



**Connecting European regions using
innovative transport: Investing in
tram- and rail-based systems**

**Sintropher Final Seminar
Brussels**

September 2015



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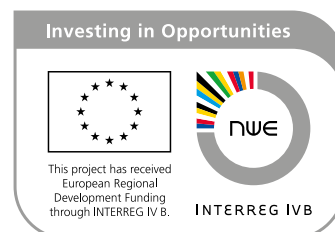
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Sustainable transport for North-West Europe's periphery

Sintropher is a five-year €23m transnational cooperation project with the aim of enhancing local and regional transport provision to, from and within five peripheral regions in North-West Europe.

INTERREG IVB



INTERREG IVB North-West Europe is a financial instrument of the European Union's Cohesion Policy. It funds projects which support transnational cooperation.



Event organized in association with



Report produced by University College London

Lead Partner of Sintropher project



Executive Summary

This is a report of the final Seminar of the Sintropher project, part-funded by the EU INTERREG IVB North West Europe Programme. It brought together partners of the seven demonstration regions of the Sintropher project with experts and representatives of EU and other European public transport organisations, to disseminate and discuss the results of the project.

The seminar began with a keynote presentation from Michael Cramer MEP, Chair of the European Parliament Transport and Tourism Committee, setting out EU wide policy and aspiration for low carbon, cost effective and interconnected public transport networks. Projects such as SINTROPHER have a role to play in this, by developing pilot initiatives, sharing knowledge and transnational co-operation, and in helping to supply the evidence base to support innovation.

The results of Sintropher have provided this in the form of comparative European case studies, work on the economic and technical feasibility of project partners' schemes to create new or extended links, and investments in real pilot and demonstration projects. They show that different models of tram-based systems, including tram-train, appear to offer attractive feasible solutions which, due to cost and technical factors, are best applied in particular urban and regional circumstances. There is no universal "best model".

The seminar provided examples of the way in which such systems can help promote urban regeneration and economic development, but the range of benefits offered by such systems is often underestimated, and there needs to be much closer integration with territorial planning objectives. This is important for smaller cities and regions, and regions with relatively weak economic performance, where a narrow cost-benefit case is difficult to achieve. This is also something it is necessary to address if there is to be a shift in the status quo from what is often a preference for road projects over public transport projects. In order to achieve this, a new approach to investment appraisal is required, that can cover the full range of benefits, particularly for indirect beneficiaries (for example developers, businesses) who may therefore provide alternative sources of finance.

Sintropher results also indicate that even where feasibility studies can show a preferred tram or tram-train scheme with viable technical and economic feasibility, there is often an implementation gap due to reductions in public sector transport expenditure in many European countries. What is required is further development of innovative financing models along with the development of the necessary devolved governance and organisational structures, to promote and implement these kinds of transport links. Sintropher has worked with POLIS and the UITP to develop a reference resource for innovative financing.

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1. About Sintropher

Sintropher (Sustainable Integrated Tram-Based Transport Options for Peripheral European Regions) is a European transport co-operation project part-funded by the INTERREG IVB North-West Europe Programme.

The overall project aim is to develop sustainable, cost-effective solutions to improve connectivity to, from and within poorly connected regions in North-West Europe. There are five objectives:

- promote cost-effective innovative solutions (transport links) to improve regional connectivity
- investing in such links – economic feasibility; and strengthening the case by a promoting a wider approach to investment appraisal
- connecting such links to national and transnational networks – promote quality interchange at rail/air hubs
- realising the territorial and economic benefits – marketing initiatives for passengers and investors/developers
- realising territorial and economic benefits – promote a more integrated approach to investing in such transport links, and territorial planning (corridors)

There is a particular focus on tram-train systems which allow local trams to run on to national rail networks, pioneered in Germany, firstly in Karlsruhe and developed in Kassel, which allow urban tram systems to extend over national rail tracks to serve extensive city regions. The project has also looked at other innovative forms of tram systems such as single-track tramways as well as high-quality transport interchanges that link such systems to major national or transnational rail or air hubs.

Sixteen Sintropher project partners from seven regions in five EU Member States have been working together. These are Valenciennes (France); the Fylde Coast (UK); West Flanders west and West Flanders east (Belgium); North Hesse (Germany); Arnhem-Nijmegen (Netherlands); and Saar-Moselle (cross-border France-Germany). Participants included public transport operators, local authorities, regional transport bodies and universities.

A key feature of the project is transnational cooperation. By working together, each region has the opportunity to benefit from knowledge transfer, joint problem-solving on economic and technological issues, exchange of experience, pilot projects and demonstration projects, and capitalising on best practice across the EU.

2. Seminar aims and attendance

Theme

The half day seminar, held in the Thon Hotel Bristol Stephanie, central Brussels on the 29th of September had a theme that was central to the Sintropher's project aim: "Connecting European regions using innovative transport: investing in tram- and rail-based systems."

Aims

The event had three aims:

- to present results of the SINTROPHER European transport project and in the context of the theme above.
- to share and discuss SINTROPHER recommendations with selected European experts and agencies in the field of transport policy and programmes.
- to get expert views on ways to implement SINTROPHER recommendations European, national and/or regional levels e.g. changes in transport policy, initiatives and joint ventures by the transport industry, and follow-on projects potentially financed by the new EU Programmes 2014 - 2020.

Organisation

The Seminar was organised by University College London as lead partner of Sintropher, on behalf of the other project partners.

The event was organised in association with POLIS, a leading European Network of cities and regions focusing on urban transport innovation, with which we are collaborating on some aspects of the project.

Michael Cramer MEP, Chair of the Parliament's Transport and Tourism Committee, accepted an invitation to be the keynote speaker and participate in the event.

Attendance

The Seminar was aimed at invitees from the European Commission DG MOVE and DG REGIO, EU institutions, and relevant European transport organisations, plus representatives from all Sintropher partners. Approximately 30 people attended. A list of delegates is in appendix B.

3. Seminar programme

The programme is shown in appendix B.

Presentations

Session 1 consisted of presentations on the European transport policy context, and the results and recommendations from the Sintropher project.

Group discussions

Session 2 had three break-out groups, to consider (1) Sintropher recommendations and application to delegates' area of interest (2) ways to implement recommendations and at which territorial level (city, regional, national, EU). The topics were:

- investing in light rail and tram systems: innovative technologies - opportunities, feasibility
- investing in light rail and tram system: linking transport schemes to urban and economic regeneration opportunities
- investing in light rail and tram systems: economic appraisal and recognising wider benefits

Plenary

Group rapporteurs fed back to a plenary, followed by general discussion.

4. Session one: presentations

Chair's Welcome and Introduction

Delegates were welcomed by Dr Robin Hickman of UCL who outlined the aims for the seminar (as discussed above) and the aim and objectives of the SINTROPHER project (as on page 6).

Keynote address: EU transport context - the 2011 White Paper and future of public transport.

Michael Cramer MEP

Michael set out the aims of the European Parliament to increase the level of ambition for transport in order to hit the EU's 2020 targets for efficiency, renewables and emissions reduction. With transport accounting for nearly a quarter of EU GHG emissions, and within this road transport accounting for 72 per cent it is an area where performance needs to improve as it is to only sector that has seen a (20 per cent) overall increase in emissions since 1990.

Michael set out the aims of the 2011 EU White Paper, which, whilst setting no particular goals for public transport, seeks drastic reductions in 'conventionally fuelled cars'. A recent 'stock taking' has produced new goals; a doubling of public transport in urban areas by 2030, a greater emphasis on states facilitating safe door-to-door mobility and requirement on Member States to provide more funding on a long term basis. Michael saw the way forward in terms of addressing the unfair competition between road and rail with rail prices rising due to high taxation and track user charges.

The presentation concluded with a number of examples of the need to address cross-border connections, and look again at prioritisation of schemes in the TEN for high speed rail, perhaps with less emphasis on large ambitious projects and more emphasis on missing links in the network which are more achievable.

Sintropher offers valuable input as it provides solutions in the form of the new light rail services that cities and regions want. Reducing the carbon emissions from the transport sector begins with public transport due to the high levels of vehicle use, in comparison to private cars.

Solutions are also required for more attractive pricing of tickets and emphasis on the 'missing' cross border links that prevent mobility across national borders and constrain national public transport providers. Finally, to achieve the carbon reduction targets set by the EU, knowledge transfer is important.

SINTROPHER project results, messages, recommendations- part one

Colin Osborne, University College London, SINTROPHER project manager.

Colin described the activities, conducted as part of the project, to improve transport solutions for some of the peripheral regions of Northern Europe that have relatively poor connectivity to the European high-speed rail network. These have included technical and economic feasibility studies, European case studies, good practice guidelines, and investment in pilot and demonstration schemes. These demonstrations have included the Valenciennes single-track system, Fylde Coast tram system, extensions to the Kassel/Nordhessen RegioTram tram-train system, and West-Vlaanderen Kusttram extension and station interchanges.

Regarding the economic and financial dimensions of the results, these indicate that tram-train is seen as an attractive concept, with the Kassel/Nordhessen RegioTram providing a good demonstration of feasibility. Tram-trains have ability to penetrate urban areas and integrate with existing rail infrastructure. But a conventional tram link to a regional/national rail hub link is often still a preferred option due to economic feasibility, especially lower cost. Costs are generally central to economic feasibility so cost strategy is important. But more effective recognition of the wider territorial and economic benefits can strengthen the investment case for such schemes, especially for smaller or economically weaker cities and regions. Similarly, achievement of strategic regional objectives should be central.

New or extended tram-based links to connect to regional airport hubs tell a different story, with feasibility affected by dispersed passenger catchment areas, and the commercial interests of airport operators who, for example have other interests such as car parking income. There is a need to better integrate airport access planning with regional transport plans, and it makes sense to protect potential tram route alignments for the future, even if fast bus services to city centres offer a more economically feasible short term option.

Recognising the potential territorial, economic and regeneration potential of the tram/light rail schemes has been an important message from Sintropher's major review of European case studies in the last 20 years; and also the role that these schemes can play in place and location marketing for wider urban and economic development, as in France.

There is, however, a difficulty in financing innovative transport schemes, given the current reductions in public expenditure across European countries. So innovative financing models are growing in importance, and Sintropher has developed a reference database with POLIS and UITP.

SINTROPHER project results, messages, recommendations- part two

Dr Iqbal Hamiduddin, University College London.

Iqbal present more detail on the technological and organisational dimensions of Sintropher's work on these systems. It is easier for larger cities and metropolitan areas (typically 300,000 population or more) to show the feasibility of light rail/tram/tram-

train schemes, but there are examples such as Kassel and Valenciennes where lower cost options have been developed in parallel with recognition of the wider territorial benefits.

The presentation identified three broad approaches to tram-based systems:

- single track tramway, bi-directional operation – seen in the Valenciennes project; lower cost and narrower urban corridor space requirement, offers a good potential solution for constrained urban environments.
- tram-train – the Kassel RegioTram provides one example of a means to connect rural and urban areas, combining use of the rail infrastructure and penetration into the city centre.
- conventional dual track tram with good interchange to a regional heavy rail station hub station– this has been the solution adopted in West Flanders and at Blackpool.

Sintropher makes various recommendations for addressing key cost issues such as high unit cost of tram-train vehicles (collaborative purchasing initiatives) and more favourable regimes for rail track access costs.

Regarding the organisation dimension, effective champions, leadership and inter-agency co-operation are vital. And devolved regional governance, with adequate powers and ability to raise finance, appears more conducive to promoting such schemes than a centralised national regime.

The presentation concluded with 10 success factors identified by the SINTROPHER project partner, for making such schemes a reality, from concept to implementation. These highlight the importance of the integration of transport and territorial planning, need for project champions, the value of knowledge transfer, the importance of strengthening the economic feasibility through making the strategic case for investment, and the value of clear communication, and generating support from stakeholders.

Connecting European regions using innovative transport: transformation of Kassel as a dynamic city and region and the effects of RegioTram

Professor Helmut Holzzapfel, University of Kassel

Helmut presented more detail on the Sintropher work concerning the development of the Kassel/Nordhessen tram-train system, including the economic and social benefits it has had for the region. He also showed the role of the University and academic input in generating a culture shift away from road-based transport projects towards an acceptance by regional stakeholders of the need and value of public transport.

The RegioTram has helped to enhance property values and reduce population decline in the settlements surrounding Kassel. The system has resulted in a high proportion of city centre shoppers and students that use public transport, helping to maintain the economic vitality of the city.

The presentation concluded with examples of the introduction of very visible public transport information systems (a Sintropher output) serving a practical function as well as symbolising a wider commitment to a shift towards public transport.

Linking transport investments and economic/regional benefits, and financing transport links

Jerome Pourbaix, Head of Policy and Outreach, UITP (International Union of Public Transport)

Jerome presented recent work by the UITP regarding the way in which modal share of public transport has evolved differently, even in developed cities. Some, such as Vienna, Paris or London have seen declining car use whereas in others, such as Barcelona, Berlin and Tokyo car use has been stable or has even increased, despite increases in the public transport supply.

The presentation set out the wider economic benefits of public transport investments in terms of the economic strength of cities and regions, human and physical capital, quality of life and global appeal.

With much of the value created by public transport being indirect, it is important to identify and gain the support of these indirect beneficiaries. Local businesses, employers and property developers all benefit and are a potential source of finance for public transport schemes through a range of measures such as direct business taxation and levies on workplace car parking.

Finally the importance of policy integration and empowered local government was identified in creating successful, integrated urban public transport strategies.

5. Session two: group discussions

These considered (1) Sintropher recommendations and application to delegates' area of interest (2) ways to implement recommendations and at which territorial level (city, regional, national, EU).

Group 1. Investing light rail and tram systems: innovative technologies - opportunities, feasibility

Michael Cramer's presentation set out an end point and the contribution tram-trains can make to this. There is a need to continue to focus on the missing links in the TEN; many of the cross-national or cross-border barriers are known (technical specifications, safety standards, operational practices).

Economic viability is an issue and in particular rail track access charges which need more fine tuning. High charges are not always unjustified, where there is high demand or use of infrastructure, however a flat rate does not always make sense where there is modest demand or use of infrastructure (more train paths available). Track charges and other forms of regulation can be too heavy when there is a need to use technologies such as tram trains to expand the offer and enable rail to cater for different markets and users.

There is a need to continue to lobby, network and share knowledge between countries (e.g. the variable charging applied to franchise holders in the UK, could provide an example that could be cited when trying to reduce the high access charges in Kassel). There is also, as yet, no European network of cities using light rail which could be a useful next step allowing lobbying for, for example, a greater shift in favour of increased funding for rail projects.

Finally the group recommended further examination of the single track tramway model as used in Valenciennes. This is an interesting innovation and a potential model for connecting peri-urban areas and extending into the wider region, and this could be a more cost effective option for smaller cities. But there are issues of system capacity and operational reliability.

Group 2. Investing light rail and tram system: linking transport schemes to urban and economic regeneration opportunities

All group members acknowledged the value of champions; in some cases champions were conceived more as networks, agencies or groups of stakeholders rather than a single charismatic political or business leader.

Indeed in some cases, particularly the cross-border projects, the role of networks is central because these are the building blocks of new institutions that are often required to govern, promote and deliver innovative new projects.

Engaging the business community is also important. Transport for London provides a good example, with its own dedicated unit to liaise with businesses. Kassel also shows how engagement can shift the mind-set from road to rail and public transport. Support from the business community cannot be assumed, good communication can help.

The group called for a greater appreciation among policy-makers, infrastructure providers and political decision-makers of what is required to enable infrastructure to deliver the full range of territorial and economic benefits, as these can be considerable.

These benefits cannot be assumed, they often require an accompanying package of transport and economic policy measures and policy integration. The economic, social, regeneration and environmental benefits of public transport infrastructure do not occur on their own and there is a need to continually support and develop the 'know how' in order to get the most out of infrastructure.

Group 3. Investing light rail and tram systems: economic appraisal and recognising wider benefits

Current forms of cost-benefit appraisal for investment in transport schemes such as those in Sintropher, have major deficiencies and need to change. There is a need for modification and simplification, and also for methods that acknowledge different contexts and that projects will have different aims in different places. This is particularly important as much of the responsibility, as well as many costs and benefits are felt at the local and regional level.

As part of this there is a need for appraisal to be more policy-based in order to address issues such as social deprivation or urban regeneration, which may be key benefits in some cases.

This links appraisal to decision-making and governance structures, something that is necessary if appraisal is to link to strategic planning and take in the strategic benefits of transport projects. As benefits are often long-term, emergent, and cumulative there is a need to incentivise the rolling over of benefits to move from standalone projects to programmes that achieve strategic aims. In order to achieve this, it is essential to educate politicians and decision-makers in order to encourage longer-term thinking that goes beyond the relatively narrow current methodologies for economic appraisal. The use of cost-benefit analysis is, in particular, very narrowly focused on 'economic efficiency' goals, and often doesn't capture the wider benefits (and costs) of transport investment projects. This is a major problem when appraising public transport schemes in regeneration areas – the current approaches are biased against delivering investment

Finally, EU policy does help set the critical, long-term aims that necessitate a change to the status quo. But this top-down policy does not always exert enough pressure (or provide sufficient incentives) for regional implementation.

6. Closing remarks and next steps

The Chair thanked all the participants, the project partners for the Sintropher work and pilot investments that has produced valuable case studies, and the experts who have contributed to the seminar. Two final points were made:

- whilst the end point is known (set out in the EU Policy as discussed in Michael Cramer's presentation) and radical change is required there are still severe problems with implementation. The Sintropher project has produced innovative examples of which, sadly, too few are in the UK.
- the current transport investment appraisal practice is problematic - it reinforces the current, unsustainable, status quo and there is a need for new approaches that take into account the full range of costs, benefits and strategic objectives. Sintropher has developed an approach using participatory multi-criteria appraisal, and work will continue on this after the current project ends.

The seminar report will be produced and disseminated to delegates and wider audiences, plus placed on the website.

Dialogue with organisations present at the Seminar will continue in order to influence policy and practice in this field and pursue Sintropher recommendations.

Similarly, Sintropher partners will continue to use their results and knowledge gained, to pursue follow-on transport investments, linked to wider territorial development, in their respective regions and countries.

Appendix A

Seminar programme

9.00 - 9.30	Arrival and tea/coffee.
9.30 - 9.40	Chair's welcome - purpose of seminar, delegate introductions <i>Dr Robin Hickman, University College London (Sintropher Lead Partner) and POLIS representative</i>
9.40 - 9.55	Keynote presentation on EU transport context The 2011 White Paper and future of public transport. <i>Michael Cramer MEP</i>
9.55 - 10.40	SINTROPHER project results, messages, recommendations <i>University College London (Lead Partner)</i>
10.40 - 10.55	Connecting European regions using innovative transport: transformation of Kassel as a dynamic city and region <i>Prof. Helmut Holzzapfel, Universität Kassel (Sintropher partner)</i>
10.55 - 11.10	Linking transport investments and economic/regional benefits, and financing transport links <i>Jerome Pourbaix, Head of Policy & Outreach, UITP</i>
11.10 - 11.25	Questions
11.25 - 11.40	Tea, coffee
11.40 - 12.30	Break-out groups <i>Comments on (1) Sintropher recommendations and application to delegates' area of interest (2) ways to implement recommendations and at which territorial level (city, regional, national, EU):</i> <ul style="list-style-type: none">• <i>Investing in light rail and tram systems: innovative technologies - opportunities, feasibility</i>• <i>Investing in light rail and tram system: linking transport schemes to urban and economic regeneration opportunities</i>• <i>Investing in light rail and tram systems: economic appraisal and recognising wider benefits</i>
12.30 - 12.45	Plenary - reports from groups
12.45 - 13.00	Chair's summing up
13.00	Buffet lunch

Appendix B

List of delegates

Paul Beeckmans -
Transport Adviser, Greens/EFA European Parliament

Michael Cramer
European Parliament, Chair of Transport and Tourism Committee

Ivo Cré
Deputy Director, POLIS

Shana Debrock
Policy Officer, Belgium Federal Ministry of Spatial Planning

Leonardo Don Giovanni
Executive Secretary, Rail Forum Europe

Noel Farrell
European Commission, DG Regio

Dr. Torben Holvad
Economic Adviser, European Railway Agency

Tim Kendell
Transport Adviser, ex UK Department for Transport

Pierre Laconte
President, Foundation for Urban Environment, Honorary Secretary General UITP

Vincent Leiner
European Commission, DG MOVE

Marta Marcuzzi
Policy Officer, EuroCities

Jens Müller
Advisor on Transport Policy to Michael Cramer MEP

Dr. Maria Price
Manager European Affairs, UIP

Jerome Pourbaix
Head of Policy & Outreach, UITP

Hana Rihovsky
Transport Adviser, Greens /EFA European Parliament

Willy Smeulders
European Passengers Federation

Peter Stonham
Managing Director, Travel 2020

Daniel Veryard
Transport Analyst, International Transport Forum, OECD

Project Partners

Chris Anslow
Head of Transport, Lancashire County Council

Jacqueline Day
Junior Transport Officer, Lancashire County Council

Ron Dixon
Financial Adviser, Sintropher Project

Daniel Durrant
PhD student, UCL

Adrien Ferrandez
Charge de Mission, PDU & SDA, Valenciennes

Dr. Iqbal Hamiduddin
Lecturer, UCL

Dr. Robin Hickman
Reader in Transport UCL (Director Sintropher Project)

Prof Helmut Holzapfel
Universtät Kassel

Eveline Huyghe
Programme Manager, WVI West Flanders

Further information

Project website

PowerPoint presentations of the Seminar are available on the project website:

www.sintropher.eu

This also contains a full set of project partners' Findings Reports plus the Reports listed below.

Sintropher Reports (published - on project website)

Connecting European regions using innovative transport.
Investing in light rail and tram systems: Technological and organisational dimensions
September 2015

Connecting European regions using innovative transport.
Guidelines for good transport interchanges
September 2015

Sintropher Reports (forthcoming)

Connecting European regions using innovative transport.
Investing in light rail and tram systems: Economic and financial dimensions

Connecting European regions using innovative transport.
Investing in tram- and rail-based systems: The marketing dimension

Connecting European regions using innovative transport.
Investing in light rail and tram systems: Good transport interchanges

Connecting European regions using innovative transport.
Investing in light rail and tram systems: Summary Report

Contacts

Dr Robin Hickman
Bartlett School of Planning
University College London
r.hickman@ucl.ac.uk

Mr Colin Osborne
Bartlett School of Planning
University College London
colin.osborne@ucl.ac.uk

Partners

Sintropher is coordinated by



In partnership with



Regionalmanagement
NordHessen



Kasseler
Verkehrs-Gesellschaft
Aktiengesellschaft



ProRail

U N I K A S S E L
V E R S I T ' A ' T
Natur Technik Kultur Gesellschaft



Lancashire
County
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Co-funded by the INTERREG IVB programme for North-West Europe



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Wolthagen





Sintropher

University College London

22 Gordon Street

London WC1H 0QB

United Kingdom

www.sintropher.eu