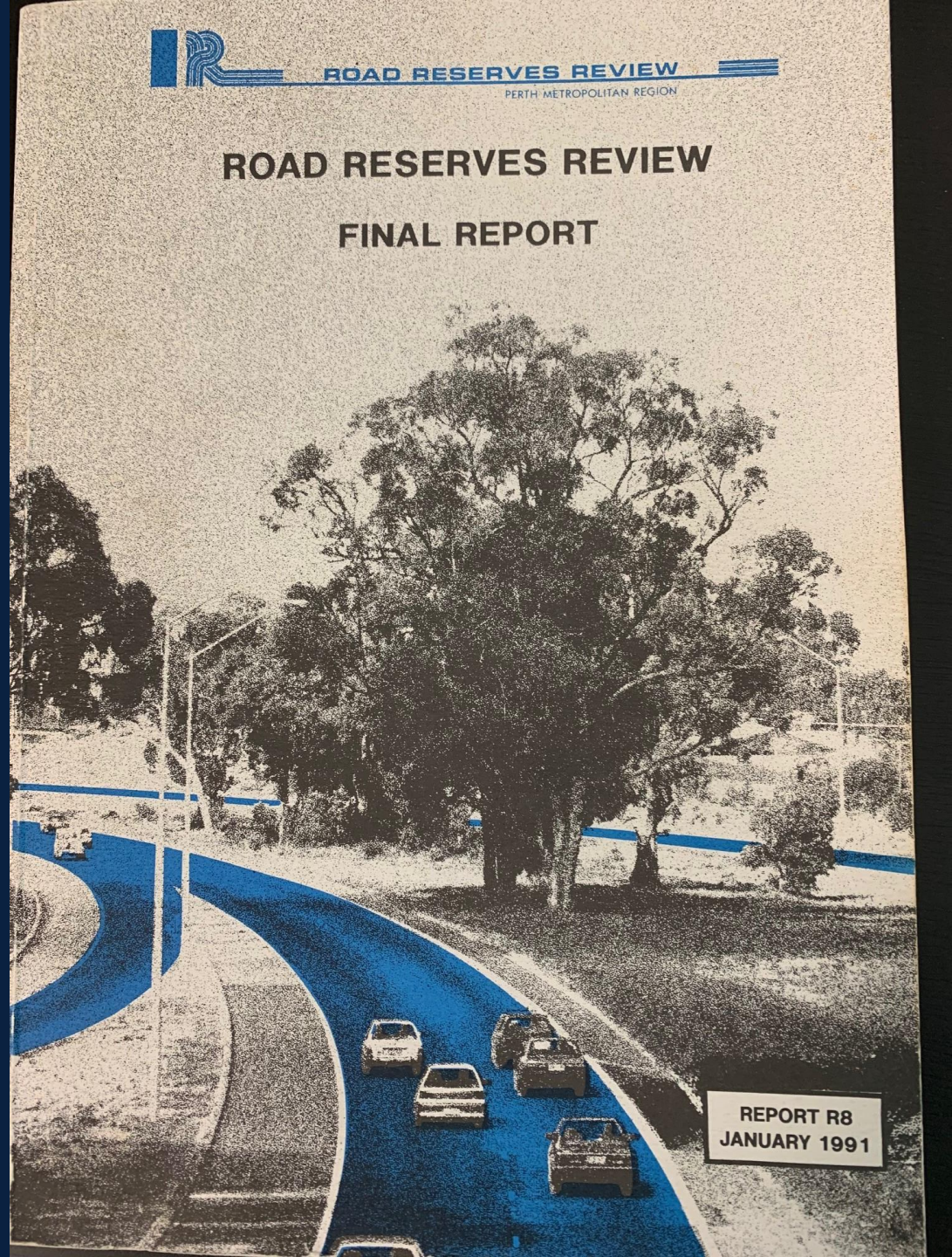
SMEC

Member of the Surbana Jurong Group

Looking Back

Presented by Steven Piotrowski

Thursday, 23rd Nov 2023



Agenda

- Overview of the RRR
- Looking Back
- Key Findings
- Other Studies since the RRR
- MTS
- Future Perth STE

Overview of the RRR

Road Reserves Review

A joint study of the Department of Planning and Urban Development, Department of Transport, Main Roads Department and Transperth.

An independent study, although the findings were broadly acceptable to the agencies involved.

“The Review team undertook extensive travel demand and traffic modelling, adopting a number of varying land use and economic scenarios.”

RRR – Four Land Use Scenarios

1. The Preferred Strategy – Perth at 2021 based on the recommendations of the Corridor Plan Review;
2. The Corridor Plan scenario – Perth at 2021 assuming continuation of the Corridor Plan policies;
3. A Coastal scenario – Perth at 2021 assuming more market-driven low density expansion in the coastal corridor;
4. A Centralised scenario – Perth at 2021 assuming a much higher degree of consolidation than the Preferred Strategy, and a much stronger CBD.

RRR – Two Economic Scenarios

1. High Growth – an optimistic view assuming vigorous economic growth, low fuel prices and higher incomes; and
2. Low Growth – a more pessimistic view with lower growth, higher fuel prices and lower incomes.

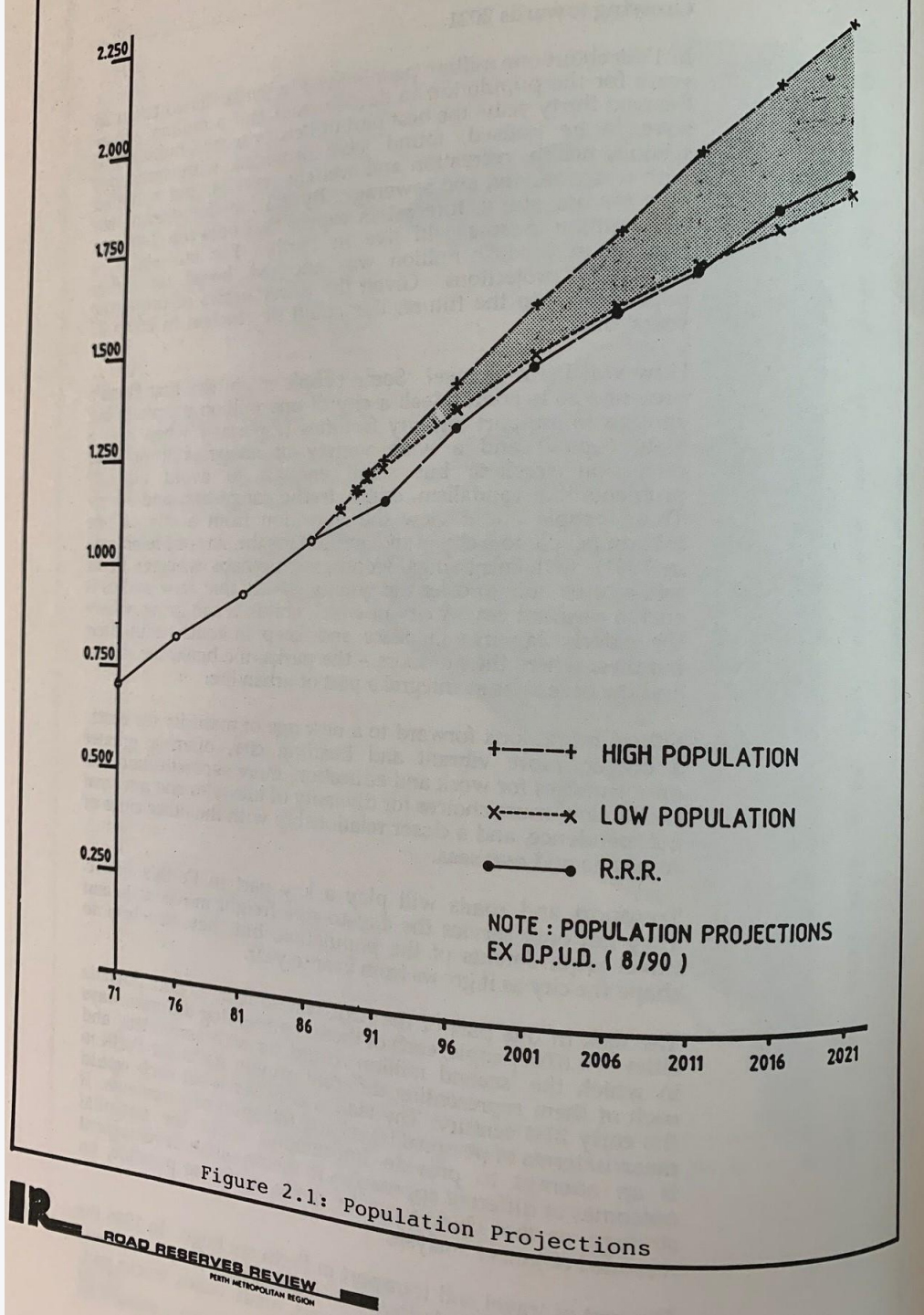
Looking Back

Population Growth

RRR: “By 2021…forecasters expect that between 1.82m and 2.22m people will live in Perth. For our study, a population of 1.87m was adopted.”

According to the ABS, Perth’s population in 2021 was 2.116m.

Population growth between 1991-2021 was within the expected range.



Employment Growth

Employees (thousands)	1986	2021 Forecast*	2021 Actual (approx.)
Perth CBD	85.7	125-175	172
Total	415	842	973

*Range reflects differences in land use scenarios.

Mode Splits

ROAD RESERVES REVIEW
PERTH METROPOLITAN REGION

MODAL SPLIT, PERTH METROPOLITAN REGION
ALL DAY TRIPS: 1986 AND 2021 (%)

	1986	2021							
		LAND-USE SCENARIO (1)							
MODE		CORRIDOR		PREFERRED		COASTAL		CENTRALISED	
		Low (3)	High (3)	Low	High	Low	High	Low	High
Car Driver	73.9	76.0	77.4	75.9	77.3	76.1	77.5	75.7	77.1
Car Passenger	17.6	16.5	16.1	16.1	15.9	16.5	16.2	15.8	15.6
Car Total	91.5	92.5	93.5	92.0	93.2	92.6	93.7	91.5	92.7
Bus/Ferry Pass	7.0	5.3	4.6	5.8	5.0	5.4	4.6	6.0	5.2
Rail Pass	1.5	2.2	1.9	2.2	1.8	2.0	1.7	2.5	2.1
PT Total (2)	8.5	7.5	6.5	8.0	6.8	7.4	6.3	8.5	7.3

SOURCE: Road Reserves Review

Note: (1) Percentages include allowance for "spark" effect due to electrification of the railway i.e. 15% once only increase in rail patronage.

(2) PT = Public Transport

(3) Low economic & High economic growth scenario

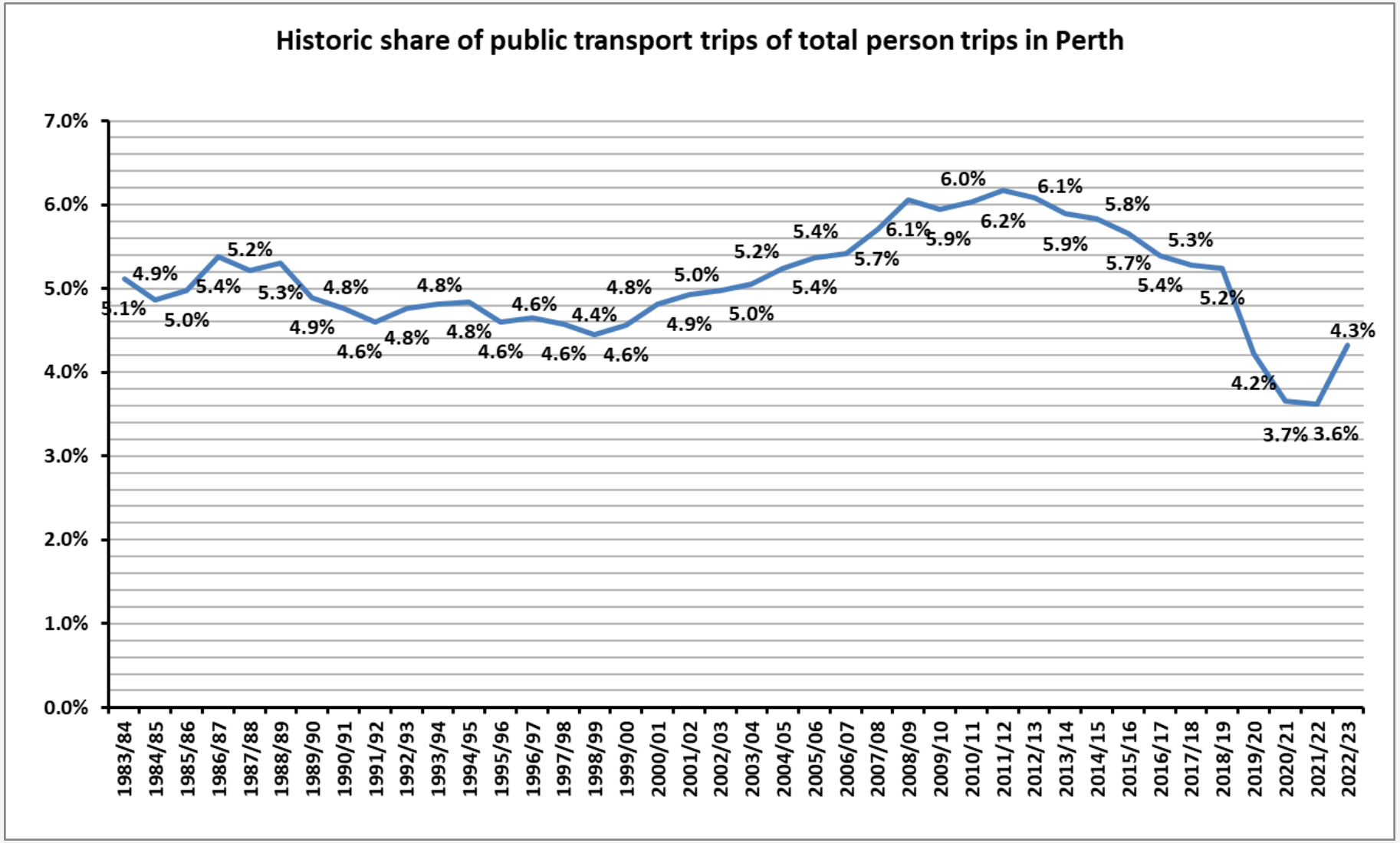
Figure 2.20: Modal split 1986 and 2021

Mode Splits

Mode Split (% of daily trips)	1986 actual (motorised)	2021 RRR forecast (motorised)	2021 RRR forecast (person trips)	2021 Actual (person trips)*
Car Driver	73.9	75.7-77.5	65.1-66.7	56.9
Car Passenger	17.6	15.6-16.5	13.4-14.2	25.2
Public Transport	8.5	6.3-8.5	5.4-7.3	4.8
Cycling	-	-	(2)	1.5
Walk	-	-	(12)	10.9
Other	-	-	-	0.7

*Source: PATHS HTS, Post covid sample.

PT Mode Split



Key Findings of RRR

Road Reserves Review – Key Findings

"The differences in transport requirements between the various land use and transport policy scenarios...are not as large as might have been anticipated. This arose for a number of reasons...the land use changes between scenarios are limited to new urban growth. The small differences in outcomes are an indication of the magnitude of the task facing land use and transport planners in achieving significant changes in transport behaviour to ensure the long term sustainability of our city. The changes needed may be greater than the community is currently willing to consider."

Road Reserves Review – Key Findings

"Planning models reflect current activity and behaviour patterns and hence prevailing community attitudes. The Steering Committee believes that the RRR provides a valuable basis for determining by how much these patterns would have to change to achieve specified objectives for the Metropolitan Region."

"The RRR findings suggest that the continuation of current urban development (and transport) trends could result in a significant increase in transport resource costs."

Road Reserves Review – Key Findings

"The Steering Committee supports the RRR recommendations for the adoption of policies which:

- Do not encourage suburban sprawl;
- Encourage local (rather than longer distance) travel;
- Place emphasis on the movement of people (and goods) rather than motor vehicles; and
- Place an increased weight on the longer term benefits of achieving a change in motorists' attitudes to private transport."

Road Reserves Review – Key Findings

"Our conclusions suggest that Perth is unlikely to be transformed from a car dominated city to a public transport city within this timescale. We do not infer, however, that the benefits of consolidation…should not continue to be sought, nor that they are unobtainable. Achievement of regional travel and transport objectives are dependant upon the complex interaction of regional land-use planning strategy and transport policy."

Road Reserves Review – Key Findings

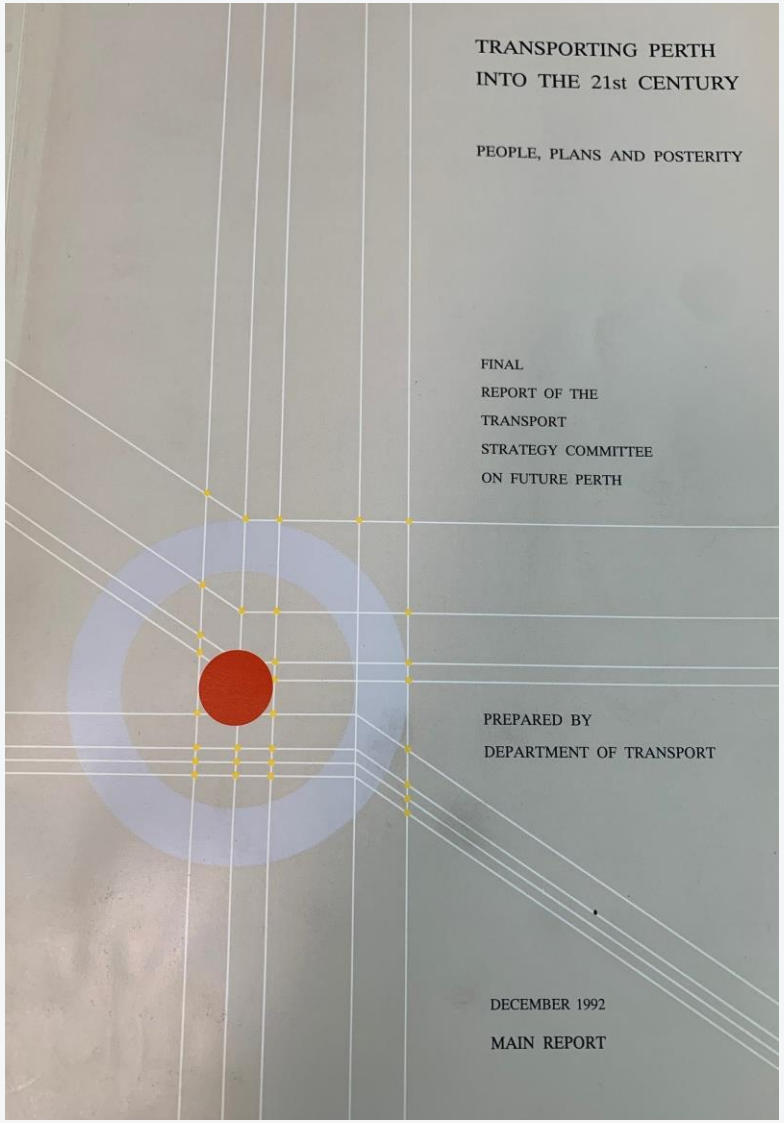
"Our analysis supports the belief that land-use strategies must be applied in conjunction with other transport related policies which might include:

- A user charges policy including public transport fares and parking charges;
- A fuel tax;
- Policy on parking provisions;
- Capital funding programmes for roads and public transport;
- Regulatory and other mechanisms for the provision of public transport and the control of cars."

Road Reserves Review – Key Findings

"Some of these policy instruments could require hard political decisions…but the real obstacle to any policy of this kind is the political reluctance in the face of popular opinion."

Other Studies since the RRR



Targets for Perth's Transport in 2015

a) ***Increase public transport trips to 12% of motorised trips.*** The current level is 8%.

b) ***Increase public transport's share of work trips to the central area of Perth to at least 60%.*** The 1986 public transport share was 36% and forecasts for 2015 range from 34% to 46% (RRR, 1991).

c) ***Increase car occupancy rates back to their 1976 levels.*** This requires a 10% increase from the 1986 level of 1.25 overall (and lower for peak periods).

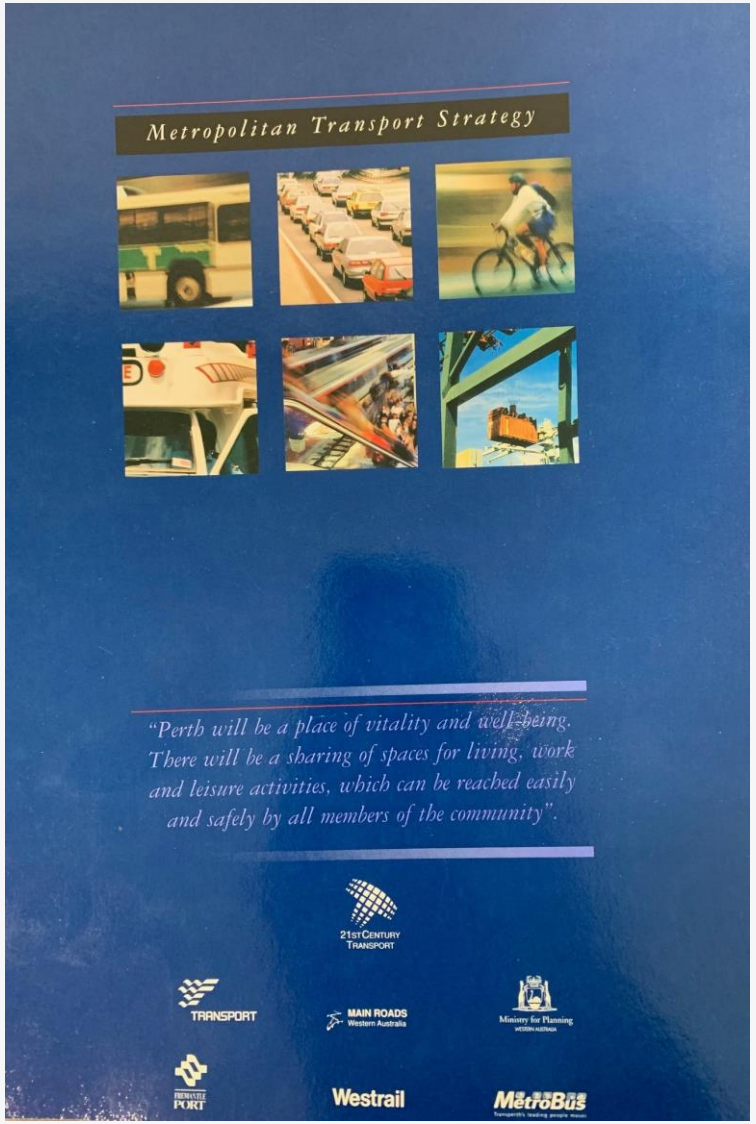
d) ***No increase in trip lengths by motorised transport.*** Allowing for shorter trips being made more by cycling or walking, actual average trip length would increase from 9.1 km (1986) to 10.1 km.

e) ***Reduce average car fuel consumption to 6.5 litres per 100 kilometres.*** The current average is 11.2 litres per 100 km.

f) ***Increase bicycle usage to 15% of all trips.*** In 1986, bicycles accounted for 5.2% of trips, but had doubled in a decade.

g) ***Increase walk trips to 15% of all trips.*** In 1986, walk trips were 11.5% of all trips. Walking is also a component of many other trips.

Metropolitan Transport Strategy (MTS)



Estimated and Projected Metropolitan Transport Activities based on Current Trends and MTS Targets

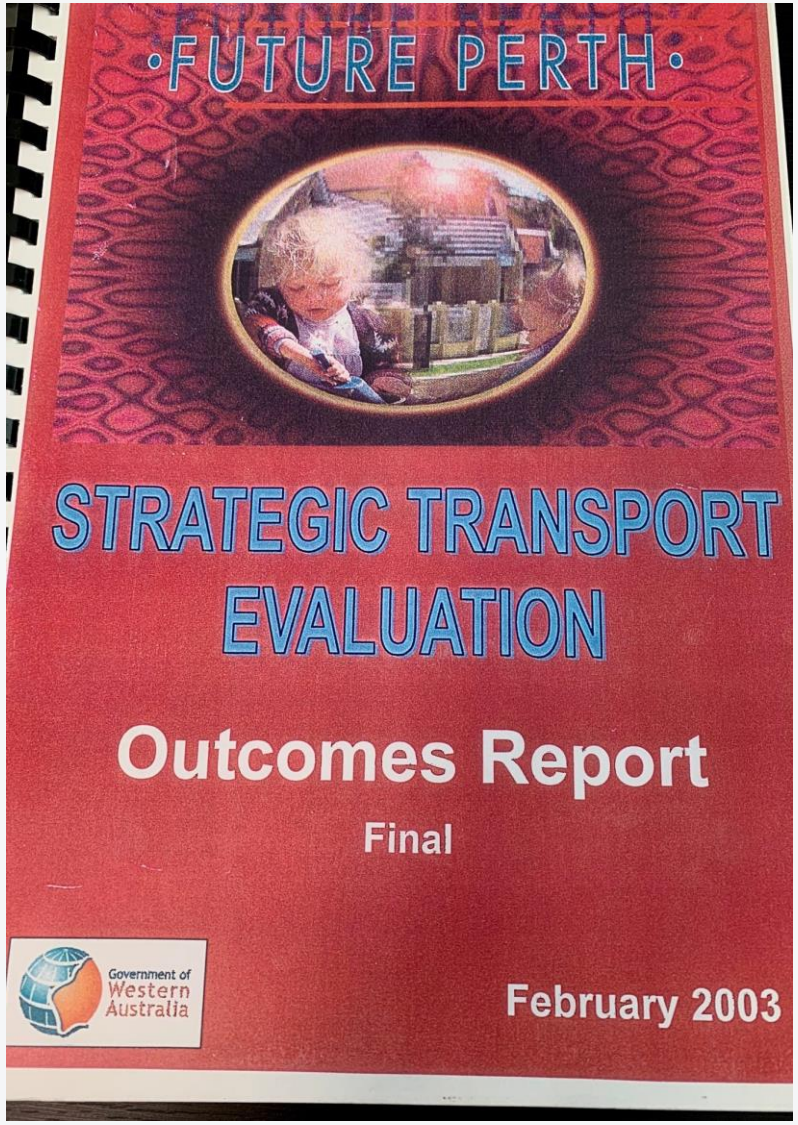
Transport Option	1991 Use Current Pattern (trips / day % of total trips)	2029 Use Current Pattern[2] (trips / day % of total trips)	2029 Use MTS Target[3] (trips / day % of total trips)
A. Personal journeys			
Walk only	408,000 10.0%	390,000 5.8%	839,000 12.5%
Cycle	235,000 5.7%	538,000 8.0%	774,000 11.5%
Public transport	262,000 6.4%	322,000 4.8%	839,000 12.5%
Car passenger	530,000 13.0%	605,000 9.0%	773,000 11.5%
Car driver	2,577,000 63.0%	4,728,000 70.5%	3,092,000 46%
Other (taxi, motorbike etc.)	80,000 2.0%	124,000 1.8%	138,000 2%
Transport substitution by telework	Not available	Not available	250,000 4%
Total personal trips	4,092,000	6,707,000	6,457,000
B. Commercial trips	**493,000**	**818,000**	**818,000**
C. Efficiency Measures			
Car driver trips per capita	2.17	2.35	1.54
Bicycle trips per capita	0.2	0.27	0.38
Walk trips per capita	0.34	0.2	0.42
Public transport trips per capita	0.22	0.16	0.42
Car occupancy	1.21	1.13	1.25
Car km travelled per trip	8.4	10.7	7.2
Total car and truck trips	3,070,000	5,546,000	3,910,000
Vehicle kms travelled	25,800,000	59,300,000	28,152,000

All figures relate to an average weekday.

2 These figures are based on projections of current use trends.

3 These figures are based on assessments of realistic potential outcomes resulting from the progressive implementation of the Metropolitan Transport Strategy over the coming 35 years. As such they outline a proposed direction for travel and transport activities within the Perth Metropolitan Region and provide a useful set of performance measures for the metropolitan transport system and for the Strategy.

Future Perth Strategic Transport Evaluation



reduced car usage in Perth over the next 30 years. In particular, land use and transport infrastructure policies alone will not achieve the Metropolitan Transport Strategy Targets.

The model forecasts of mode share for each of the land use and transport policies are summarised in **Table 1**, together with the Metropolitan Transport Strategy (MTS) targets.

Table 1: Forecast Percentage Mode Share, 2031

Mode	Metropolitan Transport Strategy Target	Urban Growth City All Transport policies*	Compact City All Transport policies*	Regional Centres City All Transport policies*
Car Driver	50% *(46%)*	68% - 68.7%	67.5% - 68.1%	68.3% - 68.9%
Car Passenger	12% *(11.5%)*	14.4% - 14.5%	14.3% - 14.4%	14.5% - 14.6%
Public Transport	13% *(12.5%)*	5.9% - 6.4%	5.3% - 5.7%	5.7% - 6.1%
Cycle	12% *(11.5%)*	2.1% - 2.1%	2.2%	2.0%
Walk	13% *(12.5%)*	8.9% - 9.1%	10.0% - 10.3%	8.9% - 9.1%
Other/ Transport substitution	- *(6%)*	-	-	-

(11.5%) - Percentages in the Metropolitan Transport Strategy, inclusive 6% other / transport substitution by teleworking

** person trips, total number of daily person trips = 7 million*

The nine land use / transport scenarios were designed to extend over a broad range of transport and land use (urban form) policies. In all scenarios investigated, forecast car driver trips were significantly higher than the MTS target of 50%.

SMEC

Member of the Surbana Jurong Group

Redefining exceptional

Through our specialist expertise, we're challenging boundaries to deliver advanced infrastructure solutions.

smec.com