

All Party Parliamentary Light Rail Group (APPLRG)

Report of the Parliamentary Tea held at the House of Commons on Wednesday 18th June 2014 at 16:00

Chairman: John Leech MP (Chairman APPLRG)

Speakers:

Robert Goodwill MP, (Parliamentary Under Secretary of State for Transport)

Professor Richard Knowles (Salford University) and Dr Fiona Ferbrache (Oxford University)

Mr. Ricardo Albelda (Universidad Politecnica of Valencia) and Mr Graham Roberts (Managing Director, Vossloh Kiepe UK Ltd.)

Robert Goodwill MP, Parliamentary Under Secretary of State for Transport

Mr Goodwill apologised for the absence of the Secretary of State who was currently involved with the Infrastructure Bill.

Although light rail is not among his responsibilities at the DfT, it is a form of transport he has always found interesting. Light rail is not just part of our history but part of our future and that is why the government firmly believes that with the right technologies, in the right places, at the right price light rail can be good for passengers, good for economic growth and good for the environment.

The Department for Transport statistics on light rail for 2013/14 demonstrate the continuing popularity of light rail, with 227 million passenger journeys travelled on light rail in the twelve months to the end March 2014. This is the highest annual figure recorded and continues the upward trend of recent years, with 2.5% of all public transport journeys in Great Britain now being made by light rail.

This Government wants more people, particularly urban car users to discover the benefits of light rail, which is why since 2010 it has supported investment in light rail.

Construction is now well underway on the extensions in Nottingham for which the Department for Transport is providing over £370 million.

Construction is progressing on the extension to Midland Metro Line One in Birmingham following confirmation in February 2012 that DfT would be providing funding of over £74 million for the scheme.

Work is also progressing in Manchester on a number of extensions to Metrolink.

In Sheffield, the Tram-Train scheme is getting off the ground and work has now started on rail replacement for the existing network. Tram-train is an innovative and high-capacity transport system which has proved very successful in other European cities. By connecting Sheffield and Rotherham's city centres and local residential areas more effectively it is going to boost local economy, while encouraging people to leave their cars at home.

The Minister said he would be closely monitoring this scheme to see whether it would be appropriate to extend the concept elsewhere in the UK.

He said he was sure that the new report on the economic impact of light rail, which Professor Knowles and Dr Ferbrache are introducing today, will provide more evidence that investment in light rail can have a positive economic impact on cities.

By being integrated within the wider transport system, light rail systems abroad have helped to transform their local areas, providing people with an easy, safe and accessible way to travel and have boosted trade, reinvigorating local businesses.

The fact that the Government is proceeding with extensions in Birmingham and Nottingham and the Tram-Train trial demonstrates its belief in the technology and its positive economic impact.

For example, the extension to Midland Metro Line One, once in operation, will help boost the West Midlands economy by £50 million a year and create up to

1,300 jobs as well as changing travel patterns, providing a fast link between Birmingham's two major rail stations, and transporting more than 3.5 million passengers a year right into the heart of the city.

The extensions to Nottingham Express Transit and Manchester Metrolink will provide similar benefits helping to regenerate local areas and communities.

That it is why it's important that we find ways to make light rail work in other UK cities. We need to embrace new technologies and look at ways to reduce the capital cost of light rail schemes.

Building on the recommendations from the Green Light for Light Rail report published in September 2011, the Minister said that he was very much aware of the excellent work done by UKTram, this Group and the light rail sector generally since the report was published and that Baroness Kramer is hoping to hear further progress on the actions arising from the report by hosting a long-awaited Summit in September.

In conclusion, light rail has proved itself an effective and efficient means of transporting large numbers of passengers directly into, and around, the heart of an urban area. It has also proved to be one of the greenest and cleanest forms of transport, with no emissions and very little noise, and, with the right scheme in the right place, a strong potential to encourage people out of their cars and on to public transport.

Light rail not only has a long and proud history, it also has a bright and progressive future.

Questions and comments

Ian Souter (Independent Consultant) commented that overall in the UK public transport usage (buses, trolleybuses and trams) had been falling from a peak in 1949 and at a much greater rate than in any other country for which statistics are available. In Belgium, by contrast, passenger numbers have doubled since 2000. How do we achieve this in UK? This is where light rail shows its value.

Minister: These statistics make depressing reading, except perhaps for car manufacturers. But in city centres the car is becoming the slowest way to get around.

John Parry (Parry People Movers). There appears to be a schism in the light rail industry as opposed to heavy rail which is actively investigating “alternatives” including energy regeneration, branch-line reopening etc. This will lead to a convergence with tramways. There does not seem too much “crossing over” between the two sides of the rail industry.

Minister: This may be because that majority of light rail schemes are municipally originated whereas heavy rail developments mostly originate centrally with Network Rail. It seems that more cross-fertilisation is needed between the two.

Dave Halliday (STRAIL (UK)). One of your ministerial predecessors was very keen on the concept of the total journey. On its own light rail cannot cater for all the needs of the population and much is being made of interchanges with other modes. You spoke of getting people out of cars but RAC figures show that private cars are idle for the majority of the time and more people are moving from car ownerships to car clubs and these people make much greater use of public transport.

Minister: We are very keen to improve connectivity through such means as provision for cycle storage at railway stations, interconnections between HS2 and the existing railway network, improvement of public transport access to airports etc. It is vital to look at journeys in their entirety, incorporating a number of different modes, and light rail has a part to play in that.

Jim Harkins (Light Rail UK). The total number of people now using light rail every year is significantly higher than each of the bottom twelve or fifteen train operating companies. By and large the light rail systems do not receive an operating subsidy, whereas these TOCS do. At the last budget, the Chancellor announced public funding to help high energy users, such as the steel industry. Tata Steel is getting a subsidy for its steel works in north

Manchester but they are using less energy than, for example, Manchester Metrolink. Could a mechanism be devised that would provide a similar subsidy for light rail as high energy users who provide a product, namely connectivity.

Minister: The rail system has some lines which are profitable and for which the franchisee pays money to government. Other lines are not profitable and attract subsidy. In British Rail days there would have been cross-subsidisation between the two. Light rail systems are installed in response to demand and are likely to be profitable. It is not unreasonable, in the main, to expect the operation of such lines to be provided by the fare box. It is good that government can assist with the capital cost of new projects but these should then be self supporting on a day-to-day basis.

Jim Harkins: But the steel industry is making profits and is still getting a government subsidy, as trams are bring economic benefits do they not qualify for similar support?

Minister: I will pass this on to the Treasury. Remember that these energy-intensive manufacturing industries have obligations in regard to carbon reduction which may put them at a competitive disadvantage vis-à-vis overseas competitors and the Chancellor has responded to that by giving some of this money back, so it is not quite the same situation. We do of course subsidise bus operations through the Bus Service Operators Grant.

“Economic impact study of light rail

Professor Richard Knowles & Dr Fiona Ferbrache

Professor Knowles introduced the report “An investigation into the economic impacts on cities of investment in light rail” which he and Dr Ferbrache had prepared for UKTram and which is based on a large body of published material from worldwide sources. Professor Knowles then summarised the report with the aid of a PowerPoint presentation.

Whilst most major UK cities have created effective post-industrial economies, most remain less competitive than comparative city regions elsewhere. Transport plays a critical role in facilitating competitiveness and high quality transport improves labour market performance, attracts inward investment and helps to improve the quality of life. Improving internal and external connectivity is critical for improving city performance and areas with poor quality transport are at a significant competitive disadvantage. Figures for the UK are quite disturbing; we have spent about 40% less of our GDP on transport investment than our competitors since the 1960s. So it is a long-standing problem and is the reason why our transport systems, particularly rail-based ones, are so far behind our competitors. UK city's transport systems, apart from London, are well behind many European and global cities. Urban rail investment can help regenerate central business districts, boost employment, raise land and property prices, and increase benefit-cost ratios. It is clear, however that the local conditions have to be right and similar rail investment in different locations may not have the same impact. Other conditions are required: supportive land-use planning policies make a huge difference to the effectiveness of transport investment; inward investment to boost the local economy; land value capture; and urban regeneration incentives. In the UK's provincial conurbations there are only a handful of light rail systems, whereas in countries such as France, Germany and Spain dozens of cities have this investment.

The report investigates recent international research and this has reinforced the links between transport investment and economic performance. The report considers UK and global independent academic research; official UK light rail impact studies (from the 1980s and 1990s, there have been no substantial studies in the last decade); other evidence from PTEG, PTEs, transport consultants' reports etc.

A number of thematic headings were adopted including those of the government's Standing Advisory Committee on Trunk Road Appraisal (SATRA), who identify five mechanisms linking transport improvements to increased economic activity: extension of labour market catchment areas;

stimulation of inward investment; unlocking hard-to-reach development sites; rationalisation of production, distribution and land use; triggering fresh growth through elimination of transport constraints. To these were added: land and property value increase and capture; transit-oriented development (TOD); cost-benefit analysis of transport schemes; city image and quality. The report includes nine chapters using these five thematic headings.

Dr Ferbrache then summarised the first five of these chapters.

Extension of labour market catchment areas. This draws attention to how light rail systems increase accessibility; widen catchment areas of CBDs and other employment sites, enabling more inhabitants to work causing net growth in the city. Specific evidence comes from London docklands where the construction of the Docklands Light Railway and its subsequent extensions provided a vital link between the heart of London and Docklands, widening Docklands' catchment area particularly to the south of the River Thames. In Croydon, Tramlink provided access to areas previously among the 20% least accessible in London, this had helped to halt economic decline in New Addington in particular. The evidence is not always positive and Sheffield Supertram showed little effect. This may have been due to the concurrent development of a high capacity road network.

Stimulation of inward investment. Light rail can increase the attraction of a location for inward investment, although other conditions are also necessary. Evidence comes from Manchester Metrolink, where a £20m public sector investment was a prerequisite for the BBC to relocate some of its activities from London to Salford Quays. The BBC then provided the anchor tenant for the development of Media City. In London Docklands, a £77m investment enabled Canary Wharf to develop as a major UK planning district. Further research is required to isolate the impacts of light rail from other influences.

Unlocking hard-to-reach development sites. Light rail has helped transform accessibility to derelict docklands, such as London and Salford, to former industrial sites, such as Sheffield's Don Valley, and to areas of reclaimed land, such as Copenhagen's Ørestad new town.

Rationalisation of production, distribution and land use. Light rail can trigger land-use change and reshape urban form by improving accessibility. DLR enabled the relocation of several banks, newspaper and printing companies. In Manchester, Metrolink enabled BBC and ITV to relocate to Salford Quays as well as other media and digital companies. In Copenhagen, Ørestad new town was built on reclaimed land on the edge of the CBD and the Metro enabled the Danish Broadcasting Corporation to move 3,000 of its employees there from ten dispersed sites elsewhere in Copenhagen. Copenhagen University moved some of its activities there and the pharmaceutical company Ferring moved there from three separate sites in Germany, Sweden and Denmark.

Triggering fresh growth through elimination of transport constraints. In developed countries where there is already a well-developed transport system, economic growth is more likely to occur through eliminating specific transport constraints, such as congestion, unreliability and inefficiency. Light rail can play a role in this by helping to improve capacity, efficiency and accessibility. Metrolink helped to increase access, frequency and capacity enabling more people to shop, get to work and engage in leisure activities in Manchester city centre and Salford Quays. Similar results were found from DLR particularly in the Canary Wharf area and the DLR has been systematically expanded to cope with the rise in passenger numbers. In Copenhagen light rail formed part of a bigger development of transport infrastructure, including the Øresund Bridge link to Sweden, helping to expand the catchment area. Supertram by contrast was considered to have had a negative effect on Sheffield's CBD by giving easier access to the Meadowhall retail centre

Professor Knowles continued:

Land and property value increase and capture. In Copenhagen, Ørestad is served by the Metro, the rail link to the airport and the Øresund Bridge and a motorway, all of which increased massively the value of land in a planned extension to Copenhagen's CBD. Light rail usually increases land and property values, enabling developer contributions to be made. There is also a

network effect once there is more than one route, where the effect of the whole network is more than the sum of the parts. In London Docklands, land on the Isle of Dogs after the docks closed and when there was no clear future for the area was £70,000 per acre; by 1988 it was £4.9m per acre, as the DLR was opening and the first major investments were going into properties in the area. The developers Olympia and York gave £93m to help develop two DLR extensions after the initial route. There is a £10m developer contribution in Salford Quays after development stalled in the 1992 recession. In Bremen, land prices are 50% higher near the light rail routes. In Copenhagen, the Metro was partly funded by Ørestad land sales; the land, which was publicly owned, had little value until the Metro was built. Light rail often increases house prices.

Transit-oriented development (TOD). Media City is one of the few British examples of a deliberate investment in light rail and a consequent successful commercial development. Light rail impacts are enhanced by TOD, where planning policies focus investment in housing, employment, activity sites and public services around the stations. Many French cities have successfully combined transport investment and TOD. In Vancouver, the Skytrain has had a notable effect particularly in the creation of Metrotown, a new retail centre in Burnaby, and there are sixteen examples in the USA. In Britain, specific planning policies to facilitate TOD are rarely adopted and Canary wharf and Media City are the only examples.

Cost-benefit analysis of transport schemes. Traditionally CBA is largely based on the value of time saved and it has been difficult to put values on environmental, social and wider economic effects even after Britain adopted the "New approach to appraisal" (NATA). Significantly the UK's light rail impact studies in the 1980s and 1990s predated NATA and did not take into account these wider effects. Economic benefits of light rail were also not fully assessed before four schemes in provincial cities, Liverpool, Leeds, Portsmouth and Manchester, were rejected for UK government funding in 2004/5, although subsequently some of the Manchester funding was reinstated. The future price of oil is important and therefore the future demand

for light rail use and it has been underestimated in the UK so there has not been a level playing field between the assessment of road-based schemes and light rail schemes because the assumption was that motoring would remain cheap

City image and quality. Light rail can boost a city's image and attract inward investment, employers and tourists. It can help create a modern sense of place and have an iconic impact on the urban landscape. In France they call this the "Grenoble effect" after the first city to invest simultaneously in light rail and city centre improvement.

In conclusion, our investigation showed that light rail can have positive economic impacts on cities but light rail investment alone is not enough and is unlikely to be a catalyst for economic change without other supportive policies. Secondly, light rail can improve economic growth by increasing the attractiveness of a city for inward investment, although it is difficult to attribute specific investment to light rail. Thirdly, light rail can transform the accessibility of previously hard to reach sites. Fourthly by improving the accessibility light rail can trigger the reorganisation or rationalisation of economic activity. Fifthly, absence of a well-developed transport system can be a serious constraint on economic growth in cities. Light rail systems usually increase land and property values but rarely are these increased values captured for future transport investment. Light rail impacts are enhanced when policies are coordinated in TOD. Cost benefit analysis fails to value accurately environmental, social and wider economic effects of transport schemes. The future higher cost of oil needs to be addressed. Finally, light rail can boost a city's image, attracting inward investment.

The recommendations emerging from the report are:

Supportive planning policies should be adopted to maximise the positive economic impacts of light rail investment on cities.

Mechanisms should be adopted to capture increase in land and property values. There is a lot of evidence, particularly from America, of novel ways in which to do this which have not been tried in this country.

Cost Benefit Analysis should be modified to place more emphasis on environmental, social and wider economic effects.

To balance the assessment of light rail schemes, forecasts of future oil prices should be reassessed as global Peak Oil approaches.

Impact studies should be commissioned to analyse the medium to long-term as well as immediate effects of light rail systems. The studies carried out in the 80s and 90s took place no more than two years after systems opened whereas economic impacts take eight to ten or more years to fully show through.

Impact studies should isolate light rail's impact from other factors and temporal trends. This can be done.

Site specific and contextual factors should be taken into account a similar light rail investment in different locations will not necessarily have the same impacts.

Questions

John Leech: Did you find any evidence that light rail quickened the pace of regeneration?

Professor Knowles: Yes. Salford Quays is a good example. The development of Salford Quays in the late 1980s came to a halt in the economic recession of the early 90s and it looked as if it was not going to be a successful development. The £10m grant by the developers, mainly in the form of land grants, kick-started the development by facilitating the extension of Metrolink to Salford Quays which was completed in 1999. The development then took off in a big way and is now almost complete.

Nicholas Falk (URBED - Urbanism, Environment and Design)... It looks as if many of the British examples were targeted at declining areas with a view to regenerating them. Would we have done better by concentrating on growing

areas such as Oxford, Bristol, Gloucester or York? Places with potential for growth but suffering from congestion.

Professor Knowles: Yes, light rail can be successful in much smaller cities. Cities of that size in France have had light rail investment. The size threshold in Britain has been set much higher. The larger passenger flows have been required to justify the investment by government. Light rail has been a factor in turning round cities that were declining at the end of the industrial era. Manchester was declining quite rapidly in the 70s and 80s and Metrolink was one of the key factors in transforming Manchester into what is now recognised as perhaps the most successful British post-industrial city outside London.

In response to a question on whether the adverse effect on Sheffield city centre due to Meadowhall was typical or an exception, **Professor Knowles** replied: Yes, there is increased activity in a lot of the regenerated city centres, retail turnover in central Manchester is now higher than ever before in spite of the opening of the huge out-of-town Trafford Centre shopping mall. Shoppers travelling to the city centre by Metrolink are a major factor. There has been some detriment to some of the smaller district centres in Manchester, but that would probably have happened anyway as a result of people's increased mobility. Sheffield was the only major negative example.

Paul Abell (Today's Railways UK): I live near Meadowhall where there is ample free parking and Supertram to the city centre. In contrast Sheffield city centre is very much deteriorated, parking is a problem and we are directly connected to it only by an hourly bus. Is it, therefore, arguable that Supertram has been a benefit to South Yorkshire as a whole by enabling Meadowhall to take over from the city centre?

Professor Knowles: Research done at Sheffield University showed a 30% decline in retail activity in the city centre following the opening of Meadowhall. Supertram did not open for another four years after that but there was then a further decline in the city centre. Meadowhall is unique as a British out-of-town centre in having really good public transport access, by heavy rail, light rail and bus. A quarter of its customers come by public transport, easily the

highest figure of any out-of-town centre, At Trafford Centre in Manchester, 2% come by public transport. So Meadowhall has improved South Yorkshire's and North Nottinghamshire's retail offer but has had a detrimental effect of Sheffield city centre. Whether that is progress or not depends on how you define progress

Bernard Gambrill (Freelance Consultant). I am concerned that the research you have been looking at concentrates on lines along which light rail has been built rather than looking at total economic activity of the region. We are looking at a concentration of economic activity not an overall increase and there are place in the hinterland which are being diminished by the concentration of economic activity along particular lines. Are there any studies that suggest that is not the case?

Professor Knowles: What you describe can and does take place and this is why I have stressed the need to use methodology that isolates the impact of light rail. This is what we did twenty years ago in our study of the impacts of Manchester Metrolink. We looked at control areas that did not have light rail investment to see whether that investment was having a redistributive effect. Clearly there is much less benefit in having light rail is it just pulls economic activity away from other areas but this is not what we found, there was a net benefit in most areas.

In reply to a question on whether light rail routes in Sheffield had been selected for reasons of convenience or political expediency rather than in order to serve the most densely trafficked corridors, **Professor Knowles** replied that there had been plans for light rail routes to serve the sheaf Valley and the Hallamshire Hospital but there was a political choice to go for the three routes that were actually adopted. There will always be political choices in where light rail goes but light rail serves little purpose without a heavy demand and you need economic activity sites not only along the routes but at the ends as well. The most successful light rail systems are ones where you have a major traffic generator at either end of the route. In Sheffield, the Meadowhall route fulfils this but the Halfway route does not.

Professor Knowles said that he or **Dr Ferbrache** would be pleased to answer further queries by email.

Vossloh Rail Vehicles

Mr. Ricardo Albelda apologised on behalf of Mr. Sanchís of Vossloh Rail Vehicles, who was to have addressed the Group and introduced Mr Graham Roberts of Vossloh Kiepe UK Ltd

Mr Graham Roberts

Urban growth has expanded in recent years with a negative affect on quality of life as the inhabitants of the suburbs are captives of their cars and of jobs which are mostly in the inner urban areas. Car commuting increases congestion and pollution. TramTrain is a real alternative to favour the use of public transport form commuting from the suburbs to the city centre TramTrain is a vehicle conceived to be able to run on tram lines in the city as well as on the classic railway, passing from one to another without the passenger needing to change vehicle This public transport system is preferably adapted to medium and small cities and allows direct and unbroken connection between the centre and suburbs or regions. It has most advantages when the central station is not located at the city centre.

The first studies for TramTrains date back to the 1980s and in 1992 Karlsruhe in Germany opened the first line followed by Kassel where both twin voltage and electric-diesel hybrid vehicles were used. In France a line opened between Aulnay and Bondy, another in the Mulhouse area. More systems developed – in Oporto, Portugal, Chemnitz, Germany, Alicante, Majorca and Cadiz, Spain, This flexible transport system is now being considered in many other countries: Denmark; Netherlands; Belgium; and UK. There are a number of OEMs that produce TramTrain solutions and Vossloh is only one of these but we are very pleased to be developing the TramTrain for the project in Sheffield and Rotherham. In Spain the first TramTrain was built by Vossloh

and inaugurated in Alicante in 2006 to connect the centre with the tourist resorts of Benidorm and Altea. This was the first TramTrain to use metre gauge. The second TramTrain project was for Mallorca, inaugurated in 2011 on the Palma-Inca line. The next project was for the narrow-gauge FEVE network which required diesel-electric vehicles, illustrating the flexibility that needs to be considered by OEMs when developing TramTrain vehicles.

The nature of the TramTrain concept implies that the same vehicle should run without any limitation both on urban and main lines and cope with the different operating characteristics and standards both. This poses special requirements for the vehicles and challenges for the OEMs. Requirements may include different clearances, curve radii gradients, rail types, platform heights, signal and safety systems, etc. Operation also produces different requirements: acceleration, deceleration, speed limits, etc. Achieving standards and certification is also a challenge for the OEM while standards for main line are clear those for TramTrain are less clearly defined. The industry needs to have clear and stable processes to define and certify. In addition to the requirements for certification the OEM also needs to consider the environmental, noise and safety aspects, such as crash-worthiness and fire specifications and these may be very different for different applications. All these requirements make TramTrain specific for each application and the design approach therefore needs to be very flexible to accommodate all the requirements. Some examples are: different supply voltages; the characteristics of the infrastructure; different types of rail and track apparatus; adjusting the vehicle weight for urban infrastructure; maintaining tram characteristics by adapting the urban environment; and the environmental impact of noise, vibration etc.; environmental protection: the levels of sound reduction for the urban network needs to be seriously considered, and so on.

Vossloh has developed a platform with a number of main characteristics. The base vehicle is three articulated cars with one or two driving cabins and four bogies or a greater number of articulated cars if capacity demands. The cars are self-supporting, sound-proofed and of lightweight construction. Four or five doors per side, evenly distributed along the whole vehicle. The access

doors may be located at different heights facilitating different urban and railway accesses. The vehicle will be used in the electrified tramway area at 600-750V DC and in the electrified railway area at voltages which may range between 25kV AC 50 Hertz, 1500V DC and 15kV AC 16 $\frac{2}{3}$ Hertz. This can be facilitated by fitting dual voltage traction equipment Its flexibility is such that it may incorporate a diesel-powered AC generator, allowing running on non-electrified lines There are other characteristics which also need to be taken into account and overall the vehicle is of a very flexible design

For the TramTrain solution for the UK the project consists in order to prove the case for TramTrain-type operations in the UK and to improve the connectivity between Sheffield and Rotherham The project includes seven TramTrains and the electrification of a stretch of track between Rotherham Parkgate and Meadowhall and construction of a 400m line which will link the existing tramway to the heavy rail infrastructure The vehicles are equipped with pneumatic suspension to provide superior dynamic characteristics. They are bi-directional three-car, four bogie (three driven) vehicles, 2.65m wide and 37m long, operating on 1.435m gauge. Low floor access and a total capacity of 235 standing and 96 seated with two wheel-chair spaces. They are capable of 100kph and of negotiating a curve radius of 22m and a gradient of up to 10%.

In conclusion, we believe that we need greater flexibility in transport solutions both private and public. The difference between the rigid concepts of diesel and electric power, long distance and regional trains and underground and trams should disappear giving rise to hybrid vehicles and mixed transport systems. This change is possible by new technologies and results from new mobility customs and the demands of passengers The TramTrain concept offers passengers new mobility possibilities in public transport, reducing the use of private transport, encouraging the use of public transport and increasing the possibility of using existing infrastructures which in many cases are underused optimising their use in the future The TramTrain concept is that of a vehicle combining railway characteristics such as comfort and safety of the suburban train that is able to reach any point of a city The decision by the

UK to introduce this vehicle concept to Sheffield-Rotherham is an exciting opportunity that Vossloh are proud to participate in.

John Leech thanked the speakers and closed the proceedings.