



PARRY news



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OVER CROWDING WORSENS ON JOURNEY-TO-WORK TRAIN SERVICES

As trains and station platforms approach capacity limits but demand is expected to rise still further, solutions to ease the pressure are called for



Not Tokyo, but Rowley Regis, 5 miles from Birmingham, a journey-to-work scene typical of hundreds of local commuter stations around Britain. The 07:59 has just stopped but the people on the platform seeing passengers pressed up against the doors of the already full carriage, set off in the hope of finding space further down the train

Tuesday morning Oct 6th 2015; the crowd of passengers on the platform was so numerous at the local suburban station of Rowley Regis, they could completely fill up a five carriage train. However when the 07:59 service that they were all waiting for arrived, it was already full and expected to take on even more passengers at 3 further stations before reaching central Birmingham where the passengers disembark. 'This is atrocious!' said

one passenger. 'We have to put up with this every day' said the guard. The alternative of going to Birmingham by bus takes 3 times as long while driving yourself, quicker, but stressful and, taking all costs into consideration, is very much more expensive. What is missing, used to be there and at the time taken for granted, was the tram. Street running tram routes when planned sensibly, occupied space not used by other road vehicles. Centre reservations are now taken up by grassed areas. Single carriageway roads which once had a central lane for passing have been altered making this space unavailable. Much of this space could be reactivated for use for tram lines embedded in the road.

Why, how and where to bring back the trams pages 6 & 7



TANZANIAN PROMOTER EYES PPM FOR NEW SATELLITE CITY

A Dar-es-Salaam based property developer Apex, has begun working with government agencies on a sizeable project to create a new Satellite city to the north of Bagomoyo and 50km in distance from the nation's capital. Conditions in Dar itself have deteriorated with economic growth slowing with urban traffic gridlocked for much of each working day.

New town developments are long overdue and the promoters of Mapinga new city are determined to commence with a plan for an efficient public transport circulator, mainly separate from local roads so as not to be affected by the traffic congestion which might arise later on. The proprietor of Apex, Mr Nilesh Ladwa visited Birmingham in September and approached PPM for guidance. The next step was to approach experienced Tanzania-based consulting engineers GMP, a firm which has a long standing collaborative relationship with Parry in both Tanzania and Kenya.

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John Parry MBE

The Political World

A political paradox has emerged, the Conservative government's appointment of Lord Adonis to lead the work of a new National Infrastructure Commission. In 2010 when Labour Transport Secretary of State, he made a special visit to Stourbridge and he caught on immediately to the concept of rail technology which could do the same job as Heavy Rail on the more lightly-used branches and could be just the thing for railway reopening projects.



On the move; former cabinet minister Lord Adonis rides on PPM railcar

Political collaboration on transport has a precedent in the West Midlands when the WMPTA was under the astute chairmanship of Cllr Richard Worrall. Elected members of all persuasions were heard to say "Transport is too important to be a political football" and as a result there was cross-party agreement to support the Stourbridge experiments. In recent years with officials looking over their shoulders at 'European Rules', no further help has been forthcoming. Foreign suppliers have been heard to describe Britain as "Treasure Island". I wonder why?

The Railway World

Meanwhile in the rail industry the old 'permafrost' resisting innovation may remain, but there's an acknowledged need also to apply more light rail methods where appropriate.

So the approach in some instances has to be total separation under a new version of light railway rules. What we must continue to drive for is recognition of the gap in transport provision, first described in the Transport Panel's report under the 1990's Technology Foresight Programme.

This is the *Intermediate Mode*, part way between the informal, flexible and cheap bus services and the strict, and expensively applied formal regulatory environment of the Railways. Where the Worlds Collide is on the one hand the desire by the public to have more trains in more places, and, on the other the commercial attitude which is so money-driven that a new railway station is design prioritised to be a retail emporium more than a convenient place to catch trains. And, the station car park is being set like a giant fly trap to catch passengers' cars. This is a neat way to make money but does not encourage the development of minor public transport feeder systems such as tramways. Some railway diehards still regard the arrival of the trams after the 1890s as the equivalent of the Great Plague, the fear being the loss of railwaymen's livelihoods because tram fares were cheaper. Nowadays, in trying to cure the addiction to the private car, trams and trains are on the same side.

The World of the Migrants

The shanty town outside Calais should have been a warning sign. It never occurred to the wealthy countries that the anarchy of present day Libya would provide a golden opportunity for human traffickers to exploit the desperation of economic migrants from Africa to reach the shores of Europe and that so many would risk their lives in open boats, to get here. It then never occurred to the same wealthy countries that if anyone from anywhere seems in danger of drowning in an open boat they will be rescued and looked after, so over a million Syrian refugees in Jordan and Turkey might follow the example of the Libyan boat people. Furthermore it never occurred to our European Union partners that if it is perceived that the quicker route to a better life is just to

cross the border into the prosperous zones, huge numbers of men, women and children would vote with their feet and set off this way. 'Simple' as the meerkat in the TV advert is heard to say.

So there is now a collision between the two 'Worlds', rich and poor. The only sensible solution that UK AID policy is closest to, is to look for the means to make poor countries richer. This turns on its head the plans and aspirations of most of the 'INGOs' (the international ngos) many of whose principal strategies are based on plucking heartstrings; emaciated beggars, children drinking dirty water, donkeys forced to carry too many bricks. Charities sometimes encourage local staff to invent 'make-work' projects that look good in Annual Reports which celebrate how much aid has been given away.

It's time to get serious. Poverty is linked with efficiency and the relative productive use of scarce resources; imported fuel, expensive equipment, such as transport vehicles and reducing of debilitating diseases and the accidents which occur in thousands on the roads. All this demands technical innovation to suit the intermediate situations where modest wage levels make heavy mechanisation unnecessary but simpler and ingenious ideas can transform productivity.

Good Work

The strangest collision of all is with the aspirations of those people that consider work as something they only do in order to get to a point when they won't have to work any more.

The Schumacher concept of Good Work which is productive, fulfilling and satisfying is quite alien to those keen to stop work. The most fulfilling end is one that allows the colliding worlds to align and for work to be seen not solely in economic terms but as a vital part of human development and social stability. We should be applying technical innovation to create sustainable livelihoods, good work.

ITW'S HISTORIC SUCCESSES LAY FOUNDATION FOR ORGANISATION RELAUNCH



Housing estates and new town development having been applying Parry technology extensively in East and Southern Africa for over 30 years

Original Purpose

Intermediate Technology Workshops UK and ITW Kenya were formed in the early 1980s in order to provide a training and contracting function for the engineering firm, JPM Parry & Associates Ltd. In East Africa the lead role in creating ITW Kenya was taken by local consulting engineers Gordon Melvin and Partners Ltd and involved senior partners, Nick Evans, working from GMP's Nairobi office and Mike Leach from Arusha in Tanzania. Together the partnership played a major part in projects involving roofing tiles based on innovative Parry micro-concrete roofing technology, water storage and floor construction. But, there is a bigger agenda to cover:-

Three initial product proposals concern, transport, limiting evaporation, (losses of stored water) and producing aggregates. For construction.

Technology Gap - Transport

Transport is a major headache for local people in the towns and cities as traffic gridlock severely disrupts personal movement and the conveyance of goods. In rural areas the crucial problem is the unaffordable cost of vehicle fuel which for many farmers prevents them from getting harvests to market because of the cost of hiring trucks. ITW sees its role in distant regions as finding a way to convert renewable energy into traction power, concentrating on solar energy supplementing that available from the muscles of the people themselves. Some modest sponsorship has already been offered by one of the PPM company's supporters to begin working on a very novel form of hybrid vehicle. This mode will use an on-board array of photovoltaic cells to feed energy into a storage device, rechargeable battery or preferably flywheel. When starting away from rest the driver releases power to bring the vehicle up to speed. After that the peddlers take over. It is envisaged that the hybrid arrangement will work best on a railway incurring less rolling friction.

For the cities, PPM already have a solution, again rail-based. Well thought out positioning of the rail infrastructure will make it possible for railcars or trams to avoid incursion by cars and buses which are held up by traffic gridlock on the roads.



At a recent gathering of Tanzanian diaspora in Birmingham attended by officials and business people from Dar-es-Salaam a display explaining the PPM concept attracted great interest, including from Apex Housing Development who need a light rail system for a new town project

Technology gap - Water Conservation

One of the technologies which has been very successful in East Africa is 'High and Dry' construction. This forms floors from precast hollow 'waffles' which greatly reduce the amount of concrete consumed pouring solid slabs. The Kizuri Waffles Company founded by Nick Evans now supplies 1000s of products each week from several sites.

The system has a role to play in drought-prone areas where precious water held in dams and drawn from wells goes to waste due to evaporation.

By raising the ground floor using the High and Dry method, house construction can be changed so that water can be stored in tanks below the ground floor slab limiting evaporation because the underside of the floor becomes the roof over the tank.

Technology Gap - Producing Crushed Stone from Pebbles and Rubble

The number of people in poor countries that are engaged in the menial work of 'napping', using hammers to break natural stone or recycled building rubble down to sizes usable as aggregates is huge, probably millions.

It is a dreary, low productivity task barely yielding a living wage and is also hazardous. Workers' fingers are frequently crushed by being struck accidentally, or worse still they are often blinded by flying chips.



A young African girl breaking up river pebbles with a hammer

ITW is at a pre-prototype stage of a design project which will result in the same 'jaw' action of large mechanised crushing plant as used in the quarrying industry



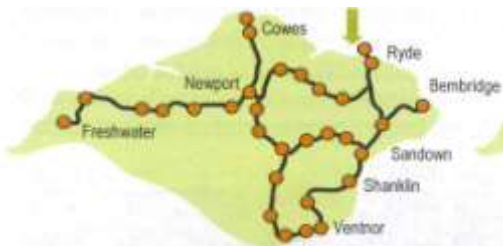
Computer-generated image of a kinetic energy assisted manual stone crusher, using heavy swinging pendulums

CAN AN ISLAND'S RAILWAY BE SAVED?

Approach from Network Rail

About two years ago John Parry when CEO of JPM Parry & Associates received an urgent message from one of the senior directors of Network Rail, Robin Gisby who had a secondary role as Chairman of the 'Deep Alliance' - a pathfinder entity which brought control of South West Trains, the franchised train operator managing train services over a wide swathe of the South Coast counties and Network Rail signallers into a single control room. The deep alliance enabled them to avoid the duplication and confusion that has frequently arisen since the track and train functions were separated during Rail Privatisation.

Mr Gisby's aim was to solve problems affecting rail operations on the Isle of Wight. Within the SWT franchise there is a most curious railway cleverly cobbled together using available materials after Dr Beeching's measures brought to an end a multiplicity of steam train services which ran to the north, south, east, west and centre of the Isle of Wight.



Like a country in miniature Isle of Wight railways before the closures.

The hand-me-down exercise was limited to just one line, that which ran through a half mile tunnel under the east side of the ferry port of Ryde then continued to Brading, Sandown and Shanklin. These pleasant coastal towns and villages are also a good place to build a home for people who have found they can live on Wight while able to work in Portsmouth crossing the Solent by fast ferry or hovercraft.



The approach to Ryde Tunnel entrance temporarily inundated. Services suspended electrical equipment damaged

Flood Risk to Line

A drainage problem affected the lowest part of tunnel, the solution applied was to build up the level of the track which would in consequence reduce the headway under the tunnel arch. But then a normal sized train could not no longer pass through. Along came a solution which has kept the train service going for many years. The Northern Line of the London Underground was renewing its track and trains and someone had the bright idea that deep tube stock would go in through the IoW tunnel so why not 'cascade' the old Northern Line equipment to create an electric railway to replace the old steam train services from Ryde to Shanklin?



Headroom to spare, Island Line train (ex LUL stock) emerges from tunnel.

By the time this electric railway equipment reached the Isle of Wight it was already 30 years old and now a further 50 years has passed. Despite determined skilled

maintenance efforts, dilapidation has happened. The situation is now critical with salt-laden air causing any unprotected steel components to corrode. Every joint and turning part must have been replaced during a million or more miles of operation.

JPA's Response at the Time

JPA reacted very quickly preparing a paper considering the problems of the Island Line including the condition of Ryde Pier and the rolling stock. The company proposed a detailed investigation and preparation of a plan, not just fending off the risk of closure of the remaining line, but taking a look also at the possibility of some degree of resumption of rail services to other main centres. These services might be train, or tram where the old rail formation had been built on.

And Then the Blow Fell

In 2012 JPA was enjoying a 'purple patch' of technical innovation success on the transport side with a pathfinder People Mover operation going well at Stourbridge, consultancy engagements and export orders being secured and R&D grants won against stiff competition. The firm never expected its expanding ambitions and need for credit to be thwarted by an implosion, at the same time, of liquidity in the banking system. However still suffering after-shocks from the international calamity beginning in 2008, JPA's bank reduced the availability of credit and JPA was forced out of business.

The first IoW initiative faded with the breaking up, like Humpty Dumpty, of Parry Associates. For completely unconnected reasons, the Deep Alliance also broke up following a failure to settle other issues. Mr Gisby stepped down from the Chairmanship and the 'parcel' passed back into the lap of the DfT. Keeping going for now but with increasing difficulty, the problems for the Island's

railway have exacerbated. By contrast with the rest of Britain's railways, revenue from the run down line has not been rising. But the greatest concern has been about the operating costs. These are now said to be three times the fare revenue requiring an annual subsidy of £4 million. Accumulated subsidies and urgent interventions to keep the line going as it is are said to be estimated at £40 million by 2019. This includes £8 million spent on Ryde Pier to enable it to continue to withstand the moving load of a two carriage underground train. When full of passengers, this can be over 60 tonnes, riding over a pier structure which has seen better days.

New ideas must be introduced in order to sustain the railway! Rail Minister Claire Perry MP has granted a reasonable amount of time for measures to be designed and implemented during the two years remaining of the current franchise.

MP Visits Stourbridge

PPM is showing willingness to help and a brief fact finding visit to the Island by John Parry at the end of August, has contributed to internal discussions over how innovation might be applied to make the service more attractive to ensure a long term future with far lower maintenance costs. Activities so far have however been confined to familiarisation and fact finding.

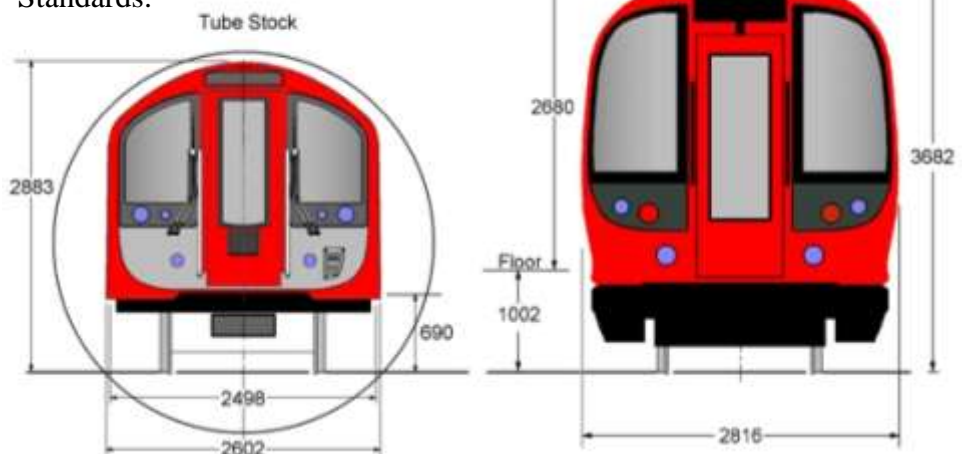
On 7th October at the conclusion of the Conservative Party Conference in Manchester, the MP for the Isle of Wight, Mr Andrew Turner, broke his journey home with a small entourage to make a visit to the Stourbridge Line and have informal discussions at PPM's Cradley Heath Offices. Various Councillors that were attendees at the Conference are also understood to have visited the PMOL railway operation.

Seeking a way forward

There are fears connected with the current poor condition of the Island Line that by emphasising its uniqueness the rail authorities might want to take it out of the National Rail Network altogether. This has focused some peoples' interest on the Stourbridge Branch which is an example of a non inter-operable line being run within a franchise using non-standard equipment and methods under special derogations from Railway Group Standards.



Andrew Turner MP for the Isle of Wight came to see the Stourbridge Shuttle



The cross section proportions of two different types of London Underground trains. The 'Deep' and the 'Surface' forms. The right hand train more similar to an overground train and about 10 inches too tall to pass through the tunnel

All changes in equipment and methods have to be agreed by the Rail Safety and Standards Board and Network Rail. Being on the other side of the Solent there is no need for the Island Line to be run as if fully inter-operable with other rolling stock. The issue whether it is or is not part of the rail network less important than achieving a means of operation

which is safe, economical to operate, easy to maintain and providing a service which is attractive to visitors and residents alike. The all-important feature is of a conveniently frequent service for people living down the line but working in Ryde and Portsmouth. To quote the Rail Minister Claire Perry MP "to do nothing is unaffordable and therefore unsustainable".

LATEST DEVELOPMENTS

Far from being a small side issue in the vastness of the UK Rail Industry and politics, the question of whether the Island Line should, or should not continue to be part of the Franchised Network has become a big issue with close media attention and the formation of a multi-party campaign, KILF (Keep Island Line in Franchise). The intention by the Isle of Wight Council had previously been to convene a special Task Force which would call for evidence and then recommend what steps should be taken to secure the Line's future. However on October 16th agreement was reached to appoint instead a senior rail expert to handle the investigation. A suitably qualified individual with a distinguished background in railway management, Christopher Garnett OBE was identified. The Department for Transport and Island Government requested that he should take on this role and he has agreed.



MISCELLANEOUS REVENUE PROSPECTS FOR PPM

The mainstream of PPM Ltd revenue has derived from the sales of its lightweight rail products. PPM has depended on investments from its shareholders while developing and refining the product in the belief that the engineering, once proved to be technically sound, and competitive, will be bound to be taken up.

PPM's success has to be directly connected to its customers' success:- The paymaster of Britain's railway is the Rail Executive of the Department for Transport. PPMLs Class 139 after being

selected to take over the services of a heavily-subsidised branch line eliminated the losses to the extent of several millions of pounds, the DfT is aware of this success. PMOL the operator, working on behalf of London Midland, is PPM's customer and it is technically and commercially - successful. PMOL is urging PPML to follow up the good performance of the Class 139 to complete the design of a larger version, matching the needs of a wider range of applications. Pooling the resources of the two companies and other knowhow organisations, the opportunity

has also emerged for giving professional assistance in designing new projects in the Midlands and elsewhere in the country. The majority of these opportunities are along the English South Coast where there are many instances of loss-making heavy rail applications or mothballed lines which have obvious potential for introducing affordable passenger rail services.

The following sections of this news-sheet describe a nascent market which can be accessed by a re-formatted PPM product, a more affordable street tram

RETHINKING THE URBAN TRAMWAY

Advantages of Tramways

New railways are being built throughout the world but to penetrate into the centre of a mature city requires tunnelling which is several times more expensive than laying the track at ground level.

The inevitable conclusion is that in a suburban transport setting where there is no space available to construct a new segregated branch line, the only way to introduce passenger rail services is to switch from heavy rail to light rail, i.e. Trams.

New tram projects generally run on the surface and in Britain have enlivened generally moribund old railway lines in Croydon, Birmingham, Manchester etc. Where they have needed to come off railway formations on to street, there's been months, sometimes years, of disruption of local trade because of the complexity of electrification.



Work on extension of the electrified Midland Metro system has caused serious disruption to Birmingham city centre for over a year

The excessive cost of building new, on-street systems can meanwhile be allayed by using clean, gas-hybrid technology in the vehicles which can run on plain track laid without disturbing utilities or services.

Suburban railways are now generally experiencing overwhelming passenger demand and where the authorities have been bold and rich enough to afford supertrams, they have been doing well with lower subsidies than provided to many bus services. There once were over 200 cities and towns with tram systems but it will be surprising however if new supertram system numbers will even reach double figures. A lot can be learned from the modern bus industry, especially about the size and configuration of vehicles and construction of bodywork.

Follow the Buses

As trams are more successful attracting patronage than buses, why in Britain is there only one tram for every 100 buses? It is mainly to do with the fact that the standard model of the modern tram is a long vehicle. The experience of bendy (articulated) buses in London, York and Swansea was that they caused so many traffic blockages that they have had to be phased out. So why is there so little discussion about introducing shorter length trams? Can a tram carry more passengers without being excessively long? Yes, follow the buses. It is clear that the attempt to introduce 18m long articulated buses as commonly used in airports, did not succeed, but new models of double deck buses, including replacements for the popular 'Routemaster', have been giving the product a better image.

How About Double Deck Trams?

By constructing an additional top deck on a derivative of the Class 139 railcar, the existing 60 passenger capacity can be increased to over 100 even allowing for space needed for stairs between the decks.

In the earliest years of the previous century double deck trams were viewed as a great civic improvement. The novelty of riding on the upper deck was provided for by having open balconies at the ends for sightseers. Riding on a tram later became utterly routine and the open balconies were phased out and replaced by fully enclosed saloons.

However sightseeing and tourism have again come back into fashion, with even cities such as Birmingham and Manchester receiving millions of visitors, and London is an endless attraction, so the double deck tram returning to the street should include the same balcony feature which was universally popular 100 years back in time. The tramcars illustrated in the right hand page pictures have balcony sections at each end. The PPM double deck tram will have normal stairs between decks and also a compact passenger lift. This is needed because passengers who have difficulty climbing stairs or bringing along small children in pushchairs will be discouraged from using the upper deck. The lift feature could be a principal enabler to the return of the double deck tram.



THE WAY WE WERE AND MIGHT BE AGAIN

How a resurgence in local rail investment can reconnect more areas of mainland Britain



Llandudno is an elegant coastal resort where many local citizens and regular visitors recall the old style trams and would welcome their return in a modern form.



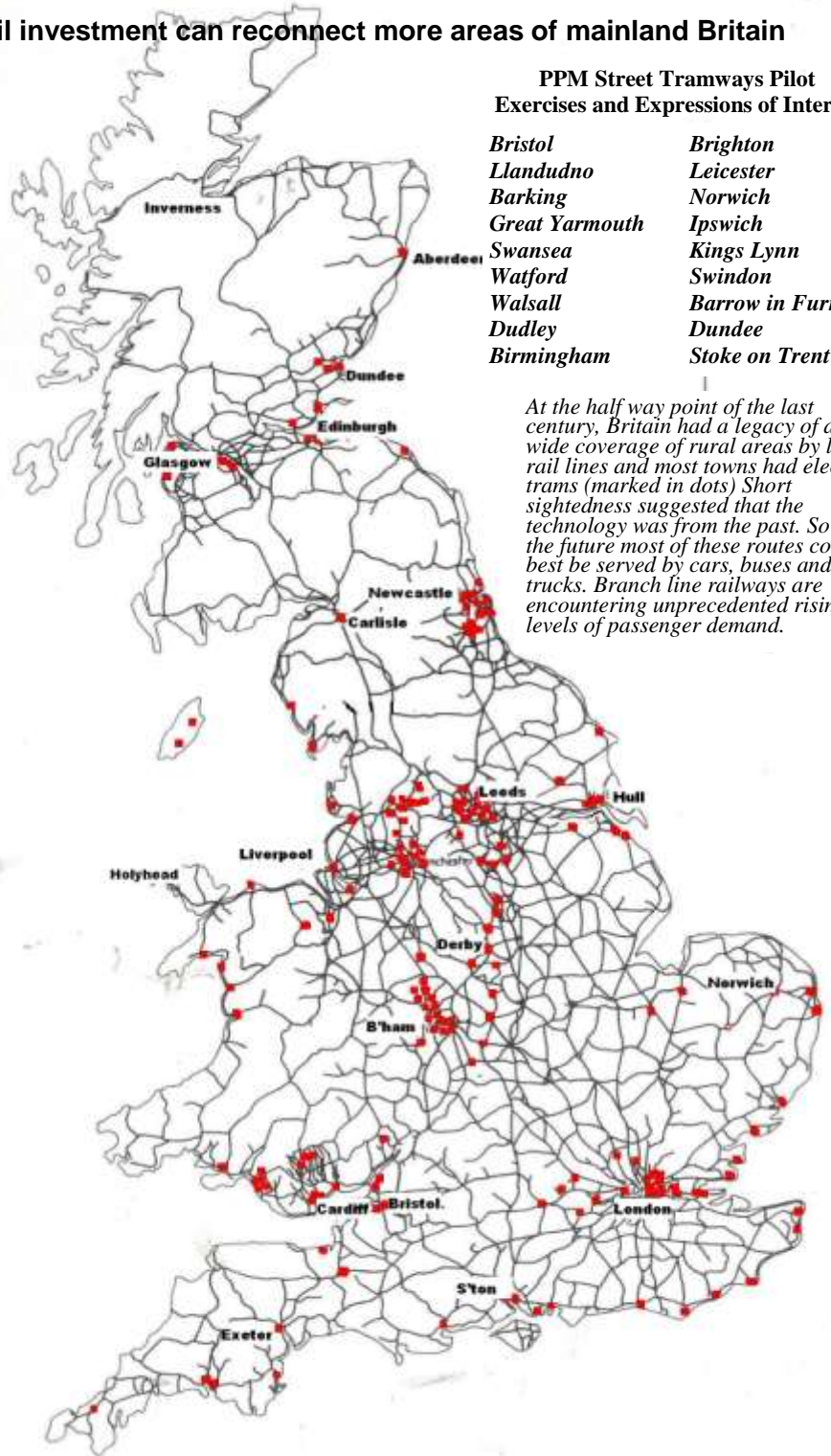
By reorganising road space so that it can accommodate embedded tram lines a clear way through can be created for the trams not reducing the space available for road vehicles.



Traditional double deck electric tram manufactured in 1913 with open balcony ends



Computer-generated image of a modern equivalent PPM Class 139 tram



PPM Street Tramways Pilot Exercises and Expressions of Interest

- | | |
|-----------------------|--------------------------|
| <i>Bristol</i> | <i>Brighton</i> |
| <i>Llandudno</i> | <i>Leicester</i> |
| <i>Barking</i> | <i>Norwich</i> |
| <i>Great Yarmouth</i> | <i>Ipswich</i> |
| <i>Swansea</i> | <i>Kings Lynn</i> |
| <i>Watford</i> | <i>Swindon</i> |
| <i>Walsall</i> | <i>Barrow in Furness</i> |
| <i>Dudley</i> | <i>Dundee</i> |
| <i>Birmingham</i> | <i>Stoke on Trent</i> |

At the half way point of the last century, Britain had a legacy of a wide coverage of rural areas by local rail lines and most towns had electric trams (marked in dots) Short sightedness suggested that the technology was from the past. So in the future most of these routes could best be served by cars, buses and trucks. Branch line railways are encountering unprecedented rising levels of passenger demand.

MORE THAN JUST A METHOD OF TRANSPORT

Public transport vehicles can provide an iconic image, much photographed and carrying a strong promotional message



Image of a sight-seeing hybrid tram provided by independent designer Will Jarman

CLASS 139 RAILCAR USED AS 'PLATFORM' FOR NEW PPM TRAM

With suburban railways bursting at the seams PPM have begun work on a transport mode which can relieve the pressure on the rush hour trains

PPM Class 139 Railcar



With clean, quiet gas hybrid propulsion the Class 139 will adapt readily to street running applications.

Why double deck vehicles?

Articulated buses have been introduced into several British cities but have not generally been well received because of operational problems.



One of London's 'bendy' buses seen causing a snarl up in Trafalgar Square

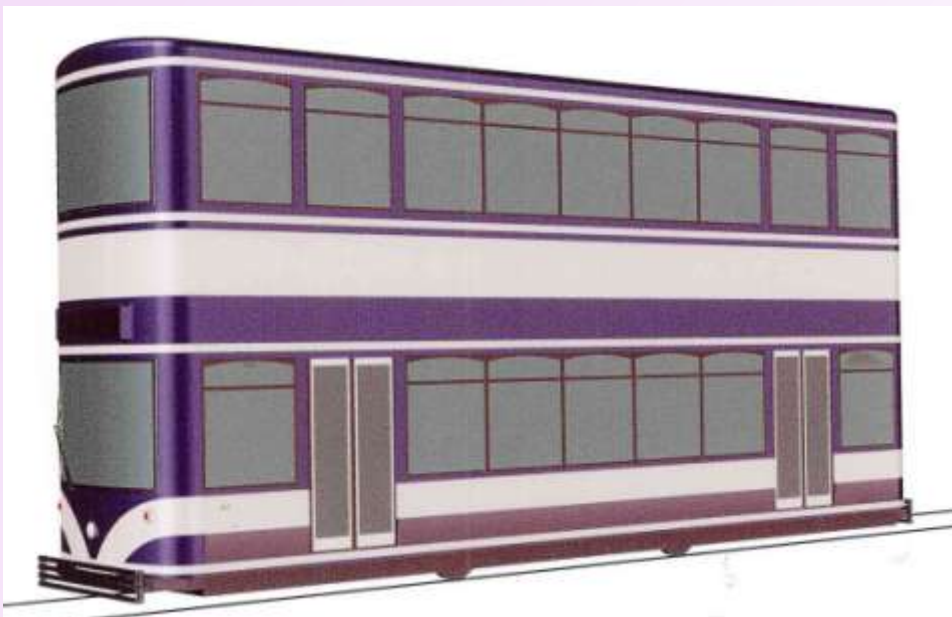
Features that are Needed to Assist a Revival of the Tram

Although commonplace in the first half of the 20th century, 99 percent of present day daily commuters have no experience riding on a double deck tram unless at a heritage museum at Crich in Derbyshire or Beamish near Newcastle-upon-Tyne. In a present day context commuters will expect modern finishes, passenger information systems, security cameras and good heating and ventilation.



Interior view of a modernised Hong Kong double deck tram showing stairwell on the right

PPM designers, working with outside specialists are taking the concept further by introducing a compact passenger lift to give less agile or mobile passengers easy access to the upper deck. (See diagram)



The new vehicle will make best use of street space and improve the productivity of public transport vehicle crews. There has already been a strong revival in popularity of double deck buses with new models introduced by the main bus manufacturers. It is obvious that exactly the same factors should apply to the next generation of tram. This is especially so where it is inevitable that much of the route will involve slow running with numerous stops. Like buses, vehicles will close up nose-to-tail. A double deck tram will accommodate around twice the number of people as a single-decker the same length. So the design task is to produce a new product derived from two sources. PPM's Class 139 hybrid railcars and the traditional double deck tram of yesteryear, such as partially modernised vehicles still in daily use in Hong Kong.



The former British colony of Hong Kong has a very large fleet of refurbished double deck tramcars providing one of the worlds most efficient light rail services

Target specification: (PPM Tram)

Passenger capacity	100
Max speed	46kph (30 mph)
Tare weight	12 tonne
Length	11.0 m
Width	2.4 m
Height	4.2 m

