
- Door to door 25,000 SMEs in priority hotspot areas
- Workshops 140 attended by 2,850 businesses
- Drop ins 21 attended by 965 businesses
- Third party events 333 attended by 19,500 businesses
- TAB newsletter sent to 10,000 businesses and business intermediaries





Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48





## 'Keep ahead of the games website – an innovation – transport modelling to CHANGE travel behavior



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# TDM is highly successful in the games – managing expectations/ giving people choice



#### **"UNDER PROMISE AND OVER DELIVER"**

#### LEVERAGE INTERNATIONAL MEDIA INTEREST

Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48







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### **Pre-Games Media "Hysteria"**







*London's hydrogen buses grounded during Olympics due to security fears!* University













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A 'perfect traffic storm' will bring **Olympic chaos to London as 33%** more cars clog roads and motors crawl along at 12mph





## Games Time





Ghost town Victims of London: Victims of London: Success' our own success'





## Games Time – where have all the people gone? GHOST TOWN EXPRESS HE SH THE PARTY OF London Bridge Westminister SEHRANK thanks to Ling Media Banner "Ghost Town London" MONASH University Hammersmith Earl's Court

## **Games Time – Public Transport Working Well**



## **Games Time – Public Transport Working Well**

Press Reports Public Transport Busy Around Event Sites But Working – Some Delays reported but all really minor



Ρ





## **Games Time – Transit Mode Shift**



Source: TfL Published Data

Day 11 – Tuesday 7<sup>th</sup> LUL carries 4.5M passengers – Largest demand in all History





### Background weekday Transit demand was 30-40% down (as planned)



Note: Includes all trips on London Underground, Docklands Light Railway, Croydon Tramlink and London Buses within London . All National Rail trips within London as well as to and from London and the rest of the UK are included in the above background demand figures





### Monash study work data, Canary Wharf -30/40%



Note: Major office based employers – Canary Wharf Area Source: Monash University Business Consultations – London 2012





## ... consistent with previous games findings



Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48







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## Lessons for our future:

- Quality Public Transport Essential
- Rail critical to effective big city transport at volume
- Manage roadspace to achieve objectives
- The Power of TDM
- Making transport work by changing travel via changed expectations
- Effective management Under promise and over deliver
- New technologies/ communications as an innovation to travel behaviour change

Source: Currie G and Delbosc (2011) 'Assessing Travel Demand Management for the Summer Olympic Games' TRANSPORTATION RESEARCH RECORD Journal of the Transportation Research Board Volume 2245 / 2011 Pages 36-48









## The Monash Public Transport Research Group runs the free World Transit Research Clearinghouse and Researching Transit Podcast to help industry access research/researchers



World Transit Research Clearinghouse

#### **Researching Transit Podcast Series**





## The Monash Public Transport Research Group also offer industry training; the Planning Public Transport Services Short Course – in 2023 its in AMSTERDAM



#### Please reach out for more information



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