

# Presentation to CEDA 20 February 2006

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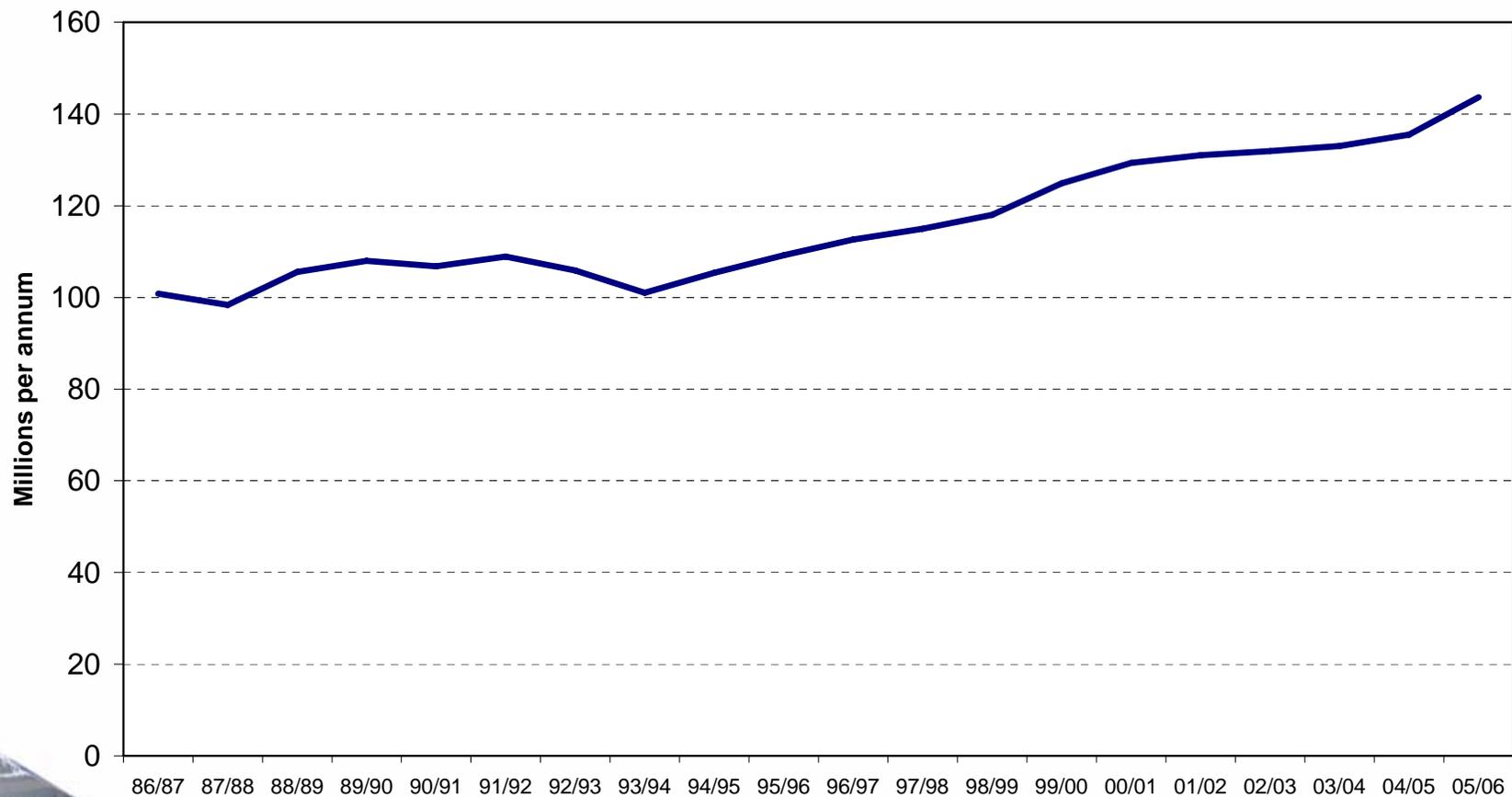


Melbourne's Train Service



# First The Good News!

## Metro Rail Patronage Over Past 20 Years



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## But Services have not kept pace

### WORST LINES

- Sydenham
- Dandenong
- Pakenham
- Broadmeadows

The Age – 4 January 2006

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# Why?

- There have been no expansions to metropolitan track capacity since the completion of the City loop in the mid 1980's.
- Extra peak services have been added over the past 20 years and virtually all of the spare capacity has been used up in key corridors.
- We will add some more services on the most congested lines in 2006, but that's it, until something changes.



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# And not only that:

- Overloading causes:
  - Increased dwell times at stations, adding to late running
  - Poor comfort levels
  - Low customer satisfaction, and
  - Constrained patronage growth!
- Running the system close to capacity also means that there are significant “ripple effects” when disruptions occur. In effect, one late or cancelled train can cause many other trains to be late.
- Punctuality has dropped from 97% to 93% over past 3 years



# So what is Capacity?

- Rail capacity is a function of:
  - Infrastructure (i.e. signalling, track, stations, platforms, junctions etc);
  - Operating strategies, including the mix of stopping and express services
  - Resources, specifically rolling stock and drivers;
- Limited track infrastructure is now having a severe and continuous impact on service quality on a number of lines. Two generic problems are:
  - Single track sections
  - Double track combined with express services



# Single Track Sections

The Road Analogy



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# Single Track Sections

## The Rail Analogy



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# Single Track Sections

- The maximum frequency (trains per hour) is constrained in each direction.
- Tight schedules cause cascading delays.
- Scheduling is constrained for the other lines as well.
- 7 of Melbourne's 15 electrified train lines still have single track sections, and a further 3 lines have single track terminals.



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# Double Track with Expresses

- Express services are valued by patrons
- Many metro services in the longer corridors have traditionally run express, as well as all of the Regional services which share metropolitan tracks (from Geelong, Ballarat, Bendigo, Seymour, Latrobe Valley).
- In some corridors, this service mix now uses all of the available track capacity in the peak direction.
- Extra trains could be fitted in if the express services were scheduled to run as slow as the stoppers.
- The only workable solution is a third track.



# So we urgently need...

- Triplication from Dandenong to Caulfield
- Triplication from Sunshine to Footscray
- Triplication from Blackburn to Box Hill, in combination with the grade separation of the level crossing at Middleborough Road
- Duplication of the most critical single line sections, particularly on the Hurstbridge and Epping lines.
- Upgraded and modernised signalling on key corridors and the City Loop
- Extra platforms at Sandringham and Pakenham, as well as an improved terminal at Werribee
- As well as modern train control and communication systems.



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# City Loop

- Four tunnels, three full in peaks and the other constrained by the junction at Jolimont
- Signalling works and dwell time management can add a few pathways each hour for the loop tunnels
- Flinders Street Station also needs to be reworked to add platform capacity
- Jolimont can be solved, with operational changes or trackwork
- Loop will still be a constraint over time, extra services will need to “run direct” to FSS.



# Train Fleet

- The train fleet can cater for needs over the next three years.
- A crucial step over the next two years is to develop a tender for new state-of-the-art trains.
- The aim of this tender should be firstly extra trains and secondly the replacement of the aging Comeng trains.
- Stabling and depot capacity will need to be expanded, in tandem with increases in the size of the fleet



# Extensions

- Extension of electrification is a good idea, as demonstrated by Cranbourne, Sydenham and (soon) Craigieburn
- But, adding extensions to a system that can't cope simply makes matters worse because:
  - More passengers on congested trains
  - More shared track with expresses
  - Less reliability due to above
- Expansion of the electrified train system should proceed after bottlenecks on the existing system are removed.



# Commonwealth Games Travel Demand

- Free travel on public transport for ticket holders
- Games sport events  $\approx$  1.7 million spectators
- Free cultural program  $>$   $\frac{1}{2}$  million people
- School holidays helps a little
- Connex is the primary public transport carrier:
  - Connex 50%
  - Yarra Trams 15%
  - V/Line Passenger 3%
  - Bus 2%



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# Commonwealth Games Rail Services

- More train services around the clock
- All trains to & from CBD to be six carriages all day
- Third peak every night
- Extended hours of operation on all nights – up to 1.30am for Opening and Closing Ceremonies



# Games Readiness

- Games timetable scheduled – 6 months of extensive work, every train trip planned with a pathway
- Games Projects done or nearing completion – Eg. Jolimont & Richmond stations, graffiti clean-up
- Additional internal and external resources secured
- Games rosters completed
- Extra trains due to accelerated delivery of Siemens
- Altered maintenance regimes – before & during Games
- Security preparations - eg Trident



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# Games Challenges

- Maintaining high capacity over 12 days, around the clock
- Managing network disruptions during Games, such as level crossing incidents
- Extra busy times on weekdays - MCG Morning Event passengers coincide with AM Peak commuters
- Substantial evening movement of people (a third Peak)
- Getting the system up and ready by 4am each day
- Moderating public expectations – extra delays and crowding are inevitable
- Recovery after Games - continuing current service after the Games, when everything and everyone is fatigued



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# What does the Games Tell Us?

- When transport demand increases for the central area, extra use of rail is the only viable option.
- Existing infrastructure and fleet numbers constrain our existing options:
  - Peak capacity is limited
  - Off-peak frequencies are limited in many corridors due to single line sections
- Unfortunately, “pushing the envelope” with the existing system will lead to extra unreliability and delays.
- Melbournians may accept high crowding levels during big events (but probably not every weekday!)



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