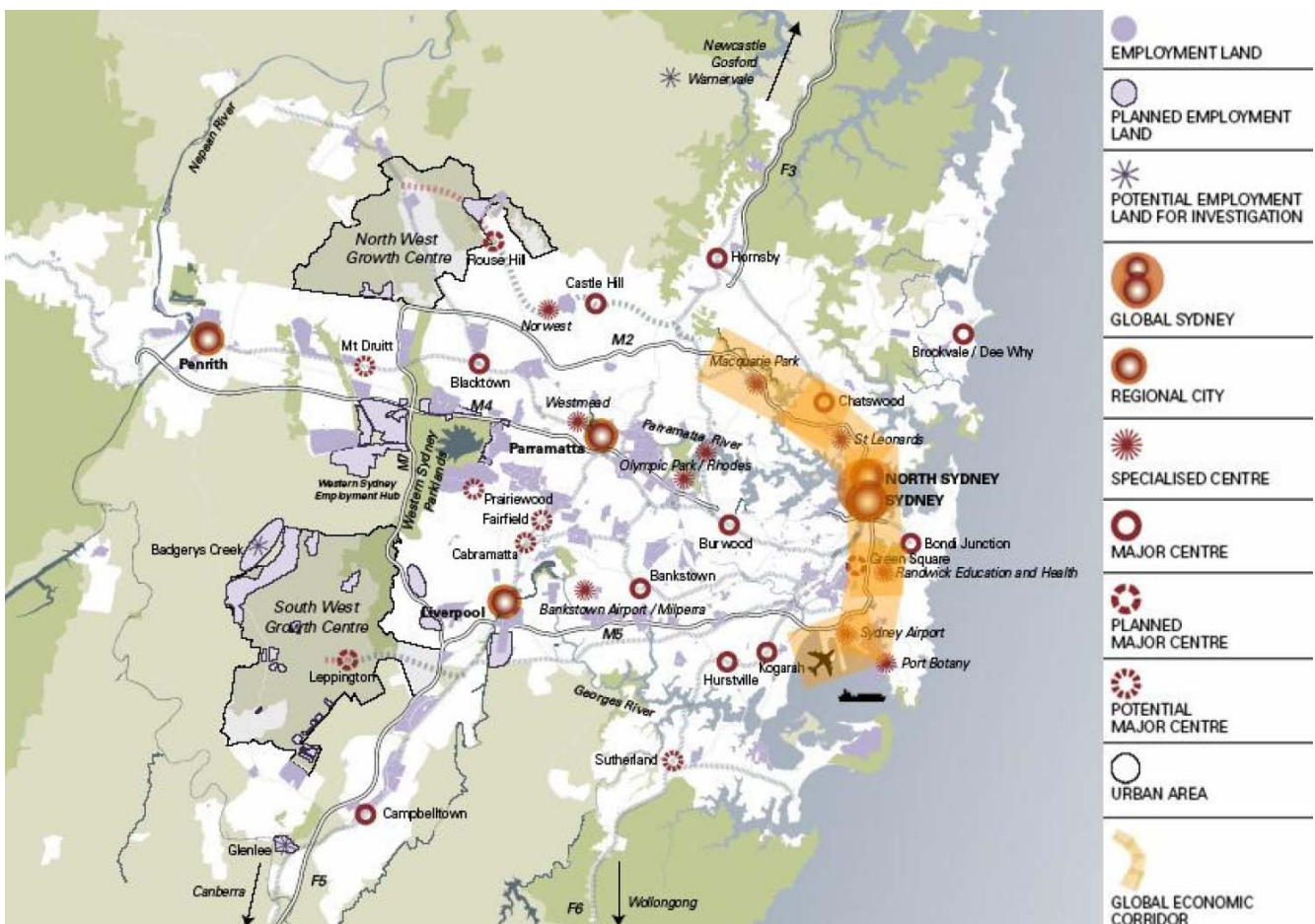
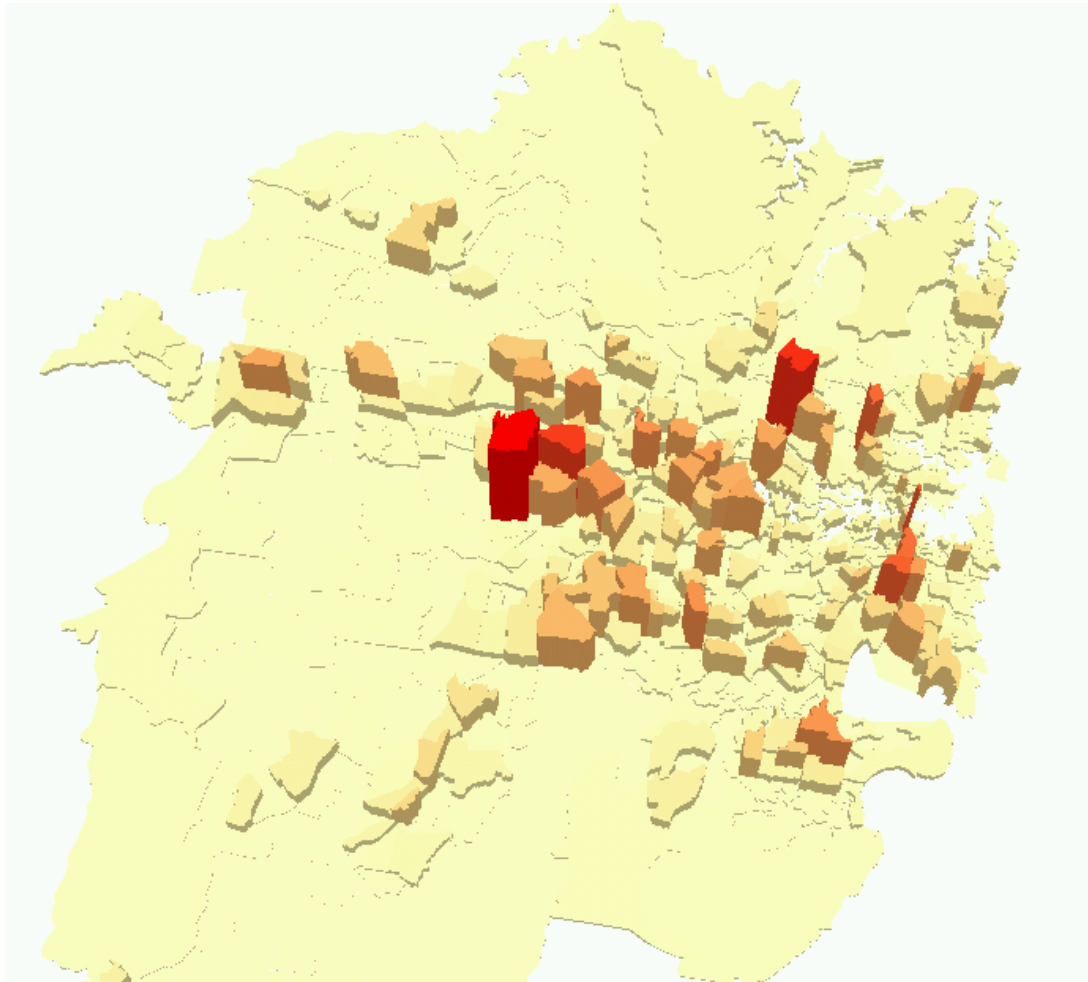


A Case study:

“a high speed limited stop guided transport system”





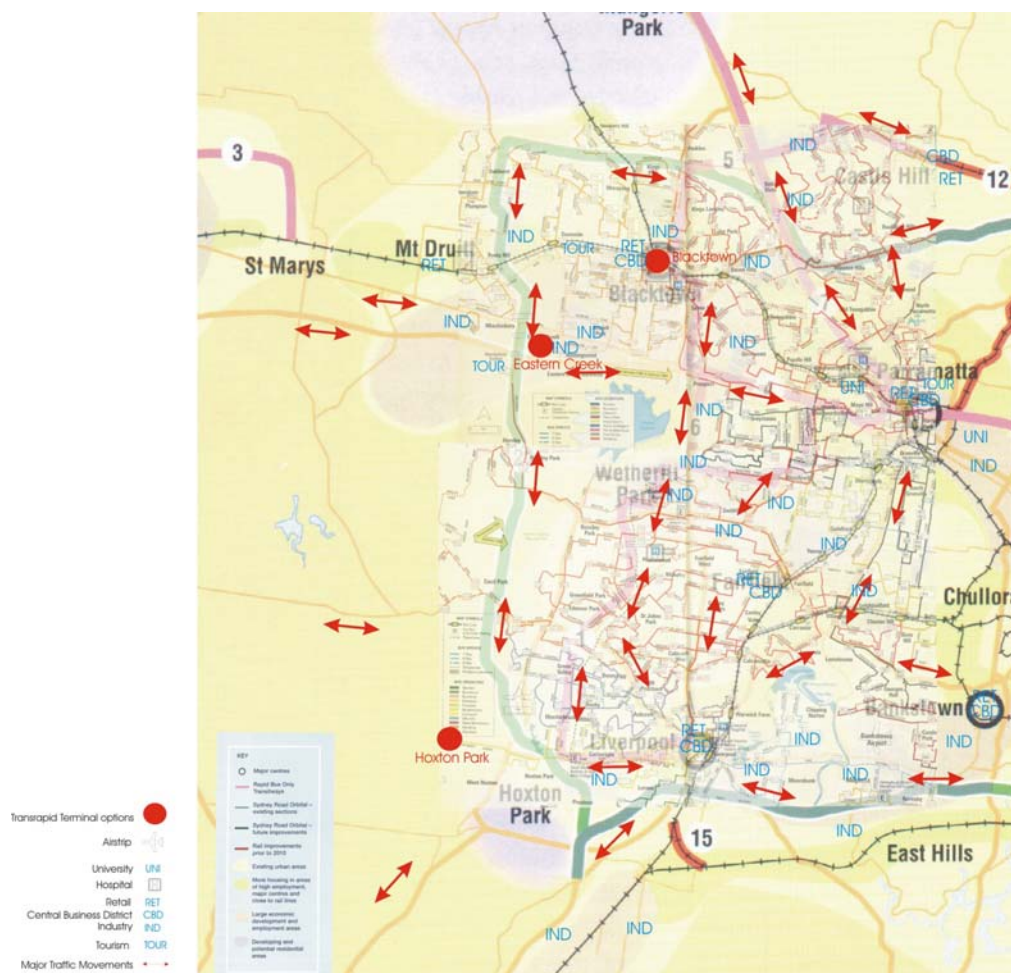
REQUIREMENTS?

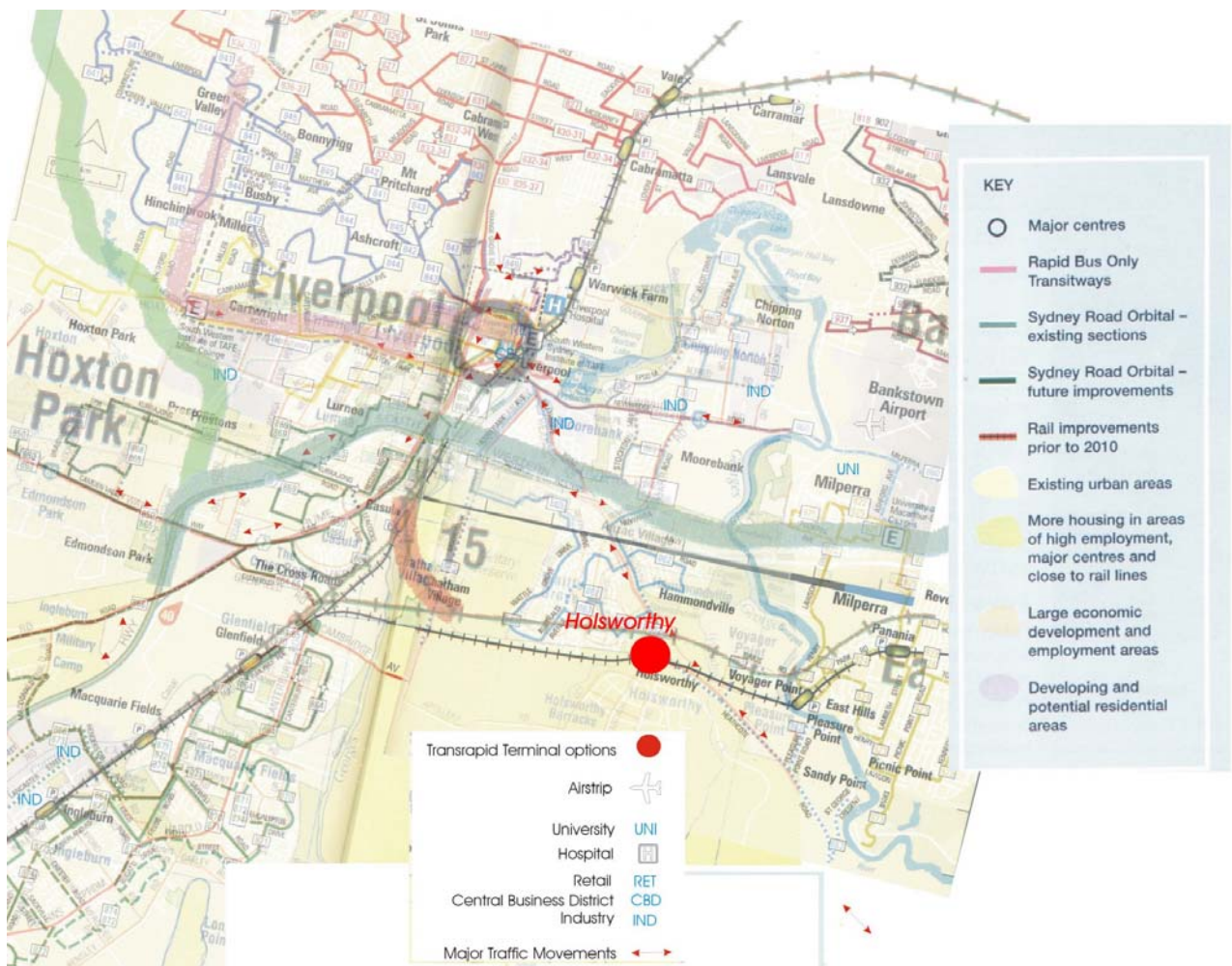
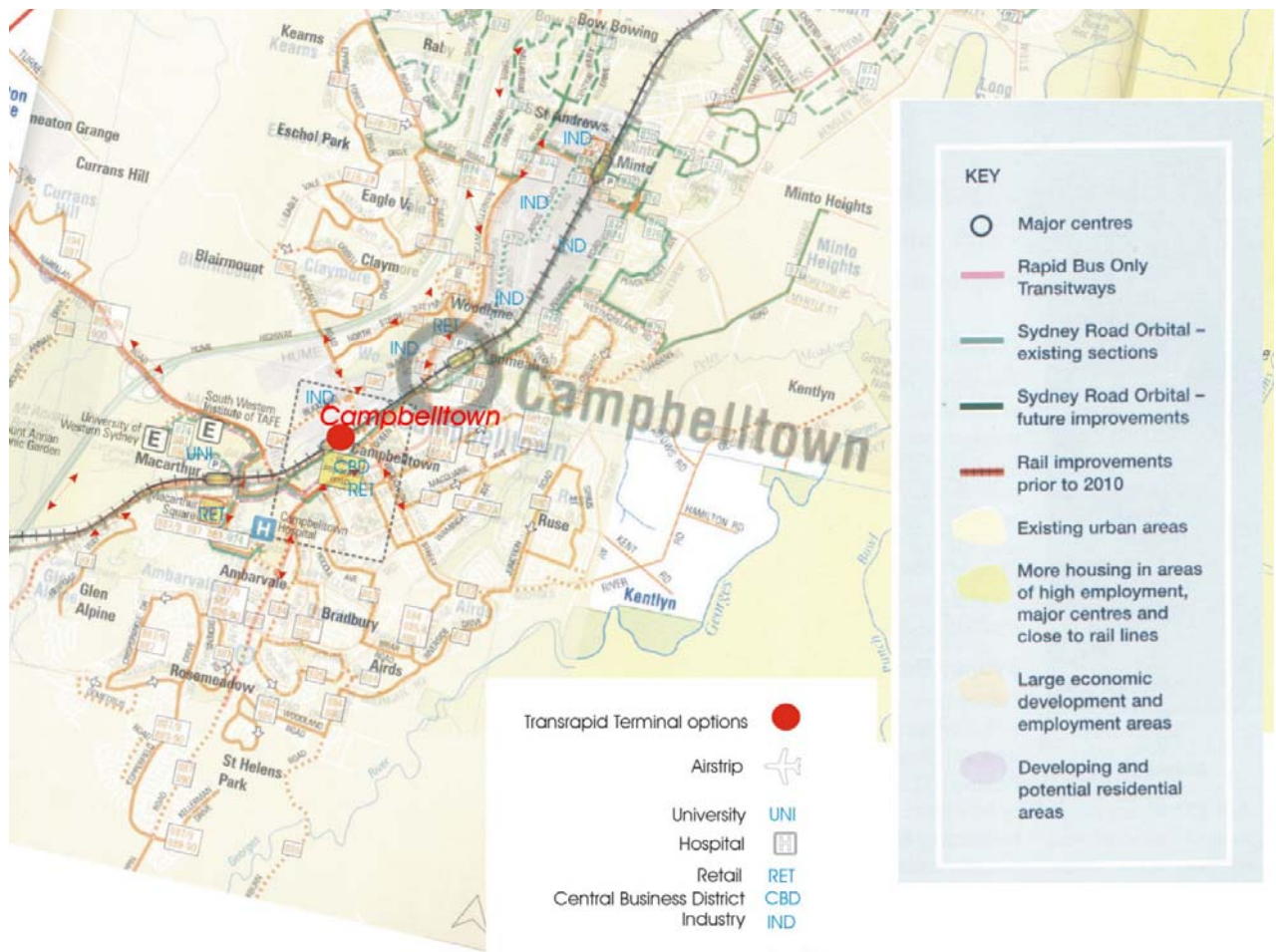
- integration between all links in a multimodal transport web structure.
- when integrated provide door to door trip times for cross regional trips that are significantly (15% to 30%) better than the trip time by car only.
- passenger comfort and personal safety.

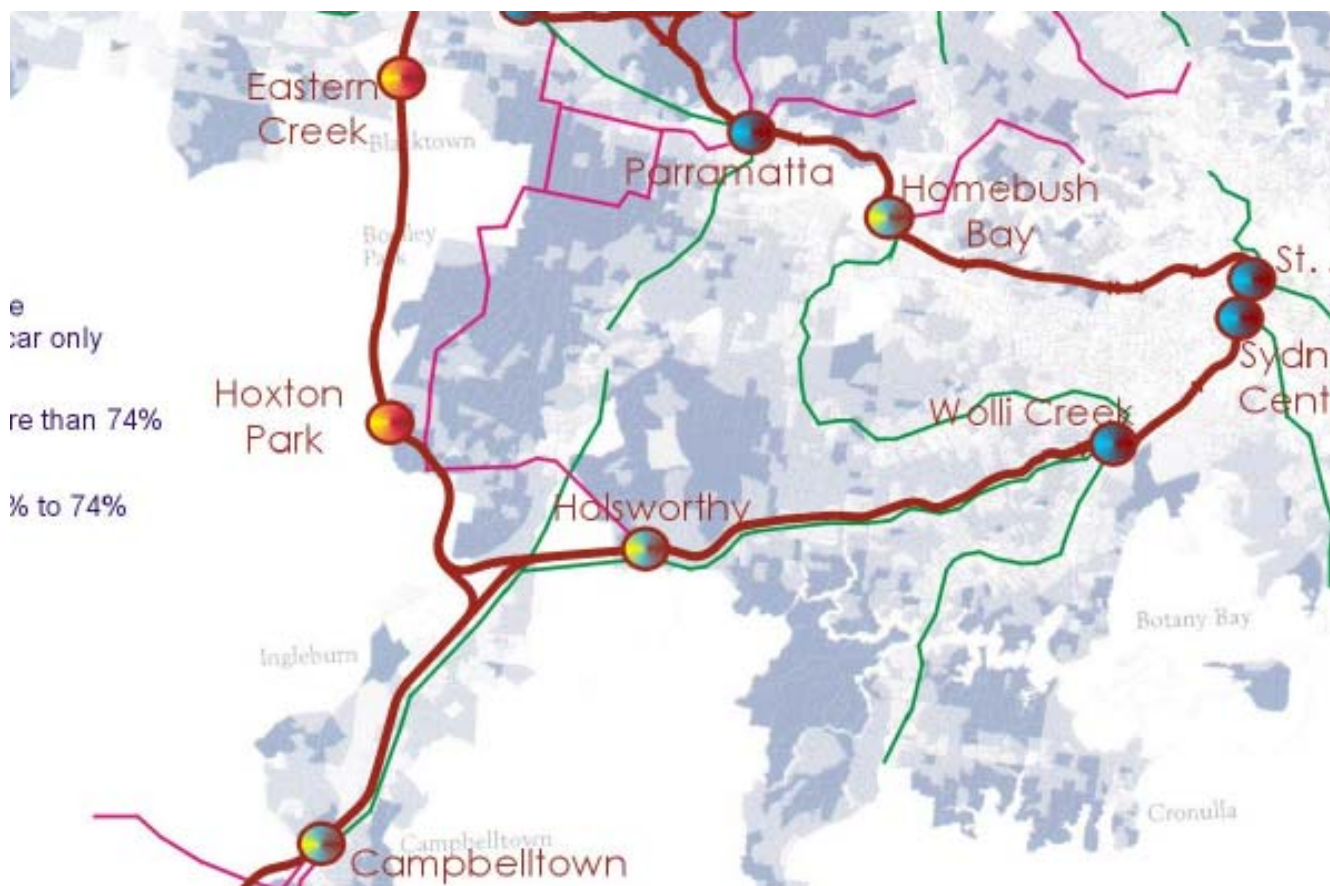
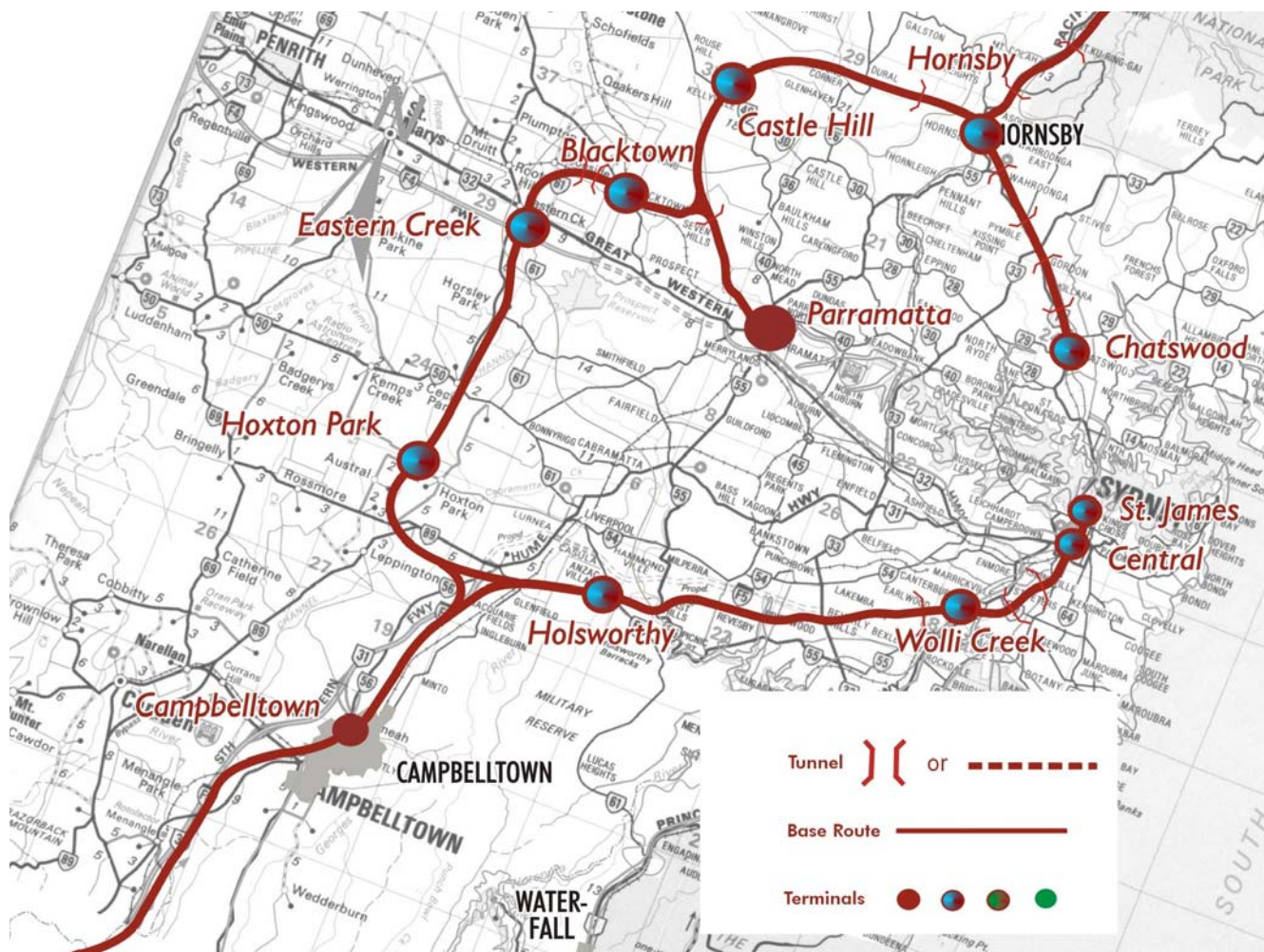
What are the matching characteristics of the trunk orbital public transport arc?

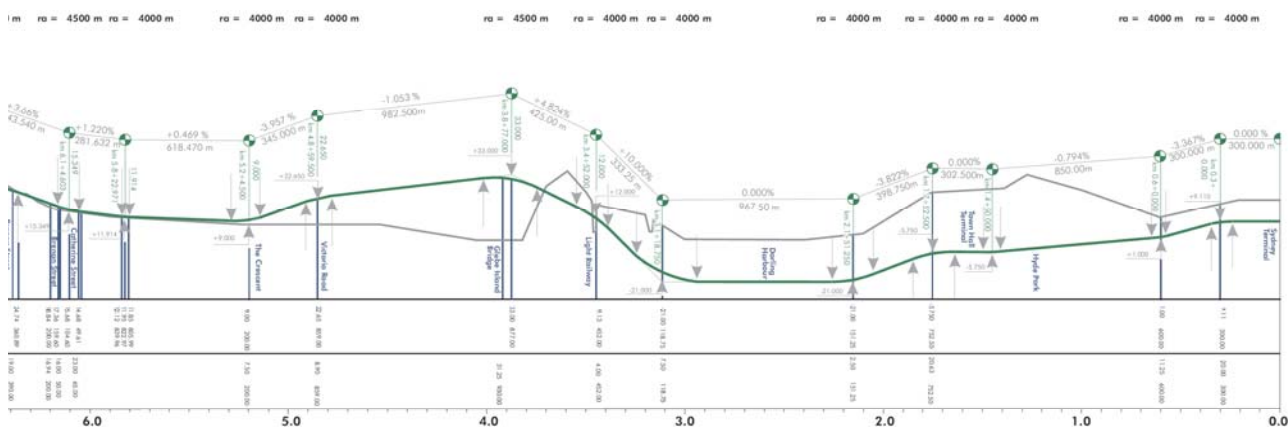
CHARACTERISTICS?

- integration with motorways/buses/rail and other feeders.
- interchanges 5 to 10 km apart
- rapid transit times 2 to 4 minutes between stops
- stay within environmental noise capacity of corridor
- passenger comfort and personal safety onboard and within interchange areas.







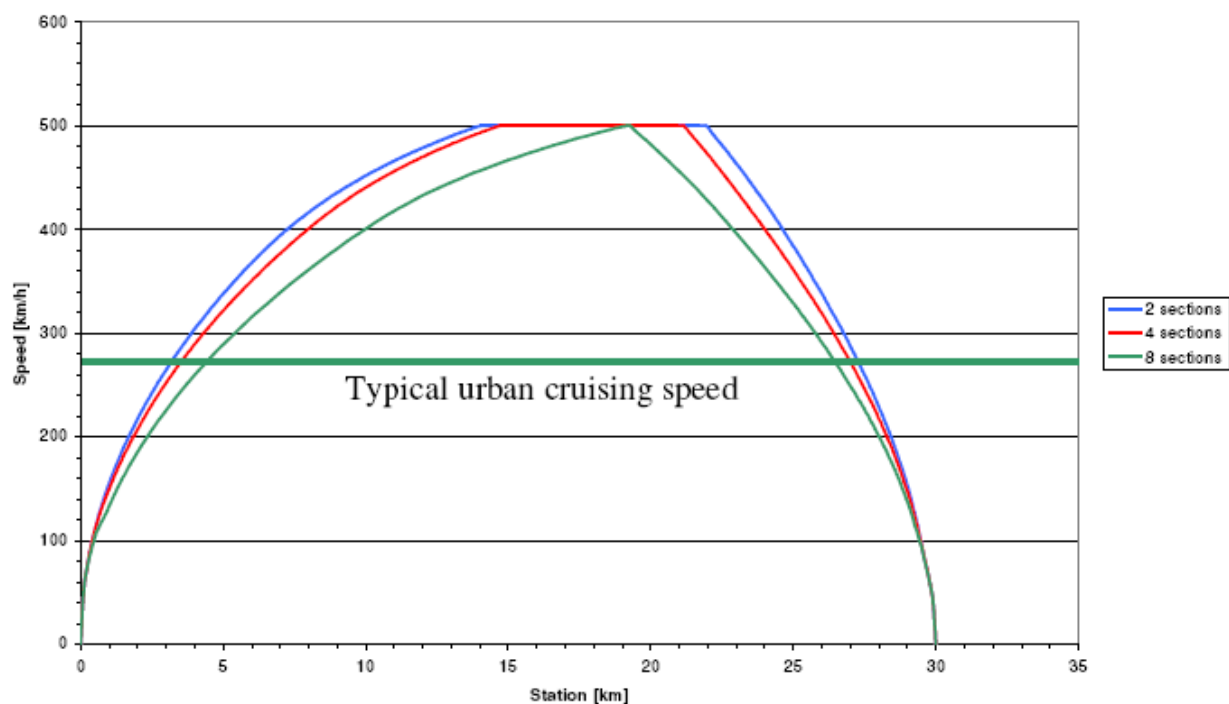
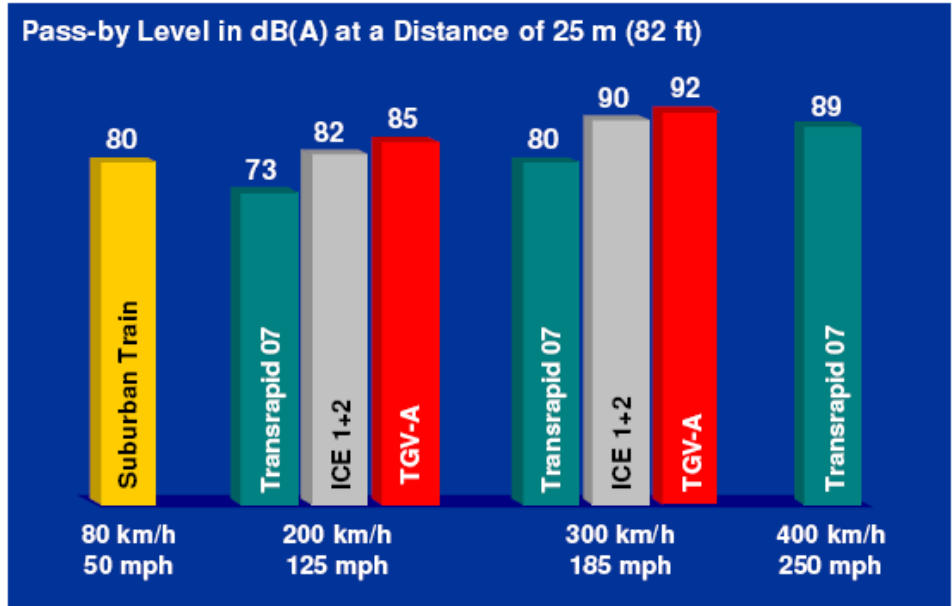


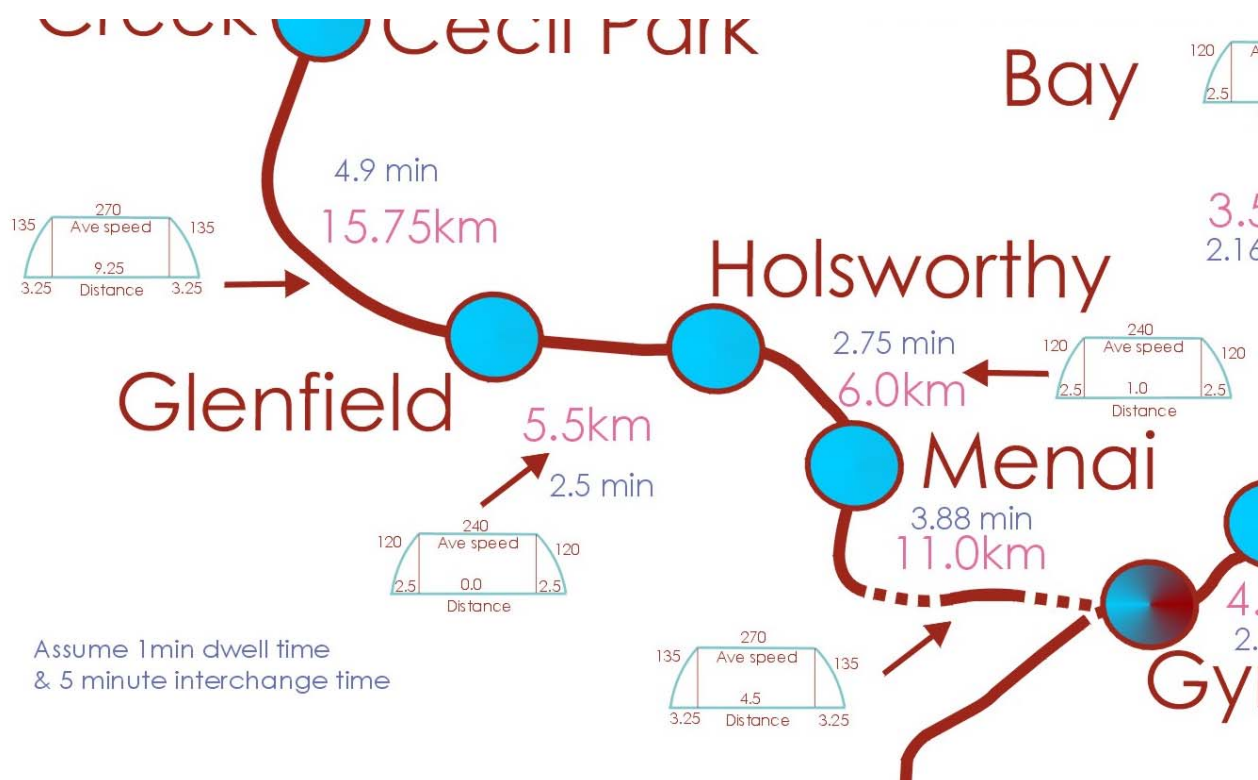
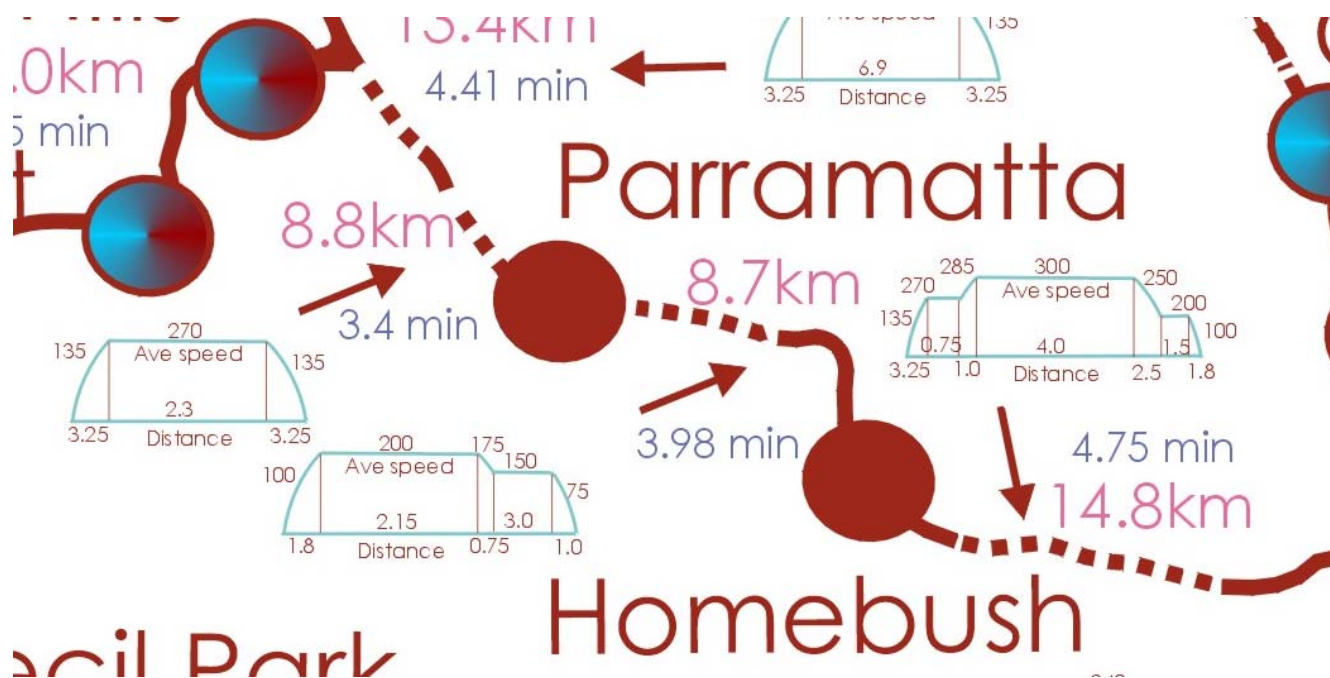
Section : S1F-1						
Kilometrage from: 1.06 km west			Kilometrage to: 2.0 km west			
Curvature	Gradient	Clearances	Land Resumption	Infrastructure Alterations	Neighbourhood Acceptability	Construction Staging
* Minimum of 760 metre radius.	* Maximum of 1%.	* 10.1 metre corridor width. * 4.6 metres clearance to ground. * 5.3 metres clearance over Marjorie Jackson Parkway.	* Above ground easement for complete section through Olympic site.	* New bridge over Haslam's Creek and adjacent mangroves (160 metres). * Elevated guideway.	* Elevated guideway while visually more prominent, leaves land beneath clear for other uses. Planting's to screen in sensitive locations. * Noise impact may be an issue in quiet areas such as open parkland and wetlands. * Environmental impact of bridge over Haslam's Creek Wetlands could be an issue.	* Complete Parramatta to Homebush Bay as first stage
Drawing No.s U0052-91.						
Other Comments: * Guideway elevated for complete section.						

Dist from/to	Holsworthy	Wolli Creek	Central	St James
Blacktown	37.0	56.2	63.8	65.5
Eastern Creek	29.9	49.1	56.7	58.4
Hoxton Park	15.4	34.6	42.2	43.9
Holsworthy		19.2	26.8	28.5
Wolli Creek			7.5	9.3
Central				1.7



Noise Emission





Time from/to	Holsworthy	Wolli Creek	Central	St James
Blacktown	14.8	22.0	26.4	29.0
Eastern Creek	10.5	17.7	22.1	24.7
Hoxton Park	4.8	12.0	16.4	19.0
Holsworthy		6.2	10.6	13.2
Wolli Creek			3.4	6.0
Central				1.6

	Cumulative Distance (km)	Travel Time (min)	Cumulative Travel Time (min)	Available Capa
Blacktown	0.0			
		3.3	3.3	
Eastern Creek	7.1			
		4.7	9.0	
Hoxton Park	21.6			
		4.8	14.8	
Holsworthy	37.0			
		6.2	22.0	
Wolli Creek	56.2			
		3.4	26.4	
Central	63.8			
		1.6	29.0	
St James	65.5			

1 min dwell time at each stop

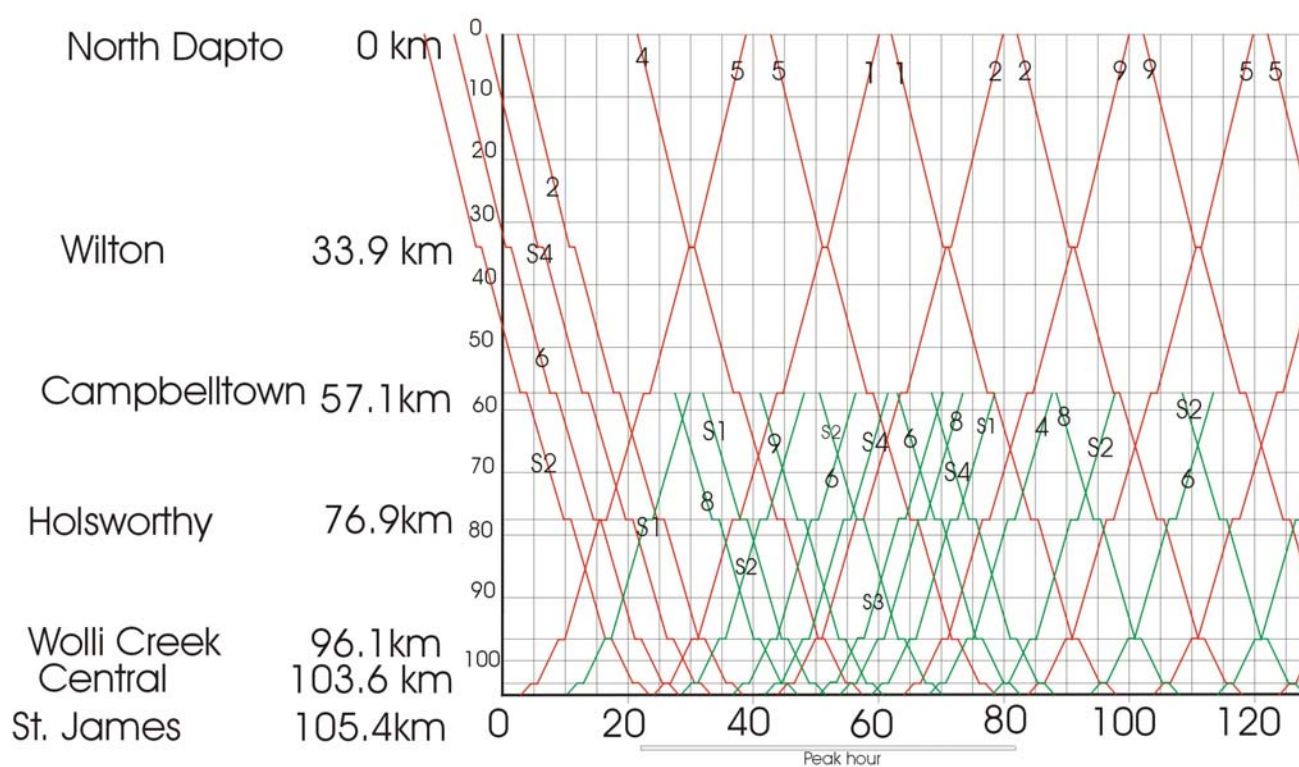
* assuming 20 trains/hr lim
2010 Illawarra/Campbellt

Travel Time (min)	Cumulative Travel Time (min)	Available Capacity trains/hr/ guideway *
3.3	3.3	20.0
4.7	9.0	20.0
4.8	14.8	# 9
6.2	22.0	# 9
3.4	26.4	# 9
1.6	29.0	

1 min dwell time at each stop

* assuming 20 trains/hr limiting guideway capacity or 3 minute headways
2010 Illawarra/Campbelltown use of twin guideway capacity

Notional Timetable Service Configuration 8



Campbelltown/StJames		1996	2005	2006
AM Peak Hr	100.0%	14079	17,583	18,022
Up pax loadings (peak hr)	100.0%		11,429	12,616
Annual Pax	1800	0	20,571,808	22,708,111
pax priced to shoulder peak	4,736			
Up pax loadings with demand management (peak hr)			6,693	7,880
note: demand management achieved by pricing passengers into the shoulder period each side of the peak hour				
Service Options(with demand management)			1	1(+20%)
ramp			0.65	0.70

Timetable D(2005)

Service Configuration #	Section service started	Pk Hr train numbers starting in section	Pk Hr train numbers serving section	Cars per train
1	Nth Dapto - Campbelltown	5	5	6
	Campbelltown - StJames	5	10	6
2	Nth Dapto - Campbelltown	5	5	6
	Campbelltown - StJames	5	10	8
3	Nth Dapto - Campbelltown	5	5	8
	Campbelltown - StJames	5	10	8
4	Nth Dapto - Campbelltown	5	5	8
	Campbelltown - StJames	5	10	10
5	Nth Dapto - Campbelltown	5	5	10
	Campbelltown - StJames	5	10	10

cars per train	Pk Hr Seated capacity (high density)	Pk Hr Seated capacity (high density) with 20% standing	fleet car numbers/ section	availability fleet car numbers/ service configuration 95%
6	3,480		36	57
6	6,960	8,352	18	
6	3,480		36	63
8	8,180	9,816	24	
8	4,700		48	76
8	9,400	11,280	24	
8	4,700		48	82
10	10,620	12,744	30	
10	5,920		60	95
10	11,840	14,208	30	

<i>Eastern Creek/StJames</i>		1997	2005	2006	2007
Maximum Up pax loadings (peak hr) without demand management cap & ramping	100.0%	22051	26,867	27,539	28,227
Up pax loadings (peak hr) without demand management cap			13,434	16,523	19,759
Up pax loadings (peak hr) with demand management cap	yes		11,026	13,231	15,436
Annual Pax without demand management cap	1800	45,715	50,129,360	61,659,112	73,734,022
Up pax loadings with demand management (peak hr capacity cap)			14,094	14,094	19,035
Shoulder peak Service (supplementary capacity delivered)			0	3,197	3,197
Total demand management strategy capacity			14,094	17,291	22,232
note: demand management achieved by pricing passengers into the shoulder period each side of the peak hour					
Peak Hour Service Configuration (with demand management)			1(+35%)	1(+35%)	2(+35%)
Supplementary Shoulder peak Service (10cars* 135%*#trains)	1,598		0	2	2
ramp			0.50	0.60	0.70
Number of cars to operate service			76	76	101

Timetable A

Service Configuration #	Section serviced	Pk Hr train runs	Cars per train	Pk Hr Seated capacity (high density)
1(+35%)	Eastern Creek - St.James	15	6	10,440
2(+35%)	Eastern Creek - St.James	15	8	14,100
3(+35%)	Eastern Creek - St.James	15	10	17,760
4(+35%)	Eastern Creek - St.James	20	8	18,800
5(+35%)	Eastern Creek - St.James	20	10	23,680
High Density Seating #s	6 car trains 8 car trains 10 car trains	696 940 1184		

Cars per train	Pk Hr Seated capacity (high density)	135% Pk Hr capacity Seated (high density) with standing	fleet car numbers	availability fleet car numbers/ service configuration 95%
6	10,440	14,094	72	76
8	14,100	19,035	96	101
10	17,760	23,976	120	126
8	18,800	25,380	128	135
10	23,680	31,968	160	168