

PROCEEDINGS OF THE SEVENTH CONFERENCE OF AUSTRALASIAN TRAMWAY MUSEUMS

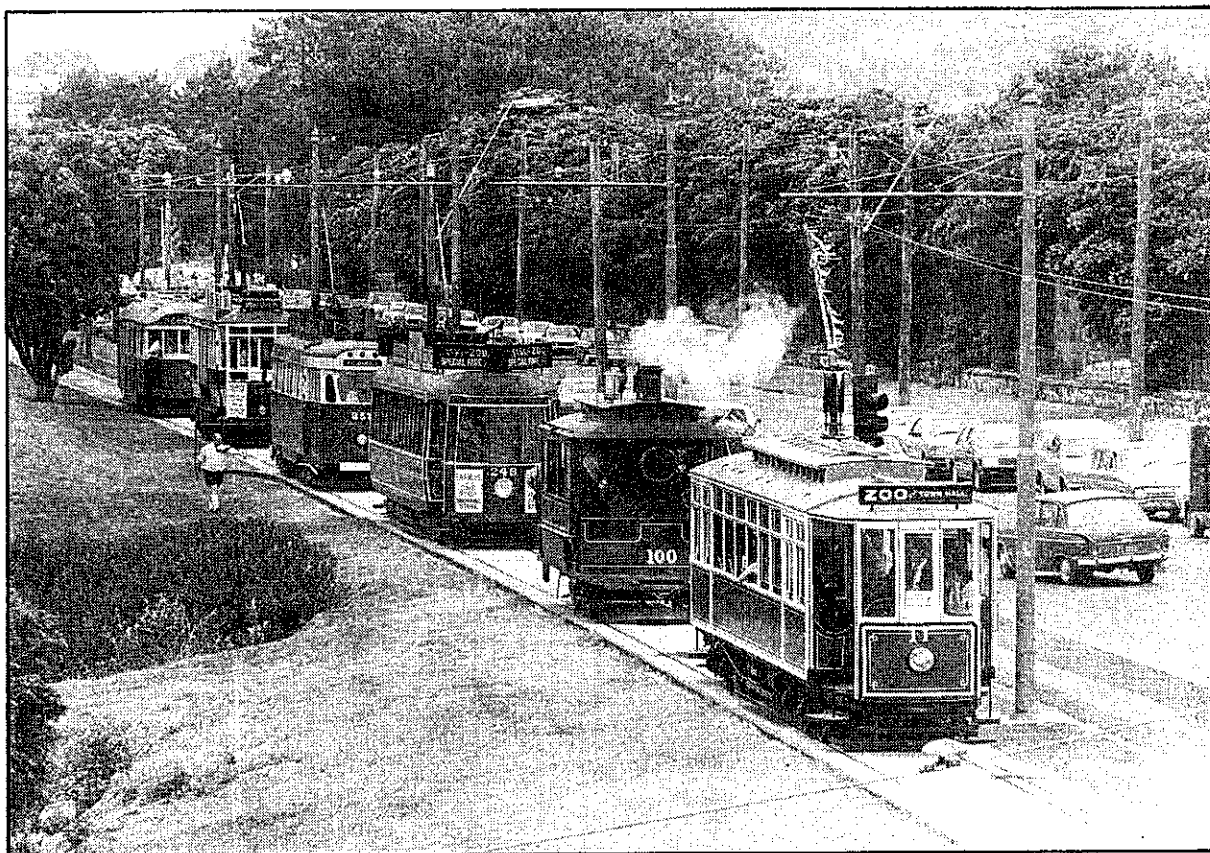


Photo Courtesy NZ Herald



Council of Tramway Museums of Australasia

Auckland, New Zealand. April 1-5, 1984

Front Cover

Some of Western Springs Tramway Fleet line up outside MOTAT
on November 28, 1982 to celebrate the 80th Anniversary
of Electric (Tramway) Traction in Auckland.

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PROCEEDINGS OF THE CONFERENCE OF AUSTRALASIAN TRAMWAY MUSEUMS

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FOREWORD

This year Western Springs Tramway, MOTAT, hosted the biennial conference of COTMA, held over Queen's Birthday Weekend, 1st - 5th June.

As this was only the second time a COTMA Conference has been held in New Zealand, it was decided that, as the "best operating tramway museum in Australasia", we would have to set a high standard and this, I am pleased to say, was achieved due to a lot of hard work by a small band of workers.

With the conference being held in New Zealand, it was felt that we should give it a distinctive New Zealand feeling, so it was arranged for our guests to be given a traditional Maori challenge and welcome.

Most of you will have seen on television the challenge being performed to visiting VIPs, and nauseum and probably said, "Oh, no, not again" or words to that effect; but on looking into the reason for the ceremony, it shows that instead of meaningless mumbo-jumbo, it is really a demonstration of basic hospitality in its best form.

Briefly, as the guests come forward it is like coming into your home; they are met, asked if they come in peace and friendship and, if so, are made welcome.

This Maori ceremony begins with the challenge by a warrior. In the olden days, Maoris on a visit to another village or marae would usually consist of a group which would include warriors. Therefore, the guests had to show they were strong, proud and ready to fight to defend their village or marae if needed. Once the challenge had been made and the dart being offered and picked up, this would signify that the visitors had come in peace and they would then be made welcome. It was in this manner that our guests were greeted: we welcomed them to MOTAT as friends and welcome guests.

Now, onto the Conference itself and some of the highlights.

FRIDAY

Registration was undertaken in the Victorian elegance of the Colonial Arms downstairs reception room.

Light snacks and drinks were provided and a very pleasant and informed evening was enjoyed by the delegates and WST members.

SATURDAY

The last few registrations were completed and then the official Maori welcome began with all the visitors walking towards their hosts who were waiting in a group to meet them.

SATURDAY continued

A traditional challenge was made to Jim Walker, our guest speaker from America, and on his acceptance of the challenge and indicating friendship by picking up the dart, all were seated and welcoming speeches were made by Ian Mison representing the Tramway Division, Rod Dearing representing MOTAT and Mr Strevens, Deputy Mayor of Auckland, representing Auckland City. John Radcliffe, Chairman of COTMA, responded on behalf of the visitors. At the conclusion of the speeches, both groups met and exchanged handshakes.

The Maori group then gave a display of actions songs and dances which were of a very high standard.

The official luncheon was then held in the Colonial Arms and after some good food, Mr Strevens officially opened the conference.

All then adjourned to the conference facility at UEB, where Jim Walker gave a most interesting address.

Workshops 1 and 2 followed.

BOAST TIME SESSION

This was preceeded by an informative and amusing talk by Mr G. Stewart.

Slides and talks followed with Murphy's Law in operation over the slide projectors. A very professional presentation by THS was a highlight of this session.

SUNDAY

Morning sessions as per programme.

Then a very full bendy bus trip to Glenbrook Vintage Railway with lots of fun had by all.

By 6 o'clock all was ready for the hungry mob who came flocking to the barn. 400 sausages went like "hot sausages". The spit roasting of the lambs proceeded and provided a great sight. The trolley bus made a number of trips with an impressive sparking system. Trams 248 and 321 were providing rides and 321 (a Melbourne W2) in particular attracted lots of Australians!

A good evening was indeed had by all with no-one going away hungry. A night bus tour of Auckland was turned on for our guests and proved very popular.

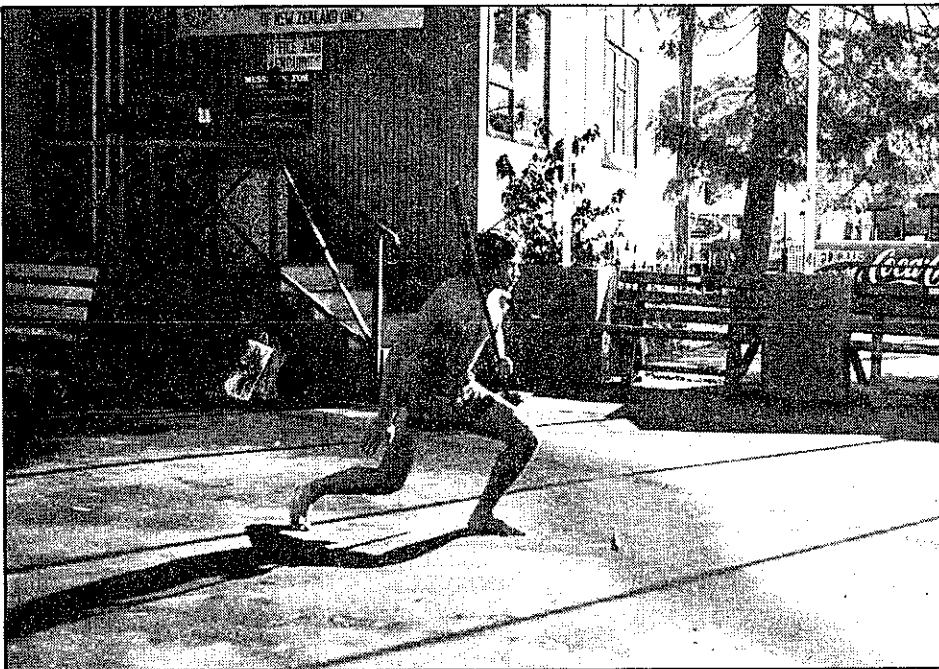
MONDAY

As per programme.

Highlight was Rick Carlyon's address on Media. Lots of interesting facts and advice generating a lot of fruitful discussion.

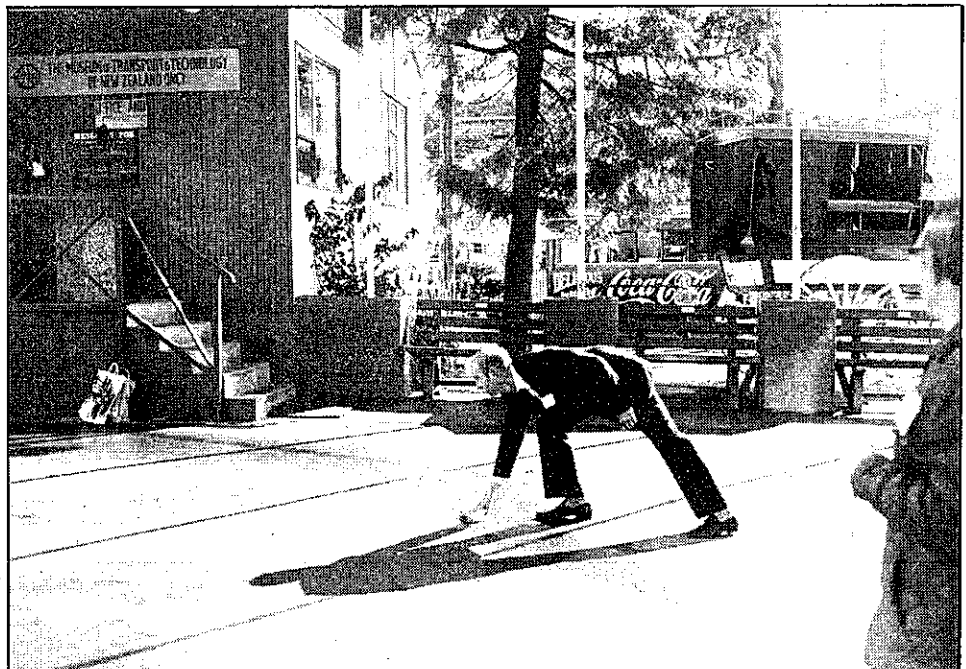
Monday night: Tram playtime; all our fleet was on the track and available to anyone who wanted a drive.

The challenge begins ...



... and the dart
is offered ...

... and is accepted by our
overseas Guest of Honour,
Jim Walker, on behalf of all
our guests.



TUESDAY

AGM at El Cortez Motel followed by formal closing luncheon.

Tram driving skill test conducted in less than good weather and some very good driving was shown. First prize to John Radcliffe who proved to be just that bit better.

After the test the trams were available to our visitors for more drives if required.



Bryan C. Trim,
Chairman of Organising Committee.

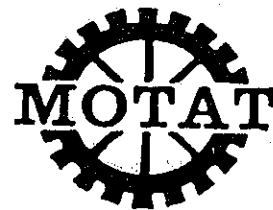


The welcoming ceremony concludes with a
traditional Maori Action Song.

COTMA CONFERENCE 1984

AUCKLAND, NEW ZEALAND

1st TO 5th JUNE



FRIDAY 1ST JUNE

7.00 p.m. REGISTRATION
INFORMAL DRINKS

VENUE

COLONIAL ARMS - MOTAT

SATURDAY 2ND JUNE

9.30 a.m. REGISTRATION
10.00 a.m. MORNING TEA
FREE TIME IN MUSEUM
11.20 a.m. MAORI CHALLENGE CEREMONY
12.00 noon OFFICIAL LUNCHEON

COLONIAL ARMS - MOTAT
UEB CONFERENCE ROOM

COLONIAL ARMS RESTUARANT

CONFERENCE TO BE OPENED BY THE DEPUTY MAY OF AUCKLAND,
MR. R. STREVENS

1.00 p.m. PAPER - KEYNOTE ADDRESS: MR. JIM WALKER -
PRESIDENT ORANGE EMPIRE RAILWAY MUSEUM, U.S.A.

"NORTH AMERICAN SCENE"

UEB CONFERENCE ROOM

1.45 p.m. AFTERNOON SESSION - CHARIMAN, MR. I. STEWART
WORKSHOP 1

UEB CONFERENCE ROOM

- (a) MANAGEMENT OF SHOP WORK/USE OF SKILLED
& NON SKILLED LABOUR
- (b) FORWARD PLANNING/WORK SCHEMES/ASSISTANCE
FROM LOCAL GOVERNMENT
- (c) MAINTENANCE

3.00 p.m. AFTERNOON TEA

3.10 p.m. WORKSHOP 2

- (a) RAISING FINANCE, SPONSORSHIP, FUNDRAISING
- (b) VOLUNTEERS OR PAID STAFF, STAFF TRAINING
- (c) ORGANISING SPECIAL FUNCTIONS

4.45 p.m. CLOSE

DINNER (OWN ARRANGEMENT)

CHAIRMAN EVENING SESSION - MR. IAN MISON

7.30 p.m. PAPER - MR. G. STEWART
"THE NEW ZEALAND SCENE - REMINISCENCES"

UEB CONFERENCE ROOM

8.00 p.m. INDIVIDUAL PRESENTATIONS TIME
BOASTING TIME FOR ALL MUSEUMS COVERING
LAST 24 MONTHS - 15 MINUTES EACH

UEB CONFERENCE ROOM

SUNDAY 3RD JUNE - CHAIRMAN MR. JIM WALKER

9.00 a.m. PAPER - LES STEWART - WOOD WORK, RESTORATION
AND RESEARCH

TRAMWAY WORKSHOP MOTAT

9.50 a.m. MORNING TEA

UEB CONFERENCE ROOM

10.00 a.m. WORKSHOP 3

- (a) PAINTING, VARNISHING - REMOVAL AND
APPLICATION
- (b) RESEARCH - WOOD TYPES, COLOUR SCHEMES
- (c) PROTECTING AND MAINTAINING FINISHES

TRAMWAY WORKSHOP MOTAT

VENUE

SUNDAY 3RD JUNE (CONTD)

11.00 a.m.	GUEST PANEL TO RECEIVE QUESTIONS FROM FLOOR	UEB CONFERENCE ROOM
	<u>CHAIRMAN</u> - TONY HALLING (JEEP)	
	<u>PANEL</u> JIM WALKER	
	JOHN RADCLIFFE	
	DAVE HINMAN	
	IAN STEWART	
12.15 p.m.	LUNCH	
12.45 p.m.	DEPART FOR GLENBROOK VINTAGE RAILWAY - BUS LEAVES FROM SCHOOL HOUSE AREA	
6.00 p.m.	BARBECUE - NIGHT TRAM RIDES TO ZOO AND BACK	TRAM BARN MOTAT

MONDAY 4TH JUNE - CHAIRMAN DAVE HINMAN

9.00 a.m.	PAPER - RICK CARLYON (REGIONAL EDITOR TVNZ) "MEDIA USING TO MUSEUMS ADVANTAGE"	UEB CONFERENCE ROOM
9.50 a.m.	MORNING TEA	UEB CONFERENCE ROOM
10.00 a.m.	<u>WORKSHOP 4</u>	
	(a) IMAGE TO PUBLIC, ADVERTISING, ADMISSION CHARGES, IMPORTANCE OF UNIFORMS	
	(b) SAFETY OPERATIONAL PROCEDURES	
	(c) BUSES & TROLLEY BUSES PART IN SCHEME OF THINGS	
11.15 a.m.	PAPER - JOHN RADCLIFFE "COTMA IN REVIEW"	
12.00 noon	LUNCH	
1.00 p.m.	CHAIRMAN -	TRAM WORKSHOP MOTAT
	PAPER - MR. I. STEWART	
	<u>WORKSHOP 5</u>	
	(a) TRACKWORK - SLEEPERS OR CONCRETE POINTS	
	(b) OVERHEAD - TRAMS, TROLLEY BUSES COMPARISON OF METHODS & TECHNIQUES	
	(c) SUBSTATIONS - EQUIPMENT AND OPERATION	
3.00 p.m.	AFTERNOON TEA	
3.15 p.m.	<u>WORKSHOP 6</u>	
	(a) REGULATIONS - HOW TO LIVE WITH THEM	
	(b) STORAGE OF TRAMS & BUSES - DISPLAY, SAFETY, VANDALS, THEFT	
	(c) INTER-RELATING WITH OTHER GROUPS AND MUSEUMS	
4.30 p.m.	RAILWAY RIDES TO KEITH PARK UNTIL 5.30 p.m.	

TUESDAY 5TH JUNE

9.30 a.m.	A.G.M. COTMA	EL CORTEZ MOTEL, GREY LYNN
12.00 noon	FORMAL CLOSING LUNCHEON	EL CORTEZ MOTEL, GREY LYNN
2.00 p.m.	TRAM DRIVING SKILL TEST	MOTAT
4.30 p.m.	CLOSE	

HAVE A GOOD TRIP HOME, HAERE MAI!!

CONFERENCE PARTICIPANTS

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM

Chris Andrews
John Radcliffe
Ian Seymour

BALLARAT TRAMWAY PRESERVATION SOCIETY
(Australia)

Richard Gilbert
Paul McDonald

BRISBANE TRAMWAY MUSEUM SOCIETY
(Australia)

Allan Bradley
Peter Hyde

MUSEUM OF TRANSPORT AND TECHNOLOGY
(Auckland, New Zealand)

Brian Claney
Lorene Crone
Paul Gourley
Anthony Halling
Murray McKay
Tony Messenger
Ian Mison
Ian Stewart
Leslie Stewart
Kevin Swann
Brian Trim
Don Webb

ORANGE EMPIRE RAILWAY MUSEUM
(Los Angeles, U.S.A.)

Jim Walker

PERTH ELECTRIC TRAMWAY SOCIETY
(Australia)

Barrie King
Lindsay Richardson

SOUTH PACIFIC ELECTRIC RAILWAY
(Sydney, Australia)

Richard Jones
Peter Kahn
Don Parkes
David Rawlins

TRAMWAY HISTORICAL SOCIETY
(Christchurch, New Zealand)

Larry Day
Frank Doherty
Greg Harris
David Hinman
Douglas Johns
Marion Johns
Stephen Lea
John Shanks

TRAMWAY MUSEUM SOCIETY OF VICTORIA
(Melbourne, Australia)

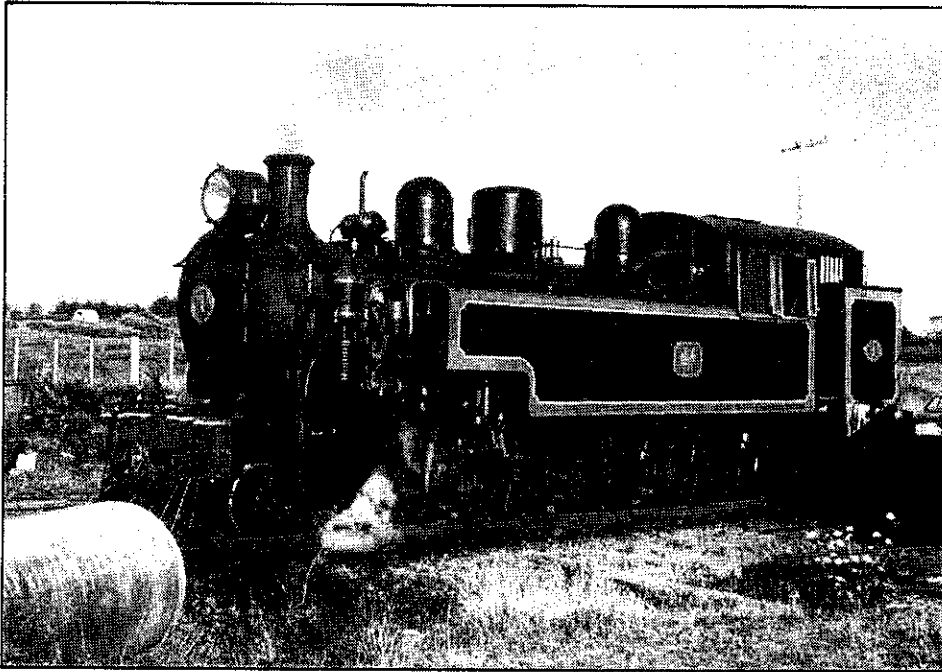
Graeme Breydon
Keith Kings

WELLINGTON TRAMWAY MUSEUM
(New Zealand)

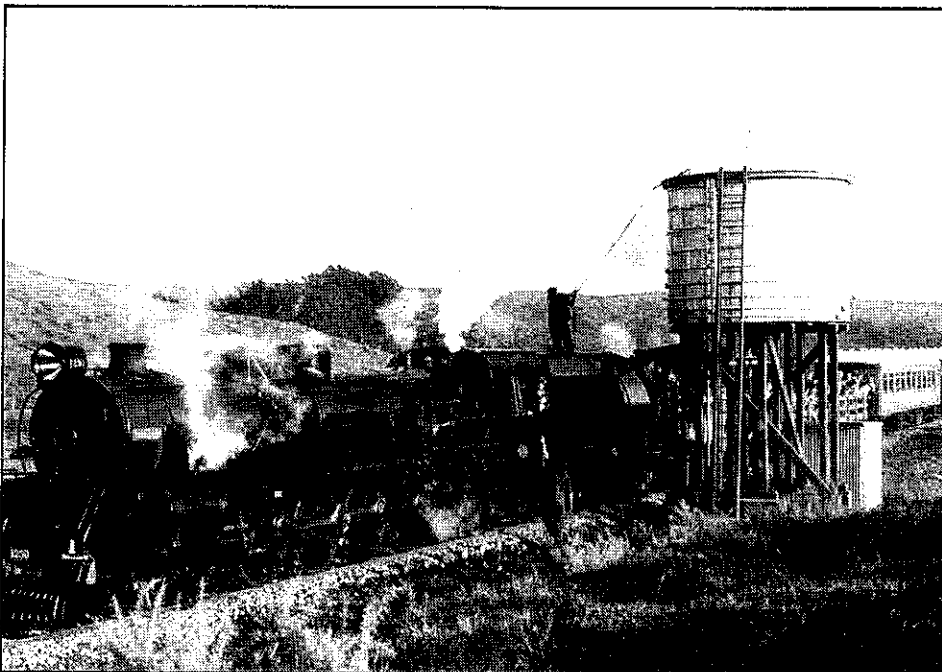
Kevin Hawke
Ray Shand



Conference Delegates pose beside Auckland "Streamliner" No. 248



GVR No 1 (ex NZR Ww 480) takes a break . . .



. . . while 'Diana' (ex NZR Ja 1250) has a drink during the Open Day at Glenbrook Vintage Railway.

J I M W A L K E R K E Y N O T E A D D R E S S

INTRODUCTION

I thank COTMA for inviting me to this conference and I thank you also for the hospitality extended. The opportunity to visit most of your member museums has been marvellous. Seeing each site, speaking with members and observing the operation of museums has been very instructive.

I see many parallels with museums in the U.S.A. and Canada - you might say the same "cast of characters" but with different names. We are all after the same goals, have much the same problems, and speak (well nearly) the same language.

I have experienced good fellowship, good beer, Vegemite, warm and polite people, beautiful scenery and so many other things in both your nations. Thanks again.

Particular thanks to my hosts for providing quarters. I have enjoyed the opportunity to meet their families: Tim and Ingrid Atherton in Brisbane, David and Glynne Rawlings in Sydney, John and Barbara Radcliffe in Adelaide, Bob Prentice in Melbourne, David and Dorothy Hinman in Christchurch, Kevin Hawke in Wellington and COTMA in Auckland. Thanks also to all of you who welcomed me to your museums.

My association with the movement began in 1956 when I was one of the 14 founders of the Orange Empire Trolley Museum, which became the Orange Empire Railway Museum in 1975 upon merger with a smaller railway oriented group. I served as Secretary from the beginning until 1969 and have been its President since 1972. My activities have been varied, particularly in the areas of track and overhead construction, erection of buildings, public relations and administration.

Since 1975 I have been co-owner of a small book publishing firm specializing in electric railways, now broadening to what we term main-line or "steam" railroad topics. This is a labour of love and my associate and I enjoy combining our vocation with our avocation.

I did not prepare the final draft of this presentation until after I visited your museums because I would have written it from ignorance. It is presented from my viewpoint not as a "renown expert" but as a fellow member of the museum fraternity.

N O R T H A M E R I C A N S C E N E

The history of the trolley museum movement in North America and Canada has been related before in print. The latest is a book entitled "Trolley to the Past" by Andrew D. Young, which was published last year by our firm. I was pleased to be able to combine his text and roster data with photographs to present a review of the "industry" to many readers. I will therefore not get into great detail. I do recommend his book, not only for an overall look at the North American museums, but for some thoughts that might be useful to your own groups.

It began in 1939 when a small group saved an open-benched (you call them toastracks, I believe) trolley car in the state of Maine. This is now the Seashore Trolley Museum. A few more cars were acquired, but World War II put a stop to the effort (and it also forestalled massive abandonments of street railway and inter-urban rail systems).

At war's end there was a population explosion of private automobiles and buses, dooming great segments of rail systems within a few years. Meanwhile, by the end of the 1940's, a few other museum groups had formed to rescue fast-vanishing examples of vehicles. By 1955 half a dozen museums were open to the public. Twenty years after the first car was rescued, in 1959, a survey found a dozen of today's 20+ operating museums in existence, and nearly 300 cars were saved.

Mr Young's 1983 survey found over 20 operating museums with over 600 pieces of electric railway passenger, works and locomotive rolling stock. I would estimate that other static museums plus a few holdings of transport undertakings possess another 150 or more units. That very quickly brings us to the present.

There has been no national policy toward saving rail transport vehicles, nor had any local governmental bodies expressed any concern that trolleys and inter-urban cars be preserved as buses took their place. Today's movement is fiercely independent volunteer groups.

As the museums came to exist their neighbours and communities either ignored them or, often, expressed hostility at the noise and early unsightliness introduced by the "nuts". Today most museums are socially acceptable and have strong ties with their communities, which now recognize the potential of tourism even if they still don't share the museums' zeal for their historic role.

Except for a few targeted examples of still-operating fleets, most museums are past the collecting stage. Housing has been a long-term accomplishment. 98% of the Branford Museum's collection is housed, 84% of Seashore's 115+ cars are indoors, the Toronto area museum houses 95%, and 33% of Orange Empire's large collection (140+ counting freight cars) will be indoors when a 70-foot by 275-foot barn is completed this year.

A few of the museums have woodworking and metal shops capable of major restoration and more are constructing such facilities. It is realized by most that small parts and major components will have to be created from "scratch".

Operating demonstration railways have generally expanded quite a bit in both length and quality. A few reached their maximum lengths years ago due to siting or plan, some are building to as much as five miles long, although between one and two miles seems the optimum length for visitors. Except for a few stretches, cars do not run beyond series in almost every location. Aside from safety, the operators find this speed makes the ride last long enough. At nearly every location I have seen, operators wear uniforms and perform in an authentic manner. Some museums have been operating over 20 years so should have been able to develop professional methods.

Even some museums on site for 10 or 15 years still present a rustic "front end" and even more rustic plumbing for restrooms. The rural locations selected by many groups brought about the latter condition as they were without water or sewer service. The oldest group, Seashore, only recently built decent toilets by sinking two railway tank cars in the ground to provide water and sanitary disposal.

The original intentions of most museums were quite conservative compared to what happened over the years. Three New England groups which began to more or less collect a few local open-bench cars all have exhibits from vast distances. Two museums have kept the lid on expansion simply because of odd track gauge (Toronto's 4'10-7/8" and Baltimore's 5'4 1/4").

Another phenomenon is the mass acquisition of cars from systems that lasted in the 1960s by museums at long distance (cars from New Orleans and the North Shore inter-urban are prime examples). Museums that had no open-bench cars sought them in Brazil, and many museums purchased cars from Portugal, Germany and Sweden (as well as components to put bodies back together as operating exhibits). Acquiring cars that had no relation to history in the region of the museums seemed to be for the purpose of having "more", or giving the tourist something to ride until local cars in bad conditions could be restored.

Today, due to a lack of plan or an apparent policy to get everything money can buy, some of the museums have collections that would take decades to ever fix. The burden of housing these had been significant, and those which must sit outdoors may not last until their day comes. Most of the museums have a row of "chicken coops" (our general term for bodies) called "chicken coop gulch". It was a hard choice to not get them in the first place, since they usually were car types gone before the museums began, and a few heartening examples of resurrection give eternal hope that the rest can eventually be whole again.

None of the museums has an over-abundance of cars from its collection available for demonstration service. Even those with large collections suffer from equipment shortages. As you know, keeping a fleet of once-junked, aged, obsolete rolling stock in operable condition is one of the most formidable tasks for the museum.

T O D A Y ' S I S S U E S

Since our movement is basically voluntary and democratic, there are always issues at hand. Putting more mildly what one of the members of my museum says, "Every member has a bum and an opinion". If every matter were put to debate or a vote, however, we would get nowhere or at least go very slowly. So most of the museums have developed management and staff specializing in different functions. In the small museums everyone is involved in nearly everything, and in the large ones more departmentalization has taken place. I often wish our museum was smaller for this reason, since the "them and us" syndrome has developed between the different areas, ah, human nature at work!

Whether the ride or the collection is our reason to exist. Some of the founders at the museums felt this was their personal fantasy come to life and resent strangers tramping through. Well, today these institutions are too costly to be locked up unless the individuals want to stand all the costs.

Tax considerations and the public trust aspects of the preservation movement opt for a reasonable balance wherein operation of the collection is done without damage. John White of the U.S. Smithsonian Institution cried out in 1970 that none of the collections should be operated, much less restored in the way we have done to make them roadworthy. He urged museums to construct replicas of steam locos and trolleys to operate because he was concerned about 100 or 200 years from now. He has some valid points, but the "live" aspect of our museums is what I feel keeps them in existence.

I would say that our museums feel they are not amusement parks and that authenticity in preservation and operation are essential. We are urged to get busy on archival, documentation and interpretive functions - items which have been the cornerstones of the indoor art, cultural and science museums that pre-date us. Only a few trolley museums have given major emphasis to these jobs. Accreditation of the museums, a prerequisite for much public and private funding, has given a new impetus to getting off our rear ends in this important but heretofore ignored sector (You know, "working" members don't have time for messing about with "paper shuffling").

The idea that a collection of trolleys can be a "museum" is radical and recent. I am sure that more than once a visitor has said to you, "Where is the museum?" The answer, "You are in it." is still incomprehensible to many. Our railroads gave hundreds of steam locos to cities along their routes when the diesels came. They were vandalized and became eyesores. They do not represent "museum", just a mistake. A mistake, by the way, which is being rectified in a few instances as city park locos are rescued by museums.

There are more displays coming in the form of restored city areas. Lowell, Massachusetts, just opened a trolley line with two newly-built (at a cost of about 3/4th of a million dollars) open-bench cars. San Jose, California, is building a light rail system which will open with restored vintage cars in operation, and other cities are working toward vintage operation as part of renewal of older areas. What affect these will have upon the volunteer efforts in those areas is yet to be seen.

A few of our museums use paid personnel, usually members, for daily operations in regions where that takes place. Many have resident caretakers, but with few exceptions none has a full-time paid staff. Friction between paid persons in a managerial capacity and volunteer workers has occurred. I do not forecast any shift to paid staff as the basis for our museums is still volunteerism.

Before turning to discussion of the future, I should mention our counterpart to COTMA, the Association of Railway Museums. It is composed of over 30 museums, mostly trolley oriented. Its primary function is an annual conference, although over the years it has brought about some joint efforts of great worth. It began in 1961 and its meetings have witnessed an occasional "beef" between groups. This year's conference is in Toronto, Canada, the third weekend of September.

I S S U E S O F T H E F U T U R E

A U.S. group, the Association of American Museums, studies the future. It set up a 24-member group known as the Commission on Museums for a New Century which is still working on a comprehensive report. Although almost all of the members of the AAM are what might be called the more "normal" museums with paid staff, some of the following comments would apply to us.

They noted that most surveys dwell on museum's needs, particularly financial and staffing, whereas the commission began on the premise that not enough has been discussed about what the museums have to offer. They hope to learn about the changes in society in general that will affect museums. They heard comments about sensible limits of growth and anxiety about competing with the entertainment industry for visitors leisure time.

An early goal of the commission was to enhance the public image and increase the visibility of museums. Although museums are popular, they are not always viewed as institutions essential to their communities. (I would comment that "community" does not always mean the next town or city of residence, it may be a geographically widespread area.)

Public funding of museums is an increasingly important source of large sums. A California legislator made the interesting observation that in a debate, a fellow legislator remarked, "We don't have enough money for the living and known, so we shouldn't spend it on the past and dead." Increased work to make the museum's mission understood seems to be a mandatory task.

The AAM commission notes, "The most special and valued qualities of museums are their traditional responsibilities. Acquisition, conservation, research, interpretation and exhibitions are the foundations of a museum's existence and will remain so in the future." It added, "Museums are our collective memory, our chronicle of human creativity, our window on the natural world".

Rebutting the legislator's remark about funding priorities, the Commission's staff director, noting that "Museums, in a sense, really have very little to do with the past. They save the evidence of human life, creativity and the natural world so we can all understand the present and look to the future with confidence and vision.

Railway and trolley museums are institutions which did not exist only a few decades ago, and these are now being accepted as true museums along with other technical displays - a different picture from not so long ago when only a collection of Chinese vases, rare paintings, or dinosaur bones and dioramas were considered to be "museums".

John White, of our Smithsonian Institution, spoke to the 1970 Association of Railway Museums convention in Baltimore, Maryland, and raised quite a few eyebrows with some of his comments. In the railway field, he noted that setting aside examples began in the mid 1800s by a few railroads. He bemoaned the lack of such preservations by all the major roads and noted that a lack of collection policy on more recent efforts resulted in more unusual, even freakish, types being saved by amateur groups. Railroads, in the meantime, took little or no interest in preservation, except to present examples of what was left at the end of steam to city parks for children and vandals to destroy over the years.

He noted that truly important locomotives were scattered around the country and that no national institution had been set up to put them in one place. In a nation as big as America, where could a central place be designated for locomotives or electric cars? Since the existing effort is almost entirely by volunteers, who would make the decision for a central location. A proposal by an individual that each trolley museum donate items for such a place brought forth howls of protest from those who had put in years of their lives for their collection. Not a surprising reaction.

I feel that museums in the future will have to develop more along the lines of heritage parks, that is a total environment such as I have seen in two places in New Zealand, to survive in the long run. The word "interpretation" began in our area as an approved term in applications for government funding. It has grown in acceptance in the volunteer circles as it is more understood as simply explaining what the collection is about - why it ran (not just that it ran on rails and was propelled by such-and-such horsepower motors).

The typical railfan views of the rolling stock is devoid of people and is so tightly cropped that WHERE the car was located is not possible to decipher. We will not be able to have tightly-cropped outlooks, enterpreting the whole idea of the electric railway systems, technology and sociology and politics, will be a must. In line with interpreting, the subject of archives, documentation are most important. Professional museums guidelines require cataloging of associated archives, documentation of the complete history of the collection, including all the things that have happened to it after acquisition by the museum. If it was restored, what pieces are original, are new technologies used (new type wiring, laminated woods, plastics and other new technologies not in existence when the vehicles were built)? Museums should be publishing historical and technical facts as part of their functions.

WHICH MUSEUMS WILL SURVIVE?

We do have a sort of "death watch" on a few that were set up in locations of apparent lack of numbers of interested members, or for one reason or another have continued only to exist and not grow and develop. Sometimes the personalities involved, or the existence of other such museums not too far distant have been negative factors. I would not be surprised if a few collections are not snapped up by other museums when in all likelihood these museum organizations give up. As discussed earlier, the lack of a reason to found a museum beyond wanting "your own" can be fatal.

By the turn of the century, few will be active in any of our museums who rode the trolleys and tramcars. But, even in 1984, most persons under 35 never had the personal experience in all but a few cities (Boston, Philadelphia, San Francisco and Toronto for instance). Perhaps the answer for the future is the same as today, somehow young people are fascinated by a living railway museum display. It is essential that this interest be kept alive if there is to be a future to the fan-type, volunteer museum concept with which we are familiar. The electric passenger-carrying railway transit concept is not dead in North America as was thought in the 1960s due to re-evaluation of energy resources, so it seems likely that the new "light rail vehicle" lines (the tramcar in disguise) will continue to produce first-hand "fans" in more and more sections. It should always be kept in mind that at least some of the museums have dedicated members who might be termed "museum fans" rather than "rail fans" because they were first turned on to the lore of the trolley at a museum.

I see many parallels between the tramway museums in Australia and New Zealand and the trolley museums in the U.S. and Canada. For the future, my comments could apply generally to the groups on both sides of the equator.

The museums cannot continue to exist as amateurish productions. I feel strongly that the spirit of volunteerism is a key to the future. Volunteers, however, need not be forever "amateurs" in the sense that we have and continue to develop highly skilled restorers, operators and managers of railways, administrators and those in a particularly valuable field - publicity/funding.

This latter category has been nearly ignored at too many museums and will deserve as much attention as bodywork, controller repair and erection of buildings and construction of track and overhead wires, since all require MONEY. Most of the museums have now been around long enough that all excuses for a poor production (bad track, cars with "chicken pox" paint, lack of public amenities that other "entertainments" provide) are no longer valid, some sort of orientation or interpretation of the collection beyond just an amusement ride, an education of the membership that it is no longer a personal toy (these collections are now an important public trust). The commensurate amount of effort to present a professional "front end" will have to be given just as it must be to house and restore the collections.

If properly presented as living museums and not just another variety of amusement parks, the museums will outlive such things as fads for nostalgia and the good old days. In all the decades since trolleys disappeared from the streets they have consistently been of interest, not only to those who personally remember them, but younger generations. They are, after all, a link between yesterday's wagons and horse-drawn streetcars, today's buses and computer-run rapid transit systems, and tomorrow's public transport.

Although national and local governments now recognize the value of our institutions, one party or another may be in or out of power. So, in the future, the supply of funding and moral support is like the tides, sometimes low and sometimes high, not certainly on a dependable cycle like mother nature provides. The museums will make the most of the periods of "high tide" and the combination of dedication by volunteers and the basic worth of the projects should carry them through those lean, "low tide" times.

If survival is the theme for the future of the trolley and tramway museums, these factors should be considered:-

LOCATION

How accessible by road and public transport? The future prospects for revenue from visitors will be made on this basis. Picking up and moving a museum is physically and psychologically a traumatic experience, so everything will have to be scaled with its prospects in mind. I would not be surprised to see one or two smaller collections brought to themed nostalgic locations, as has been partially done in Philadelphia. This is the latest chapter in the saga of a collection that might be termed a "wandering tribe". Called in past times by Delaware Valley Railway Assn and Trolley Valhalla, the present Buckingham Valley organisation has had a tenuous relationship with the location at a tourist steam railway. A new "Waterfront Trolley" located on a renewing tourist-oriented location in Philadelphia presents an operating site, and perhaps a long-lasting home for this group. All of our museums are sited, perhaps not always at ideal locations in retrospect.

HOW DEVELOPED

Has the acquisition stage been followed by preservation in terms of housing? What percentage of the collection is inside buildings? Is there an attractive visitor entrance and other amenities (bathrooms in particular)? Is parking adequate, convenient and well-designed for all weather? Is the operating line well maintained and interesting? Are facilities for interpretation included.

SIZE OF COLLECTION

With or without a past policy, can the support from the membership and outside financial sources hope to preserve what is already on hand? Will a number of derelicts and redundant exhibits be a millstone forever holding back or threatening the future success of the museum? I am not suggesting that so-called "excess" be cut up as that would be the tragedy the volunteers hoped to avoid when the equipment was rescued years ago, but some thought has to be given to a solution. How much more can you support?

DOCUMENTATION AND INTERPRETATION

Have the histories of all the exhibits been searched and recorded? Documentation also means tracing all that has been done with the stock since construction - both in service and since arrival at the museum. If some main frames are practically new, and some bodies now operate on truck and motors from other sources, a professional accounting includes these facts.

DOCUMENTATION AND INTERPRETATION continued

Indoor technology museums interpret "why" the displays existed, and the trolley cars should also be accorded this treatment. The components of the cars are displayable as are the track and overhead fittings. Rail-borne transport is a complete technology beyond the rolling stock. Those museums which document and interpret will receive much more favourable attention from their communities as well as sources of funding and other support.

MARKETING

Our museums are up against a burgeoning entertainment industry. Disneyland, various "sea worlds" at the coast lines, video archades, television and other recreational locations built with millions of dollars are direct competitors for the tourist dollar. The area of marketing the museums is one which must have a professional touch. By all means use volunteers who are professionals in this field - but a scruffy looking brochure or other advertising will not be very appealing to potential visitors. The museums which hope to survive will be those which maximize their public appeal.



On his departure from New Zealand, Jim Walker (left) receives a farewell plaque from Ian Stewart (WST Manager, MOTAT) in recognition of his valuable contribution to this conference.

EDITOR'S NOTE

The contents of the following papers and workshops have been taken either directly from notes supplied by the respective Authors or as near as possible 'verbatim' from tape recordings of the actual sessions.

Whilst most notes supplied in written form have been reproduced and compiled with very little editing, unfortunately this was not the case with the tape recordings which, very often, proved to be inaudible or indecipherable in parts, especially those comments from the 'floor'.

As I was unable to attend this conference, I am very grateful for the assistance given by actual participants in helping transcribe these tapes.

Whilst not guaranteeing authenticity to the letter, I nevertheless, hope that what has been assembled represents as true a record as possible under the circumstances.

Ken Green
Editor

E. & O.E.

THE ESTABLISHMENT OF THE
MUSEUM OF TRANSPORT AND TECHNOLOGY TRAMWAY

Presented by Ian Stewart

Ladies and gentlemen, my talk is on the establishment of our tramway at MOTAT; the various reasons why we adopted certain things and also some of the problems to do with the past present and future.

In Auckland, tramway preservation started in 1952 when the Auckland Transport Board celebrated 50 years of electric traction by painting tram-car No 11 to look as it it was draped in bunting and running it for a period over all the Auckland Tramway Routes. No 11 was used because it was one of the first batch of 43 Brush cars to start the electric service in 1902 and was, in fact, the first car erected.

After celebrations the car was presented to the Auckland City Council to keep for posterity. It was housed under an open shelter in the Auckland Zoo. Because the lowest number of the first batch cars had been kept, my brother Graham who, as you know, is a New Zealand tramway historian, considered the idea that it would be good if one of the latest cars was kept for posterity. He put the proposal to the Manager of the Transport Board who agreed. The result being that the Board offered tram No 253, which Laurie Everiss was talking about earlier, to any interested museum or organisation. However, in those days, if anyone talked about preserving a tram car they were considered a little unbalanced and there were no takers.

As there were no takers, the Board agreed to give it to Graham if he agreed to form a society to care for it. Well, as it happened, a cousin of his wife, a Mr Mervyn Sterling, who you met on the first day of the Conference, got interested and they formed the Old Time Transport Preservation League in 1958; two years before this museum was formed.

Tram 253 was taken up to Mervyn's farm, which is ninety miles from Auckland, together with tram No 248 which happened to be a tram which his uncle once drove. A building was erected from scrap material which Mervyn had bought from the Auckland Transport Board during the scrapping of the trams and sold to local farmers. As the result of deputation from the League, other cars from Wellington were donated by the Wellington Corporation Tramways in 1958, just before they were due to be scrapped. These were Double-decker No 47, Rail-grinder No 301 and Double-saloon No 135. Because of storage problems, delivery of these cars to Auckland did not occur until MOTAT was formed.

The League never prospered, mainly because of the distance it was from Auckland (90 miles away) and in 1960 when this museum was formed, the Old Time Transport Preservation League was one of the founding societies of MOTAT and the trams eventually returned to Auckland.

With the formation of MOTAT and the voluntary sections attached to it, there were quite a few interested people who were keen on getting these trams actually operating and a lot of the members who started off the Tramway Section are still with us today - Ian Mison, John Wolf and quite a few others.

One of the first tasks of the Section was to increase the tramcar collection by obtaining three Fiducia Cars from the Wellington system as it was being scrapped. The Shell Oil Company donated Nos 244 and 257 and the last car to run in public service in New Zealand, No 252, was bought by MOTAT. Other cars from Wellington had been obtained as a result of a deputation from the League to the Wellington City Corporation Tramways in 1958, just as the cars were about to be scrapped. These were double-decker No 47, rail grinder (ex freight car) No 301 and double-saloon No 135. Because of storage problems, delivery of these cars to MOTAT did not occur until several years after MOTAT was formed.

The construction of an operating tramway was the next task. At first there were problems. One being that before tramway construction could start there were legal matters to be sorted out. In New Zealand the Tramways Act would normally permit only a local authority to construct a tramway. However, the museum's solicitor overcame the problem by applying section 6 of the Tramways Amendment Act, 1913, which allows the suspension of provisions of the Tramways Act, 1908, by proclamation by the Governor General.

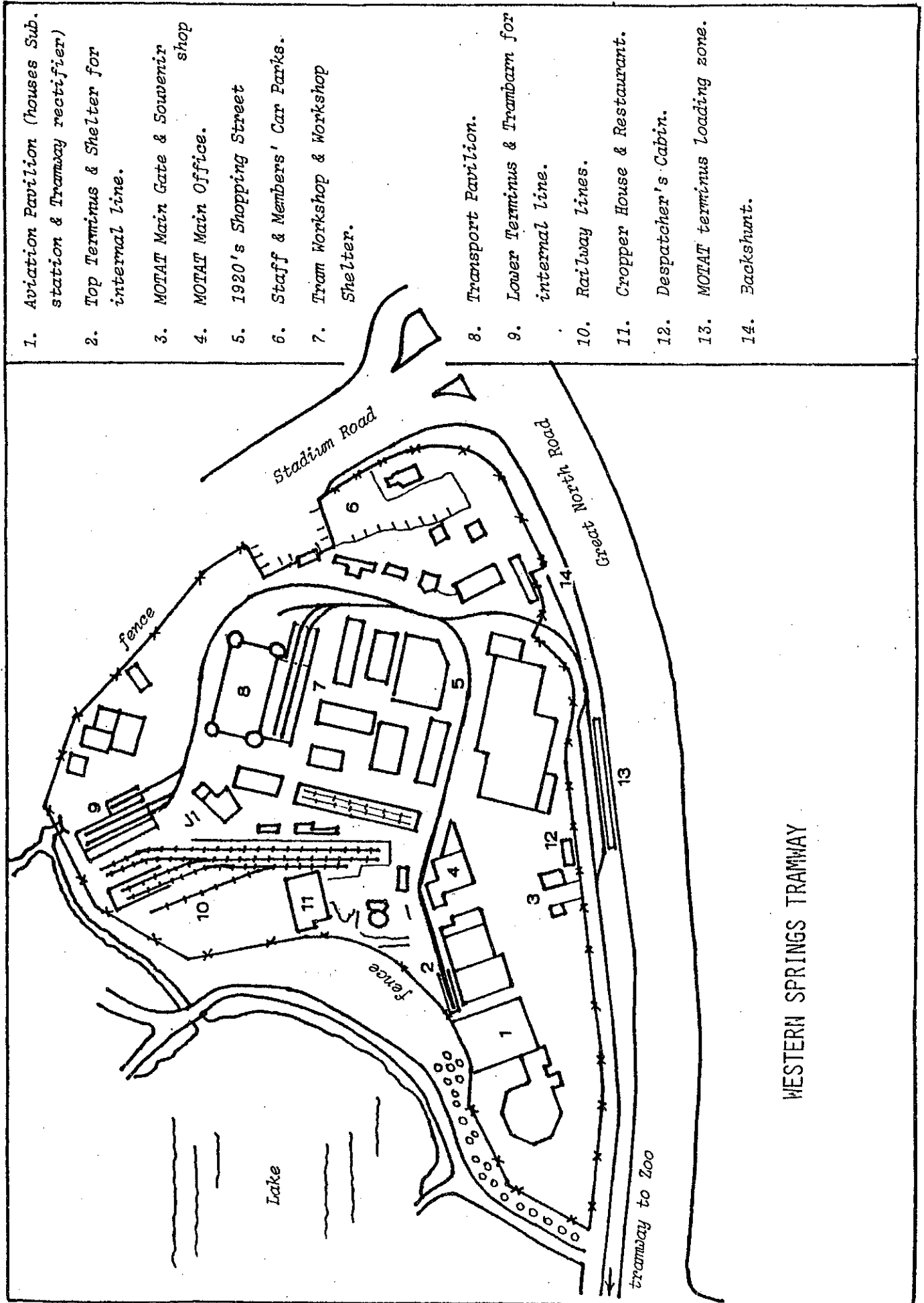
The Proclamation states, and I quote the main parts:- "do hereby suspend the operation (a) the Tramways Act, 1908 and all amendments thereof with the exception of the Tramways Amendment Act, 1913 and (b) the Tramdrivers Regulations, 1947 and all amendments thereof shall continue in full force and effect as though the Tramways Act, 1908 had not been suspended."

This, in effect, means that we have to abide by all safety standards and be subject to Ministry of Works Inspection. In this respect Mr Laurie Everis, whom you have met, is our Honorary Inspector, responsible to the Ministry of Works. Also our Motormen have to undergo a practical driving test conducted by the District Engineer Surveyor of the Marine Section of the New Zealand Transport Department.

Now to deal with construction. As the Auckland trams were standard gauge, 4' 8½", and the Wellington trams were 4' 0" gauge, our first plans did not envisage dual gauge, but allowed for two tracks going in opposite directions. In thinking it over, we soon realised the drawbacks there would be in not being able to run all cars over the whole system, so the decision was made to construct a dual gauge tramway system. At this time we did not know what we were in for and some enthusiastic Museum staff had laid one length of dual gauge track. It was then that we thought we had better consider which was the best side to place the common rail as it would have a bearing on the construction of dual gauge special works. As all our plans for the internal line as well as the proposed zoo line showed the track around the perimeter of the area, it was obvious that the common rail should be on the inside of the perimeter as any turnouts would be more likely to be towards the area's centre. This allowed a single tongue-switch to be used in the common rail for a turn-out. It would give the proper guiding of the wheels and allow a more simply constructed dual open-mate in the dual rails. It was just as well that we considered the problem as the common rail on the length of track already laid was on the wrong side. For a long time we never got around to making any dual-gauge open-mates and we became experts in using jumping plates and wandering leads.

We started laying track using sleeper construction in late 1964 and opened the internal Museum line for passenger service in December 1967. The first 400 feet of overhead was erected by the Auckland Regional Authority Overhead Department but since then the Tramway Section has carried out all new work and maintenance.

The internal service was opened with Auckland car No 253 and Wellington car No 257. In regard to passenger loading, we did reach peaks of 85,000



WESTERN SPRINGS TRAMWAY

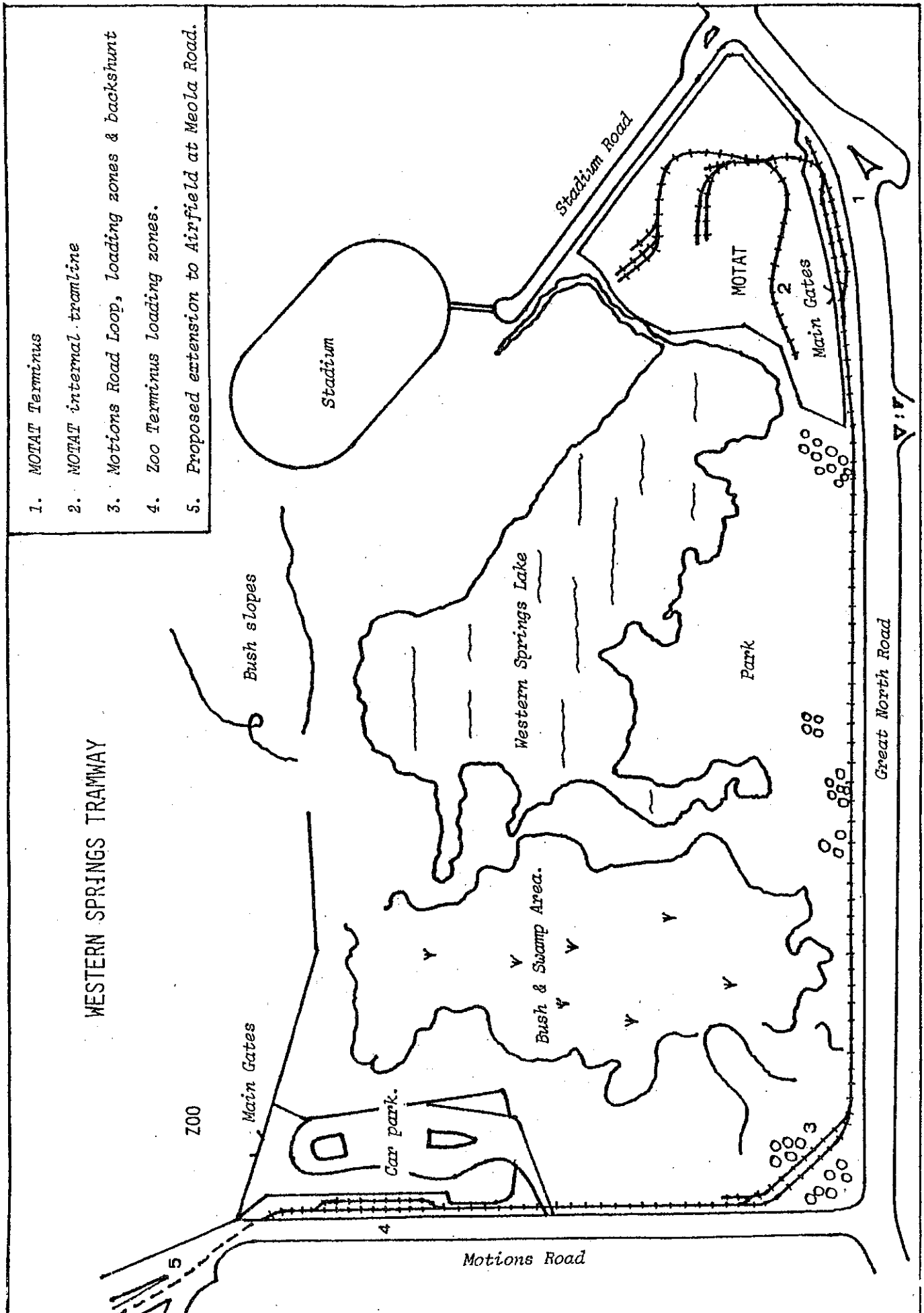
passengers per annum over 600 yards of track (there and back). It did reduce and in our 1977 annual report the number of fare paying passengers was 78,000; number of car trips estimated was approximately 4,500; car mile over the internal track was 1500 and the average passengers per car trip was approximately 17.5. I don't think we are doing that on our outside track yet. In 1978 the steam tram was brought into service and that added extra activity on special occasions.

In the mid 1970's the Auckland City Council's attitude to running the tramway outside the Museum grounds to the zoo mellowed and we were invited to submit plans and negotiate. They finally agreed the route would be along the Great North Road to the corner of Motions Road, thence along Motions Road to the proposed new Zoo entrance.

The track was not to be in the roadway but on the edge of the parkland on the boundary of the footpath. Now, some may think this is a dangerous operation with trams travelling along the park edge with pedestrians going back and forth; but so far so good, we have not found it too bad to live with. We just have to be careful as the council stipulated that the tramway must be flush and sealed and must not impede pedestrian access to the park. The Council was also concerned with the appearance of any overhead poles and further stipulated that any traction poles must either be steel or concrete; they did not want any mis-shapen wooden ones which were so prolific around the city holding up trolleybus overhead and power and telephone lines. Being aware of this, we submitted plans showing steel poles with ornate scroll iron work as was fitted on the original Auckland Electric Tramway Company's poles in Queen Street and elsewhere. At a later meeting with the Council the City Architect, who had a grudge about untidy, unnecessary street hardware, mentioned that he definitely wanted the scroll work fitted as he thought it looked good. I often wonder if our drawings showing the scroll work was one of the main reasons that the Council finally gave permission for the tramway construction to proceed to the zoo.

Luckily for the Museum, in 1978 a Government Work Scheme initiated the start of construction. The line to the zoo was completed and opened for passenger service in two stages; to the Motions Road corner in December 1980 and to the zoo in December 1981. The works scheme has also been responsible for the building of our new display barn and the track within as well as the special work approaches. This work has only recently been completed.

I now wish to talk about our track construction. Our first efforts within the museum grounds used hardwood sleeper and ballast construction which was sealed at a later stage. This track has been in constant use for 17 years and although it has stood up better than ever expected, it is now requiring maintenance. Our main thought when considering the type of track construction for the 1km zoo line was what type will do the job for the longest time with the least maintenance. The answer seemed to be mass concrete. We obtained all the information from the Melbourne system and compared the economics of using mass concrete compared with sleeper track construction. Concrete worked out to be 10% cheaper, so we proceeded with mass concrete construction. There were also other reasons such as our precious lengths of tram rail, which we were keeping for inside curved sections of rail, had no fishplates so the sole plate welded joint, as used in mass concrete construction, was the answer. Other advantages were that no electrical bond wires were necessary because the joints would be welded. This would give less voltage drop at the end of the line because you would not have to take into account the extra voltage drop due to numerous bonds. We were also well aware of the disadvantage of extra noise and the fact that such a solid track requires a smooth top. So far, we have not achieved the smooth top but we intend to manufacture our own rotary grinder in due



course. Many people think that our track is smooth but when you place your hand on a moving tram motor gear case, you pick up every imperfection. So for the least wear and tear on track and car equipment you must try and achieve a smooth top.

Except for the limited amount of 112 lb tramway rail used for the curves, our rail is of the 85 lb and 91 lb railway type. We obtained the rail from the N.Z.R. at scrap value. It was mainly high-leg rail that had been used in the outer leg of a curved track which had worn thin in width but had little wear in depth. As our tram wheels are only 2 inches tread width, we selected rails that still had 1 3/4 inches of tread left.

Other problems to overcome were the manufacture of dual gauge special work. The single tongue switches were not a problem as we had enough in stock. Because the works scheme allowed for money to be spent on professional services, the Museum was able to engage the services of a consulting engineering firm to report on methods of track installation, welding of track joints and manufacturing of special work.

The construction of dual gauge open-mates like the one adjacent to the Museum's entrance gate which was done the conventional way, by mitreing rails and welding up using formed shear plates, caused many headaches and took a long time. This was because we were using inexperienced labour and was therefore the only one constructed that way. We then devised a construction which used a large 5/8" thick plate of hard wearing steel, well supported and welded to a bed of railway rails. On top of this plate was welded various pieces of the same steel to form the grooves and treads for the wheels to run on. As the top treads were only 5/8" thick, there was no need for ramping as the flange or the wheel would be close to the main bed plate of the fabrication. The results so far have been very gratifying.

The overhead is mainly side-arm or centre pole bracket construction copied from the Auckland Electric Tramway Company style. Span wire construction has been used on the sharper curves. We use twin wire overhead, spaced approximately 9 inches apart, which means that no frogs are required at turnouts for passing loops as one wire follows the second track of the crossing. It also overcomes any voltage drop problems.

We have now been running over the zoo line since 1981 with no track problems apart from the need to grind the track to correct profile and remove some corrugations. A few old railway rail burrs have shown up which will require building up with weld and grinding. It is often hard to find these faulty rails when they are in a stack and rusty but as soon as they are used you find the imperfections. It is very important that on straight track all rail must be straight both horizontally and vertically before being installed. In the haste to speed construction, our works scheme labour often overlooked this requirement with the result that where a slight vertical kink occurs near a rail joint giving perhaps a vertical deviation of only 1/2 degree, it is probable that a cupped joint will appear. Where the joints are true across the top, the joint has remained perfect. I have always found that putting rails in to proper standards is well worthwhile in preventing future problems.

In the future, it is the intention of the Museum to extend the tramway from the zoo entrance another 5/8km to its Sir Keith Park Memorial Site. It is planned to have a storage barn and workshops in the area. The track extension along Motions Road has already been approved by the Auckland City Council. Also the Council has set up an area management committee which includes representatives of the Zoo, Museum, Stadium and other users of this area to promote future development. This could mean future extensions for the tramway system in the years to come.

Our power supply is a 675K Hew mercury-arc glass bulb rectifier. It was donated by the Auckland Electric Power Board and originally served the Mt Roskill trolley bus area. Being 675K capacity, it is much larger than we require so we have no problem with showing off our whole fleet at once along the line. In the future, we intend to install another power supply at our K.P.M. site, as I believe no traction system should rely on one supply only. We also have a diesel motor generator set which was donated by the Auckland Regional Authority. This set was originally made for testing their new trolley-buses which ended up in Wellington. We intend keeping it for emergency use as it would operate one or two trams. Our original power supply came from the ARA trolley-bus distribution system which they very kindly kept supplying us until the system closed and we installed our own.

In conclusion, I will just say a few words about buses. We intend to erect a trolley-bus circuit within the Museum grounds at Western Springs and have plans to operate trolley-buses within the K.P.M. site at some future date. We also have a few examples of early petrol and diesel buses. I feel that buses in general, that is petrol and diesel, being so much part of our urban transport, have a definite place in any transport museum and that the main types should therefore be retained and displayed alongside the tram.

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NEW ZEALAND SCENE REMINISCENCES

Graham Stewart

Mr Chairman, Visiting Delegates from overseas and southern New Zealand museums, Ladies and Gentlemen,

As someone who was fortunate enough to have been interested in the folklore of Tramways in the majority of New Zealand, Tramway systems were still supreme, moving great masses of people at cheap rates in the days when the motor car was still looked upon as a luxury. It is most heartening, and in some ways, truly unbelievable, to find that twenty years after the running of the last electric tram car in New Zealand there have emerged many societies in this country dedicated to the preservation, restoration and running of street trams in their various forms - whether they be powered by horse, cable or electric. I never envisaged this in the latter days of the street tramways - not in my wildest dream - when I rode on the various systems - the Burmese New Plymouth, Invercargill the Philadelphic Brill, Dunedin or cable cars in Rattray Street, High Street or Mary Hill or riding, say, second trailer back on the Sumner Express which was a real experience. I would say Christchurch's answer was no doubt to California's Big Reds of the Pacific Electric or Adelaide's "H" cars to Geelong.

To think now that the majority of our classic types in New Zealand would one day be reincarnated in their original form, I think you would all agree with me is unbelievable. Now this is mainly due thanks to the original hard core members who founded the museums and whose enthusiasm fired (on the whole) because of their lives having been involved around these vehicles and having ridden on them to school and then to their place of employment.

Now what is heartening and in many ways surprising, is that a large number of these stalwarts who have now become members of these societies and museums in recent years, are now spending much of their leisure time on restoration and construction but are too young to have ever experienced the day when travel by tram was commonplace. The support given by this younger generation is to be applauded. They will ensure that the future of these restored vehicles is now safe and accepted by our New Zealand society as a vital part of our heritage.

When the preservation of one single tram car was first mooted in this country those involved were considered to be rather strange in their interest and in need, possibly, of a psychiatrist although history must record and give full honours to the pioneers who strived against near impossible odds to establish what we now enjoy - the "Ian's" of this world - for example; the Ian Stewart's, the Ian Mison's, the Ian Little's.

It is also very heartening to note (if I may just divert on a personal note) to see Mervyn Stirling present here, who was one of the originators of a lot of the vehicles you now see running in this museum. But today

we must look to the future and be grateful for the continuing interest which has been shown by the younger generation. These people must be encouraged and educated. You must guarantee that your experience in all aspects of museum work is fully recorded and that time and funds are made available to record the history of the tramway systems of yester-year.

A very immense amount of work is still required on restoration of historical vehicles. In years to come there will be a day when museum authorities will have enough examples of vehicles through the agents of exhibits and your future peers will say, "Where are the records, the history, the human interest stories of the dark age of trundling trams back in the first half of the twentieth century?"

I recently sponsored a small exhibition of photographs in Wellington at a gallery to commemorate the twentieth anniversary since the passing of trams in that delightful city. It may interest you to know that the chairman this very evening is a former tram conductor. In Wellington, rumour has it that he was a failed tram motor-man. Now I haven't been in service myself that long. I maybe in need of a body rebuild but I am surprised at the questions I was asked during this exhibition - things most of us here would take for granted - but memories do fade.

A fortnight ago I spent a week on business in one of my favourite tramway centres, Hong Kong, the old double deckers at the turn-of -the-century vintage. At one city junction track work was being replaced. It certainly recharged my batteries in my memory box. It brought back facts and memories of my own travel through New Zealand in the late 1940s and 50s. Fascinating practices of New Zealand tramway law long forgotten. Although your limited funds must be channelled to restoration at present, perhaps more thought should be given to the social and pictorial history of the tramway era before we all join that great web of wires on cloud 248, 247 or 178. I take this quite seriously folks because it's quite surprising the history which is slowly going out the door.

Our guests from North Shore are on the whole within easy reach of tramway systems that survived the trolley bus and diesel invasion which swept the world after the second world war. Even with jet travel, New Zealand is still a rather isolated part of the world and a large percentage of our young New Zealanders will never see a street car in its natural environment. Hence my comments tonight. Look at your archives and your oral history before it is too late.

The northern contingent who are starting to run through the alphabet again with their classification tram types must excuse our nostalgia. As a matter of interest, if we continued to classify our trams in Auckland by letters of the alphabet we would have made it to the letter "S" - the Streamliners - not Stewart by the way. Now please permit me especially for the Kiwi's present to relive for a few moments, the atmosphere of Auckland and other centres in tramway days.

" R U S H H O U R A U C K L A N D "

In the days when those red and tan monsters called trams dominated all traffic as they rumbled along the main thoroughfares, clapped over rail joints and points, rubbing shoulders with other traffic, motorists treated trams with respects as they (the trams) were bigger and always had right of way. You could stand on a street safety zone ready to board a tram when it pulled up, enjoying the sanctuary from the rush hour traffic of motor cars screaming past. Motorists never really became accustomed to the trams in the city judging by the way motorists would occasionally drive slap bang into a zone.

The struggle for a foothold to board a tram, the rear platform jammed tight with homeward bound workers, the tram gathering speed along the shining rails embedded in the roadway, the saloon lights fading slowly to a yellow glimmer as the power was sapped from the overhead wires. "Move down the car, please", the conductor's cry for fares, "Fares, please", the ring of the conductor's bell, the hiss of the air brakes, the whirl of the electric motors and the throbbing of the compressor under the floor boards . . . Its all great nostalgia for us!

Those mighty dreadnoughts first seemed like a scrum with aspiring five-eights type clinging to the steps and could certainly swallow a crowd in the city. Some trammies even boasted many of our All Blacks received their training in scrummages while boarding a rush hour tram. They were unsurpassed in their ability to stand a day in / day out strain grossly overloaded, but they kept on rolling seemingly gifted, with perpetual life which reminds me of the time a minister of the church from the pulpit once compared a religious man with a tramcar. "The latter," he said, "travels its appointed way doing useful service. It was propelled like as within and it was able to cast light in front of and all about it by the power of the uplifted hand. The Christian man could do likewise".

Speaking of Christian principles; some of the veterans who rode in those years had quaint notices in the saloons like, "Smoking and spitting strictly forbidden; do not expectorate".

Fresh air flowed in and out of the cars at the rate governed by speed. Passengers comfort in Auckland (which is the first consideration in the transportation of passengers) remains firm with the wooden seat along with many other draught chilling refinements.

Speaking of draughts reminds me of the famed double-saloon trams of Wellington. The traditional habit (or bravo or whatever) had decreed upon the poor male the sole right to occupy the centre semi open saloon of these Wellington trams. It would never have been tolerated in these days of women's liberation and equality of the sexes. Women today would have insisted on airing their panty hose at the refreshing, exhilarating speed that these galloping, swaying monsters often achieved while negotiating the quaint streets and lanes of Wellington!

I remember suffering the full blast of a southerly while two ladies sat snugly in the front saloon, the sliding doors between rattled as the tram swung with a jerk upon reaching the summit of Constable Street and we started the descent to the suburbs. The whine of the motors took on a heavier pitch as the motorman braked his way to the bottom of the grade. The canvas blinds on the off-side of the tram flapped in the wind and the eyes of a young lady in an interior advertisement rolled back and forth with the sway of the tram to attract potential clients. The sharp ring of the buzzer telling the motorman no one wanted to alight intruded at regular intervals as the conductor transversed the saloon heavily camouflaged in a navy blue great-coat.

Unkind people used to say the Wellington trams were narrow in keeping with the thinking of the populace of that period. Wellington now boasts the only modern trackless tram system in New Zealand, plus a modern cable car as a bonus.

Now one of the highlights of travelling by tram in those years (especially to a visitor) were the tram zones. They used to pound through these caverns like a thunder storm, sparks flying off the trolley poles. The Haititi tunnel was exclusively a canyon for trams - only a single track inward. The trams seemed to be encased by the curvature of the brick-lined walls so close that the tram hurtled through to reach that spot of light at the other end.

I remember the kornie joke of the period:- "Did you hear I was involved in a tramway accident last week?" "Really". "Yes, I kissed the wrong girl in the Haititi tunnel".

As a matter of record the Haititi tramway tunnel was responsible for the preservation of the sole surviving double decker electric tram in this country - No 47. It was actually retained for the express purpose of being used as a travelling platform whenever overhead maintenance was carried out in the tunnel. I know our Wellington colleagues will be forever grateful that we managed to save this lovely old tram when we first formed a preservation group in the North (which, incidentally, for our visitors from North Shore, pre-dates this museum, MOTAT, in Auckland.)

I have been fortunate in recent years to have had the opportunity to view many tramway museums throughout the world, now I do not want to sound parochial, but the best real live museum I have ever viewed and ridden was Christchurch. On an Addington Trotting Day in January 1950, what a collection of real live relics. I will never again see such a variety of museum pieces trundling through city streets unheralded!

Each electric tram had two trailers attached of questionable age, including about fourteen of the original horse and steam tram double deck trailers dating from the 1880's. It was the halfway mark of the century and these old deckers loaded with punters swayed and squealed on their way as if from time was unheard. My form of transport in those years was the bicycle. I left my bike in the bicycle garage - something rather exclusive to Christchurch in those years - and travelled on the upper deck to Addington.

The only major modification ever given to these trailers arrived on the top deck. It looked to me to be totally out of place on such a dignified vehicle belonging to grand-dad's day - a woman conductress!

In all seriousness, I would rate Christchurch as my favourite main centre system in those years - the variety of trams and trailers, the interesting track layouts (for someone who had lived in Auckland where all the fleet were mainly double truck, single saloons and ninety percent of the track double). Christchurch was a mecca of interest, surprise and delight.

We now travel south to Dunedin, the city that pioneered the electric tram and the cable tram in New Zealand. They had a fleet of genuine American cars built by the Brill Company of Philadelphia to a selection of styles. How passengers in this southern city endured winter travel on these breezy electrics was a matter of wonder. Their long overhang made them prance along the tracks when running at any speed and nicknames like "Jumping Jacks", "Bob Tailers" and "Gallopings Gerties" became local quotations.

These Brills of early twentieth century design remained in service with no major alterations up until the final years of tramways in Dunedin and they would be worth a packet today if they had been kept.

I was fortunate also to be able to ride the cable lines of Dunedin from their twilight years. I found it a very interesting and fascinating experience to actually live in Dunedin for a little while and ride as a regular on a cable line. Perhaps just a few quotes from cable cars here (which I wrote about in the book and I just quote briefly from my own experience).

"Travel by cable car was different. No queues waited to enter the quaint Victorian cars as they reached the terminus. The waiting crowds surged around them in a circular movement. By habit, women and youngsters made for the tiny glassed in saloons fore and aft while men took the open-air seats on the outsides and late-comers selected whatever footholds they could find. A strap or a toe-hold on the footboard was enough for any energetic male as the car bobbed off and took the grade. A passenger hanging by a thin leather strap (which soon cut into his fingers - and I write from personal experience) experienced an element of danger which gave him the feeling that the world was still for the brave.

The conductor, an agile acrobat, would swing monkey-like along the side of the crowded car with punch and tickets in his hands to collect fares. He worked from strap to strap, climbing through caverns and around toe-holds on the luggage racks. The grip-man, an expert at this specialised task, was treated with respect by the regulars. In the centre of it all he heaved on his big levers to stop and start the car - a constant source of fascination. There was a friendly intimacy about the ride because one couldn't be snobbish when sharing a foothold with a dozen others. Tunes were played on the cable car bells by the gripman who had a code all of their own. Two distinct gongs chimed after an up car passed the down car, the chimes telling the other crew that an Inspector was close by.

A symphony of steel was played as the pulley slapped and rattled and the hum and skip of the rope buried deep beneath the road slot fluctuated in crescendo. To those who lived near a cable line this was music to their ears - part of the familiar sounds of their locality. The wire rope could be heard humming mysteriously in a deserted street with not a cable car in sight. The cable itself never stopped during the hours of service."

I now look forward to my next visit to Christchurch to view the completion of the restoration by the Tramway Historical Society of the Roslyn cable car, 1905. I rode this car in those years and it will be a nice experience to see it again in reality.

The first provincial centre to establish an electric tramway in New Zealand was at Wanganui in 1908. I was fortunate to ride these trams in their dying years. Even then, the quaint old iron verandah posts and horse troughs in Victoria Ave - the main thoroughfare - toned well with the tramway street furniture.

By the time you reached the end of the line at Aramoho opposite the cemetery you thought you had reached the moon. The track had slowly become more overgrown with grass and weeds and the electric power gave the impression of just being strong enough for the motorman to read his newspaper by, while he was waiting for the return trip along the riverbank. You were certainly out in the country.

The highlight of the trip back into town was the underpass at the Aramoho township. To avoid complications to the railway, the tram line took a dive under the railway bridge and emerged in an equally steep gradient to appear again and shudder to a stop by the antique waiting shelter.

I loved the Wanganui system - like the track to Castlecliff over a trestle bridge through the sand dunes with often not a home in sight. Shades of Queen Elizabeth Park today. During the closing ceremony in September 1950, I was privileged to ride on the footplate of old "Puffing Billy" up and down the main street in grand procession. This is the Baldwin that has been beautifully restored by this Museum (MOTAT).

The final farewell of trams from Castlecliff in Wanganui was a gala occasion with bonfires on the beach and thousands present to witness the last convoy. Three "Takapunas" - old faithfuls - they were farewelled by highland pipe bands, exploding fireworks and detonators on the tracks. For the purists present, No. 28 was the very last tram and two little girls placed a wreath on the tram that night which bore the inscription:- "You have rattled our bones, you have rattled our doors and after tonight, you'll rattle no more".

New Plymouth by comparison was a model tramway system with a fleet of ten respectably kept tramcars. I was also fortunate to ride on the last ceremonial tram through the streets and I shudder a little bit to think that it will be thirty years ago next month. I remember well two amusing incidents that night. The official speeches were made from the balcony of the Criterion Hotel. It was in the days of 6pm closing of bars in New Zealand and very strict licencing laws. The manager of the tramways, on hearing I was staying at the hotel, requested my blessing for the mayor and Corporation to quote their names as my guests to the bar steward so they could enjoy a few drinks legally while waiting for the official ceremony to begin. I think it was the first time that someone interested in the subject such as tramways in New Zealand was accepted by society.

Later in the evening I was standing with the manager when he gave the instruction for the ceremony of the last tram, reserved for civic dignitaries only, to be shunted on to the mainline so that the guests could board in style as he was under the impression (as was his chief inspector) that the last public tram from the port had passed on its merry way!

I had gone to the trouble of hiring a taxi to cover the last tram to the port of New Plymouth, then asked the cab driver to drive me pronto at speed back to town, when I pointed out politely, that there was still a tram inward bound from the port. I was coldly believed when single trucker No.3 did appear packed to the gunwales. The chief inspector did have the courtesy to walk across to me and say a big thank you. I have often wondered since if I had kept my mouth shut the local papers would have had a good story that the ceremonial last tram had not been the last tram after all. I have actually never told that story, but that is true. If I hadn't spoken up, it would have upset their whole ceremonial occasion that night. It was a very moving event.

For a small country situated way south on the globe, we seem to have kept pace with transport trends in the early years of this century. Gisborne introduced Edison battery cars from New Jersey in 1913 propelled, as it was termed then, by "invisible power". Napier chose Blue and cream as the livery for their electrics in the same year. They survived for eighteen years until a major earthquake brought the system to a sudden halt forever.

I lived in Napier for a number of years and slowly researched the placement of their fleet at the actual moment the earthquake struck. It took a lot of time and patience like solving a murder. I interviewed old motormen and depot hands, learnt that three trams had been toppled into the pits at the depot by force of the earthquake. One motorman driving one of the original British built cars in from the port when it happened, told me the tram was shaking like a fox terrier playing a rat. Although the inner city was totally destroyed by fire that followed the quake, the trams were not even scorched.

The Australian delegates present will be interested to learn that in Invercargill it was quite acceptable in the best of company to say that you had to hurry to catch the b----- tram. Their route designations were by letters of the alphabet - not numerals. Invercargill boasted of having the southern-most tramway system in the world and, of course, out of six thousand odd Bernie safety cars built in the States the southern-most fleet were painted chocolate and orange.

Talking of Americans, I once knew a Jim Walker associated with trams. He is what you would call in the States, a real "juice man". He was a depot foreman at the old Epsom Depot here in Auckland. Jim had a small dog called Empire who used to go with his master every day to Epsom Depot and really earnt his tucker. Jim would check through the running reports. Any of the cars that had been booked in with electrical leakage faults by passengers, generally from a cast iron seat frame. Jim would then carefully go through the car and place a piece of meat at the foot of each seat and then place the pole on the wire and send his hungry dog through the tram, watching carefully until suddenly, Empire would leap back from the seat! The trouble spot had been found.

The most unlucky person ever to travel by tram in Auckland would have undoubtedly been a Mr Henry Williamson of Mt Eden who, in 1911, gave up his seat for a lady and stood on the back platform only to be killed when another tram ploughed into the rear - (What men did for the fairer sex in those days!) And speaking of women reminds me of a rather large lady who wedged her way onto a crowded Queen Street tram and started fumbling in her coat pocket for her fare. She fumbled and struggled and fumbled when, at last the man standing beside her was heard to say "Permit me, madam, to pay your fare. You have been working on the last button of my braces and I can't help being nervous as to what's going to happen!"

"A C C I D E N T S"

A motorman called Charlie Haley went on duty at 6 o'clock in the morning. His p.m. motorman didn't turn up for duty and Charlie was asked to carry on. Late at night Charlie was driving his tram down Khyber Pass Road and wanted to sleep. This, of course, didn't worry the tram which continued gayly on down Khyber Pass, jumped the rails on reaching the curve into Broadway,

Newmarket, and careered across the footpath with only inches to spare on each side as it ran into the alleyway by the Royal George Hotel without sustaining a scratch! With the hotel still intact, the relieved publican opened all bars and provided drinks on the house for the shaken passengers. Old No 111, always known as Lord Nelson, was given a new nickname that night - "Halley's Comet".

Perhaps one of the most amusing accidents occurred when a truck, loaded with ripe tomatoes, ran down Wakefield Street in Auckland and collided outside the Town Hall with a tram coming down Queen Street. The truck hit the tram, midships, and burst tomatoes were everywhere. The motorman had one look at the mess and jumped to the conclusion someone had been killed and promptly fainted.

Then, by co-incidence, there was the lady who was knocked down by a tram in Queen Street. She was taken to hospital and sent home to her house near Wallace Street on the Herne Bay route. She was sitting in her front room a few weeks later when she saw a tram come through her front fence and finish up almost touching her house - and the motorman driving the tram was the one who had knocked her down in Queen Street! Now that was quite an odd reunion.

"T R A M W A Y U N I O N"

Talking of odd reunions brings me to a few interesting stories about the tramway union. We had an unusual strike here just after the First World War when the Tramways Union backed the Jockey's Association over protesting over the way they were being treated by racing clubs throughout the country. As a result, race trams were declared "black" and crews refused to run any race specials to Ellerslie (although they did run if the sign showed Remuera - not races - as refusals to run specials meant suspension). By late afternoon all men had stopped work. The next day a notice was posted giving them a week's notice, but by Tuesday the issue had been resolved. Now the interesting aspect of this story for all New Zealanders is the union secretary at the time was a gentleman called Mr Peter Fraser who later became Prime Minister of New Zealand from 1940 to 1949.

One of the major threats to women being employed on public transport in New Zealand as conductors at that time occurred in 1947. Strangely enough it came from the Tramways Union in the form of a letter saying that the employment of women was a wartime measure and was never intended to be continued after cessation of hostilities. The union had therefore resolved that the future engagement of women to do the work normally performed by men had been declared closed and no further applications from such persons would be accepted by the Union. The transport authorities at the time challenged this ruling and obtained legal backing that women could not be refused membership of the union. The union retaliated by posting a notice that motormen and conductors were not permitted to train female conductors. As staff shortages continued to climb, the Emergency Disputes Committee ruled that the employment of women was to be continued. The conductresses certainly did a grand job, particularly throughout the war years.

When I first took a serious interest in tramways - in their technology and social history - I was one of the few rare breed, possibly an oddity. Fortunately, it is now the trams that are the oddities.

One of my first memories as a small boy was when my mother took me to town and an Inspector came through the tram. When he got to our seat my mother looked up with a smile and said, "I'm sorry, Inspector, but I'm afraid my little boy has eaten his ticket." "That's alright," said the Inspector, "I suggest you buy him a second helping." So it seems I had an appetite from tramways at a very early age.

Talking of youngsters travelling by tram reminds me of some of the Victorian Music Hall style humour of that period associated with the tramcar. There was a story about the conductor who said, "Madam, I will have to have a fare for that child - he's over 4 years of age." The lady replied, "He can't be, I've only been married 3 years." Conductor, "Never mind the confessions lady, just give me the money!"

And then there was the difficulty created by basketball girls in the days when they all dressed in gym dresses. On boarding a city bound tram they all asked for half fares. The conductor was a little suspicious of one but she assured him she was a half fare. On alighting in the city two girls of eleven or twelve and a small boy rushed up to this girl and said, "How did you get on, mummy?"

I was going to speak tonight on the human side of trams entitled, "Sex on a Street-car", but your chairman pointed out that I would be addressing a very serious gathering, so to talk about "grand unions", having a "lay over", "putting on the bag" would not be suitable! For a conference of delegates who are, what you would term "nuts and bolts" people, are possibly more interested in the finer points of the "screw".

On a serious note, gentlemen and ladies present, our lives are truly only a flick of the fingers compared with eternal time. It will be the generation still unborn that will appreciate the work each and everyone of you have undertaken to record in some form. So much has been saved thanks to foresight and dedication that now we still have in New Zealand, the remains of the very first electric tram and the very first trackless tram. The tram, I understand, has now been transferred to Seacliffe outside Dunedin and I hope is under cover. The trackless tram is near a golf course on the outskirts of Wellington. The whereabouts of these two vehicles, I know, is no secret to most of New Zealanders attending this conference.

Ferrymead has No 3 tram earmarked for preservation which is great. I would sincerely like to make a special plea tonight for a central, non-parochial sub-committee to be formed to investigate the saving of these two important relics. Brushing aside all local possessiveness, make it, say, a national project with the ultimate aim to have these two vehicles exhibited, hopefully, side by side in a central locality - not left to rot. Possibly somewhere suitable which could act as an advertisement for all the operating museums in New Zealand, plus wetting the public's appetite to visit your locality. I strongly ask you all to give this consideration much thought. Do not place it in the pending basket because in a few short years even the bones of these vehicles will no longer exist.

Finally, on the lighter side -

"WHY WERE TRAMS SO POPULAR?"

Well they were generally Hobson's choice. Most of us couldn't afford to borrow father's car in those days or didn't have enough pounds, shillings or pence to buy ourselves a set of personal wheels. The services were frequent and motor cars were in short supply for many years after the war and there's one joke which I wrote in my book, at the time well known, regarding faith people had for the electric tram.

They used to say, "Never run after a tram, my boy. You want to remember what they say in America; Never run after a tram or a woman. There will always be another along in a minute".

Or perhaps an item published in a newspaper of a conversation in broken English, overheard on a Wellington tram when trams were still trumps, sums it all up.

"Trams is better than buses".

"No, why you say so?"

"On bus, you pay everytime when you get in, sure.
On tram, big crowd, no pay".

Finally, folks, I would like to thank the Organising Committee for giving me the opportunity to address all the delegates tonight. I wish you all a most successful conference and I trust that our overseas visitors will enjoy some genuine New Zealand hospitality while they are with us.

Thank You.

AUCKLAND TRAMWAY SYSTEM OPERATIONS
DURING POST-WAR YEARS

Presented by Laurie Everiss

INTRODUCTION:

By John Wolf

Good afternoon everyone. Our first speaker this afternoon is Mr Laurie Everiss, former chief engineer with the Auckland Transport Board and Auckland Regional Authority. Laurie has been a tower of strength to us in our operation here and has helped steer us along the right path and, needless to say, ensured that we've maintained a high standard. Laurie is our inspecting engineer, appointed by the Government, to inspect our rolling stock, overhead and track work which is done on a regular basis. This afternoon, Laurie is going to give us a talk on our transport operations, from an engineers point of view, which will cover trams and buses.

-oo0oo-

Thank you. During the war years, Auckland's trams travelled high mileages, carrying many millions of passengers. Maintenance materials were impossible to procure or were in very short supply. By war's end, rails were worn corrugated and some below the paving which were in poor condition. Tyres and suspensions were worn, allowing under gear which was also worn, to scrape on the roadway. I'll describe some of our problems and their solutions.

One difficulty was the fundamental difference between the workshop staff of skilled tradesmen working to precise measurements where time didn't appear to matter and the running depots where staff had the day to day problem of keeping enough trams serviceable to satisfy timetable demands and where time had already run out.

Axles and bearings were worn tapered and hot boxes were common. The ends of axles were built up by welding and then turned but this was very slow and because the full overhaul took several weeks, depots experienced an increase in problems. Depot staff made tapered hardwood blocks or used selected old bearings and installed these with coarse grinding paste and ran the tram to Pt Chevalier and back. New special tapered, white metal bearings were cast and then installed and Mobil Oil Company supplied a suitable oil to replace the cheap oil previously used. Within a short time, hot boxes became a thing of the past.

The rough state of the tracks caused a loss of the axle box covers which, being cast iron, were difficult to replace; so we made simple press metal covers which served their purpose at keeping the dirt out.

Another bearing problem was with motor suspension bearings which I think you suffer from here at MOTAT as well. During overhaul, the workshop staff fitted new bearings by bluing and scraping for a perfect fit. One trip in service caused the bearings to run hot, so the depot staff, who were used to measuring clearances with their fingers, prevailed on workshops to fit bearings with .004 - .005 clearance. That in itself took quite a while as it is difficult to convince tradesmen that near enough is good enough.

Brake gear was another badly worn area. Although hangers and other parts were being welded and re-machined, the wear on many trams caused the piston to come out the maximum travel of about 10 inches. By taking up the slack with the bar and measuring the distance to the equaliser, shorter shackles were made and fitted to bring the piston travel back to about 6 inches. The incidence of brake related accidents was very markedly reduced. EMB trams also suffered brake problems and the brake beams fell on the road. Derailment occurred when the front beam fell and was run over; usually at 5:00pm! When hangers wore badly, the spring on the hanger bolt was not strong enough to hold and the bolt broke. We removed the springs and used short bolts thus curing that problem. (This refers to the brake beam hanger links becoming supported on the bolts when the spring loaded ball and socket joints wore, resulting in bolt wear and eventual breakage).

Another major problem was axle box springs which weakened or broke, allowing the under gear to hit the road. Because suitable spring steel was in short supply, rubber buffers were tried out. The first experiment was with a large outer rubber and a higher inner core; the idea being that the higher central core would support low loads with heavy loads carried by the outer rubber. This experiment almost ended in disaster and everyone relaxed when the tram got back to the depot after a very slow journey. The combination of rubbers and rough tracks caused an alarming side to side oscillation which made the tram uncontrollable. Solid rubbers were successfully fitted and although their life was only about 2 years, they got us out of another problem area.

We had our fair share of electrical faults, and a common cure for a blown fuse was to use heavier wire until it stopped blowing, or screw up a circuit breaker to cure blowing. On 2 motor cars, 1 motor would throw solder while its "mate" would appear okay. Research showed the problem to be caused by weak fields in the apparently good motor. Over the years, insulation failure caused shorted coils and most faulty field coils rattled when shaken. Unfortunately, the depot staff didn't look kindly - its not a very pleasant job changing field coils. This fault, besides causing burnout of the motor carrying the extra workload, also caused failure and burning of reverse fingers and barrels due to the higher current draw off. Reverse barrels were patched with a specially made insulation filler but eventually it became necessary to make new barrels. We asked stores to purchase a suitable quantity of teak, but their idea of suitable resulted in the arrival of 2 huge barks of teak, enough to keep us in reverse barrels for hundreds of years.

A fully overhauled 2 motor tram also alerted us to another fault when the same motor burnt out twice for no apparent reason. Again the reason was found in the good motor. Brush holders were built up with welding and this had caused distortion resulting in the brush bridging too many segments. It was not possible to straighten the holder itself, so we made special wedges and inserted them during the fitting of the holders to square the brush with the commutator. Compressor armatures burnt out faster than they could be repaired and the electrical shop contained a mountain of them. We carried out an investigation to check on the fuses and we found that nearly always the current drawn was under $4\frac{1}{2}$ amps. We took the fuses out and tried them out on our battery charger. Very few blew below 17 amps, a lot blew 17-20 amps and a lot of them we couldn't blow. (They carried 20 amps). The workshops made up special sealed 6 amp fuses and those were the only ones allowed to be fitted in the depots and our burnout problem disappeared.

Other problems causing the overload could then be repaired. With all our motor problems one could well ask why didn't the circuit breakers blow? We found that some could never blow due to wear, shorted coils or bad adjustment. (As one of the foremen of the depot said, "If you switched Arapuni to them, it wouldn't have blown!") We decided to cycle all the circuit breakers through the workshops and we set up equipment to test them and we were setting them at 600 amps. At first, we used a resistance bank but we found that heated up so much and the current was practically uncontrollable, so we made up a fairly simple carbon pile and from then on we set and sealed the circuit breakers; and again in the depots they had a lot of difficulty trying to stop the staff from breaking the seals and screwing the breakers up.

One of our more spectacular incidents occurred when an Indian woman, wearing a sari containing metal threads of decoration, boarded a tram and sat down. The motorman applied power and the sari disappeared in a sheet of flame, leaving a very frightened, but otherwise unhurt, woman. To find the reason, we checked the tram and others and found that she sat down in the only seat in the fleet which was earthed with a screw going through to the metal chassis; that the dress trailed over the only bolt in the floor holding a resistance that had lost its wooden covering plug; and that the resistance was the only one in the fleet in which the splash guard had been pushed back onto the grids. The resulting short circuit is called Murphy's Law.

Some trams had an annoying loud rumble from the trolley wheels. We found that the casting core had slipped and they were out of balance so when we machined them, as well as drilling and turning the outside, we also had to turn the core and that stopped the noise.

At the railway station, a motorman stopped a tram and left the brake lever on the lap position without releasing the brakes. While he was putting the rear pole up the tram ran back onto the tram behind, resulting in the loss of his leg. The stop light wires had rubbed and burnt a hole through the airpipe.

Collisions could occur even with good brakes. One morning a tram stopped on the straight and level at the Blind Institute in Parnell. The next tram braked normally but slammed into the first; the third tram came along and braked normally but slammed into the other two resulting in very considerable damage. A truck carrying sulphur from the wharves had spilled some on the rails and we found that that made a perfect lubricant of steel on steel.

Now a word on Auckland's only regenerative tram car 253 which was known as the Queen Mary and is now here at MOTAT. Unlike other trams, moving the control handle backwards pushed power back to the overhead and gave good electrical braking. Unfortunately, that same feature caused other problems. Most of our system was supplied from rectifiers which don't like power back. The tram was very hard on lightbulbs and although an over-voltage relay operated to bring a resistance into the light circuit, we could never make it operate fast enough. In later years, wear on the electro-neumatic contractors and the complicated control circuit caused maintenance problems and these, coupled with the limited routes and inexperienced motormen, resulted in conversion back to conventional equipment.

From time to time we have motor cars stolen; we lose buses from depots but have any of you ever lost a tram car? We did one day! The depot check showed one missing. They checked with other depots; they checked with the workshops; they checked on the road; they checked everywhere a tram could be. They checked at the tram termini to see if the tram had run away. The tram couldn't be found until somebody had the bright idea of counting how many trams we had and we had the right number. It turned out the tram had

gone to the workshops for a full overhaul and repaint and somebody had painted the wrong number on it!

I'll close with a few incidents involving our bus fleet.

A trolley bus, one morning, lost a pole on the corner approaching the Pt Chevalier turning circle which was supported by wooden poles. The clip on the rope hooked the trolley wire and when it reached the next span the overhead became a giant crossbow. The trolley pole broke and the length of several feet shot about a hundred feet and buried itself into the roadway outside a shop. The owner told us that her daughter always parked her car there but this particular morning she had rung up saying she had the flu and she wouldn't be coming into work.

Operators sometimes held their trolleybuses on the power pedal at the top of Queen Street. One morning an overheated resistance set fire to the floor and somebody called the fire brigade. The firemen got stuck in with axes and chopped the floor to pieces - its not so much fun to squirt a hose underneath.

A petrol bus was going into service one hot summer afternoon with all the windows open and fortunately, no passengers. As it passed a tar sprayer at roadworks, the hose burst and sprayed the inside of the bus with tar. It was a case of all hands with buckets of kerosene and rags to clean the stuff off before it dried. In those days everybody got stuck in; nobody wanted extra payments - dirt money, etc.

Another time a diesel was going along Karangahape Road and a van came out of a side entrance and stopped to give way to it. What nobody noticed was the van had a metal rod mounted on the roof which was protruding into the roadway and the rod hit the pillars of the bus and broke every window along the side.

"LEYLANDS" - Sometimes an operator would leave his bus in a hurry, push his stop button and let go just before the engine stopped. The engine could kick over backwards and take off. The vacuum governor was no longer effective having no vacuum; the rack was in the excess fuel position for restarting so the oil cleaner became the exhaust, and it blasted all the oil out of the cleaner onto the engine. The whole bus would become enveloped in smoke and the noise! If any of you have ever heard an engine running away its rather a terrifying sound. One of the drivers did it in the depot one day coming off duty. He got out of his bus and took off and beat all olympic records down the depot. The secret is to hold your finger on the button until the engine stopped.

An operator rang the dispatcher one day wanting another bus and he said the engine's out. The front engine mount had broken and dropped the engine on the road and when the breakdown wagon got there the engine was still merrily ticking over.

We now have a generation in New Zealand whose only opportunity to see trams and trolleybuses is at Museums such as yours where so much dedicated service keeps them in running order. I wish you all well for the future.

WOODWORK, RESTORATION AND RESEARCH

Presented by I.L. Stewart

Prior to Mr Les Stewart presenting his paper he explained that although his was representing Wellington Tramway Museum at the conference, having been moved to Wellington from Auckland by his employer a few years back, the term "we" in his paper refers to his involvement in the Western Springs Tramway at MOTAT.

INTRODUCTION:

The topic I have been asked to talk to you, this morning, on is "Woodwork, Restoration and Research", a very wide subject covering almost every aspect of restoring a tram body. However, as the bulk of my experience in tram restoration has been in interior woodwork restoration my paper, perhaps, deals more with this aspect of tram restoration rather than the structural woodwork side. This also would appear an appropriate approach when I look at the workshop subjects that follow morning tea, as I see these workshops as a forum to compare methods and perhaps even solve each others problems.

STARTING OUT:

Restoration really starts before the tram is brought into the workshop.

The first step is the decision to actually restore the tram, but the decision is not just which tram to restore, it also includes the decision as to which era or period to restore it to. This latter decision will depend very much on historical documents, such as plans and photographs, that are available and on your museum's collection policy and forward plans. The decision to restore a particular tram to a particular period, while in the first instance, is probably made by your organisation's governing body, I believe it should always be confirmed by your members in a general meeting. This means that all have had the chance to partake in the decision making process and no member can morally opt out of assisting in the restoration on the grounds that he disagreed with the decision.

However, this is still bound to happen in any democratic organisation and there is nothing much anyone can do about it. We have to live with it.

If a restoration project is to proceed smoothly it must be organised. One member, or a group of members, each one responsible for a different area of restoration, for example, interior work, structural work, electrical work etc., should be appointed to "drive" the project to completion. Most members in organisations such as ours are not self-starters, they come into the workshop, sure, but someone has to put something into his hand and say, "Here, use this to do that to this piece of whatever." These organisers are not only responsible for always seeing that work is always available for the willing, but also for quality control.

Quality control is most important to ensure that the tram leaves the workshop to the desired standard and requires checking at all points along the way. Jobs such as taking adequate notes during the dismantling process are all part of the quality control process.

RESEARCH:

The three most important items to study in some detail during the research phase of the project are:-

- (i) the tram itself
- (ii) photographs of the tram to be restored
- (iii) plans and other written documents relating to the tram.

Let us look at each one of these items separately:

(i) The Tram

The tram body, as it is dismantled and re-assembled will yield a vast amount of information about its past. I will indicate areas of particular interest that should be noted as we proceed through the paper. This information is most useful in confirming or counter-acting information inferred from photographs or plans.

(ii) Photographs

Every conceivable photograph of the tram, or of trams of the same or similar design, should be obtained from all sources; your museum archives, the collections of private individuals, and local and national libraries and museums. Photographs can be very useful in that they can be blown up to reveal the finest detail, although it must be remembered that the further the photograph is blown up the more grainy it becomes with less definition. It is also possible to play around with print exposures to reveal light or dark objects.

As an example I will show you a photograph of an early Wellington combination tram which we had a portion "blown up" to try and examine in detail the long handrails on the open compartment of the tram for comparison with those we were going to install on our double saloon car No 135. We were very lucky that one of our own members was a camera operation for a commercial printing house in Auckland and was able to do this for us at no cost. With the aid of a magnifying glass a lot more detail can be picked up.

(iii) Plans and Other Written Documents Relating to the Tram

It can be of great assistance if you can obtain the original plans to the tram. Other documents relating to the tram, such as specification documents can also be extremely useful. As regards plans, it is unfortunate that plans detailing original structural components are often no longer in existence. This was particularly the case with No 135's centre section and detailed plans of the centre seat castings were unavailable and those were reconstructed mainly from photographs.

Great care must be taken to ensure that you do not over rely on plans because the trams were often built slightly different or modified later without altering the plans. Thus plans should always be used in conjunction with photographs and evidence obtained from the tram itself.

In New Zealand, under the Tramways Act 1908, tramway promoters were required to submit plans for any new trams to the then Public Works Department, now the Ministry of Works and Development, for approval.

To assist us in the restoration of Wellington Double Saloon 135, we obtained copies of the plans of Wellington Double Saloon Trams. While this is possibly an exaggerated case, these plans illustrate that trams were often never built to their original plans.

Firstly, the plans we were interested in were simply plans of trams 92 - 99 with this number range crossed out and re-labelled 101 onwards. Trams 92 - 99 were the first series of double saloons but were one foot shorter, six inches on each motorman's platform, than the later series. This difference in length was merely denoted on the plans by crossing out the original measurements and writing in the new ones without actually re-drawing the tram to scale. The plans also showed the addition of stiffening plates at the point where the platform bearers were bolted onto the main frame. Notwithstanding other minor differences between the two series of trams, such as the lack of roof guttering on the later series, there were no other changes made to the plans.

However, the most glaring inaccuracies shown by the plans were the clerestory roof and rocker panels with a convex curve rather than a concave curve. The rocker panel is the lower side panel and the plans showed this curving outwards rather than inwards. The point to note that neither the early series nor the later series of double saloons had either of these features, although earlier combination trams (either one third or two thirds saloon and the rest open) had clerestory roofs.

I must state that there was one plan amongst the set which was drawn for the series 101 onwards showing details of the motorman's platform and the underframe. This plan reflected changes made in the design to cater for the use of Brill 69E bogies on the later series whereas the earlier series were equipped with Brill 22E bogies. From all this, I can only conclude that the Public Works Department were primarily concerned with the structural strength of a tram when approving plans.

The research and the conclusions reached during the restoration of tram 135 could be the subject of a paper in its own right and I could go on for some length on the subject; however, I think I have shown that it would not pay to rely on one source of information - all sources of information must be obtained and compared with each other.

One of the most interesting facts - now that I have lived in Wellington a few years and know what the climate is like - when researching 135 was that, from photographic evidence, all the combination cars and the early series of double-saloons had the blinds in the centre section coming right to the floor, however all photographic evidence of the series 101 - 160 showed that the centre section blinds only came to seat level. It must have been a pretty breezy affair when the blinds came to the floor, but I would hate to imagine what it was like when they only came to the seats. There was one photograph we found that showed tram 160 with blinds to the floor. This might have been an experiment for the next series of double saloons to follow.

DISMANTLING THE TRAM:

Having covered some of the more theoretical aspects of tram restoration, we shall now move onto the more practical side starting with the dismantling of the tram.

While many would suggest that this is the easiest part of the restoration project and can be completed in a couple of days, I would suggest that if this attitude is adopted then the rest of the restoration will not go as smoothly as it could have and, in fact, the restoration could be hampered by lack of information and damaged parts. In particular, the reassembly task will be extremely difficult - like piecing together a giant jig-saw puzzle without the specimen picture on the front of the jug-saw box to help you.

If care is taken during the dismantling phase, the tram body can reveal a wealth of information about its past, but you must be prepared to take time to look carefully at every detail at every stage of the job. Paint lines, screw, nail and bolt holes can all indicate some previous feature that has long since been removed. In the case of Wellington tram 135, the exact positions of the centre section pillars were revealed by the mortices and the cut off bolts still present in the cant rails. The shape of the lower portion of these pillars was imprinted in an old paint line that was covered by the 1930 replacement pillars and a piece of hardboard that was used to help hide this paint line.

The other important part of the dismantling job is the labelling of all parts as they are removed. Labels must be descriptive - both as to what the part does and to where it goes. Describing what the part does is, perhaps, the easiest part of labelling an item because most items can simply be identified by a generic name such as a window, door archway, door head board etc. However, where there are many identical parts such as is the case with the parts just mentioned, describing its position can be more difficult.

When describing a part's position it must be described relative to the tram itself and not relative to its outside environment. This is necessary in order to avoid confusion at a later date should the tram be assembled in a place other than where it was dismantled, or the place of work is physically altered during the process of restoration.

I remember, during the restoration of Wellington Fiducia 257, reading a number of labels stating "Zip End" and "Door End", "Zip End" referring to the "Zip" water heater above the sink unit at one end of the workshop and "Door End" referring to the main workshop doors at the other end. Tram 257 was positioned over the pit on the number 1 road in the workshop. If at a later date 257 had been shifted to the number 2 road, the usual road for restoration, and positioned at the end of the workshop where the small access door is located, it is conceivable that "Zip End" and "Door End" could have been interpreted as the same end because the small access door and the "Zip" water heater are at the same end of the workshop. I think you can imagine the confusion that could have arisen particularly if reassembly took place some time after the relocation of the tram. Needless to say, the labels were quickly amended.

Fortunately, the tramway promoters and builders used what appears to be an almost standard numbering system to describe the positions of identical parts. As most of you are aware, in order to differentiate between identical ends, the ends of trams were labelled No. 1 or No. 2. On some systems,

they were referred to as the 'A' end or 'B' end; Wellington is an example of such a system. In the case of a tram fitted with air brakes, the ends are labelled so that the compressor is on your right hand side when you are facing the No. 1 or 'A' end. Don't ask me what happens in the case of a tram without air brakes because I have yet to work out a system.

The numbering system depends on this labelling of ends as a reference point. Identical parts are each given a number to represent each part's position on the tram. Starting from the centre position of the No 1 (a) end and the parts are numbered in a clockwise manner. This means that both the lowest numbered part, No 1 and the highest numbered part are both situated at the No 1 end unless we are looking at items that run down the centre line of the tram such as compartment doors, door arches, etc. The No 1 part is thus usually to the right of the centre line and the highest numbered part to the left.

However, world politics being what they are, it is little wonder that this is not quite a standard system worldwide. Auckland tram No 11, built by Brush of England, while using the No 1 end as the reference point to start numbering, actually numbers items in an anti-clockwise direction. Tram No 44 in the lower tram barn also uses this anti-clockwise numbering system although it was built in Auckland but No 44 is a copy of the early Brush four-wheelers, so it was probably just copied from them. Perhaps it has something to do with the different direction water swirls down plug holes in the two hemispheres.

Although this is not quite a standard system, provided you check the direction of numbering by removing a few select items before dismantling starts in earnest, you have a simple and effective method of labelling identical parts. The direction of numbering should be displayed prominently on the workshop notice board.

I know that some museums have developed their own labelling systems for identical parts, but I believe that we should all attempt to use the original labelling system for the tram being worked on. This is for two reasons; firstly, you do not end up with two sets of numbers or letters stamped on the item which could lead to confusion at a later date, and secondly, members moving from one museum to another do not have to learn an entirely new system, although there may be differences in the numbering direction.

When starting to dismantle a tram you must make the decision of how much to dismantle at once. As far as the interior woodwork is concerned, I would recommend that all items should be removed to prevent damage. However, there must be adequate clean and dry storage for all the pieces and special racks built under the benches used for varnishing are ideal for this purpose. Any area set aside for storage of interior panels should be considered sacred ground to prevent other members using the area for other purposes which could lead to the damage of panels - in other words beware of the grease monkeys with their greasy fingers. You all know what I mean by "grease monkeys" - steam tram fans are some of the worst that I know of.

On the structural side, it often pays to dismantle only that portion of the tram you intend to work on in the immediate future. Generally speaking, a tram body has at least two of everything - two platforms, two sides, etc. and by adopting the approach of only working on a limited area at any one time you always have a duplicate area to guide you.

One of the difficulties often encountered in dismantling structural woodwork are screws that are rusted solid. No matter what you do with a screwdriver, even an impact driver, you usually only succeed in ruining the head of the screw. Admittedly, you can drill the head off but this still leaves the shank embedded in the timber, often with little of it protruding. One of the best ways to remove rusted screws is to heat the screw with a large soldering iron. The expansion of the screw under the influence of heat followed by contraction on cooling, when the soldering iron is removed, breaks the seal caused by the rust and allows some movement of the screw. Also remember that the longer the screwdriver, the more force you are able to exert on the screw.

INTERIOR WOODWORK REFINISHING:

The refinishing of interior woodwork may be broken down into at least five distinct procedural steps;

- (i) stripping off paint and varnish
- (ii) bleaching
- (iii) grain filling
- (iv) repair of damaged areas and minor imperfections
- (v) varnishing

We shall now examine each of these procedural steps in turn and will then have a look at one or two of our problems in this area.

(i) Stripping off Paint and Varnish:

Before any item can be revarnished, it is almost always necessary to completely remove the old finish. This is usually due to one of two reasons - either the old varnish finish has crazed, that is the finish has cracked, bubbled and peeling; or, as so happened in the final years of tramway operations, the tramway promoters committed what might be the ultimate sacrilege, by painting over a beautiful varnish finish.

So, the first problem is to remove any old paint or varnish from the timber without damaging the wood in any way. There are two basic methods in removing any paint or varnish, either by using chemical strippers or by scraping. However, because scraping, either with a piece of steel or a piece of glass, requires additional expert skill which the average member does not possess, we at MOTAT prefer to use chemical strippers. This means a much wider group of members may assist with this task.

Chemical strippers fall into three basic categories:

- (1) Those using organic solvents, which may be washed off with water.
- (2) Those using organic solvents, which require surface scraping with final cleaning with further organic solvents.
- (3) Those manufactured in the form of a powder, which are dissolved in water before application.

The strippers falling into category 1 are generally used at MOTAT. Although the more expensive type of paint/varnish stripper, they are the easiest to use and they are the least messy in use. However, there are two sub-categories of this group of strippers:

- (a) those based on the solvent methylene chloride,
- (b) those based on phenol

We have found by experience and with a certain amount of horror at the time, that phenol based strippers often give the timber a pink tinge. However, we relaxed when this discolouration faded over a period of a couple of months. Needless to say phenol-based strippers are now banned in the workshop, just to be on the safe side.

I do not think there is any need to spend any time on discussing how to use paint/varnish strippers as I am sure that most of you have either used them or have seen others using them. However, I have one handy hint on stripping paint and varnish of open-grained timbers such as oak and mahogany. The grains of these timbers often get clogged with a mixture of old varnish and stripper that no scrubbing brush and water will remove. A clean wire brush, in good condition, used lightly in the direction of the grain will quickly remove this unsightly mixture from the grain of the timber. As a word of warning, I suggest that a wire brush be kept especially for this purpose, as you do not want any of those "grease monkeys" getting a hold of it!

(ii) Bleaching:

During the process of stripping off all the old paint and varnish, the timber will darken with a grey-black stain. These grey-black stains will also be apparent on timber where the old varnish or paint finish has deteriorated to such an extent that the surface of the timber is unprotected in places. This dark discolouration is due to moisture dissolving natural chemicals in the wood and depositing them on the surface as the wood dries out.

In order to remove these stains, it is necessary to use a very mild bleach; the easiest to use and the most effective being a saturated solution of oxalic acid. This solution is simply brushed onto the timber, allowed to stand for 5 minutes or so; in fact you will see the stains disappear as you watch; and then wash off the excess acid with plenty of water and wet the wood up to dry.

The main precaution to take when using oxalic acid, apart from the usual precautions of rubber gloves and eye protection that should be used when using any chemical that is likely to irritate and damage eyes or skin, is to mix it up and store it in a non-metallic container. If a metallic container is used, a green discolouration of the solution results which will cause dark stains on any timber it is used on.

Sometimes it is necessary to bleach the colour of the timber itself, and a case in point is Wellington Tram 135. The interior woodwork of this tram is constructed of Queensland Maple, a timber with similar appearances to the mahogany family of timbers. Queensland maple is generally golden yellow in colour, however, it was found that, after sanding, some pieces of woodwork from 135 were somewhat darker, having the red-brown colouring of mahogany. After noting this with a number of pieces, we concluded that these pieces had been bleached in order to give a more even colouring to all the interior woodwork.

We thus had a problem - how to bleach the darker pieces of timber to match the lighter golden yellow pieces. After reading a number of books on bleaching timber, we came up with the answer to our problem in the form of a chemical concoction that has come to be known as at W.S.T. as "Super Bleach". Made up of solutions of caustic soda and hydrogen peroxide, mixed together just prior to use, it is a very strong bleach and must not be left on the wood for too long. Thirty seconds to one minute is ample time, depending on the amount of colour that needs to be bleached, after which

it must be quickly neutralised with an oxalic acid solution. This bleach must be applied with a swab of cotton waste on the end of a long stick because if you try to brush it on with an old paintbrush, the bristles of the brush will dissolve in a few seconds.

"Super Bleach" was just the beginning, a whole family of bleaches based on alkaline peroxide has been developed for various purposes, depending on the amount of colour to be bleached. In fact "Super Bleach" led to "Super Dooper Bleach" when it came to varnishing the new centre pillars of Wellington Tram 135. Unable to obtain Queensland Maple in the right size and quantities, we opted for sapelle mahogany, one of the darkest of all mahoganies.

In this case the caustic soda solution was applied and allowed to dry overnight giving the timber a rhubarb colour. The hydrogen peroxide solution was then applied and also allowed to dry overnight. The next day, or the next time at the museum, the timber was neutralised with the oxalic acid. After this lengthy process the timber had the requisite golden yellow colour. If any further bleaching was required, a single application of "Super Bleach" was sufficient.

The Kauri timber used on most locally built Auckland trams darkens in colour so, after treating kauri with oxalic acid to bleach any water stains, a mild alkaline peroxide bleach of ammonia and peroxide is used to bleach the colour out slightly. However, as the peroxide bleach cannot be neutralised with oxalic acid, for obvious reasons, a mild solution of acetic acid is used.

For spot bleaching sodium hypochlorite solution - which is the basic household bleach, e.g. Janola or White Magic - is quite effective.

(iii) Grainfilling:

This area of interior woodwork finishing applies only to trams where an open grained timber such as Queensland Maple, Oak or Mahogany was used. It was standard practice, particularly on the older trams built, say, before 1925 to fill the grain of these timbers with a plaster of paris mix before varnishing. This had the effect of removing the visual impact of the grain giving a very even colour because the grain has an off-white colour rather than dark brown.

When stripping paint and varnish off open grain timbers, you should always be on the lookout for grain filler. After washing off each application of paint stripper and while the timber is still wet, inspect the grain, looking for white grain rather than dark brown grain. The presence of white grain, even in small patches would almost certainly indicate that the timber was originally grain filled. Here at MOTAT, Auckland tram No.11 has grain filled oak panels and garden seats, while Wellington Double Saloon No.135 has all her interior Queensland Maple woodwork, apart from the windows and kauri ceilings, grainfilled.

The paint and varnish manufacturers, "Wattyl" which is an Australian-based company, produce a pre-mixed grainfiller in a range of colours that are simple to use giving excellent results provided instructions on the can are followed. The blonde colour grain filler gives a very good match to the original plaster of paris filler.

(iv) Repair of Damaged Areas and Minor Imperfections:

During a tram's lifetime, its woodwork is bound to become damaged with scratches and other indentations. The odd, unwanted screw and nail hole are also present where advertising and other notices were attached to paneling during a tram's latter years in service.

It does not pay to worry about small nicks and scratches, as after varnishing, they will hardly be noticeable. Single screw and nail holes may be filled with a coloured wood-filler. We prefer to use ordinary linseed oil putty coloured with dry powder stains because it is possible to obtain just the right colour match with the timber being used. It is often very difficult to obtain a proprietary coloured filler that is the exact colour required.

If an oil based filler, such as linseed oil putty, is being used, the holes should not be filled until after the first coat of varnish has been applied otherwise the oil will soak into the surrounding wood leaving a dark oil mark. In fact, it pays to follow this procedure no matter what sort of filler is being used because most fillers will stain surrounding bare timber during application.

Major damage to a panel is more difficult to deal with. Often, particularly in places where advertising boards and panels were displayed, it is possible to have up to half a dozen screw holes in an area no bigger than a postage stamp. This is an excellent example of what I consider to be major damage. These relatively large and unsightly patches may be repaired by inlaying a small piece of the same type of wood. This, I admit is a skilled job that not all members will have the skills or the competence to undertake, as not only does the inlay job itself require precision, but timber colour and grain must also be matched. In heavily grained timbers the grain must follow the same direction, in all three dimensions, as the grain of the main board otherwise the inlay will be quite noticeable, even from a distance.

(v) Varnishing:

I do not intend to spend much time on this aspect of the refinishing process because, provided all the preparation work has been completed to a high standard, there should be no problems with the varnishing job. The most important part of varnishing is to ensure that you have a dust free environment. The best way of doing this is to create an area either separate from or with a physical boundary with the main workshop. An old tram body is ideal for this until such time as your organisation can afford or considers it desirable to build its own varnish shop.

RUST STAINING - A REAL PROBLEM:

Rust stains on woodwork must be considered a major problem in the area of interior woodwork. Rust stains arise from steel nails, panel pins and screws in the woodwork which go rusty. Generally speaking, steel screws and nails were never used in interior woodwork until latter years. There are many occasions where steel panel pins were used, mainly to secure beadings and other mouldings to panel work and windows.

Rust stains are typically grey-black in colour and grow quite large around a rusty nail, panel pin or screw. They are easily removed by oxalic acid, however, they reappear some six to nine months later. Thus, while you may be very satisfied with the varnishing when the tram leaves the workshop, six to nine months later might be a different story with unsightly rust stains in various places. Both No 11 and No 135 show the re-emergence of these stains.

I have a theory as to the reasons behind these mysterious reappearing stains but I must stress that it is only a theory and, to date, no research has been undertaken. As iron can exist chemically in two states, known as Ferrous iron and the Ferric ion, besides its metallic state. Rust is a common name for ferric oxide wherein iron exists as the ferric ion.

The ferrous compounds are very pale green in colour and in small concentrations almost colourless; on the otherhand, the ferric compounds have that classic rust colour. The action of a bleach such as oxalic acid on the ferric ion reduces it to the ferrous iron, thus "bleaching" the colour. However, the ferrous ion is not very stable and over a period of time in contact with oxygen, will revert to the ferric ion. Given that we do not usually seal the timber on all sides, oxygen will be able to move through the wood causing any rust stains to reappear over time.

We have found no way of completely removing rust stains chemically, however, we have had some success by removing rusty nail or screw with a pin punch and then ream the hole with a slightly larger twist drill. This enables all the rust particles to be removed from the surrounding area.

An example of this method is that one end of the open section of 135 has been treated in this manner, the other not. It is quite easy to see which end was treated and which was not. This same vehicle has also shown signs of staining in places of bare timber. This having been caused by the action of backs and bottoms over the years, however, the stains were removed with oxalic acid and right up until the time of re-assembly, the timber showed no signs of staining at all. But within a few months, sitting where it has for the last couple of years in quite bright sunlight on one side, the seats have developed dark stains again on some of the slats that were bare, this is obviously a light-induced reaction of some sort although we cannot actually confirm the exact process.

Other problems occur from "rush jobs". Our specifications called for after-varnishing or after-bleaching or anywater contact, timber must be left to dry for at least one week. If the wood is not allowed to dry for a certain time block stains will re-appear from the moisture bringing out chemicals within the wood again. Auckland tram No 248 is an example of such "rush jobs" on some of the end panels. The varnishing work here was done by workers on a PEP project and unfortunately you cannot always get these people to be patient and wait a week or two until they varnish things. Lack of attention to detail and specifications is also apparent in the centre section of 135 which was also rushed to completion. Instead of the specified four coats of varnish in places, it has only had two and as a result, the varnish is starting to lift, this being particularly noticeable on the seats.

STRUCTURAL WOODWORK:

A tramcar, by definition, is a light rail vehicle and, therefore, by definition, is of a light construction, unlike railway rolling stock which is of a very heavy construction. Just because it is light in construction, it does not follow that it is structurally weak. A tramcar's strenght lies in the way the frame is put together and therefore, it is extremely important to follow the original design to the letter.

I have heard it said that "coach building is simply carpentry to machine shop standards" and this is quite true because to ensure strength, all joints must be tight and to ensure that windows and other fittings fit and operate perfectly, everything must be square to exact measurements.

Joints should never be glued and the only time glue is required is when it is necessary to laminate timbers together or to repairing rotten areas by cutting in new timbers. All joints in the wooden frame should be screwed up on a bed of thick wet red lead. Red lead not only seals the timber against water, thus preventing future rot, but also acts as a gap filler making the joint much tighter.

Timber used for structural work should be of a high grade, free of warps and knots. It must be remembered that the presence of knots in a piece of wood will structurally weaken the frame at that point.

Avoid soft timbers otherwise as the frame works the joints will loosen and the tram will lose structural strength. This rules out most fast growing timbers such as pinus radiata.

Where any of the structural frame must be varnished, it pays to spend that little extra time and money in obtaining the same type of timber as was originally used. If it is not possible for one reason or another to obtain, use a wood that closely resembles the original in appearance.

The side panels of a tram were originally a solid timber board, approximately 3/8" thick. Today's modern marine plys make a good substitute for the original and should last much longer as the original solid timbers often split very easily. Curved panels can be made by laminating two thin sheets of ply together, which may be done in position on the tram provided you have suitable clamps.

PAINT FINISHES:

On the W.S.T., all our trams are finished with enamel paint, we have experimented with spray painting as well as brush painting. I think both finishes will last the same length of time provided, of course, the tram is looked after, but unfortunately, some of our trams are showing signs of cracking paint because of the action of sunlight. No 248 is particularly bad, or was until a few weeks ago when it had a quick touch up, because this vehicle has been the mainstay of the outside service and has been exposed to strong sunlight on one side.

We have not actually experimented with varnishing over paint, and I would be particularly interested in hearing from any museums that do this as standard practice and how it protects the paint or improved the paint finish.

In conclusion, I would just like to reiterate some of the points made by Jim Walker and one or two other speakers yesterday about documenting the tram restoration process and would like to produce the documents that record the restoration of 135 virtually from start to finish. They are there for posterity.

Thank you very much.

Chairman - Jim Walker

PAINTING, VARNISHING - REMOVAL AND APPLICATION:

Are there any questions of the speaker?

JOHN RADCLIFFE:

Yes, I would like to make a comment. You did comment on the availability of numbering systems of the original builders in the way of dismantling things. I'd just like to sound a word of warning. We had an occasion to dismantle the strap-rail off H-car 362 which had been in traffic for 55 years and what had actually happened was that these fittings, having not been mass-produced (they were all individually hand-built and by-and-large all different) over the course of 55 years had been re-arranged and, for all I know, rearranged on different cars. So, in actual fact, the numbering system bore no relationship with how they were erected at the time that they were taken down. Therefore, to assume that the numbering system would provide a clue to the erection was invalid so I had to erect all of them by hand to where the best bits fitted and this is precisely the problem that you drew our attention to.

LESLIE STEWART:

In many cases, tram numbers are stamped on the back as well, particularly on the woodwork.

JOHN RADCLIFFE:

You talk about timber colouring. We've had examples where a plywood ceiling has been delaminated and, because of the difficulty of getting the matching ply, we may have to take the plywood from another car, present it to it, and then find that the gold lining then falls in a different location from where it did on the original plywood. What would you do about differences in colour due to the lightened effect on the timber, the part of the timber that hasn't been protected by a joint or a piece of gold leaf or whatever, which then reshowes when you finish it?

LESLIE STEWART:

Well, then you'd come down to a selective bleaching of that area.

JOHN RADCLIFFE:

When you bleach of course you argue that, in fact, the uncoated area will differentially fade over time than, I would imagine, the original would?

LESLIE STEWART:

Yes, this is often the case, but it depends on the area that you've got to bleach. With sodium hydrochloride, of course, you can brush it on with a small brush on a small square or triangle or whatever, but in the case of gold leaf or fancy pattern, then it would be extremely difficult.

FLOOR:

Perhaps it's that area we might comment on since you raised the question and that is about exterior finishes. Now, I don't know what other experience there has been in either Australia or New Zealand or whether they'd be interested in this:-

We have varnished quite a few cars in various ways. There are certain principles that seem to come out. Firstly, poly-urethane varnishes should be avoided (and it's very hard to find out which ones they are these days, because almost all of them are). In the case of 282 and 111 which were some of the earlier cars we finished, they were painted probably six months afterwards with an oil-based varnish, and a single coat of it. In general terms, these varnishes have held up pretty well although they have lifted in a few places, after about ten years, on the southerly exposed surfaces. In the case of 192, which was probably varnished about four years ago, the northern and western sides of it are beginning to craze in the varnish. In the case of number 1, which we've just done recently, the custom is, in fact, to rub all the surfaces with steel wool prior to applying the varnish. I suspect the key to a lot of this is, in fact, that it revolves around the brand or the quality of the varnish you use and, I suspect, it's very hard to get information on these. The varnish used on 192, which crazed after 4 years, is probably not as good a quality as some others we used on the earlier cars and I don't know what the key to that is.

Perhaps noteworthy also is that, effectively, all of our trams are kept in the dark for 5 or 6 days a week and I think, if you do value your cars, then that's an important issue as well because it is ultimately ultra-violet light that will effect the varnish.

At Crich, there are a number of trams which had transfers and various things put on the outside of them say, "Sheffield Last Tram Week", which have been protected for 25 years by about every 3 or 4 years just rubbing the surface down very lightly, scuffing the varnish and re-varnishing it and, by using a high quality varnish, they appear not to have darkened the colour to any great degree and thus, they have preserved the original artwork on the tram. So it would appear that a single light coat of varnish on a limited basis can be a useful preservative but I guess we're not really confident of what the technology is, and I'd be interested to know if anybody has any comments on that.

JOHN RADCLIFFE:

There is some evidence that the early varnish, when it 's applied to timber, may create a substantial stain anyway and may oxidise with time so that, to match the colour more accurately is a rather subjective exercise because at what point in time do you determine whether the colour is authentic or not. It may only take a couple of years for a varnish to substantially darken and I think you have to take that into account and allow for any changes. There is a lot of evidence as far as Adelaide is concerned that the exterior varnished finishes were originally applied but then abandoned fairly early on in the piece. Of course, the amount of ultra-violet on the varnish at that particular latitude is probably much higher than it is here but none-the-less, even with the early oil-based varnishes, they must have found were not particularly successful. The exterior varnishing of vehicles was a common procedure in the early days and on railways' rolling stock it was often applied as a preservative.

FLOOR:

It was also common for these authorities to mix their own paints and varnishes from red-ochre or whatever, rather than using proprietary lines. There is evidence in the SDA's records or the MTT's records of what components they used in mixing their own paints and varnishes from first principle.

IAN STEWART:

Going back on the records of the Auckland trams, the painting procedure was 14 coats altogether. This was in the days before the mid-thirties when the car was built up in colour using flat colour and finishing off with about three coats of good quality varnish and this is also before enamels came. When the car went in for overhaul, the workshop records show a certain abbreviation in the maintenance file. I think it's TU/V which is "touch-up and varnish". In other words, they rubbed it down, they touched up this flat colour and then coated it with varnish. So I think that's where the varnishing originally came in.

JOHN RADCLIFFE:

If you're going to use gold-leaf, as they originally did of course, one is obliged to protect it by varnish which I suppose was one reason why they abandoned gold-leaf later on when they went to enamel.

RESEARCH, WOOD TYPES AND COLOUR SCHEMES:

What has been your experience at MOTAT in determining colour schemes from black-and-white photographs?

LESLIE STEWART:

Extremely useful for line detail. There is something that I did not mention in my paper but which is common procedure at MOTAT and that is that during the dismantling part of the structural part of the tram, the exterior finish is actually stripped off, layer by layer, using a proprietary paint stripper. This is good if the tram has never been, or the panels have never been, replaced in the tram's life and usually, you can go right back through all it's various colour schemes. In the case of 47, the double-decker, which would have been originally chocolate, was later painted red although there is no evidence of any chocolate on the exterior panels of the tram due to rebuilding over the years or replacement of panels. There is chocolate and line details on the bulk-heads which appear to be original. In their construction there are always places on a tram where you'll be able to find some of the original colour scheme to help you match paint. Otherwise you must rely on photographic records for lining details.

FLOOR:

I believe it is possible, although we've never tried it, from using a photograph and using light intensity measurements on the greys and blacks etc, on a black and white photograph and you can measure colour provided you have a reference colour somewhere on the photograph.

FLOOR:

The interplay of light and shade on a black and white photograph is also very deceptive. This reflected light makes it less reliable than it may otherwise be.

JIM WALKER:

There was some information requested about a new type of paint. Do we have that information yet?

FLOOR:

Yes, the Taubman Paint Company produce a new varnish that is resistant to ultra-violet light. It requires the application of five coats minimum for the utilisation of this varnish and we've just started using it at Ferrymead in the last three months.

FLOOR:

I guess I'd have some reservations about whether any varnish is going to meet it's claim because the basic ultra-violet resistance of any paint is due to the pigmentation in the surface layers of it and in the absence of any pigmentation then you've still got a risk that the ultra-violet is still going to be absorbed through the number of layers of varnish (although the more layers you put on, presumably the longer it takes to break down all of the layers).

FLOOR:

You can take "152". There were five coats of ordinary varnish and in two years it was falling off.

FLOOR:

There has been some improvement over the years with metallic water-base finishes which are basically a metallised layer with a clear layer over the top but even now, and particularly in Australian climatic conditions, you still see fairly recent model (motor) cars with the paint deteriorating quite badly. As I understand it from articles I've read, it's the UV penetrating through the clear layer causing a break-down in the bonding between the paint and the surface and it's very hard to get around that. I'd be very suspicious to any claims that say this.

GRAEME BREYDON:

Can I make a suggestion? Most of you that have seen the museum at Preston will have noticed that out on the back bank near the hump there were some panels just sitting in the sun. What the then MMTB were doing was testing paint fading and most of our restoration on our cars, because of our limited resources and so on, takes a couple of years, some of them many, many more. It may be worth while, although the fading we're talking about often took longer than a couple of years, as soon as we are at the stage of starting on a car, doing what the Board were doing then, and that is putting a few test section out in the sun. By the time you actually come to applying coats of paint and you've done all the structural work on the car, you may have some guidance as to whether some of the things you're going to use will be suitable or not. (That's something we haven't done ourselves but, to take the last conference theme, let's see if we can learn something from the professional, perhaps).

FLOOR:

I think the problem we're facing is particularly relevant to MOTAT and THS and that is that we have the cars outside for long periods of time every day of the week and what is far more relevant - deterioration is showing up a lot quicker in our two operations. Most of the cars are actually stored 7 days a week; sometimes they are not run for a week, or once a month, or once every two months. Where you may not have the same fading problem, it really is a problem that we are facing and to try to deal with this we are giving serious consideration to building a covered shelter for when the tram is actually at one end of it's operation, say at it's departure point, then 50% of the operating time is actually spent under cover.

FLOOR:

That's a very sensible suggestion.

FLOOR:

Let me ask you a question as to historical colour schemes. In a case where you are direct descendants of a tramway, and that you took over shortly after, then you probably would have found some "wet" samples from the last cans of paint. If you didn't, what sort of system would you have to keep track of historical samples that prove the paint is what it was?

FLOOR:

With the double-decker number 10, when it was restored the second time, a lot more research was done on the existing paintwork that was underneath all the other rubbish. We didn't actually remove all this paintwork; we used body filler to bring the line up, so that the original paintwork was still on the pillars. We retained that example to actually keep a physical record with the car so that future generations will be able to find it again if need be. We felt it far more important to retain that original paintwork than to actually scrape it off and have some "paper" record of it.

FLOOR:

There is something of an error inherent in your question and that is the assumption that the original operator or authority would have been consistent in its use of paint of a specific colour. There's plenty of evidence, certainly on the Adelaide trams, to show that Tuscon Red, which was the colour they were painted for forty odd years, varied pretty considerably from virtually a crimson shade through to something approaching almost a brown colour at the time it was applied and I think one is faced with determining what your standard colour is going to be. In the case of St Kilda, over a long period, we standardised on a mixture and that was to be equal parts of DULUX Tawny Brown and Carnation Red. However, there is a slight problem just arisen and that is that Carnation Red was withdrawn from the market about six months ago after having been on the market for 30 years and I'm not sure what we're going to do about that. We've tended to avoid the issue. Now the STA itself, which used to mix it's own paint, went back to painting it's trams tuscon red in the seventies, got tuscon red made up by Dulux in commercial quantities and it turned out that their Dulux Tuscon Red isn't the same colour as the mixture we have been using because they had standardised in a particular part of the range which isn't the same part of the range that we've standardised on, so that when our cars are in on their

lines it becomes obvious.

JIM WALKER:

That's very true. That happened with San Francisco's first tram. The grey was made out of white and lamp-black and was mixed by eye and certainly over the years there were so many cars that when it came to repaint, it was a case of "it looks about right". In Los Angeles, the famous Yellow Car varied wildly over the years, depending on somebody's eye, it was just mixed by "match", by just looking, so you are correct.

JOHN RADCLIFFE:

I comment also on the mixing of paints. Many of you will know that when the Adelaide trams were painted silver, the interior was painted a colour called Asbury Green. This is a peculiar colour which was apparently concocted by the director of the School of Art in Adelaide at the time, for which I guess we got a few bob, and it has never been a commercially available colour and neither could we get it made up by Dulux, unless we were to order 100 gallons of it which we wouldn't need, and our approach to the matter was to, in fact, find a panel which was from a protected interior position of a drop-centre car. There was a window frame from up near the roof which hadn't suffered from ultra-violet exposure. You were then faced with starting with a mixed colour which is somewhere near what you had. Then you take a series of tinters and add them to it. The problem you have, however, is that the dry colour is different from the wet colour.

If you're starting from a dry sample you are therefore faced with tinting it, depending on the specimen, then waiting for it to dry. If not satisfied, you squeeze a bit more purple, or black, or yellow in depending on which way you want to go, and let that dry. Now that's a very tedious business because it takes you weeks to actually get to the point where you want to be. Having got the wet sample then, when you need to mix the next gallon or whatever, you have to match it when it's wet but the colour will change within probaby 3 or 4 minutes of when you put it on. Therefore, you do, in fact, have to adjust your colour and then make the comparison with your standard wet sample very quickly and by doing it that way you can "drift" the colour whichever way you want. Also, I think it is a good idea not to mix all the paint at once because if you over-step the mark you can always back off by adding the untinted paint into it. It is a pretty tricky business.

FLOOR:

We've had problems with the utilisation of some of the proprietary brand colours. To avoid variations of batch colours, we have found the best way is to buy enough paint to do the job in the first instance, getting a great big bucket and mixing it all in there and putting it back into it's separate cans so that, as you proceed through the car, all your paint is of the same colour.

PROTECTING AND MAINTAINING FINISHES:

JIM WALKER:

The third subject has been touched on and is protecting and maintaining finishes already on the trams. If we are thinking of way ahead in the matching of these paints, then is keeping everything in the dark the answer over decades and decades and decades?

JOHN RADCLIFFE:

Well, you're dealing, of course in questions like a controlled environment. If you go to the Museum of Transport and Technology in Ottawa for example, they have a collection store which probably would be 150 feet wide and 25 feet high and is completely air-conditioned to constant temperature conditions. In ideal terms, that is the thing you're moving towards. Now in a way, it's unfortunate that places like St Kilda, and I guess Ferrymead, and even perhaps here to a degree, are close to the sea because that is really quite counter-productive in some ways to what we are trying to achieve. It is being discussed at the moment in Adelaide in terms of whether or not the Railway Museum at Mile End ought to be moved and if it is moved, an area which is a possibility is Port Adelaide where there is land likely to be available as part of a redevelopment scheme. But the marine environment at Port Adelaide is not a good environment in which to move a large collection of steel objects. When we started, of course, we really couldn't take those issues into account because they were the only people who would have us and because we chose to be there. But there are long term problems and ultimately I think, we do face trying more and more to control the environment in which we keep our vehicles.

To help control the environment at the terminal by putting a shelter up I think is a considerable control rather than leaving the vehicle sit out in the sun. We may never get to the point where we have climate controlled tram windows but among other things, we have the National Motor Museum in Adelaide and one of the issues that we face there is that there are 160 cars in a shed. Do we control that environment? They are all sitting there - each with a gallon of petrol in their fuel tanks - and the temperature inside this building reaches 100 degrees in the summertime. The operating costs of controlling that environment is probably \$20,000 to \$30,000 a year and there is no way that we can afford those sorts of operating costs on top of the operating costs we have now, yet we do have to move as far as we can to that sort of position.

GRAEME BREYDON:

I think one of the things we can do here, and tie it in with the discussion we have had at past COTMA Conferences, is to look at what we are doing because our operation is counter-productive to our preservation effort and we all agree on that. We have previously discussed the subject of "hacked" cars. The other thing that has happened in the TMS, in this case by accident and certainly not by design, has been that some of our best cars are not on-site. Instead, we have a reserve collection and those of you who are familiar with the operation will know that some of our best restored and nicest cars are at Melbourne stored on Tramways property rather than at our museum property. That gives us several things. It gives us cars that need to be preserved away from these nasty environments; it gives us a reserve collection should anything happen at our main site and it so happens, that it is a very dark area. It also happens it's next to a wheel-grinder which gives you a lot of other environmental problems!

GRAEME BREYDON continued:

Maybe we should start and conscientiously say, "Let's put certain cars aside and not operate them". I know there is a temptation to want to operate everything and sometimes it's quite a practical one, but maybe with certain vehicles in our collections we should sit down and say, "That vehicle is too important to operate". Christchurch have got their own considerations but, for example, Ralph Twentymen for many years had always stated that he wouldn't want to see his cars (cable cars) used in an operating situation because they just wouldn't stand up to it and I think most people would agree that a Melbourne cable tram in a Melbourne-based museum is important. I wonder how far we can go in this sort of area in picking out certain cars for special treatment because we can't air-condition the whole shed?

JOHN RADCLIFFE:

By making that statement, what you are really saying is, "Are we an operating museum or are we a 'collection of bones'?" And if we are a collection of bones, then we had better get out of the business because there are agencies within every city that collects static exhibits. You would be better handing it all over and packing it in!

GRAEME BREYDON:

No, I'm saying be selective, but I'm also saying is it better to operate, to take the American situation, a relatively few months of the year for large crowds, or insist on running every day so that we pick up every penny? And think what we are doing to the cars! What is the cost of operating the cars for that one busload that turns up on the third Thursday of the month in the middle of winter?

FLOOR:

The American situation, I would suggest, is very difficult to operate street-cars when you have got three feet of snow and consequently, it would be a good idea to shut down.

JOHN RADCLIFFE:

Yes, well the point that Graeme's getting to is the fact that in Adelaide within a couple of years we will have a car which is basically a 'bodge' one but the public will not know the difference and the one which is historically correct can then be put away in the shed and kept for 'high' days and holidays and, in fact, is a complete and correct historical example. I think we do have to move in that direction for the same reason that you are not scraping all the paint off as mentioned earlier. Equally well, when we can have a duplicate, we should, in fact, put one away.

Consider yourself running an aeronautical museum which Canada does. The Canadian Government have an Aeronautical Museum just out of Ottawa which has over 100 aeroplanes and is being further expanded at the moment. They have a policy that they will only fly an aeroplane of which they have a second copy so that they will fly the 'second' of any plane and they will not fly the 'original'.

If you are going to think 200 years hence, I think we would have to think about that! Our Adelaide No. 1 would be in that category. We have been running it for a month or two now because we have just restored it then, I suspect, it won't see all that much use. It will be put away and kept in the dark because there was just one hell of a lot of work involved and the 'thing' is of such considerable historical importance.

JOHN RADCLIFFE continued:

If you have got a load of school kids you can demonstrate the behaviour of a tram-car with a couple of other trams, a W2 for example, or replica 'drop-centre' of which there are plenty available. I think you do have to have an operating principle that once you get enough cars up and running you can make that sort of choice.

IAN STEWART:

There is a compromise between the two situations of having them sitting static or working them. In the very early days of MOTAT everything was outside. In general terms, the ones that were moving all the time, although we were wearing them out, were in better condition than the ones just sitting there with no air moving through them.

FLOOR:

I think at THS at Ferryhead there is only one thing that we have to bear in mind and that is if we are going to go to firms to obtain sponsorship to restore a particular vehicle, we have got to keep in favour with that sponsor. We have got to show them that we are using the money. You may have seen on TV, the double-decker trailer towed by the Kitson. The gentleman concerned who sponsored that vehicle originally rang up one of our chaps and said, "Oh, I saw my tram on TV last night. I must give you another cheque". So there's a point we have got to remember, if we are restoring a vehicle from sponsorship we have got to keep faith with our sponsor and use it and show it.

FLOOR:

I am glad you said "...and show it" because in both Ferryhead and MOTAT you have an excellent opportunity to do that with some of the key vehicles in that you have got your integrated transport halls where you can show it other than where people can just wander down through the depots if they can fit through the 8" gap and look, instead, at each side of them. You have got an opportunity to take some of these more important cars and show them off very well and keep faith with your sponsor. This is that selective protection aspect again in that the car that is there is probably in a far better protective situation than the car that is in the ordinary car barn or depot that is at most of our museums.

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GUEST PANEL DISCUSSION

TO RECEIVE QUESTIONS FROM THE FLOOR

PANEL MEMBERS:

Tony Halling,	MOTAT	<u>Chairman</u>
Dave Hinman,	THS	
John Radcliffe,	AETM	
Ian Stewart,	MOTAT	
Jim Walker,	OERM	

FLOOR:

Can I have general ideas or views from the panel? At the moment, at our museum in Sydney, the only income in regard to the operation of the trams is through the fares we collect on the trams just like it was in the old days. Something that we always like to emphasise with our passengers is that we are trying to recreate as best we can, in the circumstances at the present time, what it was like in the old days with the conductor swinging along the foot-board collecting the fares and hanging on for dear life etc. At our new site, when we move to it, there is a fair bit of thought being given to the set-up regarding revenue. It looks like we are going to have to have some sort of admission charge. I would personally like to see us still retain the basic system of fare collecting on the trams. Maybe the system could be that we have an admission charge which would, say, cover one or two rides. I would also like to see a system where we could have a lower fare for additional rides so that the conductor is still seen to be doing his job and the passengers are still handing over the money and receiving their ticket in exchange for additional rides in the trams. What is the view of the panel from their own experiences in the past, the present and the future?

JOHN RADCLIFFE:

I think you have got to look at the situation of what business you are in and I believe in maximising the amount of money that you can "extract" from your customers because if you don't do that then you will have hardly any money in your own pocket which is basically how we all start. We went through this exercise at St Kilda and you may recall that on the opening day the conductor was provided with a bag and a heap of tickets and told that it was 40c for admission and the first ride and 20c per ride thereafter. That has a lot of complications; firstly, the conductors do have to handle a lot of money - a lot of small change - they are fiddling around a lot and it takes a long time to get through the car, particularly if the car is crowded. We have had odd occasions when we have had over 100 people on a tram and that's not the time to be collecting money off the passengers over a 2km trip! Therefore, what we did was to move away from that concept to charging a higher first initial trip on the tram and certain subsequent rides were free and our present position is that we are running a museum which, among other things, entitles you to unlimited rides on the tram.

JOHN RADCLIFFE continued:

Firstly, if you are selling a bigger package then you can hit them for a bigger slice whether they use it or not. Secondly, if you continually put your hand out for a bit more money for a bit more service, you tend to produce a bit of a negative vibe and I believe it's better to hit them for a decent amount in the first place. You are not running a charitable institution, you are running an entertainment body of some kind and so you want to set a decent fee.

I believe you should be able to offer something more than a tram ride so that you can justify a reasonably high charge and that is why we have a number of exhibits and displays etc. We believe when you are running a museum with a tramway attached most people would take at least one ride. Value for money is a measure of how much time they think they get for what they pay. For example; by the council opening a free playground at the other end of the line it has extended what people get for their money at no expense to us. They are, therefore, on the site for probably an hour longer and they come back on the tram. They have a nice afternoon and feel happy about the service, have parted with two dollars - all of which we get!

Now, the second point you have raised is the sensation in trading in tickets on the trams. In a sense, I suppose, we go through a bit of a charade here because everytime you ride on the tram, you hand over your ticket which you bought at the gate or, if you got on at the other end of the line, you hand out the ticket you bought off the conductor. Your first ticket is punched one way and if it's a return ticket, then it is punched the other way. When you have had it punched in both directions, the next time you ride you show him this ticket punched twice and they give you another ticket. So, in fact you are exchanging the tickets and you are not exchanging the money which makes the exercise much simpler. Whilst, in a sense, it is a charade it cuts out all the change because your basic money is in \$1 and \$2 notes so you are not having to deal with "pennies and halfpennies". You still have part of the sensation of a conductor going through the tram doing something but most of what he has actually done is not up to very close audit.

I think you want to put your attention particularly on income maximisation and that is perhaps really more important than precision of recreation of the original function you are now performing is running a museum as well as running a tramway. I think we should recognise that there is an additional function which we are performing which is over and above what the original tramway operators were formed for and we should charge accordingly.

JEEP HALLING:

I was in Christchurch a fortnight after Ferrymead decided to charge an admission fee for their bottom area and the complaints there were from people who came in last week for nothing and had now to pay! They didn't put a very high fee - 25c I think - and one of the embarrassments of this world is, if you start on a low fee, you have a hell of a job getting a respectful one when you feel you are worth it.

FLOOR:

Yes, I think that is right. When you open on a new sight set a good high fee and offer a quality product.

DAVE HINMAN:

Just a follow up from where Jeep left off with Christchurch:-
For many years the tramway was the only thing operating at Ferry-
mead on a regular basis and we got to a bit of a financial strife
about 1977 and the Ferrymead Trust decided they would have to
charge a gate fee. So we put a fence around the whole site and
eventually came up with a proposal where we had a combined gate
and ride fee built in the one using a tear off ticket. This is
now very much out of date because it really only allowed you to
have a tram or train ride and a look at the "Hall of Wheels".
It forgot about everything else that is also open. I think there
the initial reaction was that here we are all of a sudden charging.
That has been accepted over the years and is still a reasonably
modest charge. We find that administratively, it has some diff-
iculties. We have to have conductors to collect these combined
tickets. They don't look in the least like a tram ticket and as
such there is no souvenir for people to take home. It is a design
issue which we have yet to solve. If we don't collect these
tickets then we don't get paid by the "Trust" for the passengers
we carry. There is definitely an incentive to collect every ticket.

The other thing is that it entitles the person to one ride there
and back. It might be one by train and one by tram or both by one
mode. If anybody wants a ride additional to that, theoretically
they have to pay a cash fare. Now again, I think our organisation
is not quite "with it" in this area. We found that generally our
conductors today don't know how to handle cash and they don't know
how to handle way-bills. On the odd occasion when we get people
riding more than once, we tend to ask for a donation and sometimes
we don't even have tickets available! Now again that is something
in our organisation I think we should sharpen up on. But one lesson
we have learned since we have tried to charge cash is that it's a
whole new learning game for a new set of conductors who, years ago,
knew how to do it. Today they don't because all they have to do
is pick a ticket and put it in the bag and so on.

We still have the atmosphere to a degree but I think it would be
better if we had what looked more like a tram ticket. The idea
John has in Adelaide seems to work reasonably well. I don't know
how you get on for accounting in terms of passenger numbers. We
place some value on that and are able to do it from our voucher
system.

JOHN RADCLIFFE:

We just do it from the tickets because people get a ticket for
every return ride and even if they don't pay, they still get a
ticket which are all numbered so that there is no problem in
accounting for it.

The only other way is, perhaps, to sell tokens before people get
on the trams and let them hand in the token each time they want a
ride and to go and buy another one if they want another trip.

IAN STEWART:

If you want to bring more money into the museum then charge for
entry to the museum and increase exhibits to try and show the public
the actual workings of the tramway. You will probably have certain
duplicates - controllers, for example, mount them up, let the
children play with them. I know some will say that they will get

IAN STEWART continued:

on a tram and try to do the same but I think you have got to take that risk.

I remember going to an exhibition - the Centenary Exhibition in Wellington - and in the Railway Court they had a carriage-truck all set up which showed the workings of the brake cylinder and a brake valve and any member of the public could come along and see the brake valve going on and off. We have ideas of doing that sort of thing here at MOTAT. There are plenty of gongs to bang. I know it will drive everyone mad, but you have got to get the public along and if you can cater for the children to take part then the parents will come with them and that brings more people into the museum.

At MOTAT we still run the ticket system as it was. That is mainly because we run externally to the museum. There was a system where they got a composite ticket but it did not work satisfactorily and nobody seemed to know whose fault it was.

The other idea with this bogie set-up is to have the wheels on rollers and a controller using very low voltage to activate them.

JOHN RADCLIFFE:

What this is really about is the interaction between the visitors and the exhibits. At the Ontario Science Centre in Toronto you can let you kids go on their own. I think you want to design it in such a way that if parents can let their kids go then the exhibits must at least be operable and that the kids are able to do certain things with them. Hopefully, the parents are able to operate them as well. That's a fairly good test!

In contrast to that, there is one in Ohio that I went into last year and the kids were bored in two hours because all they could do there was push buttons and turn lights on and off the panels. There was no physical relationship to the sort of thing they were doing and seeing. This illustrates the point that I think Ian is making.

I remember seeing in the now closed Edinburgh Transport Museum what was in effect a model of a tram driver with a set of controllers and brakes on a truck and when these were operated you could actually see what happened to the truck. I think we ought to be able to set up that sort of thing in our museums one of these days.

FLOOR:

In the early days at MOTAT, one of our members came up with the idea that we should have live weekends advertised and we sent out free tickets to schools - bundles of them. When they came to the museum they got a free tram ride and of course the children went home to their parents with all these free tickets (at the time we were only charging 2c a ride) and of course it brought the parents in the gate and we used to get crowds in that way. A lot of them came in through these free tram tickets.

"Puffing Billy" runs many publicity stands on that basis - "a free child ticket is an adult ticket" - all sorts of promotions like Junior Football League. Many of them are from just members of other clubs, societies or activities that publish something. They will put a voucher in anywhere where they will get publicity.

FLOOR continued:

i.e. "Tear out this voucher", "Entitles one free child ticket".

JOHN RADCLIFFE:

There is a maritime museum in Newcastle which spreads around the countryside a number of free tickets saying, "Free ticket entitles you to free admission to the Newcastle Maritime Museum", and from a business point of view that is good stuff because what they don't realise is that admission to the museum is free anyway!

When you go to Disneyland or any of these megabuck amusement parks, you pay to get in but you don't leave empty handed. We figure that we should get an equal amount from other things - from the pop machine, from the bookstore, from postcards, from whatever. We want them to take home something as well and we have it strategically located so that while people are waiting they will just go inside and get something. We charge a \$3 all day pass. We treat that as admission but hardly anybody comes in and leaves with nothing. It used to be a problem when people would send their kids on a ride without their parents.

TONY HALLING:

The former Assistant Director of Motat did a survey of some of the American Museums and I understand every organisation that is trading properly expects to make \$8 out of every person who comes through the gate (other than their admission fee) either in lollies or whatever.

JOHN RADCLIFFE:

In Australia, there is a "Historic Tourist Park Association" composed of organisations like Sovereign Hill, Swann Hill, Old Sydney Town etc. They exchange financial information between each other not only on their current charges which vary from about \$4 to \$7 per head, but also on the level of additional expenditure on souvenirs, lollies, etc. They are trying to get several dollars off every customer. This can also be affected by how you operate. Maybe you have certain areas where your expensive books are - a "browsery" - where children are not allowed. There are a whole lot of psychological approaches to handling these marketing issues. There are a whole lot of worthless things that people will buy to take home as souvenirs which have high mark-ups on them. Now, we could have something different. We should have tramway oriented kinds of things and I believe we could market some of those. Crich does that reasonably well. This whole question of supplementary marketing is an important issue.

JIM WALKER:

We still have museums that are very, very conservative or even against having what they think is foolishness which is income producing - things like books, postcards, pins, tee-shirts. Let me assure you that if any of you have been to these high-powered amusement parks, the first and last thing you see is a giant display where kids "have to have one" or they will throw a fit! They don't have to be junk either. They can be new things or period things. Aside from the lack in some of these places of something else to do when we get off the tram we often get asked the question, "What do we do now? Will we go home?" The supplementary income has got to be at least one or two times what you get for just a

JIM WALKER continued:

tram ride. Most of the museums in the U.S. now realise that the tramway museums and the volunteer groups will never do capital incentive things from this income. Instead they hope that it will pay for the operation and a little more of it and that they are not going to be able to build new car barns or do acquisitions from this source.

JOHN RADCLIFFE:

Another part of this is to make sure the visitor cannot get out of the museum unless he walks through the sales outlet. That is a fairly standard arrangement in many museums. It applies at one end of the line at St. Kilda but not at the other. You have got to be quite clear about this. People are more inclined to buy when they are leaving because they like what they have seen but is also important that they know that there is a sales outlet there when they come in so that it is imprinted on their minds in case they want to know about it when it is time to go. You do have to be quite hard about this psychologically.

FLOOR:

Can I change the subject somewhat? With or without naming names or places, from the museums in our area that you, Jim Walker, have seen, are there any particular things that you have seen us doing that you think we should not be doing or, conversely, are there any things that you have seen in American Museums that you think we should be picking up and doing because of their success and that might carry across to here? For instance, can I just go back to the subject of the souvenir shop. I have been involved in discussion with the Ferrymead Trust for some time about our souvenir shop - (a) whether it is in the right place and (b) whether it is selling the right things. I personally think that you should "hit" them when they come in and when they go out. But there is a contrary view that, particularly on a larger site, it is also a good idea to have other selling places throughout the site and there is also the possibility that by the time they go out the gate again they have spent all their money. Therefore, you should perhaps have the selling areas well into the middle of the site to "get" them before they, in our case, spend it on icecream and other things rather than souvenirs.

It is a slightly different situation where you have a number of people on the same site all trying to grab the same tourist dollar I have to admit, but some of you will have seen our souvenir shop. It is at the entrance. We used to have it in the "Hall of Wheels" down on site partly for administrative convenience because there was somebody manning the hall there. Our souvenir sales are still not high as they should be and it may be in part, not so much the location, but the layout within the location. I think that is fairly important.

You will notice here at MOTAT, I think it has been revamped over the years, that not only is it in the right location but the public has to physically pass through the shop area itself as they go out of the museum. Now in our situation, we have not got that. We have had the argument where either you have an open-plan situation where people can walk right through in supermarket style or where it is all behind closed displays which is what we have but we are

FLOOR continued:

looking at opening it up along the lines of MOTAT. Maybe there is the possibility of losing a little bit of stock.

JOHN RADCLIFFE:

Perhaps that is something you are going to have to look at. There is another aspect of this too. For example, at one museum there is a good example of a commercial operation which has very high levels of showmanship. They charge a good fee and it has four or five components which you can buy component tickets for and it also has a large number of sales outlets which are basically flogging all the same stuff. What they are doing quite clearly is trying to present the material consistently to the customer so eventually the customer gives in and buys the souvenir to keep. Now, in a commercial operation, that is not that easy to do because every extra outlet that you open is one more person to be employed.

In our case, of course, it may be one more volunteer to have his arm twisted so that, whilst there is a volunteer problem, there isn't necessarily a commercial problem with the additional income that you may generate. So there may be some opportunity, depending on what your set-up is, if you are basically using volunteer staff to run the operation, to have more than one outlet with more or less the same range of goods which can increase your income.

FLOOR:

"Puffing Billy" apply that principle. They have a strict hierarchy in the manning of their various kiosks (because they have the complication of kiosks at the stations) plus, in the case of Belgrave, a supplementary kiosk separate from their main kiosk. Obviously, their first priority is to get the main kiosk at the starting end of the line open; their second priority is to get the one at the other end open where people are staying over; then they start with the other ones - the intermediate station ones and then the supplementary ones within the location. That certainly seems to get over that problem when you haven't got your ten volunteers to man the site. You have a hierarchy - as long as you man the one at the gate where you are collecting fares you can open basically and then if you have got the extra staff, you can open these extra locations. In many museum cases that may mean perhaps you have got something set-up in the tram you run down the other end, or you have got a waiting shelter at the other end you can open up when and if you have got the staff and volume to justify it.

JOHN RADCLIFFE:

Another approach would be as seen at Crich and other English museums - a relatively high percentage of sales is postcards so you have little kids of five trying to buy postcards and blocking up the works. Now, both the York Railway Museum and Crich installed postcard machines so you drop your two-bob in a slot and you pull a handle and out it comes. They do, in fact, remove part of the business which is small return for a lot of effort out of the shop, to allow you to get on with a higher profit margin. Also they represent an additional impulse response especially if you should have it next to a display (the postcards being of the display).

BOB LOGAN:

I'd like to point out here, "Don't bully the kids". If you take the two bob off the kids and they don't get much for it, then they will go home and tell Dad, "They robbed me of my two bob. I'm not going back there anymore!" So, in five year's time when Dad says, "Come on, we'll go and have a look at that exhibition there" and he says "No, no they took my two bob off me there. I'm not going back there anymore". Don't forget, these kids are our future customers.

FLOOR:

On postcards, specifically, in the cases where we have not had the conductor working flat out, certainly an impulse buy of a postcard of any specific tram is something that can often be handled by the conductor. I recognise that if you have 100 people jumping on the tram then you can't do that. We have found it to be very successful though. It depends on the nature of your operation as you say.

JIM WALKER:

I'd say that the size of the museum or the way that it is going to grow and the self-esteem of the people that run the museum is scaled by whether they apologise for taking money from the public or they simply say to themselves, "We intend to make something of this". If they try to get just a little bit out of each person and sell three postcards and perhaps a couple of other little nic-nacs, then they will always be small. They are as small as they think! If they think big, within reason naturally, if they think of themselves as worthwhile and have a self-esteem and they indicate this to the public by professionalism as volunteer and not as the amateurs we used to be. Let's face it, I would guess almost everyone here has had at least five years in the industry, some ten, some twenty. We are not amateurs anymore. We are professionals!

BOB LOGAN:

Perhaps, plastic bags with a picture of a tram or loco is the thing. Pop slow moving articles in these grab-bags and sell them at an inflated price and you have got them every time! This idea makes them think they are getting something for nothing, say, half a dozen postcards and a picture or map of the location and the kids will go to school and say, "Look what I got at MOTAT for \$1!"

FLOOR:

This is the psychology you need. Now, if you go to a museum and you have a pile of books on the counter, then they may think they had better buy one. If you only have one they will think that they had better not embarrass anyone by taking an interest in it!

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At this point the discussion was terminated.

USING THE MEDIA TO MUSEUM'S ADVANTAGE

Presented by Rick Carlyon

RICK CARLYON:

Currently Regional Editor of TVNZ. Has been involved in TV News since it's inception in New Zealand. Some experience in Parliament in the Press Gallery; spent time in London in TV journalism. Very experienced in broadcasting. A member of MOTAT for approximately 10 years in the Fire Section. Also involved with MOTAT management on Management Committee and currently on MOTAT Promotion Committee.

INTRODUCTION:

I have broken the topic today into three sections:-

- (a) What makes the news?
- (b) What is expected of those who make the news bulletins?
- (c) How does an organisation like MOTAT, or COTMA, use the media to get space or time?

(a) WHAT MAKES THE NEWS ?

Journalists will say something like;

"If a dog bites a man, that is not news ...

... But if a man takes a bite of a dog, then that is news!"

This then, is something new; something different; something novel; something outside the norm; something unexpected - these all tend to make the news.

Human life is still something that is held absolutely sacrosanct and the reporting of such is of great importance. The way we live; socio-economic changes in what might be expected of citizenry; changes in the public officials - obviously Parliament, local authorities - all contribute to what comes into the field of news. All these items will attract the journalist in any one sector who will then set about investigating the story, following it up, getting the facts as far as he can and finally go into print or whatever media he is working for.

(b) WHAT IS EXPECTED OF THOSE WHO MAKE THE NEWS BULLETINS ?

News comes into New Zealand from, of course, overseas - on the wire services for radio and via satellite for television. We have a network of New Zealand correspondents. Every radio in NZ contributes towards TVNZ's news gathering effort. We ourselves, have strings to Radio New Zealand and all the newspapers; eight or nine in parliament; lobby groups like Federated Farmers and Trade Unions etc., all trying for space or time in the media.

Examples of publication of various products and services in the form of handouts were used to illustrate this point. An example of the Watties Group Trade Mission indicating the background of each member with photographs, where they fitted into the organisation, what they hoped to sell when they go overseas on this trade mission, annual report showing the overseas potential that they were looking for when they went abroad. This

enabled the journalist to plan his story for when they return using this previously published information as a platform.

Another example would be university lobby groups; CORSO; Auckland Crippled Children Society etc., all make sure the media knows what is about to happen in their particular niche. Some organisations may send a free ticket to a seminar or whatever; an eye-catching mailer. Some up and coming events are even sometimes given directly to the reporter via telephone or mail in advance.

This then, indicates the tremendous range and volume of "happenings" on which to choose to report on and unless your "release" is imaginative, straight forward and honest, then it is likely to be swamped by the other material coming through the newsroom.

Material from museums or the like, properly put together in an imaginative way, will rate with all the other material that comes in. Public relations or advertising companies should make certain that they are in fact putting the stuff together in a fashion that is attention-grabbing. These professional people rate their success, and the clients rate their consultant's success, by the time it is on TV, radio or any other outlet.

Without all those frills though, we still come back to what are the basic facts of the story and what is the angle of the story? Most news stories have an angle. Sometimes some would say that it is angled wrongly by the journalist and that is one thing that you have got to remember - that when you open yourself up to the media or invite the press in, then it is up to them then to find that angle. Now sure, they can be persuaded, the hints can be thrown out, there can be certain steering in one direction, but at the end of the day you have got to let the journalist decide how that story is going to best fit his outlet. You must determine which paper (or other media) is likely to produce what type of story in the end by the very nature of its reputation. (In the case of this museum - MOTAT - there have been dissidents who have used the right form of media through which to spread ill-will, resulting in bad publicity for the museum).

So we come down to the fact that we have got to sell our stories the right way. It has got to be promotional for the museum - but we have got to put it into news terms or personality terms that a journalist or chief reporter can cling to and make something of.

(c) HOW DOES A MUSEUM LIKE MOTAT, OR SIMILAR ORGANISATION, USE THE MEDIA ?

Nobody can use the media. It is there, from a proprietor's point of view, as a service from which to make money - if you were to take the exorbitant rates being charged for the commercials that run immediately before and immediately after any news bulletin as an example. By the same token, they (the media) are also "journals of record" and they will want to publish stories which are happening, which they feel they cannot ignore because their credibility will go down the drain if they do not have those stories. That is why so many outlets have their own correspondents or share correspondence between themselves.

Those media organisations which have a good reputation are "journals of record" and the stories that come forward into their newsroom which are of some significance cannot obviously be ignored, so there is another thing that your releases must be striving for. Not only do they have to be well presented; not only do the facts have to be there; but you must ensure that they are there in such significance or angled in such a way that they rate as well or even better than all the other material that is coming in. If at all possible, know (say from previous observations) of journal-

istic techniques of a particular journalist or organisation and approach him/her direct if possible to determine the best angle for your article and ideally, work together from then on in order to reach the best result.

It is also quite common to have an embargo on your story so that details that maybe confidential before a particular date or time are not spilt out before this and therefore will not be detrimental to the outcome. This then allows several media the opportunity to present the story more or less simultaneously over a wide spectrum. It also allows, say in the case of a new tramcar from Melbourne or wherever that is about to arrive, the TV or paper journalist to do a backgrounder to the story and put it on the shelf in readiness for the date of release.

Pick your media method to suit the story; if it moves and/or is colourful then, obviously, TV is the most suitable initial choice. Timing is also important, think of school holidays or long weekends looming, and fabricate if necessary, a story that may boost gate takings and then get the media involved. Think ahead of events that are imminent - such as completion of a major restoration project or exhibition and plan your details and background in advance especially if you know there is a busy news period ahead. Either delay your release or make it sooner, if this is possible, to avoid missing out altogether. If you think you have something that will "go", then let the media have it as they are all after a "first" and may want to use it right away - let them decide.

Don't pester the news media. Sometimes the public tend to pester journalists whilst they are carrying out their task. Leave them to get on with it. They will ask if they require assistance. Also the news editor never knows until the day whether or not your particular news item can, in fact, fit in with all the other news happenings of the time.

Let's have a look at the sort of museum news that may make the news:- new exhibits, old exhibits being restored, a difficulty with a restoration (perhaps even including a plea for the return of missing parts or information), handing over ceremonies, completion of building or service project within the museum, openings of those buildings or projects, highlights of particular displays, changes of staffing personnel or membership, opening of a new facet within the history that you are presenting, a discovery by someone of an important potential artifact to be given to the museum, big donations of money or requests, museum executives who might be about to travel abroad or who have just returned with reports on other museums or artifacts, changes in museum policy, membership drives, outgoing museum personalities, promotional stories - special displays, special weekends, short term exhibitions, parades, special visitors to the museums and attractions "dreamed up" to coax the public along.

Be selective with your promotional stories. Promote only those features or activities that you know are going to happen. Don't dare mention those that are at all doubtful through reliance on outside help or even particular volunteers. For example, a feature promoted and then not taking place is a certain recipe for disaster for expectant patrons who may never return because of this.

In your releases for promotions or in interviews or in any dealings at all with the media don't use jargon. It is very easy for those in engineering or museology fields to get down to jargon. It is not understood by the journalists. They may put it in their story which means the readers or viewers do not understand it either. Worse, the journalist might try to interpret the jargon and end up with an entirely different and incorrect angle on the subject. In other words, keep your description simple and

in everyday terms as far as possible.

A word about bad publicity this time. Often by the time a dissident has given their story and that story gets further distorted by the journalist, we can end up with some pretty bad publicity not warranting any further comment whatsoever. Comment on ridiculous accusations, I think is worthless because if you are countering with denials or corrections, which is about all you can do, sometimes those denials or corrections, by the time they get through the media, have changed their meaning and you are back to where you started from. Leave ridiculous criticism alone but for that which becomes hopelessly tangled, releases or contact with the media would be the way to set the record straight.

If you cannot get an airing, ring the chief reporter and say, "The article you published yesterday was unfair and I have a correction". Under the Broadcasting Laws in this country, we are bound to listen to you and give you semi-equal time. Otherwise, you can go to the Broadcasting Tribunal and get it that way, or you can go to the court and issue an injunction, or you might start talking money! If there is any chance of untangling a story, then be honest about it.

That brings me to the final advantage that one can take or make of the media and that is silence itself - saying absolutely nothing. MOTAT for example, whilst experiencing certain administrative difficulties at one time, did not loud-mouth those problems but, rather, just got over them quietly in anticipation of better things to come. We were very careful about promoting only those aspects of the museum of which we could deliver.

In conclusion, I'd just like to re-iterate that the media is there to be used and I see it being used every day of the week by politicians, by big business, by lobby groups who either dream up stories or dream up facets of stories or aspects of stories so that they know that they can have a go at their opposition and the news media, of course, because this is news, then go ahead and report it. But for small users, like museums will always be, in the "odds and sods" bin when all the big stories have been taken out for the day, the media has got to be used with care. Timing is very important. Honesty, I believe, is important. Collect your material and releases that you know are going to happen and present it either yourselves, your promotions committee, your consultant, more through your local authority publicity machine.

You can use the media to your advantage. We are always crying out for good stories and if you use them as they would want you to use them, then that could bring credibility to your museum. It might bring in new artifacts, cash donations and most important of all, increased visitation with accompanying cashflow.

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This session finished with general comments and questions from the floor.

WORKSHOP 4

(a) IMAGE TO PUBLIC, ADVERTISING, ADMISSION CHARGES

Presented by Richard Gilbert BTPS

The image to the public and advertising and the media are very much aligned in the same way. With running a tramway in the street situation as ours is, where we are not actually on a separate site, we have to advertise our tramway operation as the tourist tramway running up and down the street. We took a look at Sovereign Hill as an example, who suggested one of the best forms of advertising, for them at least, was that of word-of-mouth which is free into the bargain!

If you can satisfy people, give them a good time, they can take home something showing the museum - a souvenir of some sort - then it was a damn good way to advertise. Perhaps some information printed on the back of the tram tickets would be effective.

They, Sovereign Hill, felt that paying for actual direct advertising in the media is not worthwhile except for special events. But small persistent ads are worthwhile.

Handbills should be plentiful and distributed around the various organisations such as Government Tourist Bureau(s). They don't need to be too fancy - perhaps a photo on the front and what the basic museum layout is, and, on the inside some information on the trams you run and perhaps a membership form.

Press releases are another form of advertising so ensure that the subject is interesting. We ran a colouring competition in one of the papers in Ballarat to mark the tenth birthday of the tramway operation from which we got a very good response. We then displayed these drawings at the tram depot, they were judged and prizes awarded, resulting in a lot of publicity and good-will.

Free passes to callers of a local radio station has worked well as do community notices broadcast at various times in some areas.

It seems to pay to spend a little bit more on a really big advertising campaign say, two or three times a year, as well as the regular ones, just to give a sudden reminder to the public, rather than repetitive medium-sized ones. We also try to have roof ads depicting all the other tramways in Australia as a reminder to the public that they do, in fact, exist and that if they happen to be in the area then they may wish to make a visit.

RICK CARLYON:

It is essential that your organisation do, in fact, put aside (I would go so far as to suggest 30%) money for advertising because if your turn-styles are not turning, then you are not going to survive. There is a lot more competition out there now and, especially around Christmas, you may be able to do a good deal with TV advertising as there is not much else being advertised at that time of the year. Many of the other entertainment complexes are advertising then and it becomes a directory of

what's on and if you are not in on that then you lose by default - and that's that!

Cinema advertising is not particularly expensive and appears to be reasonably effective.

Post cards are a good idea and generally quite cheap but make sure you include your museum address etc. as part of the caption.

You may be able to get sponsorship for advertising as opposed to actual restoration.

A phone contact number for which the public can seek information is essential, even if it needs to be on an answering machine occasionally.

Try to get onto the Coach Operators' itinerary but this usually requires a seven-day a week availability and in cases where this is not so, then this idea may not be practical for either party.

Schools and kindergartens are another area to approach regarding special group visits at a reduced rate. Send literature at the beginning of each term as a reminder and to give them time to organise themselves.

A general comment as regards hiring out or lending of museum artifacts by other organisations can be fairly lucrative and tend to directly advertise your own museum in the process.

ADMISSION CHARGES:

(As time was running out on this particular workshop it was unanimously decided to discuss this subject at the AGM)

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(b) SAFETY OPERATIONAL PROCEDURES

Presented by Dave Rawlins SPER

This is one of the less glamorous aspects of our museums but nevertheless, one of which we all have a responsibility.

Over the years, looking at COTMA safety, as distinct from our individual museum safety, it has proved to be difficult to obtain significant amounts of information on what their own problems and question on safety may be. We understand that it might be desirable to keep certain information amongst yourselves as your insurance companies would have a say in that matter.

But one issue that has come up recently is that at SPER we have reconstituted the "Safety Committee" and looked closely at three basic areas:-

- (a) Fire Safety
- (b) Industrial Safety (primarily due to new regulations)
This also includes workshops.
- (c) FirstAid or Emergency Plan

A certain amount of basic equipment for First Aid should be available as well as a knowledge on breathing and heart resuscitation and perhaps a number of large swabs to stop bleeding. There should be persons on hand at all times who know what to do and who or what service to contact in the case of each respective type of emergency (e.g. fire, ambulance, doctor, police, etc.)

Do you continue tram services or not? An Officer-in-Charge may be a method to use, where, in the case of emergency, all communication goes through him in order to maintain some sort of co-ordination of control. It is a good idea to have at least one person who is on call, who can act officially on behalf of the society to take care of that side of things whilst the Officer-in-Charge gets on with the immediate problems on hand. This method also helps to eliminate clogging of phone lines in and out of the museum at this time.

In the case of a derailment or similar, it is advisable that all crew are familiar with and know where to find the appropriate tools and, if necessary, extra personnel to rectify the situation smartly and efficiently. Have on hand a reliable towing vehicle, not necessarily electrically driven, to at least be able to bring a broken down tram back "home".

Ensure that you all know how to get hold of emergency services, including the phone number, especially for those museums or tramways out in the country areas further away from such services.

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At this point the chairman closed the discussion on this subject.

COTMA IN REVIEW

Presented by Dr John C. Radcliffe

Chairman, COTMA

I believe there are a series of stages and developments in our museums and these are:-

(a) Establishment

A properly constituted body to organise and operate the museum.

(b) Collection

Often loosely termed "preservation" (which it isn't!). It is a process by which we see all these things disappearing and then somebody races out and starts rounding them up.

(Dr Radcliffe attempts to illustrate by means of a graph depicting the two stages taking place simultaneously.)

Along the bottom axis, I'd like to put the extent of what it is we are looking at, and on the vertical axis - the quality.

Now, let us just consider collections. What tends to happen in the earlier stages is that we collect things that we shouldn't probably collect and often the quality is wrong. We get things which are perhaps significant to various people but they are not chosen for the right reasons. An example being tram No 192 at St Kilda. We have that because there was "a tram attached to a piece of stained-glass" which has "HTT" on it. (Horse-drawn Tramways Trust). In fact, this tram was not the best quality "D" type tram we could have obtained and for that we have an inferior exhibit when, in fact, we could have had a better one. Many people look at this as preservation and, of course, it isn't - it is getting the stuff together.

(c) Accommodation

Can we house the collection and how effectively do we do it? I'd suggest to you that really this process to this point is survival. If we don't at least get that far then our museums won't even survive!

(d) Building the Line

(e) Restoration and Maintenance

These developments tend to follow this order but some museums may have slightly varying priorities).

(f) Operation - Running the Cars

(g) Administration

There usually is a large amount of capital invested even though it may be a hobby but it still needs to be managed competently.

(h) Scholarship and Useology

If we are running museums we have to be aware that the basic function of a museum is, in fact, to have reasonable standards of scholarship. For example; have we painted a car in a colour scheme that appeals to us, or is it's paint scheme historically correct for the era that we are seeking and properly researched.

(i) Display and Interpretation

The public want to gain some sort of understanding as to what we are on about; what the trams had to do with society; what their role was; what human interest stories were involved with them; where did they come from; who built them; who drove them; how were they involved with the development of the city; what emergencies had to be sorted out and by whom?

(j) Integrating with Broader Community Activities

Sometimes the appeal of a tram museum in itself is not sufficient. Other aspects of historical interest can often be integrated for a far better all around display.

(k) Handing on the Heritage

Dr Radcliffe then went on to illustrate these points with the use of slides.

Some of you will be familiar with this particular institution. This is the museum at Crich. It is excellent in many of the characteristics which I have listed. It presents quite a good vision to the public, has a good collection, good accommodation, excellent workshops, fine restoration facilities, technologically it is very good. The restoration of the under-side of the vehicle has much to commend it; a certain amount of effort being put into display.

Only on one day of the year, however, does it really have anything to do with another section of the community which is the "Extravaganza" and I think that it is in that area that it is probably having a problem because Crich is beginning to lose numbers of visitors. It is not really associated with the wider community. It is a tramway operation on top of a hill in the middle of Derbyshire and you go there for a specific purpose which is to see the trams.

Let's look at another example. A question of planning. In 1975 this particular museum (Vernish) looked like this and now, five years later, you can see they have constructed a town around those poles and the tramway itself is built into a much broader community operation in the same way as at MOTAT and Ferrymead and developing. But their standards of scholarship are not particularly good in this tram (now showing). This is a Sheffield tram and they had a taste for an open top tram so they took the roof off it, put their own number on it! This keeps the customers happy riding on an open-top tram, but historically, of course, it is completely ruined.

Let's look at National Motor Museum. It has an impressive collection of buildings holding many, many examples of early automobiles and the like, the mono-rail neatly has a station in the middle of it as you pass through the roof. They have also gone in for some "hack" vehicles like this example of a 1974 Ford truck chassis with a replica body of a London B type bus built on top.

But the really impressive part is a part that the public do not see and that is the library. This library is probably worth more than the cars in real

monetary terms as well as in historical value (approximately \$2million). Access to information of historical importance from this source is priceless and a great asset to any museum.

Let's have a look at the National Railway Museum in York. Again, this is not out in the scrub by itself. It is in a major tourist town. Everybody goes to see the York Minster which is just around the corner and over the hill and you can walk from there to the Railway Museum in fifteen minutes. So it is partly integrated with a broader community.

Inside the building the locomotives are tastefully displayed. Their display standards are excellent. The reserve collection store is also excellent although this is what the public do not see and here you will see the locomotives and carriages that are not being displayed, protected by dust sheets.

Toronto is another city where a tramway museum has integrated its activities with other things and in this case - tourism. The tram showing now is run by the Toronto Tram Commission so there is a direct association between the museum and tourism and the tram itself provides additional financial support because there is an operation out into the broader community.

At this stage, Mr Jim Walker from the Orange Empire Rail Museum was asked for his comments...

We, in Los Angeles, have an annual conference which yields approximately 150 members attending from many more museums and the like than, of course, are part of COTMA, and an important aspect of these meetings is the communication with one another. Just by keeping in touch with each other, I have always said, if you trace back, almost every problem a museum has, is usually due to lack of communication. If you can share your problems with a fellow organisation then they may well be solved sooner. Keep on talking to one another.

On the subject of content of these conferences in general, the attendance would depend to a large extent on whereabouts it was being held. We do try to go to places that are entertaining, but, just like yourselves, there are limitations to what people can afford in travel expenses to attend. We have had some bad situations for conferences in so much as there may be too many distractions going on outside whilst the meeting is in progress for instance. We have even thought of having them at a venue that does not even have a museum close by in order to avoid this but it has not caught on yet.

Some of the best workshops I have attended were actually held in the shop itself. They showed the machine doing rewinding; they put the riveter in front of us; at one place in the woodshop, they saw the trees down, they store the lumber and they bring it back in and finish it - a real "hands on" demonstration!

In my experience of conferences, I see too many people sit silently (by nature that may be how they are anyway) hoping that the other people will say it for them. This is fine, but we should ask ourselves the question when it is all over, "Did the right people attend the conference and what about the ones that did not?" And what can you do to get more people to attend, especially those who are up and coming. Perhaps those who are unable to attend could get together to help those who really would like to - particularly the younger members. Let us not have the museum grow old with us, because it will die with us too.

SIXTH REPORT



COUNCIL OF TRAMWAY MUSEUMS
OF
AUSTRALASIA

Seventh Australasian Tramway Museum Conference

Auckland, New Zealand

June 5 1984

COUNCIL OF TRAMWAY MUSEUMS OF AUSTRALASIA

Chairman.....Dr. John C. Radcliffe

Executive Officer.....Keith S. Kings

Member Organisations as at March 31 1984:

- Australian Electric Transport Museum (South Australia) Inc.,
Box 2012, G.P.O., Adelaide, South Australia 5001
(Museum: St. Kilda Rd, St. Kilda, S.A.)
- Ballarat Tramway Preservation Society
Box 632, Ballarat, Victoria 3350
(Museum: Wendouree Parade, Ballarat, Vic.)
- Bendigo Trust
Box 333, Bendigo, Victoria 3550
(Museum: Hargreaves Street, Bendigo, Vic.)
- Brisbane Tramway Museum Society.
2 McGinn Road, Ferny Grove, Brisbane, Queensland 4055
- Museum of Transport and Technology (Inc.)
Great North Road, Western Springs, Auckland 2, N.Z.
- Perth Electric Tramway Society (Inc.)
Box 257, Mt. Lawley, Western Australia 6050
(Museum: Whiteman Park, Perth, W.A.)
- South Pacific Electric Tramway Cooperative Society Limited
Box 103, G.P.O., Sydney, New South Wales 2001
(Museum: Princes Highway, Loftus, N.S.W.)
- Steam Tramway and Railway Preservation (Co-op) Society Limited
Box 108, Kogarah, New South Wales 2217
(Museum: Parramatta Park, Parramatta, N.S.W.)
- Tramway Historical Society Incorporated
Box 1126, Christchurch, New Zealand
(Museum: Ferrymead Historic Park, Heathcote, N.Z.)
- Tramway Museum Society of Victoria Limited
Box 4916, Mail Exchange, Melbourne, Victoria 3001
(Museum: Union Lane, Bylands, Vic.)
- Tasmanian Transport Museum Society Incorporated
Box 867J, G.P.O., Hobart, Tasmania 7001
(Museum: Anfield St., Glenorchy, Tas.)
- Wellington Tramway Museum Incorporated
Box 2612, Wellington, New Zealand
(Museum: Queen Elizabeth Pk., Paekakariki, N.Z.)

Council Address:- 135 Through Road, Burwood, Victoria 3125

CHAIRMAN'S REPORT - 1984

It is a pleasure to present to you the sixth report of the Council of Tramway Museums of Australasia at our Seventh Australasian Tramway Museum Conference.

Previous meeting

The previous meeting of the Council of Tramway Museums of Australasia was held in Melbourne on 25 July 1982.

Membership

Membership currently stands at twelve organisations, with service also being provided to one organisation, Haddon Tramway Workshops, outside of the formal COTMA framework. The Executive Officer has also had some preliminary correspondence with a further organisation which is entering the tramway museum field - the Newcastle Tramway Museum.

Communications

As in the two previous two-year periods, eight memoranda were issued during 1982-84. The majority of these dealt with the availability of surplus equipment from the Metropolitan Transit Authority of Victoria, but other specific needs of individual museums were also circulated.

COTMA Office-bearers have continued to visit constituent museums over the past two years, calls being made to Loftus, Parramatta Park, Bylands, Bendigo, Ballarat, St. Kilda, Perth, Western Springs and Ferrymead. Periodic visits have been made by the Executive Officer and the Chairman on behalf of constituent museums to the M.T.A. Preston Workshops to discuss COTMA issues.

The Chairman participated in the International Council of Museums (ICOM) and International Association of Transport Museums (IATM) Conferences in London in July 1983. The cost of registration fees and accomodation to attend these meetings was covered by a small grant from the History Trust of South Australia.

Equipment

The constituent museums have continued to share equipment becoming available from the MTA. Complete W-2 cars have been supplied to SPER, TMSV, PETS and non-COTMA groups, while trucks, compressors and control equipment from Melbourne have also been shared between most museum members. In Adelaide, two H type cars (360,362) were made available to AETM by the South Australian State Transport Authority and a short section of access track laid by the STA to allow the cars to be operated into the new St. Kilda depot. Surplus trolleybus equipment from Auckland and Dunedin has been shared between New Zealand groups during the past two years.

There have also been a number of examples of direct sharing of equipment between individual member organisations. TMSV has exchanged a pair of No. 1 trucks fitted with MV 101 AR/AX motors for trucks with other motors with AETM as the St. Kilda group is standardising on AR/AX motors

where possible. Trackwork components from WTM helped complete the zoo loop in Auckland. SPER is coordinating a shipment of ex-Melbourne equipment to THS in Christchurch, while Haddon has helped a number of groups with various items ranging from complete car bodies to minor parts. AETM has provided some trolley troughing formerly in Adelaide's City Depot to enable PETS to begin wiring its new shed. It is through cooperation such as this that all of our projects can be advanced together, and it is gratifying to be able to record the much greater strength of cooperation which has been developing among Australasian museums since the advent of COTMA.

Transport Heritage Developments

Although the use of historic tramcars in the Victorian Australia Day transport cavalcade has been discontinued, museums have continued to participate in significant though less conspicuous displays. For example, SPER provided cars for the Harbor Bridge jubilee and for the Royal Show, and in more recent times has also provided buses for various events and community festivities. Museum vehicles have also been recalled to operate on regular transport tracks. SPER's scrubber 134s has had another session on Sydney's suburban railway tracks, while in a "coals to Newcastle" move, the AETM hired W-2 294 to the Melbourne Tourism Authority for use in a promotion on Adelaide's Glenelg line.

There is increasing recognition of the work of transport museums, and public funds are becoming more readily accessible to help museums develop. Although job creation schemes have continued to operate in New Zealand for some years, and have made a significant contribution at Ferrymead and Western Springs, there was a gap of a few years during which these schemes were not operating in Australia. However, they were reintroduced in 1983-84 and a number of museums have benefitted. The most conspicuous to date is the project at Whiteman Park in Perth, where the local museum group after many years of tribulation as to the best position for its proposed operation, now finds itself located on an excellent site forming part of a major new recreation area, and having a new line under construction.

Specific purpose grants are also becoming available. The Glenorchy City Council has made a grant to TTMS, while the AETM received a grant from the newly-formed History Trust of South Australia towards the restoration of its "toastrack" car 42. Sesquicentenary and Bicentennial funding is also now becoming available. AETM received financial support towards the restoration of car 264 from the S.A. Jubilee 150 Board. Bicentennial projects are now being considered by committees at State level across Australia. Museums should ensure that they closely monitor new government initiatives in the grants field as new schemes can lend considerable encouragement to the efforts of museum members.

Operations

Museum tramways have continued to operate in Adelaide, Ballarat, Bendigo, Brisbane, Bylands, Sydney (2), Auckland, Christchurch and Wellington. The electric operations of the Tramway Museum Society of Victoria were formally opened by Mr. Dudley Snell on April 30 1983. Another notable event, although operationally oriented towards railway rather than tramway equipment, was the formal opening of the Tasmanian

Transport Museum on December 3 1983. Both organisations deserve our congratulations for achieving these milestones.

There have been progressive developments at most museums over the past two years. In Adelaide, the AETM celebrated the completion of its first ten years of operation by recommissioning its beautifully refurbished No. 1 car, while at St. Kilda itself, a new adventure playground has resulted in a considerable lift in traffic. Ballarat has retrieved two more of that city's former cars, and has completed the restoration of its W-3 car to a chocolate livery. Bendigo has developed plans for a further depot development and has continued car restoration. Brisbane is beginning work on its new main line. A new depot has been erected at Bylands to complement the commencement of electric operation, and the bodies of some quite significant early Melbourne cars have been added to the collection. The announcement of new development plans for Parramatta Park has given renewed impetus to the STRPS steam tramway project, while restoration projects at both the Park and Chullora are continuing. The entirely new site developments at Perth have already been mentioned and are being accompanied by preparation of cars for eventual operation. The Sydney Tramway Museum has made considerable progress in developing its new operating site at Loftus, and many of its cars have been transferred there from the old site. Council approval has recently been obtained for the proposed new line to Sutherland.

In New Zealand, the Auckland zoo tramway has added significantly to MOTAT, has carried very large numbers of passengers, and has on several occasions served as an urban transport link in its own right for special events. At Paekakariki, WTM has commenced the long-awaited extension from its old "temporary" terminus towards the beach. At Ferrymead, restoration projects involving Cage Decker 10, Roslyn cable car 95 and the Kitson have been completed, and new trackwork is being added in the township. All the New Zealand tramway museums, in association with the N.Z. National Federation of Rail Societies, have made submissions to the New Zealand Department of Labour on draft proposals for Museum Tramway Regulations under the N.Z. Machinery Act. (Most Australian States are moving towards legislative deregulation, and no similar regulations are in process of development in Australia.)

These developments show the continuing strength of the tramway museum movement in Australia and New Zealand.

No significant traffic accidents were recorded on COTMA museums in the period under review.

Another project which will be of interest to tramway enthusiasts is the establishment of the "Old Canberra Tramway Company" by the Canberra Tradesmen's Union Club, which is itself sponsored by the Building Workers' Industrial Union. The club has adopted a tramway theme and unemployed unionists have been engaged to restore a number of tramcar bodies housed inside the Club. Cars include Melbourne cable trailer 589 and W-2 447, Sydney P 1729, Brisbane FM 499 and Adelaide D 156, though they are not operationally complete. COTMA Museums have helped the Club assemble this collection.

Operating urban tramway systems

The two remaining public tramway systems in Australasia appear to be maintaining their positions in their respective cities. In Melbourne, new articulated and rigid tramcar designs are being produced, and an extension of the system towards Bundoora is well advanced. Whilst it appears that Adelaide's venerable H type cars may now be refurbished to extend their life for a further ten years, major track-relaying is continuing on the Glenelg line, and plans have been announced to replace the existing City Depot within 18 months by a new depot at Morphettville.

The Future

The time is coming for us to plan for the future generation which will continue the operation of our museums. Unless we can attract such a generation to assuming increasing responsibility, there is a risk that our projects will not survive beyond the first generation. It was noticable in Britain last year that many of the younger members involved at Crich five years ago were no longer in evidence, yet the founders of the organisation were still shouldering the major burdens of the operation. Recent American observations suggest that some streetcar museums are already failing and will not survive.

By their very success, our museums are encouraging some individuals to think that not much effort is needed to set up an electric tramway. Such tramways have become acceptable as on-site transport over a wide range of projects. Indeed, the COTMA Chairman recently had discussions with the newly-appointed Director of the Museum of Australia about the possible use of a tramway to link components of the new museum planned for Canberra.

However, it may not be in the long-term interest of Australia and New Zealand to have a proliferation of tramway museums, especially where entrepreneurs anticipate using public resources for their construction. The 51 railway museums now competing for visitor support in Britain highlight the magnitude of the problem. In much of the world, and probably also in Australasia, the number of museums is increasing at a faster rate than the number of visitors available to support them. Some are depressing places to visit, and some will fail. We must ensure that no tramway museums are among them.

Our future depends on taking a broad look at our operations and what we present to the public. The "Journal of the Tramway Museum Society" recently stated:- "The Board has recently been looking at the reasons why Crich had not been benefitting from the increase in tourism in our area, and had sought advice from experts. They were all agreed that, looking upon Crich as a theatre, then the main players, the trams, which make up 51% of the Museum, are magnificent, the other 49%, the supporting cast, is not. The Board has therefore decided to spend money on site projects to make the Museum more attractive to visitors and give them better value for money."

Perhaps there is a lesson for Australasian museums to bear in mind here.

Acknowledgements

In conclusion, we should again like to acknowledge the help received from officers of the urban transit authorities in Australia and New Zealand. In particular, we should like to pay tribute to Mr. John Scholz, who until recently held the position of Deputy Manager at Preston Workshops and has been the principal point of contact between COTMA, its museums and the MTA. His help has been greatly appreciated by the tramway museums. Mr. John Grech, recently appointed Works Engineer at Preston, is taking over many of the responsibilities formerly provided by Mr. Scholz.

Finally, we should again acknowledge the efforts of the individual members in our constituent museums. It is by their devotion to the objectives of the tramway museum movement that we have achieved goals of lasting benefit to the community.

Keith S. Kings
EXECUTIVE OFFICER

John C. Radcliffe
CHAIRMAN

June 5 1984

MINUTES OF THE SIXTH GENERAL MEETING OF THE COUNCIL OF TRAMWAY MUSEUMS OF AUSTRALASIA HELD AT THE EL CORTEZ MOTEL, GREAT NORTH ROAD, AUCKLAND, NEW ZEALAND, ON 5th. JUNE, 1984.

The Meeting was declared open by Chairman Dr. John Radcliffe at 8.48 a.m.

PRESENT: Delegates Ian Mison (MOTAT), Ray Shand (WTM), David Hinman (THS), Ian Seymour (AETM), Richard Gilbert (BTPS), Graeme Breydon (TMSV), David Rawlings (SPER) and Peter Hyde (BTMS). Although two members of the Perth Electric Tramway Society had attended the three previous days of the Conference, neither was able to stay for this fourth day. John Radcliffe (Chairman) and Keith Kings (Executive Officer). Approximately 24 members of various societies as observers.

APOLOGIES: Perth Electric Tramway Society, Bendigo Trust and Melbourne Tramcar Preservation Association.

MINUTES OF THE FIFTH GENERAL MEETING:

Copies of the draft Minutes had been circulated previously, but it was felt desirable to circulate additional copies and these were perused by Delegates. It was moved Mison/Hinman that the Minutes be confirmed. Carried.

BUSINESS ARISING FROM THE MINUTES:

(1) Fire Sprinkler Report: David Rawlings reported no further progress by SPER in the matter. It was resolved that SPER should keep trying but they would obviously need help from other societies. Greg. Harris, THS, explained their Depot's installation. It was resolved that the matter be kept at a low level and not placed on future Agenda.

(2) Safety: No contributions were received by David Rawlings from other societies. An emergency plan is being drawn up by SPER and it will be circulated to other societies shortly for comment.

(3) Disiplinary Action: There were no reports.

(4) Regulations for Tramway Museums: David Rawlings advised that no action had come from Tony Griffin and suggested that someone else might take over the matter. John Radcliffe doubted if anything was likely to happen in Australia and Peter Hyde (BTMS) agreed. David Hinman then spoke in detail on the position in New Zealand. He summarised the situation, the proposed changes and transfer to another Act, the new Act and Regulations, and the lobbying by the three societies to local Members and the Government. THS will circulate copies of the Regulations to all societies when available.

(5) Patterns: No lists of patterns held by member societies have been received by the Executive Officer; therefore no information has been sent to Mal MacAuley, SPER, to collate. It was suggested that any society contemplating a project involving patterns should ask the Executive Officer to mention same in the next Memoranda and thus seek help with the matter. It was resolved that the Executive Officer should ask Preston Workshops if all patterns are still held. David Hinman felt that we should still persevere with a central listing, but David Rawlings indicated that Mal MacAuley is unable to continue and therefore a replacement person is needed. Peter Hyde, BTMS, volunteered to compile the list and was appointed. Peter then requested that societies assist by compiling lists. David Hinman pointed out that Memorandum No. 5 dated 29/12/75 contained a list of patterns held by THS and comments from two other museums.

(6) Conference Proceedings: 1980 - Peter Hyde reported that printing was about one-sixth complete; progress is very slow as it is being done voluntarily due to prohibitive commercial costs. Ways and means to speed production were discussed. It was moved Breydon/Mison that the COTMA Executive co-ordinate the project and be authorised to spend up to \$300.00 to help complete the job.

1982 - Graeme Breydon told the meeting that it was ready for distribution and samples were displayed. It was requested by the Meeting that a printed cover and matching back cover be provided by TMSV instead of the proposed binding.

BUSINESS ARISING FROM THE MINUTES (Contd.).

(7) Controllers: The following report was received from THS member John Shanks:- The THS has approached the Lisbon Tramways Company seeking to purchase surplus items of equipment. Earlier approaches had been made to the Oporto Tramways but had elicited no response and had not been pursued further. The Society was seeking to purchase G. E. K10 and K11, K6 and K28 controllers for restoring Christchurch tramcars, and BTH B510 and GE B18 and B35 (i.e., brake notch controllers) for use in restoring Dunedin tramcars. Enquiries were also made for control equipment for a Collins Automatic Point Turner. The Company has confirmed that it is currently using GE K10 and BTH B510 controllers and that these items and the control equipment for Collins Automatic Point Turners are likely to become surplus to the requirements of the Company within the next year or two when new equipment enters service. However, the Company warns that its equipment is obsolete and has suggested that the Society might be well advised to consider the alternative of more modern and probably more sophisticated equipment! The Company has indicated that it would be prepared to discuss the sale and export of equipment when this equipment became surplus. It is understood that the Company's new cars are to be delivered in 1985/1986 and that work on modernising the other plant and equipment of the system has already commenced.

(8) BTMS Fee Scheme: Peter Hyde reported that the new scheme was successful; \$50.00 was payable at the start of the year and, to receive a refund of \$30.00 at the end of the year a minimum of 48 hours had to be worked at physical work or traffic duties (but excluding administration work) during the year. They had lost two members who were unable to pay the \$50.00 and about 30 who were never seen from a previous membership of about 110; they now over over 70 members, and the new arrangement does not seem to have hindered new applications for membership. Douglas Johns, THS, commented that he considered the loss of so many members a disaster and the scheme thus a failure. Peter Hyde also said the BTMS have Associate Membership at a lesser rate without full rights, but there were very few in this class.

GENERAL BUSINESS:

(1) Membership Applications: (a) Melbourne Tramcar Preservation Association (formerly Haddon Tramway Workshops). A summary and explanation was given by the Chairman and Executive Officer, Richard Gilbert, BTPS, requested details of membership and these were read by the Chairman from the Rules of the group. David Hinman said that COTMA was really only interested in the basis of distribution of "profits" and "assets" at dissolution. Richard Gilbert felt that the MTPA should be admitted to membership and Leslie Stewart, WTM, queried what would happen if key rules were changed. Jim Walker, U. S. A., was asked to comment on the U. S. scene. It was moved Seymour/Mison that the application for membership be approved. Carried.

(b) Newcastle Tramway Museum. John Radcliffe introduced and explained this application. Further information was requested and Dick Jones, SPER, was asked to speak. He said that, as far as he knew, the "Warrabrook" estate development by Kern Corporation now appeared to be very unsteady and the massive help promised to the Society looked unlikely to eventuate. It was moved Breydon/Gilbert that the application be deferred until the next COTMA Council Meeting, to seek details of ownership of the trams and assets and the ability of members to cope with the establishment of a tramway museum, and to service the society in the meantime. Carried.

(2) Publishing Reports: (a) Trolleywire. A written report was tabled by David Rawlings. Publication is now on time. The Chairman expressed appreciation for the improvement and a vote of appreciation was carried with acclamation. The latter is to be conveyed to the TW staff.

(b) Tramway Topics. Leslie Stewart reported a good position, and the meeting's appreciation is to be conveyed to the staff.

(3) Protocol to MTAV. The Chairman made some comments, and indicated that three or four member societies of late had made direct approaches instead of via COTMA. This had resulted in virtual "reprimands" being included in MTAV replies to some. Preston Workshops in particular appreciates COTMA's services on behalf of members. It is thus best to direct everything through

GENERAL BUSINESS (Continued).

the Executive Officer. The availability of drawings or technical information was queried, and the Executive Officer requested to approach Preston Workshops, Coburg and South Melbourne, and advise in a Memorandum.

(4) Availability of W2 Trams and Trucks: It was reported that there were 118 W2 trams left fitted with the following motors:-

GE247	22	} =93 trams with 71 in service.
GE288	0	
MV101A/AN	58	
MV101AR/AX	4	
BTH265D	8	
BTH265P	1	
SW2/Artists	25	
	<u>118</u>	

Societies then indicated their needs :-

MOTAT	4 car sets.
AETM	2 car sets - MV101AR/AX.
THS	1 truck - MV101AR/AX.
SPER	2 car sets - MV101A/AN.
BTMS	1 car set.
TMSV	? car sets - MV101A/AN.

(5) Adelaide H cars: John Radcliffe read a quote from the South Australian "Herald", which indicated a programme to refurbish 21 of these trams for a further life of ten years; thus it seems unlikely that any would become available until at least after this period of time. THS expressed an interest in H car parts, including 33" wheel and axle sets. MOTAT indicated they were interested in 33" wheel and axle sets in preference to W2 trucks.

(6) BTMS and COTMA: David Hinman asked for details as to why the BTMS had a motion to resign from COTMA at its last Annual General Meeting. Peter Hyde indicated that the matter had "run its course" and he felt it unlikely to arise again. It was indicated that the motion had been lost.

(7) New Zealand's first Tram and Trolleybus: Roslyn Tramway Co., Dunedin, No. 1; Wellington City Council, No. 1, at Kaiwharawhara. It was stated that the former was at the Dunedin museum site of Seacliffe exposed to the weather while the latter was in private ownership and in use. David Hinman said he had raised the matter at the New Zealand Railway Conference meeting this week-end and they had decided to write expressing their concern about the Roslyn tram. He enquired if COTMA felt it should become involved. Further comments and explanations were given by THS and WTM members. It was moved Rawlings/Hyde that the COTMA Chairman write to the Dunedin Museum and the City Corporation expressing concern, and supporting its preservation, preferably in Dunedin, but, if not, then elsewhere in New Zealand. Regarding the trolleybus, it was decided to try and get the Wellington Transport Department to do something towards its future preservation.

(8) International Association of Transport Museums: John Radcliffe felt that membership of and attendance at meetings were very worthwhile, but not the International Association of Museums.

(9) Transfer Deed: Jim Walker, our guest and Keynote speaker from the Orange Empire Trolley Museum, U. S. A., then read a letter from Paul Glass, of the Oregon Electric Railway Historical Society, together with a Transfer and Deed, giving ownership of Wellington no. 159 to the Wellington Tramway Museum Society, thus finalising a long-standing matter for the WTM.

(10) Next Conference: The Chairman spoke on this matter. Suggestions for venues were Adelaide, Melbourne (and Puffing Billy Preservation Society), Ballarat (10th. anniversary of COTMA in 1985), and Hobart. The meeting expressed a preference for Adelaide in 1986 and this was moved Rawlings/Hinman. Carried. SPER offered to host the 1988 Conference.

(11) Financial Report: The financial statements and Auditors Report were tabled and it was moved Hyde/Rawlings that they be received. Carried. It was moved Mison/Hinman that an amount of \$535.00 for Jim Walker's internal Australian travel be paid from general funds. Carried. It was suggested that the membership fee for the next two years be 25 cents per member for each society. It was moved Mison/Gilbert that the sum be 20 cents per member, with a minimum of \$30.00 and a fee of \$30.00 for non-member societies. Carried.

GENERAL BUSINESS (Continued).

4.

(12)Chairman's Report: It was resolved that it be taken as read. John Radcliffe gave a few brief comments. It was moved Rawlings/Mison that the Report be accepted. Carried. It was moved that the Chairman write to Mr. J. Scholtz, Assistant Manager, Preston Workshops, on his transfer to another position in the MTAV, expressing the sincere and deep thanks of COTMA member societies for his considerable help over several years. Mover Hinman/Seymour. Carried.

(13) Election of Office Bearers: John Radcliffe asked Jim Walker to take the Chair for this portion of the meeting. For the position of Chairman John Radcliffe was moved Mison/Rawlings. There being no other nominations he was declared elected to the position. For the position of Executive Officer, Keith Kings was moved by Mison/Shand, and Anthony Smith by Seymour/Gilbert. It was requested that Keith Kings leave the room during discussion. The voting was six votes for Keith Kings and two votes for Anthony Smith. Keith Kings was declared elected as Executive Officer. For the position of Treasurer, Alan Harnwell was moved Gilbert/Breydon. There was no other nomination and Alan Harnwell was declared elected as Treasurer. For the position of Auditor, R. G. Paroissien was moved Gilbert/Rawlings. There being no other nomination, R. G. Paroissien was declared elected.

(14)Closure: The Chairman suggested that lunch be taken, and that Jim Walker's comments be given at the end of the meal. Votes of thanks were moved by Breydon/Hyde to MOTAT and Brian Trimm for hosting and organising the Conference, and John Radcliffe and Keith Kings for their work in their respective offices. Carried by acclamation. Jim Walker said that the Association of Railroad Museums, U. S. A., would like a regular interchange with COTMA, and it was decided to mail copies of Memoranda to the ARM. John Radcliffe to discuss further with Jim Walker. The Chairman then declared the meeting closed at 1.35 p.m.; Jim Walker gave his comments and thoughts on his trip to Australia and New Zealand and the various museums he had visited during coffee.

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K. L. Paroissien & Associates

Public Accountants . . . Chartered Secretaries

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K. L. Paroissien, F.A.S.A., A.C.I.S.

H. D. Paroissien, A.A.S.A. (Snr.), A.C.I.S.

R. G. Paroissien, A.A.S.A., A.C.I.S.

A. K. Paroissien, A.A.S.A., A.C.I.S.

COUNCIL OF TRAMWAY MUSEUMS OF AUSTRALASIA

BALANCE SHEET AS AT 31ST MARCH, 1984

1983			
\$			
	<u>COUNCIL FUNDS</u>		
	<u>Accumulated Fund</u>		
1447	Balance brought forward 31st March, 1983		2067
620	Add Surplus for Year		-
-	Less(Deficit)for Year		(481)
\$2067			\$1586
====			====
	<u>THESE FUNDS ARE REPRESENTED BY:-</u>		
	<u>Current Assets</u>		
1542	Australia & New Zealand Banking Group Ltd.	1531	
500	Debtor	-	
25	Members Subscriptions in Arrears	55	
2067			1586
	<u>Less Current Liabilities</u>		
-			-
2067			1586
	<u>Plus Non Current Assets</u>		
1800	Electrical Former	1800	
(1800)	Less Government Grant	1800	
-			-
\$2067			\$1586
====			====

INCOME & EXPENDITURE STATEMENT FOR YEAR ENDED 31ST MARCH, 1984

	<u>Income</u>		
278	Members Subscriptions	203	
53	Interest Received	56	
14	Sundry Fees	-	
500	Conference Expenses 1980 Refund	-	
845			259
	<u>Less Expenses</u>		
47	Printing & Stationery	84	
159	Postage & Telephone	156	
19	Sundry Expenses	-	
-	Conference Expenses 1980 written off	500	
225			740
\$620	<u>Surplus (Deficit) for Year</u>		(481)
===			===

