



The Met.

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ATTENTION MR IAN WIGHT

CLASSIFICATION OF 'W' CLASS TRAMS

Dear Ian

I refer to your previous correspondence to the Minister for Transport concerning 'W' Class trams, and subsequent meeting between yourself and officers of the Corporation.

It was agreed at this meeting that the Corporation would provide it's proposed management plan for the 'W' Class tram fleet (a copy is enclosed) and I emphasise that the program is still subject to ongoing consultation with the Tramways Union (AT & MOEA).

The fleet management program should be read in conjunction with the report on Philosophy of 'B' Class (articulated) trams (copy attached) to understand the reasoning behind the introduction of 'B' Class trams onto the routes specified which is consistant with the philosophy.

I look forward to further discussions between the National Trust and the Corporation on this matter.

Yours faithfully

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PHILOSOPHY OF 'B' CLASS TRAMS

1. Introduction

New rolling stock represents an unrivalled opportunity for a Transit Agency such as the P.T.C., to improve its quality of service to its passengers, a more comfortable working environment for its vehicle operators and a means of improving its productivity in the delivery of its services.

To remove any detrimental effect that the cost of new vehicles imposes on P.T.C. finances, advantages must be taken of the productivity potential associated with this type of vehicle.

To achieve the optimum benefits both financially and customer related, the introduction of 'B' Class Trams should be accompanied by re-scheduling of services.

2. Displacement Ratio of Rigid Trams

It was initially viewed that the replacement ratio of 'B' Class to rigid trams would be 1 to 1.5 but further consideration suggests that the ratio should be within the region of 1 to 1.2 - 1.3, however, this may change under various circumstances.

3. Introduction Programme

At the outset of this programme it was envisaged that the routes to be targeted for the introduction of 'B' Class Trams would be:-

- . North - South light rail;
- . Upfield or North Coburg;
- . Bundoora;
- . Airport West;
- . East Burwood.

The majority of the routes designated are within the northern and eastern areas of the operating sphere of the Tram/LRT network, as the infrastructure works required to upgrade the southern sector to accommodate 'B' Class Trams would require a massive injection of Capital Funds.

4. Infrastructure

Infrastructure requirements both within the Depot Area and route structure has been accepted as being common under all circumstances, where permissible.

5. Frequency

Frequency is an important factor. To achieve the optimum benefits associated with this larger vehicle, the introduction of articulated trams means in some instances a decrease in frequency. However, from a passenger point of view the switch in vehicle type will be perceived as positive only if the new headway remains attractive. This is achieved more successfully when the existing headway is short.

6. Loading

Loading is the corollary of the frequency. 'B' Class trams are a high capacity vehicle whose primary function is to cope with high loadings. Routes with particular or permanent loading problems are the prime routes targetted.

Stability of peak loading throughout the route is important so that the capacity of the articulated tram is fully utilised as much as possible along a route.

7. Summary

Irrespective of past decisions made on 'B' Class trams being, right, wrong or indifferent the most cost effective method of introducing 'B' class trams into the system is a first and foremost responsibility that has to be undertaken.

Based on past experience it has become quite clear that any further orders for new rolling stock should be carefully examined as to the type of vehicles to be purchased, i.e., a mixture of rigid and articulated vehicles for all future rolling stock replacement and route structures by vehicle type.

DG/PT:2621.

7th August, 1990.

ARTICULATED TRAM (LRV) IMPLEMENTATION AND
GENERAL FLEET DISTRIBUTION PROGRAM.

1. INTRODUCTION

The proposed strategy set out in this program has taken into account the current status of the "B" Class implementation program, it has also attempted to accommodate the concerns raised by the joint union/management working party members. A number of potential problems and alternative strategies are highlighted.

The findings of the sub-technical committee on "B" Class into the southern sector of the tramway system was a determining factor in developing this revised program.

Given that the current contract for the delivery of 130 LRV's has been adjusted to 100 LRV's, the program has identified the most cost effective method of developing the balance of the 100 LRV's against the current commitments to East Preston and Brunswick Depots.

This has been done to achieve the optimum benefits both financially and customer related.

An inherent feature of the proposed strategy is its flexibility to accommodate different variations within its broad parameters.

2. BROAD OBJECTIVES

The introduction of articulated trams will not only continue to upgrade the tram fleet but will also enhance the overall efficiency of the system and will: -

- . Provide an avenue to address heavily patronised routes.
- . Increase productivity and efficiency through a higher seat/crew ratio, resulting in a more cost effective means of delivering tram services.
- . Reduce the number of operating units in peak times, therefore reducing tram and motor traffic congestion, resulting in better journey times and improved productivity per operating unit, without compromising route capacity.

3. FACTORS IMPACTING ON INTRODUCTION PROGRAM

A number of factors have been taken into account in developing the proposed strategy, viz: -

- . Overhead trolley pantograph conversion program.
- . Depot tram capacities and configurations for berthing and servicing IRV's.
- . Overhead power supply capacity.
- . Automatic vehicle monitoring (AVM) program.
- . Route infrastructure modifications, i.e. automatic points, safety zones, termini capacities etc.
- . "Z" Class dispersment program and associated seated conductor issue (conductors unfit for roving duties).

4. INTRODUCTION PROGRAM

The routes targetted for the introduction of "B" Class trams are: -

- . North-South IRT.
- . North Coburg.
- . Bundoora.
- . Airport West. (See Attachment "B")

Other factors considered in developing the above strategy include: -

- . Kew Depot capacity - current property dimensions are not conducive to stabling sufficient IRV's to fully convert any particular Kew route to full IRV operation resulting in cost effective use of IRV's being lost. The depot currently operates successfully with its already modern fleet of "A" Class trams.
- . The deployment of articulated trams, the subsequent dispersment of the "Z" Class tram fleet, the number of operating units saved and the effect on the "W" Class tram fleet are given in Attachments "C", "D" & "E".
- . Possible savings in maintenance, servicing and spare part areas, due to the consolidation of the tram fleet.

5. PLACEMENT OF "Z" CLASS TRAMS

Articulated trams are being introduced to three routes currently operating with "Z" Class trams, namely North Coburg - City (19), Bundoora - City (86), and Airport West - City (59).

See Attachment "E" for route allocations.

As previously stated, associated issues relating to conductors unfit for roving duties currently working at "Z" Class depots would need to be resolved

Destination Signs: - The signage for all "Z" Class trams needs to be updated, the wording has already been prepared by Tram Development to accommodate this implementation program.

Given the long lead time required for new destinations for "Z" Class trams, it is imperative that an early decision on this matter is made.

6. "W" CLASS TRAMS

As a consequence to this Introduction Program, some 115 "W" Class trams will need to be retained for service, thereby justifying some capital investment to maintain and upgrade these trams to an acceptable "Health and Safety" operating level.

7. DEPOT FLEET COMPOSITION

Implementation of the preferred program will give the following fleet composition.

<u>Depot</u>	<u>Class of Tram</u>
Brunswick	W, IRV
Camberwell	Z
East Preston	Z, IRV
Essendon	Z, IRV
Glenhuntly	W, Z
Kew	A
Malvern	W, Z
North Fitzroy	IRV
South Melbourne	W, Z, IRV

8. INFRASTRUCTURE

Infrastructure requirements both within the depot area and route structure have been accepted as being common under all circumstances, where permissible.

9. ALTERNATE STRATEGIES

Dependent on the success or otherwise satisfactory resolution of any current or emerging issues or constraints, a number of variations on the preferred strategy are available. These would largely involve the substitution of one route for another, and/or rearrangement of priorities.

The Implementation Program has the flexibility of retaining one tram route to operate with "W" Class trams for tourism and/or heritage reasons.

10. OPERATING CONSISTENCIES

In an effort to achieve across the board operating consistency, the "Z" Class tram fleet should be modified so as to achieve a more suitable standard for roving conductor duties, this would result in more efficient administration in the areas of: -

- . Rostering procedures.
- . Depot staffing procedures.
- . Depot revenue procedures.

In addition, uniform loading/unloading patterns would result.

11. "Z" CLASS TRAM HALF LIFE OVERHAUL PROGRAM

The majority of the "Z" Class tram fleet has past or is approaching it's half life overhaul. Some allowances have been built into this Implementation Program.

12. COST BENEFIT SAVINGS

The current 100 IRV delivery is due to be completed by mid to late 1992, based on the current delivery program.

If the above is implemented within the parameters of this program the following savings are achievable: -

Operating Peak Units (Trams) saved = 92.

Crew Saving, minimum 92 Crews + 26% Relief = 116 Crews (232 Staff)

Non Labour Operating Costs: - Substantial kilometre costs are envisaged to be saved.
(Not quantifiable at the time of this report)

In addition to the above savings, tram congestion would be reduced substantially throughout the system giving more realistic journey times which in turn improves trip ratios.

Additional revenue would also be generated by the increased operating efficiency and improved passenger comfort achieved by the above.

Naturally the costs of upgrading the system to accommodate this Implementation Program would have to be offset by the proposed operating savings. One would envisage however that the "one off" capital costs would be an investment for the long term recurrent costs that can be achieved.

DENNIS GRIFFITHS
MANAGER PROJECTS

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PROPOSED FLEET OPERATION OF 'B', 'Z', & 'W' CLASS TRAMS

ROUTES	'Z' CLASS TRAMS														'W' CLASS TRAMS						'B' CLASS TRAMS										
	59	57	55	82	78	75	10/12	9	38	69	79	67	5	6 SPARES	1	15	8	72	64	3 SPARES	96	111	19	86	59 SPARES						
BRUNSWICK															18	9															
	AM														11	8															
	PM																														
CAMBERWELL					15	21																			22	3					
	AM				15	27																			22	3					
	PM																														
ESSENDON		4	15	19	6																										
	AM	4	15	17	6																										
	PM	4	16	17	6																										
E. PRESTON							26	2	4																						
	AM						31	2	4																						
	PM																														
GLENHUNTLY										1	6		17							18	12	3									
	AM									8	4		28							18	12	3									
	PM																														
KEW																		15	17												
	AM																	18	16												
	PM																														
MALVERN											16	11		17																	
	AM										12	13		16																	
	PM																														
STH MELB				3																											
	AM			5																											
	PM																														
N. FITZROY								18																							
	AM							11																							
	PM																														
TOTALS		4	15	22	6	15	21	36	2	4	17	6	11	17	17	23	16	19	21	17	18	12	12	115	13	5	19	38	22	18	99
	AM	4	15	22	6	15	21	36	2	4	17	6	11	17	17	23	16	19	21	17	18	12	12	115	13	5	19	38	22	18	99
	PM	4	16	22	6	15	27	42	2	4	12	4	13	28	16	24	15	18	16	18	12	11	118	14	6	19	38	22	11	182	

PROPOSED FLEET OPERATION OF 'B' CLASS TRAMS

THE FOLLOWING TABLE ACCOMODATES THE PRESENT DELIVERY OF
100 'B' CLASS TRAMS

ROUTE	STH MELB		NTH FITZROY		BRUNSWICK		E.PRESTON		ESSENDON	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
96	7	8	6	6						
111	3	4	2	2						
19					19	19				
86							30	30		
59									22 *	22 *
TOTALS	10	12	8	8	19	19	30	30	22	22
+10%	1	2	1	1	2	2	3	3	3	3
AM	11		9		21		33		25	
PM		14		9		21		33		25
										TOTALS
										99
										102

PROPOSED 'B' CLASS TRAM OPERATING FLEET 102
CURRENT DELIVERY ORDER OF 'B' CLASS TRAMS 102

* 4'2' CLASS TRAMS TO AUGMENT ROUTE 59 DURING PEAK PERIODS.

PROPOSED FLEET OPERATION OF 'Z' CLASS TRAMS

THE FOLLOWING TABLE INCLUDES CURRENT (IDENTIFIED BY # SYMBOL) AND PROPOSED
ROUTE CONVERSION FOR 'Z' CLASS TRAM OPERATION

ROUTE	ESSENDON#		CAMBERWELL#		E.PRESTON		STH MELB		MALVERN		GLENHUNTLY	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
59	4	4										
57	15	16										
55	19	17					3	5				
82	6	6										
70			15	15								
75			21	27								
10/12					26	31	10	11				
9					2	2						
30					4	4						
69									16	12	1	4
79									11	13	6	
67											17	20
5									17	16		
6												
TOTAL	44	43	36	42	32	37	13	16	44	41	24	24
+10%	5	5	4	5	4	4	2	2	5	5	3	3
AM	49		40		36		15		49		27	
PM		48		47		41		18		46		27
												TOTALS
												216
												227

PROPOSED 'Z' OPERATING FLEET	227
1/2 LIFE OVERHAUL PROGRAM	2
TOTAL	229
CURRENT STOCK OF 'Z' CLASS TRAMS	229

PROPOSED FLEET OF 'W' CLASS TRAMS

THE FOLLOWING TABLE ACCOMODATE THE 'W' CLASS TRAM FLEET ENVISAGED TO OPERATE FOLLOWING THE INTRODUCTION OF 102 'B' CLASS TRAMS AND THE SUBSEQUENT DEPLOYMENT OF 'Z' CLASS TRAMS.

ROUTE	BRUNSWICK		MALVERN		GLENHUNTLY		STH MELB		
	AM	PM	AM	PM	AM	PM	AM	PM	
1	10	11					6	9	
15	9	8	15	18			10	7	
8			17	16			6	0	
72					18	18			
64					12	12			
3									
TOTAL	19	19	32	34	30	30	22	16	
+10%	2	2	4	4	3	3	3	2	
AM	21		36		33		25		TOTALS
PM		21		38		33		18	115
									110

PROPOSED 'W' CLASS OPERATING FLEET
 CURRENT OPERATING 'W' CLASS FLEET

115
 287

No. OF 'W' CLASS TO BE PREPARED DURING THE PROGRAM

172

**FLEET REQUIREMENT AFTER CURRENT 102
'B' CLASS TRAMS DELIVERED**

OPERATING SPARES HAVE BEEN BASED ON 10% PER DEPOT ALLOCATION AND HAS BEEN BUILT INTO THE FIGURES IN THE FOLLOWING TABLE.

DEPOT	AM PEAK			PM PEAK		
	B/A	Z	W	B/A	Z	W
BRUNSWICK	21		21	21		21
CAMBERWELL		40			47	
ESSENDON	25	49		25	48	
E. PRESTON	33	36		33	41	
GLENHUNTLY		27	33		27	33
KEW	65 A*			70 A*		
MALVERN		49	36		46	38
STH MELB	14	15	25	14	18	18
N. FITZROY	9			9		
	102 B 65 A	216	115	102 B 70 A	227	110

ESTABLISHMENT

	A	B	Z	W
CURRENT	70	102	229	287
PROPOSED	70	102	227	115
BALANCE	0	0	2	172
1/2 LIFE OVERHAUL			2	
	0	0	0	172 W's SURPLUS TO REQUIREMENTS

* POLE TRAMS TO BE RETAINED FOR CHAPEL ST AND COTHAM RD (ROUTE 69, AM ONLY).