Department for Transport

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UK Tram

Welcome

Today's programme starts at 13.35

Tram Summit

18 July 2012

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13.40

Norman Baker

Short Keynote Speech

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Geoff Inskip
Chairman UK Tram

Light Rail Summit

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LR, Trams and other RT

Improve attractiveness and quality of PT

Good for Passengers

•Good for Economy

Good for Environment

Must be part of Integrated Transport Strategy

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- Heyday of LR schemes 80/90's
- Tyne and Wear, DLR, Manchester, West Mids, Sheffield, Croydon, Nottingham, Edinburgh
- Expansions but no NEW LR schemes proposed
- Green Light Report

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Now we have number of Extensions

Metrolink O/R, Ashton Blackpool, Midland Metro, Nottingham. Tyne and Wear upgrade

Capex costs vary with average £25m per mile.

Recognised that LR is expensive and that is why we UKTram is working to identify ways to reduce costs, and develop common standards

If LR is to Grow these issues need to be addressed

UKTram led Implementation Plan

5 Principal areas:

- Sector coordination
- Standardisation and Uniform Design
- Improving Capability of Promoters
- Reducing Cost of Utilities
- Extend remit - ULR and PRT

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Major Barriers

Cost

Expertise

Time/ Uncertainty

Funding and Finance - Add to Programme

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Progress

UKTram Governance

Promote LR ULR and PRT

UITP / Europe

New Guidance ULR and PRT

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New WEBSITE

UK Tram - A Single Voice for the Industry

UK Tram is the voice of the Tram industry in the UK and represents operators, promoters, manufacturers, contractors and consultants covering not just tramways but also Ultra Light Rail and Personal Rapid Transit modes.

With the emphasis on economic growth and carbon reduction, the right sustainable transport solutions are needed in our towns and cities. we believe trams deliver these goals and UK Tram can help point you in the right direction, whether you are thinking of a tram, ULR or PRT system.

We have published a number of guidance notes and we have an ambitious programme of further work tasked to us from the Minister, Norman Baker, in his report 'Green Light for Light Rail'.

We are delighted to take on this responsibility and by visiting this website you can keep up to date with the programme and each work stream.

Geoff Inskip
Chair UK Tram

"We know that through collaborative working, sharing best practice and using the expertise in our organisations we can provide best value solutions which can help solve the transport challenges in our cities and towns."
Geoff Inskip

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Geoff Inskip
Chairman
UKTram

Making light rail more cost effective/ more affordable

Creating a Single Voice for the Industry

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Colin Robey

UKTram Previous Actions

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UK Tram Working Groups

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Working Group 5

Network Rail Interface

Brief re-assessed and Guidance Note in production for September UK Tram Board Meeting

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UK Tram Working Groups

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Working Group 6

Track Form

Working Group formed

Brief Agreed

Guidance Note in Draft Form

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ORR Guidance Note

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RSP2

Guidance on Tramways

There has been a significant change made to two areas of the Guidance Note and it will be issued shortly for a final consultation prior to formal issue.

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Tram Summit Working Group 6

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Heavy Rail Conversion and Shared Running

Name of Group changed to include Shared Running

Brief Agreed and Consulted with NR Alternative RUS

Forward Plan for 6 monthly meetings to discuss the opportunities including reps from Shire Counties

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Progress on Standards

UK Tram representation on BSI/RSSB Standards Group

UK Tram membership of VDV progressing

Urban Rail Platform outputs progressing through UITP Process.

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Uniform Project Design

Andrew Braddock

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Uniform Project Design

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What are the key issues?

Buy-in of promoters to UKTram Standards

Better understanding of what drives mainland European projects

Development of expertise in tram & light rail as opposed to adoption of heavy rail parameters

Implementation of better forms of contract

Input to Centre of Procurement Excellence

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David Hand

Mott MacDonald

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Working Group 9: Utilising Industry Expertise to Reduce Construction Costs

Purpose

Examine best practice and lessons learned (from UK and other light rail schemes) to identify specific opportunities for reduction of construction costs.

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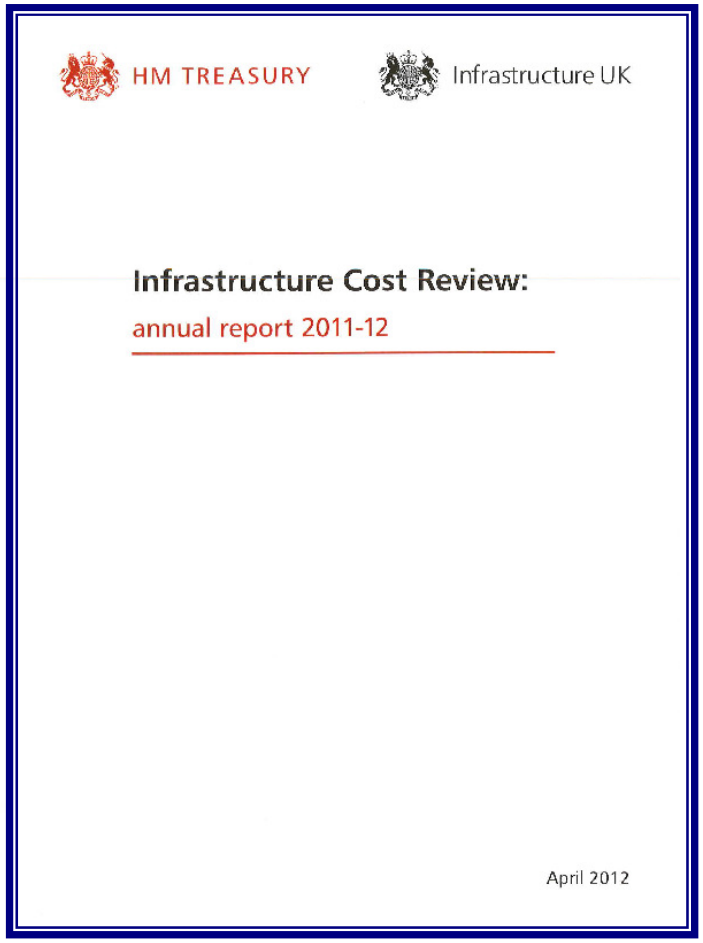
HM Treasury Infrastructure Cost review

Key components :

- Changing the behaviours of industry and clients
- Increasing the visibility of pipelines
- Improving governance and risk management
- Reducing the complexity of specifications
- Using smarter procurement
- Improving infrastructure data.

UK Tram report has been similarly categorised.

Report focused on cost reduction. Not reduced quality



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Changing Behaviours

- Planning Consents
- Greater involvement of successful scheme promoters
- Balanced allocation of Public Realm costs,
  - Develop representative pallet of appropriate public realm materials/generic design guide

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Visibility of Pipelines

Establish a consistent funding pipeline.

- 10 year look ahead
- Role of Regions in funding decisions should help streamline process.
- Need for co-ordination between Regions.
- Estimated capital cost savings of **10%** readily achievable

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Governance and Risk Management

- Establish expert risk management group
- Greater involvement of contractors during planning and contract specification
- Land availability (e.g. temporary works, party wall agreements etc)
- Develop generic Hazard Log of key risks and their reasonable mitigation

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Utilities

- Develop national common standards with major utility companies for the diversion of their apparatus
- Undertake utilities as advance works
- Apply uniform SU discount across industry
- Allocate corridors for future schemes, establish protected zones

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Reducing Specification Complexity

- Reduce number of bespoke standards and promote consistency between client groups.
- Develop standard LRT specification which can be tailored by scheme promoters as/if required
- Encourage timely challenge of the specification
- Remove over-regulation of Railway Rules

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Smarter Procurement

- Standardise contracts
- Greater filtering of data room information

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Improving infrastructure Data

- Increased application of standardised components, including sharing between schemes
- BIM (Building Information Modelling)

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Overview so far

- Industry has already made strides in reducing construction costs
- Number of suggested comments have been adopted (at least in part) on schemes currently at construction
- Presently difficult to quantify precisely level of savings, but further savings are possible.

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Next Steps

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- Draft findings to UKTram
- Review previous scheme development processes.
- Review of recent contracts

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Centre for Procurement Excellence

Ian Brown

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Paul Griffiths

CENTRO

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Costs of Existing Light Rail Projects

Working Group 8

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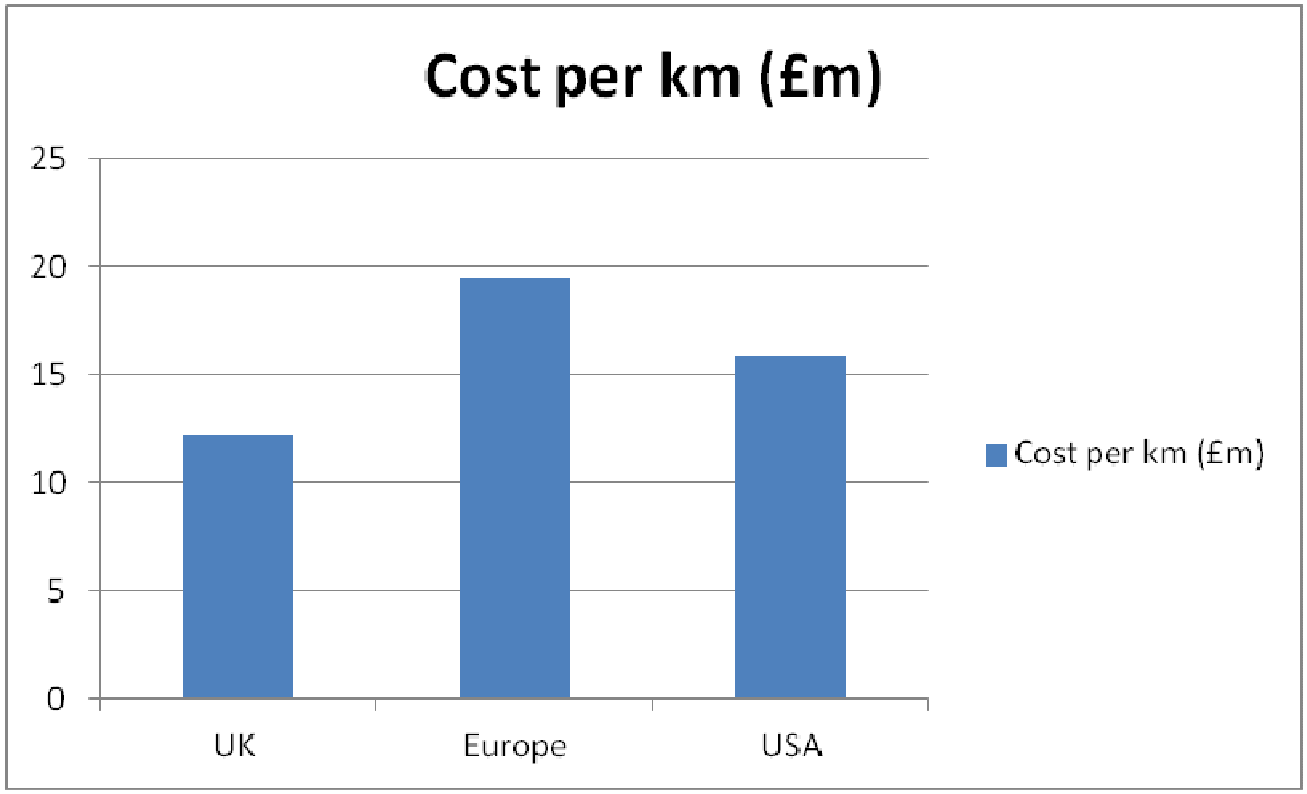

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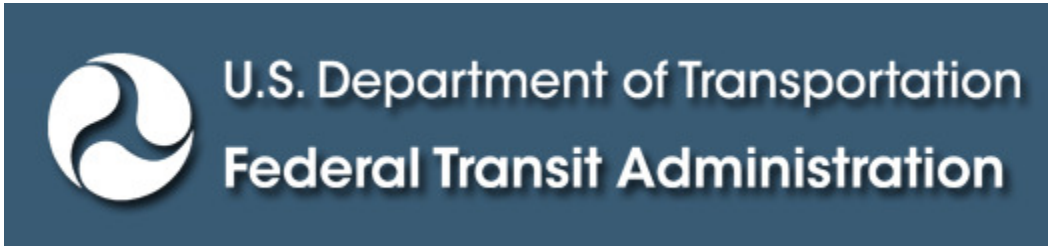

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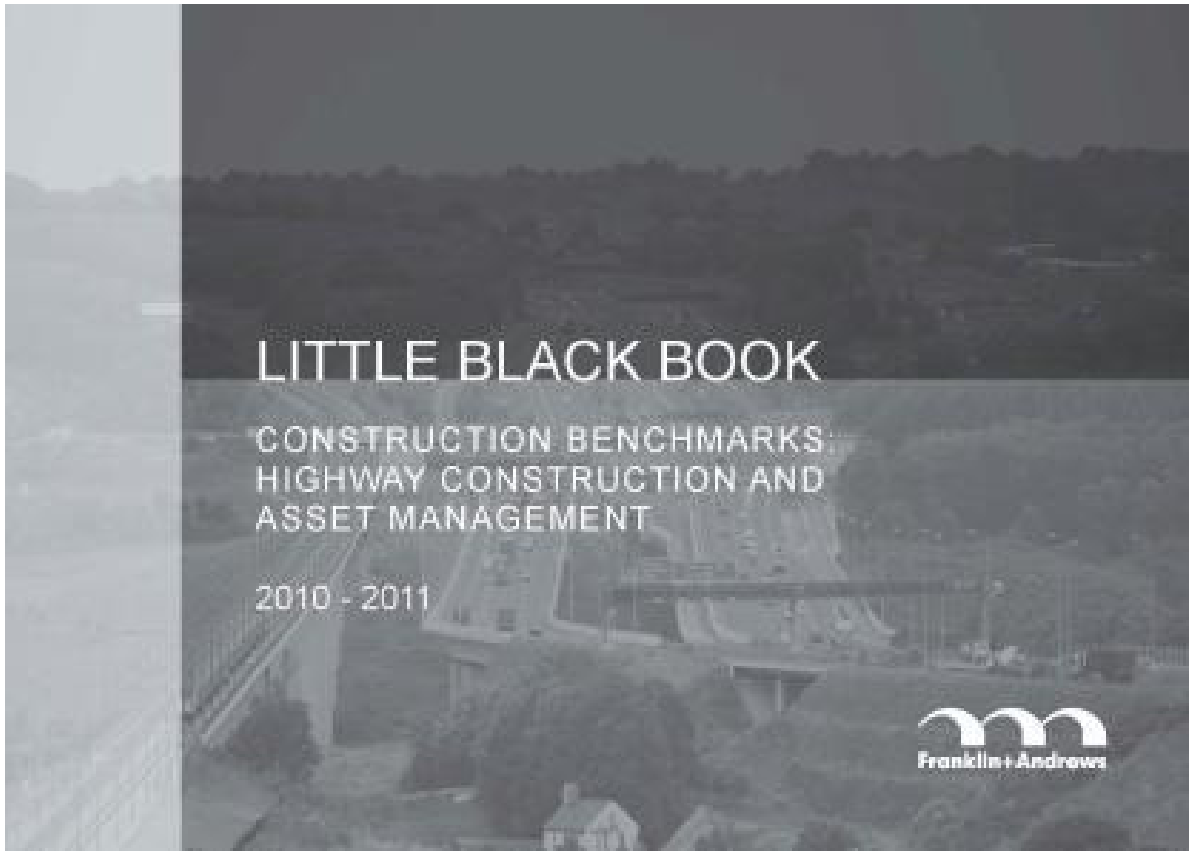

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New Technologies

Working Group 10

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Network Rail and future conversions

Steve Firth

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Action 18: Future Conversions

Steve Firth

- Review Opportunities for Light Rail
- Open Dialogue with Network Rail

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Action 18: Future Conversions

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Evidence exists - increased patronage after conversion of railway to tramway.

Benefits dominate - outweigh negatives such as severance of through running.

- **Manchester – Bury and Altrincham** first demonstrated this.
- Current **Oldham/Rochdale** conversion delivering similarly.
- **Wimbledon to Croydon** and **Nottingham to Hucknall** further prove the case.

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Action 18: Future Conversions

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Action 18 remit: ***"open dialogue with network rail regarding future conversions"*** - rather superfluous; dialogue was already taking place!

To formally fulfil action 18, this has been built on to include UKTram participation in:

- **The joint RSSB and NR *"Differentiated Standards"* working group**
- **The NR led "*Alternative Solutions RUS*"**
- ***A "Research Idea"* by NR to RSSB.**

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Action 18: Future Conversions

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- **Joint RSSB and NR *"Differentiated Standards"* working group** - set up to explore appropriate technology/operation and relevant standards & practice for modes not fully subject to inter-operability.
  - Considered 5 predetermined categories of rail
  - Particularly focussed on community rail routes/parts of the current national rail network where significant segregation might be achieved and
  - Maximum operational and economic benefit might be gained from a full tramway/light rail conversion.
- **NR led "*Alternative Solutions RUS*"**
  - A discussion document which builds on the work of the above group.
- ***"Research Idea"* by NR to RSSB**
  - A submission for research funding: ***"Opportunities for a Differentiated Railway – determining the right standards for the right application".***

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Action 18: Future Conversions

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Three separate but linked initiatives identified by UKTram and discussed with NR:

- **Total conversion to tramway** of lines which were in use or mothballed and separation from the NR network.
- **Conversion to a form of "light rail"** – of NR lines in use to provide a more flexible and economical operational solution.
  - The extent of "lightness" largely depends on conditions of exposure when mixing with other rail traffic on and off the converted sections – hence the term *"Differentiated Standards"*.
- **The implementation of full tram/train solutions**
  - vehicles meet the hybrid crashworthiness requirements for railway vehicle bodies of C-III of EN 15227:2008.

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Action 18: Future Conversions

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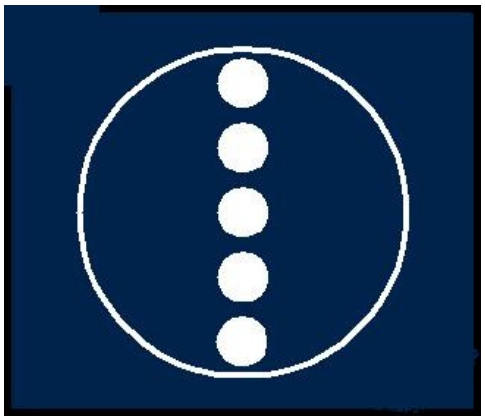
Total conversion to tramway



Total conversion to tramway

- To date, largely been led by regional promoters making a conscious decision to take routes off the national network.
- Historically this option may have been resisted by custodians of the national network.
- NR is not now actively seeking to dispose of lines and:
  - potentially supports conversion itself and
  - understands the benefits in such an approach; particularly where train paths released.

Conversion to a form of "light rail"

- Not necessarily seen as tramway conversion although some may be.
- Instead, a range of *"Differentiated Standards"* are being considered to avoid the "clutter" of the more onerous main line requirements where operation to more appropriate ones may safely be tolerated and benefits of more flexible and efficient operation should result.
- A sliding scale of "lightness" of vehicles and infrastructure is being advocated which would mirror aspects of tramcars and tramways depending upon the location and exposure to conflict with other modes.

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Conversion to a form of "light rail"

- The "easy win" of full conversion of suitable routes to full tramway discussed most recently with "mutually exclusive" use of any residual shared section factored in.
- Ironically, such a "mutually exclusive" shared arrangement has just been introduced at Stromeferry where a road surface has been installed to permit general road traffic using the A890 to share alignment with trains and thereby avoid a landslide on the original parallel highway alignment.
- There are a number of almost self contained rail passenger lines which could be converted to operate as a full tramway **if** "mutually exclusive" arrangements could be introduced over short sections to allow both modes to share without any interaction between the vehicles of the two modes. Typically on a final approach to a main line interchange station where space would not permit an affordable segregation of tracks otherwise.

The implementation of full tram/train solutions

The current Rotherham trial and other tramtrain projects are of great interest but not considered to be part of Action 18 because:

- These are actually ***"inter-operation"*** between the two modes.
- Rather than ***"light rail conversions"***, these will use the characteristic tramtrain hybrid vehicles that can inter-operate between the light and heavy rail.
- Significant case studies exist from other EU member states.

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End

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Opportunities for low-cost trams

Besançon & Portland

Andrew Braddock

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Besançon – the city

136,000 population

90,000 bus trips per day, 24M per annum

139 trips per inhabitant per year

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le TRAM WAY Grand Besançon

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The Project

14.5 km – two branches

31 tramstops

19 trams – 23m long

132 per vehicle capacity

50,000 passengers per day

€16M per kilometre

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Costs

€228M total

€34.4M for 19 trams (€1.81M each)

€77.4M for infrastructure

€35.1M for power supply + OHLE

€13.7M for depot + workshop

€25.1M for associated works

€11.4M for utility diversions

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Funding

European Union: €900k

Versement Transport Extra: €114M

Versement Transport Normal: €57M

National Government: €30.1

Grand Besançon: €20.9

Ville de Besançon: €5.1M

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Besançon's key decisions

Tramway avoids main street in centre

Some single-track sections

Smallest available tram

Adaptation of bus system PCC

Minimal tramstop facilities

Open air depot layout

No "frontage to frontage" renewal

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The risks

Lower ridership from avoiding main street

Operational disruption from single-track sections

Vehicles prove too small

PCC functionality not assured

Facilities at stops deter passengers

Lack of cover at depot in winter

Economic impact of lower quality urban renewal

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Cost Comparisons

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City	Opened	Cost - €M/km	Population (k)
Besançon	2015	16.0	136
Angers	2011	23.3**	216
Aubagne	2014	16.0	103
Avignon	2016	17.0	441
Brest	2012	27.0	201
Clermont-Ferrand	2006	20.7+	261
Dijon	2012	20.0	238
Le Havre	2012	30.0#	244
Le Mans	2007	20.0	208
Montpellier Line 3	2012	23.7	384
Mulhouse TramTrain	2006	6.7	244
Nice	2007	55.2	947
Orléans Line A	2000	17.0	269
Orléans Line B	2012	29.5**	
Paris / Île de France			10,300
T1 Western Extension	2013	33.3	
T2 Eastern Extension	2009	40.2	
T2 Northern Extension	2013	65.8	
T3 Eastern Extension	2012	51.0	
T5	2012	32.7+	
T6	2014	37.5+	
T7	2013	30.8	
T8	2014	33.8	
Reims	2011	30.0**	210
Toulouse	2010	19.3	865
Tours	2013	24.6**	345
Valenciennes Line 1	2006	28.3	334
Valenciennes Line 2	2013/15	6.6/4.3=	

** with APS + tram on tyres # includes tunnel = mainly rural

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Bonne chance, Besançon

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Portland – the city

584,000 population

130,000 public transport trips per day

Use doubled since 1986

MAX Light Rail lines opened: Blue 1986, Red 2001, Yellow 2004, Green 2009

84.3km network with 85 stops

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The Portland Streetcar

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The Streetcar concept

Light Rail not suited to downtown distribution

Need for closer stop spacing

Smaller, less threatening vehicles

Faster access for mobility impaired pax and shoppers

Underpinning Business Improvement District

Revitalisation of areas away from MAX routes

Marketing with retailer's support

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The Streetcar in detail

Cost of installation - $75 million (about £51M)

6.3km line (£8.3M/km) with 43 stops

11 Škoda-Inekon 70% low-floor trams

19.7km/h commercial speed

4 million passengers per year

Inaugurated 20 July 2001

Local service function and feeder to MAX light rail network

5.3km extension due to open later this year

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Applicable lessons

Think Big – but start small!

Get everyone inside the planning “tent”

Take every funding opportunity available

Keep it simple: avoid high-cost utility diversions, etc.

Look for common marketing goals

Maintain strong local interest and pride

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What's next?

Report to be published on UKTram website

Lessons from both cities will be input to work on Uniform Project Design and Centre of Procurement Excellence

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A view from Passenger Focus

Anthony Smith

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Summing-up

Geoff Inskip

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Thanks for coming and special thanks to the Minister

Safe journey home!

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