

SUMMARY

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EDITORIAL

Alain Le Coroller, Publication Manager

Various routes toward sustainable roadway development

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Dedicated right-of-way Public Transport

Guided public transport infrastructures: contribution of cement concrete in innovative designs 4

Recent years have witnessed the significant development of public surface transport systems in our cities: tramways, systems on tyres, right-of-way bus corridors, etc. This phenomenon is a response to the high stakes involved for mobility and communication in urban areas. These projects have seen the emergence of new problematics related to the necessary coexistence of techniques previously foreign to each other: highway and railway engineering.

In connection with Operational Group 10 (Vehicles and Infrastructures: Integrated Developments) of the PREDIT Programm (French acronym for Programme for Research and Innovation in Land Transport), a group of 17 partners from various fields met to reflect on rail/surfacing interfaces around the INDUIT Project (French acronym for Sustainable and Integrated Infrastructures for Public Surface Transport).
Jean-Pierre CHRISTORY, Lionel GRIN, Alain DEPETRINI

Guidelines for the design and construction of kerb-guided busway infrastructure in the UK 13

The Guided Busway Design Handbook, produced in 2004 and the Guided Busway Construction Handbook (2006) are best practice guides to guideway construction. This paper describes development of the handbooks which drew on experience from across industry and lessons learnt from previous projects. Ongoing work since publication of the handbooks to further develop knowledge of design, construction and operation of kerb-guided busways is also discussed.

To inform the specification for the Cambridgeshire Guided Busway, studies of the Leeds and Essen Guided Busways were carried out. These studies are described examining both the physical dimensions of the guideways and dynamic vehicle data recorded on test runs. These are compared to the quoted construction tolerances for each system. The analyses carried out and the correlation between the physical guideway features and the measured ride quality are given. Tolerances required for the construction of future guided busway systems are discussed in conclusion to this section.

David HUNT, Heather CENEY

Continuously reinforced concrete pavement (CRCP) for combined tram-busway in Gent 21

The project concerns the design and supervision of construction for the realisation of a new combined tramway and bus lane linking the main railway station of Gent (Belgium) with the exhibition halls at Flanders Expo. Fundamental criteria for the design included the durability of the pavement, a pleasing appearance compatible with the renewal of the public space and vibration and noise abatement measures in the pavement structure. Furthermore the project consisted of three distinct zones of public spaces through which the new tram and bus had to be realized.

Manu DIEPENDAELE, Luc RENS

View of intermediate layer reinforcement

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The Rhône Department of France Leslys, a high speed tramway link for the Lyons – Saint-Exupéry airport 28

The Rhône Department is the owner since 1977 of the land occupied by the East Lyons Railway Company (Chemin de fer de l'est lyonnais (CFEL)) – a disaffected line running from the Isère Department – this entity has always wished to preserve the land in its original condition, convinced of its interest for a public transport system.

A number of studies to define the best-suited application, the decision was taken to combine into a common infrastructure a tramway service for the East suburbs of Lyons and a high speed service for the airport of Lyons – Saint-Exupéry, known as the Leslys Project. This decision marked the outset of close collaboration between Sytral, lead contractor of the urban tramway between Part-Dieu and Meyzieu ZI (the industrial estate of Meyzieu) and the Project Manager for building the infrastructure common to these two services and the Rhône Departmental authority, responsible for Leslys. The latter has chosen to outsource this public service to lead it to a successful conclusion. The year 2006 ended with the choice of the licensed operator and approval of the terms of the contract, which was signed at the very beginning of 2007. Leslys is scheduled to start commercial service in 2010.

Patrick DIENY, Anne-Isabelle MANIER

The blue "Serpentone" of Padua (Italy) 38

It is with this appellation that the Paduan citizens dearly named the new electric road-based tram strongly wanted by the Municipality for the improvement of the road network in the old city. The works are now almost finished and the citizens are very satisfied with the new metropolitan service (12-15 minutes frequency, large transport capacity, reduction of car traffic and emissions thanks to the electric driving force). Until the end of August, though, the old city went through the mill because of the necessary night works for the new route.

Carlo GIAVARINI

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Roads & Environment

The environmental road of the future: Analysis of energy consumption and greenhouse gas (GHG) emissions 41

This article describes the contribution made by road construction in the area of energy consumption and greenhouse gas (GHG) emissions. The principal road construction techniques are analysed (hot mixes, bitumen emulsion technologies, concrete cement, in place or plant recycling, etc.). The different types of road pavement structure are examined and compared.

The results are an efficient tool that assists in the selection of environmentally-friendly pavements. It can be used for research and development of tomorrow's structures.

Pierre T. DORCHIES, Michel CHAPPAT, Julian BILAL

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View of the city of Patras



A system to reduce congestion and improve travel time reliability 47

Traffic congestion remains one of the biggest problems in urban areas. Congestion results from various sources on the road system. The interaction between these multiple sources is complex and varies greatly from day-to-day and road-to-road. The sources of congestion also produce another effect: variability in travel time. The present article investigates traffic congestion and travel time reliability trends in the city of Patras, third city in population over Greece. Traffic congestion and travel time reliability were getting worse in the last 20 years for this city, and no practical measure had ever been taken.

Professor Evaggelos MATSOUKIS

Cold In-Place Recycling (CIR) in Nevada 54

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Sohila BEMANIAN

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China, motorcycle and camels



Silk Road Policy actions for developing efficient inland transport links between Europe and Asia 57

The onset of the 21st century is being shaped by unprecedented changes in the transport linkages between Europe and Asia due mainly to the spectacular development of Asian economies. One of the characteristic features of these changes is that a broad number of countries are now working together through regional organisations such as BSEC or TRACECA to develop adequate inland transport infrastructure and remove regulatory barriers that prevent the development of efficient surface transport services.

Alain RATHERY

The IRF's Black Sea and Silk Road Conference Opening Speech (extract) 62

"The tangible achievement of the Black Sea Economic Cooperation, BSEC, states gives me the greatest pleasure because fifteen years ago, as Prime Minister of the Republic of Turkey, together with the heads of state and government of other Black Sea states, I signed the agreement establishing BSEC..."

Süleyman DEMIREL

From historical links to a modern network 64

"Turkey is the gateway of Europe and Asia, and as such is playing a critical role in the development of transport connections. Turkey is also actively participating in regional and subregional initiatives such as the Black Sea Economic Cooperation (BSEC), the Intergovernmental Commission – Transport Corridor Europe Caucasus Asia (IGC – TRACECA), the Silk Road initiative, E-Roads, as well as the Asian Highway and Trans-Asian Railway networks. Turkey is also taking a lead in investing to improve the quality of road transport infrastructure and connectivity."

Barry CABLE

Serbian Road network Development Strategy 66

Serbia has favorable geographic position in the part of South-East Europe, which is the reason for all means of transport systems to transit through the country: road transport and railway transport are dominated, but road transport is the most noticeable. Unfortunately because of the well-known situation, during the period of last 15 years the investments in primary infrastructure were not sufficient, which resulted in its deterioration.

Neighboring countries have accelerated activities on primary road network construction. The accession of Romania, Bulgaria and Hungary influenced on new distribution of transport flows to the disadvantage of Serbia. The situation will be even more difficult upon the accession of Croatia to the European Union. Croatia constructs the primary road network rapidly.

Edib DEDEIĆ