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ALTERNATE FUELS AND ENERGY EXPERIENCE IN CANADA

ROSCHLAU Michael

UITP, 2006, p. Ppt 35 - Ft 7

Asia Pacific 5th Congress - Seoul 2006, n° Session 6

As the world pioneer of hydrogen fuel cell technology for buses, Canada has experimented with a wide variety of alternate fuels. In recognition of the need to move away from the reliance on traditional fossil fuels, this presentation reviews experience with natural gas, biofuels and other options in the Canadian public transport industry. The gradual transition from diesel and clean diesel as a bus fuel to hybrid-electric and hydrogen fuel cell options presents serious challenges. The presentation considers the tradeoffs between fuel cost, emissions and capital cost of vehicles, and the dilemma presented to funding agencies. In this context, the cost-benefit analysis used to justify hybrid-electric bus procurements in British Columbia and plans for the world's largest commercial fleet of fuel cell buses for the 2010 Winter Olympic Games in Vancouver-Whistler will be discussed. The presentation also reviews renewable energy options such as wind power, used to supply electricity to the light rail system in Calgary.

A NEW IMAGE FOR BUS SYSTEMS

CHAN John Cho Chak

UITP, 2006, p. Ppt 20 - Ft 6

Asia Pacific 5th Congress - Seoul 2006, n° Session 7

Hong Kong is served by a multi-modal public transport system consisting of railways, franchised and non-franchised public buses, public light buses, taxis, trams and ferries. With the exception of the railways which are wholly or largely Government-owned, all the other modes are owned and operated by private enterprise. While the Government plays an overall coordinating and regulatory role, there is considerable competition among the different modes of public transport. Operating in this environment, Kowloon Motor Bus (KMB) has to devote a good deal of effort to marketing and image-building to strengthen its competitive edge. KMB's marketing strategy is devised on the basis of two key elements: meeting its customers' needs and expectations; and discharging the company's corporate social responsibilities as a public service provider. In relation to the first element, the marketing messages are aimed at informing and assuring the travelling public of the safety, reliability, convenience, comfort and value for money of the company's services. As regards the second element, emphasis is placed on the company's efforts to protect the environment, to maintain high standards of corporate governance and to support and care for the needy members of the community.

AN IT PERSPECTIVE ON SEOUL METROPOLITAN PUBLIC TRANSPORTATION. DIRECTION AND BUILDING OF BUS MANAGEMENT SYSTEM (BMS) AND SEOUL TRANSPORT OPERATION AND INFORMATION SERVICE (TOPIS)

KIM Young Ho

UITP, 2006, p. Ft 19 - Ppt 28

Asia Pacific 5th Congress - Seoul 2006, n° Session 1

Seoul Metropolitan city previously constructed Bus Management System (hereinafter referred, as BMS) that is for preparation of public transportation system reorganization such as introducing, public transportation fare system of distance-proportion, semi-public management of bus and etc., Building the Bus Management System is one of the solutions to release serious traffic problem in Seoul., Seoul has heavy traffic jam because of continuously increasing vehicles being full on the road so that, this focuses on the public transportation. BMS also focuses on the customer's satisfaction by making bus ontime-, arrival and producing diverse data for later public transportation plan. BMS is well used for a basic system, of public transportation reorganization with New Transportation Card System., Seoul city needed promotion as of Seoul traffic information and transportation to prepare UITP, opening in Seoul in July, 2005. It extended previous Bus Management System in order to collect, and manage traffic stream, images, public traffic information, and successfully made Seoul TOPIS., Seoul Transport Operation and Information Service., TOPIS is an integrate traffic

management agency that generalizes, operates and manages traffic, condition in Seoul and gets traffic data from related agencies like Bus Management System,, Transportation Card System, Automatic Control System, Traffic Announcement, Police Agency,, Korea Highway Corporation and etc. Each system is for use of original function and each, producing information connected to TOPIS shall collect bus running data, traffic volume, running, speed, accident, highway condition, civilians' traffic report and etc. Then it is used to solve traffic, problem, improve traffic condition and make scientific traffic transportation plan., This paper introduces the building process and use of Seoul Bus Management System. Plus, this, shows function of extended Seoul TOPIS and proposes building plan and the direction of development.

A PILOT STUDY TO REDUCE GREEN HOUSE GASES BY USING ALTERNATIVE FUEL IN BANGALORE METROPOLITAN TRANSPORT CORPORATION (MBTC) BUSES: DEVELOPING A SUSTAINABLE URBAN TRANSPORT SYSTEM FOR BANGALORE

TRIPATHY Upendra

UITP, 2006, p. Ppt 21

Asia Pacific 5th Congress - Seoul 2006, n° Session 6

The Indian metropolises are on the threshold of a major environmental crisis due to the growing air pollution and greenhouse gases (GHG) emissions caused by fuels used in vehicles. Atmospheric pollutants commonly associated with motor vehicles are nitrogen oxides (NOx), hydrocarbons (HC), carbon monoxide (CO), sulphur oxides (SOx), lead (Pb), and particulate matter less than 10 microns in diameter (PM10). Fossil fuels are a non-renewable source and they are diminishing extremely fast compared to the early 1900's, due to the modern age of technology that requires power to run vehicles. Presently BMTC consumes on an average 420 lakh ltrs. of Diesel every year. The cost of oil is increasing day by day and there is urgent requirement of finding alternative fuel. One such alternative fuel is Bio diesel. Biodiesel is a clean burning alternative fuel produced from a variety of renewable agricultural resources, such as soybeans and canola, animal fats, and recycled cooking oils. It can be burned in any standard, unmodified diesel engine either in pure form (BD100) or depending on outside air temperatures, in a blend of any proportion with petroleum diesel. Biodiesel seamlessly integrates with current engine technology and fuelling infrastructure. In fact, it is the first clean fuel that does not require fleet operators to purchase new vehicles or construct new facilities. Presently on trial basis BMTC is using Honge Oil (90% diesel + 10% Honge oil) extracted directly from expeller at cost higher than diesel cost and running 25 buses from 25th October, 2003. Objectives of these trials on two buses. 1. To have an alternative fuel in place of diesel, to check the mileage and percentage of improvement in comparison with diesel under regular road conditions. 2. To reduce the vehicular pollution. 3. To improve the image of BMTC as a "Green Transport System" using bio fuel. Trial run results : BMTC, is presently conducting trials by running twenty five buses on Bio fuel in the ratio of 80:20 (80% diesel and 20% Bio Diesel) at our depot . The result so far encouraging in terms of reducing emission levels. This paper outlines the attempt of Bangalore's Public Utility undertaking "the Bangalore Metropolitan Transport Corporation (BMTC)" in using this bio-fuel for running their buses on experimental basis. While the primary concern was that of environmental benefits, it was noted that there could be economic benefits also.

BOT PROJECT ON PLATFORM SCREEN DOOR

CHOI Hee-Jung

UITP, 2006, p. Ppt 20

Asia Pacific 5th Congress - Seoul 2006, n° Session 3

BUS REFORM IN NEW SOUTH WALES - THE STATE AUTHORITY EXPERIENCE

WILSON Roger

UITP, 2006, p. Ft 7 - Ppt 17

Asia Pacific 5th Congress - Seoul 2006, n° Session 3

In 2004, the government of New South Wales undertook a major program of structural change and reform of bus services. This paper explores the background to the reform process leading to the signing of new operating contracts in 2005. Bus reform has resulted in significant changes to the way that bus services provided by the State Transit Authority are planned and financed, with the prospect that the recently negotiated contracts could be subject to more competitive processes in future years. The paper also discusses how land use and transport systems can be planned and operated to improve cost efficiency and revenue efficiency, so as to minimize the need for funding support from the government. Finally, the paper proposed a general strategy for increasing the provision of bus services in Sydney that will be more financially sustainable.

DEVELOPMENT OF DRIVERLESS RUBBER-TIRED WHEEL AGT SYSTEMS BASED ON KOREAN STANDARDIZED SPECIFICATION

HAN Seok-Youn

UITP, 2006, p. Ppt 21 - Ft 11

Asia Pacific 5th Congress - Seoul 2006, n° Session 8

DEVELOPMENT OF ENVIRONMENT-FRIENDLY PUBLIC TRANSPORTATION

CHEONG Chang Won

UITP, 2006, p. Ppt 17

Asia Pacific 5th Congress - Seoul 2006, n° Session 8

Environment friendly vehicle is an unavoidable alternative for our future. Stringent emission reforms, Kyoto Protocol combined with environmental needs and concern of fossil fuel depletion are generating strong demand for environment friendly vehicles all over the world. Since Hyundai Motor Company produced its first bus in 1969, Hyundai has made efforts to develop competitive environment friendly vehicles such as CNG (Compressed Natural Gas), Hybrid and Fuel Cell bus. CNG bus is the most successful public transportation to reduce air pollution in Korea. After CNG bus was introduced in 2000, only in 6 years, almost 10,000 CNG buses are operating in strong support of the Korean government and municipality in Korea. Hyundai has constantly improved the performance of CNG bus, leading to make environment friendly CNG bus more competitive than any other conventional diesel bus. Hyundai's accumulated and profound Eco-Technology can provide cleaner public transportation in the near future. Hyundai will open zero emission fuel cell bus to the public in 2006 World Cup in Munich and will develop very practical hybrid city bus model next year. Hyundai Motor Company is confident that these two alternative fuel buses will tremendously contribute to urban environment, especially to clean air.

EVENT PLANNING HAND IN HAND WITH PUBLIC TRANSPORT

BLETCHLY Don

UITP, 2006, p. Ppt 32

Asia Pacific 5th Congress - Seoul 2006, n° Session 5

As part of the Olympic Games hosted in the City of Sydney, Australia in the year 2000, a number of matches within the Olympic Football Tournament were held in the City of Brisbane, some 1100km north of Sydney. To cater for the tournament a venue specific transport and traffic management plan was developed. Based on this experience and the success of the plan, the Queensland State Government has adopted transport and traffic management plans for the major sporting venues in Southeast Queensland. "Free public transport" to and from the venues is included in the patrons ticket costs, resulting in a very high usage of public transport services to and from the venues. Don's paper outlines the processes used and the successes achieved.

EXPERIENCE IN DEALING WITH SPECIAL HOLIDAYS FROM METRO SYSTEM AND TAIPEI 101 BUILDING

TSAY Huel-Sheng

UITP, 2006, p. Ppt 26

Asia Pacific 5th Congress - Seoul 2006, n° Session 5

Averaging over 1 million ridership every day, Taipei metro provides services to 6 million citizens of the Taipei metropolitan area. Currently, some of the city's most important locations, such as the highest skyscraper in the world, Taipei 101, and the Taipei City Hall are situated along with Taipei metro. This forms the political and commercial center of Taipei city, and is the focus of major holiday events. Due to the massive flow of people, this area has become one of the most important key positions for Taipei metro, and the security and safety issues relating to this passenger traffic are so important that we cannot ignore. To prevent accidents from occurring, Taipei metro has established different scenario plans for passenger flow control and population supervision, monitoring abnormal situations, and establishing standard operation procedures in dealing with numerous circumstances, such as explosive devices, the release of toxic substances and kidnapping of staff or passengers. As for the Taipei 101 building, we have enforced security patrols, evacuation plans and major emergency drills as well. It is expected that all major holiday events at metro facilities and 101 building could be safely and successfully.

FINAL PROGRAMME

UITP, 2006

Asia Pacific 5th Congress - Seoul 2006

FROM FULLY AUTOMATED METRO TO TROLLEYBUS RAPID TRANSIT: LYON'S BALANCED CHOICE

RIVALTA Bernard

UITP, 2006, p. Ppt 29

Asia Pacific 5th Congress - Seoul 2006, n° Session 2

Lyon offers a near unique variety of modal transportation responses to the rapidly changing needs of modern cities. The fully automated MAGGALY D line which was put into operations in 1992 and extended in 1996 has proven to be one of the major backbones of the network, with ridership far overtaking forecasted estimates. Reintroducing the tramway in 2001 in the center of the conurbation has proven a very attractive answer to the needs of central residents. The current development plan, on top of extending our metro and tram network, puts the stress on light rail and trolleybus rapid transit solutions to cater to the needs of residents commuting in the city from the outskirts of the conurbation. This policy is complemented by an important cooperation plan with the regional rail network to provide public transport solutions for people who live furthest. Lyon tries to strike a balance between a variety of solutions rather than promote an archetypal modal choice: the right type of line for the right type of needs. In this talk, we will try to express the political, technical and economical reasons for our choices.

INNOVATIVE BRT SYSTEMS FOR ASIA

HAMSTEN Bengt, HAO Quingjun

UITP, 2006, p. Ppt 20

Asia Pacific 5th Congress - Seoul 2006, n° Session 4

The first BRT-Line in Beijing was introduced in 2005 with an overall length of about 15 Km. Two other lines are currently under construction and due to coming into operation within 2006. A fourth line is currently in the planning process. To get the BRT-Lines as efficient as possible the newest and most innovative technology has been intended, like the European, technically mature Low-Floor Technology. This allows fast passenger flow at BRT-stops as well as comfortable and save traveling from stop to stop. But the buses are not the only important issue for a successful BRT-System, even one of the most important. The layout for the separated bus lanes and the passenger platforms are of significant importance as well. Furthermore the integrated IT-systems are to be mentioned: The operating-system (e.g. GPS, Telematics) and the ticketing-system. With the introduction of the BRT-Systems in Beijing a great step will be achieved to provide Beijing with an additional solution to cope with the rising traffic challenges and to fulfill the high expectations for the Olympic Games in 2008.

INTEGRATING URBAN TRANSPORTATION

LOW Tien Sio

UITP, 2006, p. Ft 8 - Ppt 40

Asia Pacific 5th Congress - Seoul 2006, n° Session 2

Many cities will need to find their own reference framework to solve the transportation demands of growing cities but there are some generally good fundamentals that would govern the framework for the solutions to some of these problems. It starts with the planning effort to conceptualise the comprehensive network with a hierarchy of road and rail systems. This planning effort should then be translated into sound engineering and implementation approach to allow for integration as the network develops. Operators have to support the overall concept of integration and the need for bus rationalisation to fit into the overall transportation network. An important element in this integration effort is the implementation of a fare system that will allow commuters to travel across networks on various systems from one mode to another using one single micropayment card.

LESSONS LEARNED FROM THE SARIN GAS ATTACK AND MEASURES FOR HOSTING THE WORLD CUP

KURIHARA Toshiaki

UITP, 2006, p. Ppt 41

Asia Pacific 5th Congress - Seoul 2006, n° Session 5

The sarin gas attack that took place on Tokyo subway lines was a terrorist attack unprecedented anywhere in the world. Since then, we have increased the number of crime prevention cameras installed, and made improvements in preparation for handling multiple simultaneous incidents. Namely, organization among divisions was amended and employee emergency and life-saving skills has been cultivated. Before the 2002 World Cup co-hosted by Korea and Japan we implemented measures to handle large numbers of passengers and visitors from abroad, as well as intensifying security measures. Recent incidents, on an international level, has led to further reexamination of the nationwide crisis management structure. This speech will introduce Tokyo Metro's current situation and how efforts have been made intensify security by improving visibility of patrols and preparedness.

MARKETING A NECESSITY. WHY BOTHER?

SAW Phaik Hwa

UITP, 2006, p. Ppt 17 - Ft 4

Asia Pacific 5th Congress - Seoul 2006, n° Session 7

Organisations in the business of providing services that address basic needs such as electricity and water hardly ever market themselves. Public transport service providers are no exception. Would it make a difference to consumers if public transport service providers started marketing their services? Are consumers brand conscious when it comes to choosing whom they ride with? Is there really a need to market?

MODAL CHOICES FOR METROPOLITAN CITIES - THE AUSTRALIAN EXPERIENCE

BURGESS Mark

UITP, 2006, p. Ft 13 - Ppt 17

Asia Pacific 5th Congress - Seoul 2006, n° Session 2

Despite city planners best efforts, Australian cities are dominated by low density development and with rapid population expansion the result has been urban sprawl. In one of the most urbanised countries in the world, Australian cities have extremely high car dependency in terms of car ownership, road supply and CBD parking ratios. There is a growing realisation that public transport does provide some of the solutions to future growth and sustainability of our cities with different initiatives across Australia being implemented to make public transport more attractive and competitive with the car. Efforts to date have focused on service and infrastructure improvements rather than applying travel demand and pricing policies. This paper explores a number of successful, but differing, approaches to growing public transport in Australian cities.

NIGHTLINK - MARKETING PROGRAM FOR QUEENSLAND TRANSPORT'S LATE NIGHT SERVICE

HORNIBROOK Jane

UITP, 2006, p. Ft 8 - Ppt 31

Asia Pacific 5th Congress - Seoul 2006, n° Session 7

NightLink is the brand name given for the late night transport services recently trialled by Queensland Transport. NightLink is one of the initiatives of the Queensland Government's 17-Point Brisbane City Safety Action Plan to address issues of safety in the Inner City areas of Brisbane. The NightLink product includes FlatFare taxi, bus and train services, operating from Inner City Brisbane on a Friday and Saturday evenings. Jane will speak about the unique marketing program for NightLink and many of the non-traditional tools used to attract the primary target audience - 18 to 30 years olds attending licensed entertainment venues. Her presentation will also address how the campaign was evaluated, what lessons were learnt and what changes will be made for the full rollout of NightLink bus and train services from July 2006.

PAST AND PRESENT OF HIGH-SPEED TRAIN TECHNOLOGY IN KOREA

LEE Jong-Kuk

UITP, 2006, p. Ppt 25

Asia Pacific 5th Congress - Seoul 2006, n° Session 8

RE-INVENTING THE WHEEL. HOW OUR TRANSPORT SYSTEMS WILL NEED TO ADAPT AS WE MOVE FROM FOSSIL FUELS TO RENEWABLE ENERGY SOURCES

STOTT John

UITP, 2006, p. Ppt 13

Asia Pacific 5th Congress - Seoul 2006, n° Session 6

Transport is heavily dependent on oil for its energy yet, over the next few decades, the world's oil resources will decline and there will be increased competition for supply. It is therefore timely to consider how we might deal with reduced production of oil and rising prices. One approach will be to re-invent our cities so they can function effectively with less energy; this will require major changes in their transport systems, especially a progressive transfer of travel from private automobiles to mass transit systems. However, reductions in energy use will be offset by growth in demand from rapidly-growing economies around the world so it will also be necessary to identify alternative sustainable and renewable sources of energy. Given the challenge of climate change, it is important that future energy strategies avoid the unconstrained use of carbon-based fuels. Most renewable energy resources, are only suitable for centralised electricity generation which is very suitable for mass transit systems but less practical for private vehicles, so it is clear that all cities should be now working towards a transit-based future. Now is the time for cities to reconsider their transport strategies to ensure that investment is directed to modes that will be appropriate for a world where oil is in short supply.

SEOUL CHALLENGE: PAST, PRESENT, FUTURE FOR SUSTAINABLE TRANSPORT

KIM Gyeng Chul

UITP, 2006, p. Ft 5 - Ppt 43

Asia Pacific 5th Congress - Seoul 2006, n° Session 1

This research is to review the history of Seoul's public transport. In particular the construction history of the subway and the increment and degeneration of the bus's popularization proceeded through the city's urbanization and motorization will be pointed out. The achievements of the Seoul Public Transport Reform will be introduced briefly and the future transport policies required to backup the Reform will be proposed. Especially the mega trend of the present economic society is to be analyzed for a befitting transport policy vision and object to be established. Further transport policies which should be progressed for the Seoul metropolitan area including the city of Incheon and Gyeonggi province will be proposed divided into the infrastructure sector, operation sector and the administration system sector.

SEOUL METRO SYSTEM: FOCUSED ON SAFETY AND SERVICE IMPROVEMENT

MIN Byung Hoon

UITP, 2006, p. Ppt 26 - Ft 7

Asia Pacific 5th Congress - Seoul 2006, n° Session 8

The subway system of Seoul has made a tremendous growth, establishing itself as the most important mode of public transportation in the city. Launched in 1974 with a single line of 7.8 kilometers in operational distance and 9 stations, the system has expanded to comprise 8 lines with 286.9 kilometers in operational distance and 264 stations. The number of passengers has increased 33 times, to a daily average of 7.179 million. The subway system has always strived to provide fast, efficient, and convenient transit over the years. After the fire incidents on line 1 of Daegu's subway system and on line 7 in Seoul, we acutely felt the need to reinforce our safety facilities and update our amenities, and an extensive improvement was consequently made. We have redone the interiors of our rolling stock in inflammable material, devised a comprehensive plan for smoke control and escape, and installed a state-of-the-art surveillance and communication system. We have also reinforced the emergency power control system and started installing PSDs in numerous stations to prevent falls and other accidents. Acknowledging the improved standards of living in Korea, we have been striving to meet the needs of our customers, to provide them with better service and environment. Elevators, escalators and moving walks have been thoroughly renovated, and the air-conditioning systems inside stations and trains have been updated. At the same time, PSD, concrete track-bed, and state-of-the-art cleaning equipments have been installed to reduce the amount of airborne debris. We have also developed a better kind of rail surface treatment, in order to reduce noise and vibration of vehicles. With the help of the rapidly advancing IT industry, we installed an electric ticket system of MS or RF type. Many of these improvements, in fact, had been included in the original construction plans of our lines, but we could not execute them back then, primarily for the lack of funding and time. We are happy to see these improvements finally made today, and we believe that our current experience will provide valuable guidance for building new lines and renovating existing ones

SEOUL PUBLIC TRANSIT SYSTEM RENEWAL: ACHIEVEMENTS AND CHALLENGES

CHO Seongkil

UITP, 2006, p. Ppt 20

Asia Pacific 5th Congress - Seoul 2006, n° Session 1

Since July 2004, the Public Transportation System of Seoul has been changed evolutionarily. The renewal includes the adaptation of quasi-public bus system in the areas of bus route operation and revenue management, unified fare system covering various public modes, and other action plans and implementation of innovative facilities to reinforce the public transportation system of Seoul. This paper presents the lessons and emerging challenges that the two-year old renewal program is confronting. Assessments on diverse measures of effectiveness, and policy concerns in technical and institutional aspects are discussed. Lessons and policy implications for other cities and the challenges that the city should overcome to complete the evolutionary program are also discussed concisely.

SUSTAINABLE MOBILITY AND ALTERNATIVE ENERGIES: CAMPAGNA TRASPORTI PUBBLICI'S EXPERIENCE

TURRINI Marcello

UITP, 2006, p. Ppt 19 - Ft 9

Asia Pacific 5th Congress - Seoul 2006, n° Session 6

CTP is a public transport company which operates mainly in the suburban transport sector, on an area of more than 1000 Km² which is among the most densely populated in Europe. Over the past ten years CTP has carried out a marked change in its management policy and has developed a company culture that is focused on quality, sustainability and increased attention to environment protection and social issues. The report intends to provide an overview of the actions undertaken, of their interrelations, and of the main results achieved. The company's management system is based on internationally acknowledged standards (ISO 14000 and SA 8000) and on instruments such as the Sustainability Report according to GRI guidelines that allow a

better definition of the company's objectives and targets and an effective monitoring of the results achieved. The strategic planning for sustainability has among its main objectives the reduction of polluting emissions and energy consumption of at least 10% in three years, the service provided being equal, through the use of alternative fuels and of systems for the production of clean energy (photovoltaic roofs) and the spread of a culture of environmental development.

TECHNOLOGIES AS A TOOL FOR NEW CUSTOMER SERVICES

VAUTIER Patrick

UITP, 2006, p. Ppt 18

Asia Pacific 5th Congress - Seoul 2006, n° Session 7

For public transport, the technologies represent at the same moment opportunities of productivity and opportunities of innovations for new services; our culture drives us to know how to well take advantage of the technology to improve our productivity, our knowledge. It is more difficult for us to take advantage of these new resources to put them really in services of our customers. The debates which shake our profession on the real interest of the new ticketing systems, in commercial terms just as much as in terms of return on investment, show well this difficulty. Nevertheless we cannot escape the massive integration of the technology to innovate in services, so much our customers and our citizens live more and more in a universe of services with strong technological dimension. The presentation will illustrate in a practise way the RATP method in service on mobile Internet and more generally for personal mobile devices. This method is based at first on an approach coupling targets and needs, and it uses the available technological solutions to make a coherent range of services adapted to various targets. For RATP, this approach arrives after a period of experiment marked by technological successes but commercial failures. A fast review on the causes of these weaknesses will allow to better illustrate the necessity of putting really the technology in the service of the innovation rather than of trying to convince the market to adopt a technical innovation which would come to answer identified needs.

TECHNOLOGY SELECTION FOR INTERMEDIATE CAPACITY TRANSIT SYSTEMS - FINDING THE OPTIMUM LIGHT RAIL SOLUTION

DIDRIKSON Paul

UITP, 2006, p. Ft 11 - Ppt 21

Asia Pacific 5th Congress - Seoul 2006, n° Session 2

A significant number of Korean metropolitan areas require transit systems with more capacity than street-running light rail or tram systems can provide (these are limited to about 8,000 - 10,000 passengers per hour per direction). However, their governments cannot justify the large capital expenditure required for an underground heavy-rail metro. For such cities with transit system requirements in the intermediate capacity range (approximately 10,000 to 30,000 pphpd), modern elevated light rail systems can provide an effective and affordable solution. To obtain the maximum benefit for the citizens of these metropolitan areas, technology selection for such transit systems must be based on two main factors: the quality of service that the transit system can provide to the public, and the overall cost of the system (including both capital and operating cost, i.e. life-cycle cost). The quality of service can be defined in a performance specification using a few well-chosen parameters, which the paper discusses. Concession contracts have the advantage of providing incentives for system suppliers to optimize their offerings by providing high quality service to attract riders while minimizing system life-cycle cost. The paper shows that the innovative application of new technologies can result in the successful implementation of automated light rail transit systems that meet all of these criteria.

TEOR, THE GUIDED BUS-BASED TRANSPORT SYSTEM IN ROUEN

HUE Raymond

UITP, 2006, p. Ppt 21

Asia Pacific 5th Congress - Seoul 2006, n° Session 4

The last two decades have seen major developments in new high performance transport technologies suited to the provision of public transport of medium-sized cities or conurbations. In France new LRT systems first appeared in Nantes and Grenoble, and were immediately seen as a possible solution to Rouen's problem of how to reunite the two banks of the Seine. A light rail also offered two politically attractive possibilities: revitalizing the hollowed-out city center, and overcoming the increasingly harmful dominance of the automobile. Rouen's subsequent choice of the guided TEOR lines showed how a Metropolitan Area with limited financial resources could reliably meet higher demand than that provided by buses at reasonable cost. Although the bus is the only conceivable mode for very remote areas, Rouen has been able to adapt it in terms of both design (low floors, pollution-free standards), and operation (segregated right-of-way and location of connecting stops) to complement the other two modes as feeder services, thereby ensuring easy and barrier-free access for all passengers to all modes. The Public Transport network of the Rouen Metropolitan Area - including its BRT system TEOR - has become a showcase for medium-sized networks which combines in an efficient way different modes of transport. The presentation looks more in detail at the BRT system TEOR. Why there was a decision in favour of BRT after two light rail lines? What has been achieved so far? The characteristics, advantages and performances of this transport mode will be discussed.

THE 5th UITP ASIA-PACIFIC CONGRESS AND IPTS CONFERENCE PROCEEDINGS
SEOUL METROPOLITAN GOVERNMENT - UITP - IPTS, 2006, p. 281

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THE DEVELOPMENT STATUS OF URBAN TRANSIT MAGLEV IN KOREA

KIM Kuk-Jin

UITP, 2006, p. Ppt 20

Asia Pacific 5th Congress - Seoul 2006, n° Session 4

Owing to no rail-wheel contact, Maglev is environment friendly transportation system, it has excellent running capabilities and performs with low life cycle cost. In Korea, Maglev will be applied as an urban, low speed transit system. For this reason, Maglev vehicle is levitated by electro-magnets and propelled by linear Induction motors. Research in the field of Maglev started 1988 in Korea. In 1993, HML-03 was presented in Daejeon, carrying passengers on the EXPO'93 site. UTM-01 was developed then as a national R&D project, was tested on the test track and covered more than 50km running distance meanwhile. As a national project supported by Korea government, the R-UTM vehicle was developed as a commercial model; operational tests are carried out at present. This system will be applied to connect the National Science Museum with the Expo site, starting passenger service in October 2007. In Korea, there are many discussions on the application of new transit systems, to be used either for branch lines of metros or for main transit lines inside small cities. Once urban Maglev transit systems will be implemented and operated successfully within residential or commercial areas, Maglev - a some kind of revolution in the field of transportation technologies- might replace the conventional wheel-on-rail systems.

UITP ASIA-PACIFIC WORKING GROUP - PUBLIC TRANSPORT OPERATOR'S PREPARATION IN TACKLING EPIDEMIC DISEASES COMMON TO ASIA PACIFIC REGION: AVIAN INFLUENZA

TANG Siman

UITP, 2006, p. Text: 8 - Ppt 37

Asia Pacific 5th Congress - Seoul 2006, n° Session 5

An epidemic disease can be disastrous. The SARS in 2003 was a painful experience to many countries. In 2006, we face the threat of another round of pandemic, i.e. Avian Influenza. The World Health Organization estimates death of millions of people all over the world, should human-to-human transmission of Avian Influenza occur and become out of control. Public transport systems carrying millions of people a day, represent a high risk of spreading epidemic diseases as passengers are temporarily confined in close proximity. Public transport operators are therefore obliged to take prompt and effective measures to protect their staff and passengers. The Working Group on Security / Emergency Planning / Disaster Management hence conducted a questionnaire survey among members of UITP Asia Pacific Division on their preparedness for outbreak of epidemic diseases with respect to training preventive measures, contingency plan, communication and company policies. The, experience and professional ideas collected form useful reference for members to enhance and expedite their preparation in tackling epidemic diseases.

VALUE CAPTURE AND DIVERSIFICATION OF FINANCING

ALS Per

UITP, 2006, p. Ppt 21

Asia Pacific 5th Congress - Seoul 2006, n° Session 3

Meeting the capital demands for the creation of a modern metro is a big challenge. The task is often to be undertaken by the public sector, be that city or national governments, either directly by securing the funds with cash from general revenues or indirectly by taking up loans or guaranteeing these for at private entity. Therefore securing a robust financing scheme is of paramount importance. The Orestad Development Corporation is a publicly owned company - shared ownership between the Danish State and Copenhagen City. The company has a dual purpose: it is in charge of building and running a new, automatic metro, and it is in charge of developing a New Town just adjacent to the metro and close to the historic city centre. These two tasks are tied in with each other and supplement each other. The metro is in part financed by selling the New Town real estate adjacent to the metro, the value of which has risen as a result of the metro. The other part of the financing is secured by the financial surplus from running the Metro. The robustness of the dual financing has proved beneficial - for the time being the projected ridership and thus fares income has not yet materialised - but this is balanced of by being ahead in the real estate sales. An expansion of the metro is along the same lines to be partly financed by the proceeds from the Copenhagen harbour.

IPTS Conference on "Creating Intelligent Public Transport"
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AUTONOMOUS DECENTRALIZED TRAFFIC CONTROL FOR HEAVY TRAFFIC RAIL STATIONS

HONG Soon-Heum

UITP, 2006, p. Ft 5 - Ppt 17

Conference - Seoul 2006 (IPTS), n° Session 7B - Operation management

In many case large rail stations are controlled by each station staff who works in station, not by dispatcher in the centralized control center. We consider new traffic control system for large rail station in high traffic density area in the context of merging main route schedule with shunting schedule, full automation of traffic control in station and step-by-step construction by station. While the existing traffic control system is centralized system, the concept of autonomous decentralized system is adopted in order to meet the system demand of merging main route control with shunting route control and station-by-station construction by budget. The concept of appending new station system to existing system will be introduced.

BIS/BMS IN KOREA: PROGRESS AND PROSPECTS

KANG Youn-Soo

UITP, 2006, p. Ft 7 - Ppt 22

Conference - Seoul 2006 (IPTS), n° Session 4B - Passenger Information

Most cities in Korea, traffic congestion are one of the critical issues in transportation problem. Public transportation can alleviate this civic problem. Among all the mass transportation methods, bus is the most common form of public transportation. Real-time Bus Information System (BIS), which activates public transportation with intelligent transportation system, recently has been promoting around the Metropolitan area. BIS provides related information such as route information, transit information, public transportation information and waiting period information to bus users during before and after transit period and helps passengers with effective transit decision. In addition, through this system, a bus driver is able to precisely allocate the dispatching time and a passenger is able to safely and comfortably use public transportation. It also helps you utilize the advanced location pinpointing technology and communication technology. When Korea Transport Institute researched selecting business priority of ITS service demand research, BIS ranks the top as priority business in result. Also when Transportation Information System of Suwon City researched transportation satisfaction, 43% of high preference ratio, BIS is required among Intelligent Transportation Systems. As you can see Public transportation information systems such as information of bus arrival time, transit information and information of bus route are preferred by citizens. By using BIS, you can improve the level of public service and encourage the commute by bus. Eventually, revenue from the bus operation will increase and public safety will improve. Moreover, it could render great service to the government policy makers when legislating transportation regulations with real-time bus operational data provided by the Bus Information System. However, not only passengers but also bus operating organizations are unsatisfied with the existing inefficient and inconsistent bus operation. In this presentation, current activities and prospects of BIS in Korea will be shown how to build, operate and manage. Also, it will be shown the activities of lesson and learn for BIS in Korea.

BUILDING A CITY CONCEPT

FRISENBERG Henrik

UITP, 2006, p. Ppt 7 - Ft 3

Conference - Seoul 2006 (IPTS), n° Session 3B - Security

Taking the time and the stakeholders into consideration of security in city transport, it has become clear that security isolated within city transport, only will lead to a sub-optimised solution. , Technologies develop over time it gets more difficult for terrorist to get through with their "message". In today's world we have to take a security concept in a total city perspective. We are all stakeholders, only together we can solve the increased threats - only through a city concept we will be able to delete their message.

CCTV SYSTEMS: HIGH-LEVEL AVAILABILITY CONCERN

BRUNEAUT Philippe

UITP, 2006, p. Ppt 13

Conference - Seoul 2006 (IPTS), n° Session 3B - Security

By embracing the IPTS concept, RATP wants to go farther than just being more efficient in each of the sectors. Its final aim is towards common architecture, communication from sector to sector, etc. That paper, as the other three propositions from RATP, will show how we intend to do so. The increasing number of cameras requires the implementation of "intelligent" systems for fault detection and maintenance support. It is thus possible to know not only all of the defective cameras but also those that have been vandalised or detuned (graffiti, fully or partially masked, off-centre). The storage of video data flow, that is some 480.000 hours for 6500 cameras, has to be secured and accessible from the many scattered strategic premises of the company. This storage requires the system to be available 24 hours a day each day of the year. If network and digital video matrix can be easily supervised, some intelligent tools have to be developed for the "non-intelligent" cameras connected to. This requirement is the same for embedded

cameras on 4.000 buses (17.000 camera) and 150 tramways (1.800 camera). RATP has developed an automatic system to check availability of the complete embedded video chains, with same possibilities than for video in metro station. These mechanisms are fundamental to permit the high availability of a complete and complex system, which bind video equipments, databases, network and much more.

CLOSING SPEECH

YEUNG Tony

UITP, 2006, p. Ft 2

Conference - Seoul 2006 (IPTS), n° Closing Session

CUSTOMER RELATIONSHIP MANAGEMENT IN HONG KONG

LEUNG Annie

UITP, 2006, p. Ppt 29

Conference - Seoul 2006 (IPTS), n° Session 6B - Electronic ticketing

CUSTOMER SUPPORT APPLICATION USING TRANSIT DATA AND SMART CARD IN SEOUL

PARK Seong-Joon

UITP, 2006, p. Ppt 20 - Ft 11

Conference - Seoul 2006 (IPTS), n° Session 6B - E-Ticketing

Smart card based New Transportation Card System (T-Money) for Seoul was introduced by Seoul Metropolitan Government (SMG) and LG CNS, based on the synergy of public and private organizations' strengths. T-Money played a crucial role in the success of Seoul Transportation Reform program, which renovated Seoul's public transportation system using Information Technologies and enhanced citizens' convenience and efficiencies of using public transportation. Korean Smart Card Company (KSCC) was established as a joint venture by SMG, LG CNS, and other private sector companies, and its role was to develop T-Money infrastructure and to operate the related system. KSCC's customers are not only the citizens using the T-Money, but the transportation operators, card sellers/recharging service providers, and SMG are also the customers of KSCC. LG CNS has developed full-range of Customer Relationship Management system (CRM), which can be decomposed mainly into three sub-systems; First, contact center works as a Single Point of Contact (SPoC) of receiving and processing any Voice of Customers (VOC, such as complaints, service requests), needs, or suggestions raised in any form of communication from various customers; second, Data Warehousing system was built and transit data at the passenger level are gathered, analyzed, and utilized in link with TOPIS (Transportation Operation and Information System) for scientific policy making of SMG's public transportation administration; third and the last component of customer support is the various benefits to the citizens such as fare savings, mileage bonuses, enabled by using multi-functional, high-tech, global standard compliant transportation smart cards, the T-Money.

DATA MINING FOR PUBLIC TRANSPORT IN SINGAPORE. A NEW DIMENSION USING CONTACTLESS SMARTCARDS

PRAKASAM Silvester

UITP, 2006, p. Ft 9 - Ppt 42

Conference - Seoul 2006 (IPTS), n° Session 6B - E-Ticketing

The use of Contactless Smart Cards (CSC) for ticketing in Public Transport has provided an unique opportunity to capture a wealth of data which was previously not possible with other ticket media. In Singapore, the CSC has been used by 2 million commuters generating 4 million rides daily since April 2002 which constitutes more than 90% of the Public Transport ridership. The integrity of data is ensured by various validation and security features. On buses, the Vehicle Location System used for automatic fare stage updating has significantly reduced the error rate experienced with the manual system. The business rules include 39 different types of cards corresponding to various segments of the population (students, senior citizen etc), requires entry / exit processing on buses and transfer rebates between and within various modes. These features have significantly increased the granularity of the data available. The accuracy and volume of data, combined with the business logic, provides a sound quantitative framework to produce a comprehensive profile of the Public Transport network which can be used for commuter information, operations, planning and regulatory purpose. To achieve these objectives, a separate data warehouse was developed at a cost of US\$4m which is capable of processing up to 6 million transactions daily and stores up to six months data. The key feature of the system is that it is card-centric. The business logic implemented allows tracking a commuter from the time he starts his journey and completes it across the Public Transport Network and not just only for a ride on a specific mode or service. The commuters can be segregated in specific categories such as students, senior citizens, tertiary students and general adult population. The data warehouse generates about 65 reports daily in addition to various ad-hoc requests. It is well utilised by various planning, policy and regulation departments within

LTA. It is also available for use by the Public Transport Operators. Some of the more frequently used reports, samples of which will be provided in the presentation, include journey times, origin-destination traffic, travel times, waiting times and bus utilisation. Interestingly, for buses, it is able to generate information normally obtained through a fleet management system. Statistical techniques to analyse the small volume of incomplete data are also being considered so that a total picture of the Public Transport Network can be constructed by the 1st quarter of 2007.

ESPRIT TECHNOLOGY FOR BE-IN/BE-OUT SYSTEMS

AUGUSTYNIAK Matthias

UITP, 2006, p. Ppt 32

Conference - Seoul 2006 (IPTS), n° Session 2B - E-Ticketing

The paper presents an innovative technological approach for the design of Be-in/Be-out solutions in Electronic Ticketing. The technology. The high ease of use provided (Just board and ride !) makes the system attractive for all public transport passengers and low capital, installation and operating costs make it an highly economical solution, affordable for the public transport operators. The paper discusses generic advantages of Be-in/Be-out solutions with regard to passenger convenience and satisfaction, support of innovative pricing models and system monitoring by means of automatic gathering of operational data, specific advantages of the technology with regard to user friendly ticket medium, lean design approach for vehicle infrastructure, operational security, deals with detailed descriptions and explanations of the new technology, system implementation as well as commercial aspects.

FINAL PROGRAMME

UITP, 2006

HOW TO LOWER COSTS OF DATA COMMUNICATION AND IMPROVE ON-BOARD IT INFRASTRUCTURE AND AVOID THAT BUSES LOOK LIKE ANTENNA HEDGEHOGS

GABINUS Tomas

UITP, 2006, p. Ppt 10

Conference - Seoul 2006 (IPTS), n° Session 5B - Operation management

Delivery of data to vehicles is increasing rapidly without a carefully thought through system architecture. It causes: 1) High cost of communication, 2) High cost for maintenance of the on-board systems, 3) High cost for investments in systems and systems integrations, 4) Antenna Hedgehogs. This is causing a hefty clash between today's dominating players providing proprietary solutions and new actors pushing for standards. The author talks about this interesting development and about what opportunities a Public Transport Operator and other actors have in influencing the communication to and from a public transport vehicle.

IMPLEMENTACIÓN DE IPTS EN FLOTAS DE BUSES, UN CASO REAL Y EXITOSO EN EL AEROPUERTO DE SANTIAGO DE CHILE

MINTEGUIAGA Jorge

UITP, 2006, p. Ft 6

n° Session 5B - Operation management

INTEGRATED TRAFFIC MANAGEMENT AND PUBLIC TRANSPORT

HÖFLINGER Peter

UITP, 2006, p. Ft 5 - Ppt 12

Conference - Seoul 2006 (IPTS), n° Session 7B - Operation management

The paper deals with integrated traffic management and its impact on the performance and quality of public transport. The first part of the paper deals with the results of a joint survey carried out by the UITP Information Technology and Innovation Commission. This was initiated and rolled out by the UITP Commission of Transport and Urban Life among its members in 2003/2004. The survey focused on the advancement of integrated traffic management centres (ITMC) and their impact on operations and management of public transport. An additional in-depth stage of the survey concentrated on those respondents who stated that they already used an ITMC or planned to implement one. This provided the following information: reasons for implementing ITMC; major tasks for both private and public transport; experiences in using ITMC; limits of ITMC and financial background. The second part of the paper is based on recent and on-going research in Germany. It tackles the question of how the latest developments and current projects in the field of traffic management could affect the quality of public transport operations and passenger information. In this context, that means the provision of information covering the entire "transport chain". The paper concludes by considering the future

activities of the UITP Commission of Transport and Urban Life and its role as the interface between traffic management and public transport.

IPTS IMPLEMENTATION ON BUSES: REAL CASES OF SUCCESS AT SCL AIRPORT

MINTEGUIAGA Jorge

UITP, 2006, p. Ft 6 - Ppt 21

Conference - Seoul 2006 (IPTS), n° Session 5B - Operation management

Tur-Bus Aeropuerto and Centropuerto, two companies operating between Santiago de Chile Airport (SCL) and Santiago's downtown, achieved major cost savings by improving operations management. Besides, a very innovative loyalty program for frequent passengers let them increase revenues and defeat the illegal means of transport that usually compete at lower fares. Their Intelligent Transport System is based on fleet monitoring using GPS, contactless ticketing and passenger counting equipment. Information from each sub-system is stored on board, and transferred to a Data Center when the units get back to the Bus Terminal. At the Data Center, information is processed and lots of useful reports are available for the Operations Department. The system has made possible a fleet reduction of 8%, and the number of Services per Day has decreased about 15%, leading to big savings on operational costs (gas, drivers, bus maintenance and wearing out.). Amazingly, the total amount of tickets sold by day increased about 10%. The main reasons for the revenue increase, in spite of fewer services, are: Each Service Time Of Departure is demand based, programmed in the most appropriate way, based on information obtained by the analysis of statistical data, instead of using just an operator's "hunch" or feeling; timetable has been fully accomplished. There are no more delays at departure time; fraud (people who don't pay the fare, usually with the complicity of the driver, who gets some "extra money") is decreasing: the amount of passengers counted by the system should be similar to the amount of tickets sold. Otherwise, the driver might be fined; loyalty programs, special fares and discounts make people prefer these buses; "Moving Ticket Salesmen" with portable ticketing terminals permit reaching passengers better than the competitors companies. At the administration department, several costs have been cut too: Manually driven operations turned into automatic, so workers were re-assigned to other tasks; data-entry mistakes no longer exist, so it is not necessary to check and re-check data; inventory control of large amounts of printed tickets books, which might be stolen, and had to be delivered to each sales office, mobile salesmen and drivers, was a complex issue. Instead, now tickets are just "plain paper with a watermark logo" until they are printed out and registered on board, at the sales office or by the moving salesperson. Therefore, by means of these IPTS, both companies are increasing revenues, service quality, preference and passengers fidelity, as well as transport authorities respect, because by these means they can show that Public Transport problems in Latin America can be solved by efficient solutions.

IPTS SYSTEMS AT THE HEART OF TRANSPORT NETWORK SECURITY

LAYBROS Alexandre, TSANG K M

UITP, 2006, p. Ft 9 - Ppt 13

Conference - Seoul 2006 (IPTS), n° Session 3B - Security

Today's passenger environment require not only reliable, safe systems, but security concerns now require new technology and operational processes to be implemented at the Operation Control Center (OCC). By focusing on the following three areas of an IPTS, the Transport networks security can be greatly improved: 1. The availability of advanced technical solution in image analysis function of CCTV, intrusion detection, access control and communication systems; 2. The benefits of the implementation of a fully integrated IPTS system at the OCC, managing operations, communications, passenger information, and supported by an advanced decision support system; 3. The implementation of appropriate operation processes adapted to the potential of an integrated IPTS system. Several integrated IPTS systems were deployed around the world, such as Hong Kong (Lantau Airport Express OCC), and Guangzhou (Line 3 & Line 4 OCC), using the ISCS metro applications suite, associated to a high performance SCADAsoft real-time platform.

ITS TOOLS FOR A NEW GENERATION OF FLEXIBLE TRANSPORT

FINN Brendan

UITP, 2006, p. Ft 14 - Ppt 31

Conference - Seoul 2006 (IPTS), n° Session 7B - Operation management

Flexible Transport and transport using Moderate Capacity Vehicles (MCVs) covers a wide domain, including: Demand Responsive Transport (DRT) for the general public, as implemented in a wide range of European settings, albeit currently on a small scale; dedicated services for particular user groups, including people of reduced mobility; "Route taxi" services as implemented in Russia, other CIS countries, China, etc., which are part of the formal transport supply but currently without ITS; paratransit as collectives of many individual operators (as many as 500 vehicles on a single corridor) as implemented in Brazil and South Africa, again without ITS. The developments in concepts, organisational models, business models and supporting technologies have all contributed to a major repositioning of Flexible Transport Services (FTS) and especially of DRT. It is now possible to think of FTS and DRT as transport modes in their own right, rather than as marginal services. This has major implications for policy makers, for operators and for suppliers, especially for IPTS suppliers. The paper deals with five main aspects: 1) An overview of the concepts of flexible transport services, of which DRT is the main form; 2) The role of ITS in supporting DRT services; 3) The evolution of DRT,

presenting a 'five-layer' model showing the roadmap from individual services to interacting mature agencies for multiple flexible transport services; 4) The emerging trends in DRT, and the potential future mobility services. This draws from the CONNECT project, and present the new business models which are identified in Europe following a set of case studies and industry assessment. These new trends can be viewed as the emerging "Clients" for business, operational and technical systems; 5) The technologies needed to support the next generation of DRT and flexible transport, drawing from the TransITS project. These products need to be developed in the period 2006-2010, and widely available to the market by 2012. The four IPTS themes identified by TransITS are: a) Concepts for Large Scale and Generalised demand responsive transport; b) Tools for dynamic allocation and optimisations across different DRT systems; c) Advanced Optimising engines for high-volume and extensive DRT (highest priority); d) Integration of DRT with other transport modes.

ITS TOOLS FOR A NEW GENERATION OF FLEXIBLE TRANSPORT IN OSLO: SEVERAL OPERATORS, SEVERAL SUPPLIERS, ONE AFC SYSTEM

HANSSEN Jorn

UITP, 2006, p. Ft 9 - Ppt 14

Conference - Seoul 2006 (IPTS), n° Session 8B - E-Ticketing

This presentation emphasises how the Oslo AFC project has met with the technical and marketwise challenges in an AFC environment with: 3 main suppliers with 3 different AFC systems under 3 different contracts (Thales, ERG and Ascom); 3 different purchasers (AS Oslo Sporveier (City PTA), Stor-Oslo Lokaltrafikk a.s (regional PTA, NSB AS (Norwegian State Railways)); 3 different tariff systems; AFC integration in all PT modes (boat, train, bus, tram, metro); 1 common travelcard. It focuses on: criteria for design of interoperability model; the technical solutions needed to integrate 3 different AFC systems; the market approach enabling seamless travel for all customers.

LESSONS LEARNED IN CUSTOMISING SMARTCARD SYSTEMS TO OPERATOR NEEDS: AN AUSTRALIAN AND NEW ZEALAND PERSPECTIVE

STREETING Mark

UITP, 2006, p. Ppt 15 - Ft 9

Conference - Seoul 2006 (IPTS), n° Session 2B - E-Ticketing

Virtually all major cities in Australia and New Zealand are actively implementing or progressing the procurement of contactless smartcard ticketing systems. While smaller cities such as Darwin and Hobart are at the early stages of the procurement cycle, Perth is scheduled to complete full system roll out in January 2006. Sydney and Brisbane are completing field trials of their new fare collection systems and Victoria is scheduled to rollout a full smartcard system across the State in 2007. Although Australian and New Zealand cities have been relatively slow to migrate towards state-of-the-art fare collection equipment compared to many cities in North America, Europe and Asia, significant effort has been directed at understanding and leveraging the 'lessons learned' from earlier procurements and developing innovative policy and technical solutions to problems encountered elsewhere. This encompasses the role of IPTS in facilitating strategies for increased use of public transport (e.g. enabling integrated fares and ticketing systems), business case development, procurement models, system roll out and marketing strategies and passenger information systems. This paper provides a synthesis of the key learnings that can be drawn from fare collection system procurements in Australia and New Zealand. The paper will draw on both the results of our broad ranging experience as IPTS consultants to the industry, and an Australasian survey of Government departments, transit agencies, and operators. The paper focuses on identifying innovative solutions that could be relevant in other geographies, concerning the added value of electronic ticketing, marketing and information benefits and obtaining return on the significant investments involved in the projects.

MOBILITY TRANSFORMATION @ SL

LINDSTROM Ake, RECHSTEINER Philippe

UITP, 2006, p. Ppt

Conference - Seoul 2006 (IPTS), n° Session 4B - Passenger information

OPENING SPEECH

YEUNG Tony

UITP, 2006, p. Ft 3

Conference - Seoul 2006 (IPTS), n° Opening Session

OPERATION MANAGEMENT IN TOKYO

TSUCHIYA Yasuharu

UITP, 2006, p. Ft 9 - Ppt 15

Conference - Seoul 2006 (IPTS), n° Session 7B - Operation management

The sarin gas attack that took place on Tokyo subways was a terrorist attack unparalleled anywhere in the world. Since then, the number of crime prevention cameras installed has increased, and improvements made in preparation for handling multiple simultaneous incidents. Namely, organization among divisions was amended and cultivating employee emergency and life-saving skills has been cultivated. Recent incidents on an international level, such as terrorism and arson on a train, have led to review of fire standards and intensification of security measures. The nationwide crisis management structure has also been reinforced. This presentation will introduce the efforts Tokyo Metro has made in order to intensify security. Improving visibility of patrols and preparedness, reexamination of existing facilities, to better counter arson and other crimes, as well as introducing completely new features are significant examples of these current topics.

PASSENGER INFORMATION STRATEGY - A MTR PERSPECTIVE

HUNG Edmund

UITP, 2006, p. Ft 5 - Ppt 15

Conference - Seoul 2006 (IPTS), n° Session 4B - Passenger Information

Communicating accurate information is crucial to enable passengers to effectively utilize the transport infrastructure. It is an important element of the total user experience of a metro network. Right information is necessary but not sufficient. It has to be provided at the right place and the right time to facilitate a passenger's decision making throughout various stages of his/her journey. Over the years, the Hong Kong MTR has developed a Passenger Information Strategy to underpin the mission of providing information to her passengers, which is to supply the right information at the right time and in the right place. This paper gives an overview of the MTR Information Strategy and describes a series of on-going improvement initiatives to put the strategy into perspective. It also attempts to examine a few possible future improvement initiatives.

REMOTE TOPPING-UP

BARJANSKY Michel

UITP, 2006, p. Ppt 25

Conference - Seoul 2006 (IPTS), n° Session 2B - E-Ticketing

La dématérialisation des titres de transport sur des cartes sans contact sécurisées permet de proposer de nouveaux services de chargement à distance à partir de terminaux qui appartiennent à des tiers (automates bancaires, décodeurs TV) ou aux clients eux-mêmes (téléphones mobiles sans contact). Le chargement à distance contribue à deux objectifs généraux en matière de billetterie: Améliorer le service rendu au client, en lui offrant la possibilité d'acheter et de charger un titre de transport 24h/24, en ville ou à domicile; réduire les coûts de distribution des titres de transport, qui sont aujourd'hui élevés, qu'il s'agisse des réseaux internes de vente (guichets et automates) ou des réseaux externes (dépositaires). Dans le cas de la RATP, cette innovation contribue également aux objectifs de la "Nouvelle Relation de Service" qui vise à réduire la vente aux guichets et à développer la vente sur automates, de façon à ce que les agents actuellement mobilisés par la vente manuelle puissent se consacrer à l'information et à l'assistance des voyageurs. Dans ce cadre, la vente à distance permet de multiplier les terminaux mis à disposition du public, sans accroître le parc interne des automates de vente dont les coûts d'investissement et d'exploitation sont importants; de développer l'usage par le public de moyens de paiement électroniques qui sont activés par le client à partir des terminaux distants. La solution technique conçue par la RATP repose sur un serveur de chargement placé sous son contrôle, auquel se connectent les terminaux distants. L'intelligence est concentrée dans le serveur, qui assure notamment: La définition de l'offre commerciale, c'est-à-dire la cinématique de choix des titres de transport proposés au client (par exemple, pour une carte qui comporte un abonnement mensuel pour Paris intra-muros, le serveur propose en priorité un abonnement de même type pour le mois suivant) et les tarifs, dans le respect de la charte graphique de la RATP: ainsi, tous les paramétrages restent sous le contrôle de l'opérateur de transport. La sécurité, c'est-à-dire les secrets de chargement, qui restent protégés dans le serveur de chargement, sans dissémination de modules de sécurité dans les terminaux distants. - La concentration des informations de vente, qui permettent le rapprochement comptable avec les remises de paiement. Les terminaux distants mettent à disposition les interfaces homme-machine (écran, clavier), ainsi que les interfaces de chargement et de paiement: Les automates bancaires sont équipés d'une interface sans contact sur laquelle le client pose sa carte de transport, pour qu'elle soit chargée du titre qu'il a préalablement choisi sur l'écran de l'automate bancaire et réglé au moyen de sa carte de paiement: ainsi, l'ergonomie proposée est identique à celle de nos propres automates de vente. Les téléphones mobiles sans contact intègrent l'application de transport, en mode local ou sous forme d'un applet Java téléchargé par le serveur: le titre de transport est chargé directement dans le téléphone mobile, qui permet alors l'accès au réseau de transport. Les décodeurs de télévision intègrent dans les mêmes conditions l'application de transport: le lecteur de carte à puce du décodeur permet de charger la carte de transport et d'effectuer le paiement au moyen d'une carte bancaire. Cette architecture permet à l'opérateur de transport d'adapter son offre commerciale de façon très souple et de garder la maîtrise de la sécurité du système. Mais elle induit pour chaque transaction de multiples échanges entre le serveur et le terminal distant, ce qui suppose d'optimiser des échanges pour parvenir à une durée totale de transaction acceptable. La RATP a engagé plusieurs expérimentations en relation avec des partenaires du monde de la banque (chargement sur des automates bancaires équipés en sans

contact, automne 2005), de la téléphonie mobile (chargement sur des téléphones mobiles sans contact, printemps 2006) et des média (chargement sur des décodeurs TV équipés de lecteurs de carte à puce, printemps 2006).

SMARTCARDS - SMARTER TRANSPORTATION: THE DUTCH NATIONWIDE EXPERIENCE

MEYER Juriaan

UITP, 2006, p. Ppt 19 - Ft 3

Conference - Seoul 2006 (IPTS), n° Session 8B - E-Ticketing

Delivering the first Electronic Fare Collection System on a National scale, Trans Link Systems works towards an Open Systems Architecture creating a truly open market for vendors of e-Ticketing Devices and Systems. Along with a brief overview of the Dutch e-Ticketing Program, Mr. Meyer will introduce approach and status of the Open Architecture project. Roles and impact on Public Transport Organizations, vendors, Trans Link Systems and the East-West Consortium will be discussed, as well as the visibility of the project to politics. Goal of the presentation is to share insight and discuss interactively as to what degree the Dutch Open Architecture Solution is an example for e-Ticketing implementations elsewhere.

THE 5th UITP ASIA-PACIFIC CONGRESS AND IPTS CONFERENCE PROCEEDINGS

SEOUL METROPOLITAN GOVERNMENT - UITP - IPTS, 2006, p. 281

Conference - Seoul 2006 (IPTS)

Paper copy of the proceedings.

THE ALLFA TICKET IN DRESDEN. PRACTICAL EXPERIENCE OF FARE MANAGEMENT BASED ON BE-IN/BE-OUT AND AUTOMATIC FARE CALCULATION

GRÜNDEL Torsten

UITP, 2006, p. Ft 6 - Ppt 20

Conference - Seoul 2006 (IPTS), n° Session 2B - E-Ticketing

A new generation of fare management systems has recently been tested in Dresden, Germany: the ALLFA ticket. It uses an innovative on-board passenger presence detection technology based on the Be-In/Be-Out principle. By carrying a specific smart card or mobile phone "the so-called ALLFA ticket" each passenger's journeys are registered fully auto-matically. While no user-required action is needed from the technical point of view, the user is nevertheless able to inspect the correct registration while travelling and to select whether he is accompanied by additional persons, bikes, dogs etc. or has chosen the first or second service class. The registered travel data make an automatic fare calculation possible; using a newly developed, market and customer oriented electronic fare. The functions and user acceptance of the ALLFA fare management system have been proved during a public pilot trial in the integrated public transport network of Dresden and the Upper Elbe Valley region (VVO). The on-board equipment has been installed on 54 public transport vehicles, such as modern urban and regional busses, low-floor trams and double-decker trains of Deutsche Bahn AG. A multi-storey car park is also one of the objects being tested. Car drivers can "hands-free" operate the entry and exit gates with their ALLFA ticket and let their parking fee be registered by the system. Within four months the pilot limit of 2.000 customers of four different transport operators has been reached; generating more than 70.000 electronically registered journeys. After a brief overview of the system and the public pilot trial, the paper mainly describes the benefits for the customers as well as the conclusions and added-value for the operators and transport authorities. Beyond a systematic overview it focuses in particular on the practical relevance and the lessons learned from the pilot. Key words are here from the customers' point of view: highest possible convenience, seamless travel without manual ticket purchase, innovative customer-oriented fare system, less user-required tariff knowledge, advantages for mobility-impaired persons, usage of additional services like parking, concerns about data privacy. To evaluate the user acceptance, a comprehensive survey amongst the pilot participants has been set up. From the operators' perspective for example the following will be highlighted: the system's technical efficiency and robustness, its sophisticated security architecture, highest possible passenger throughput, operational issues, suitability for open and closed (gated) systems, Internet-based business and customer support processes, marketing and customer-relation aspects, development of an innovative electronic fare system, usage of large quantities of precise travel data for fare and revenue simulation as well as for public transport planning and optimisation, first implementation of German eTicketing standard "VDV Core Application". Finally, an outlook will be given on the system's future evolution and the implementation strategy within the integrated public transport network of the Upper Elbe Valley region. One important aspect is here the seamless integration of mobile ticketing functionality, which provides a comfortable manual ticket purchase for occasional and seldom users.

THE INTERMITTENT BUS LANE SYSTEM: DEMONSTRATION IN LISBON

VEGAS Jose M

UITP, 2006, p. Ppt 26 - Ft 8

Conference - Seoul 2006 (IPTS), n° Session 5B - Operation management

The concept of Intermittent Bus Lane (IBL) was introduced by Viegas (1996) as an innovative approach to achieve bus priority. The IBL consists of a lane in which the status of a given section changes according to the presence or not of a bus in its spatial domain: when a bus is approaching such a section, the status of that lane is changed to BUS lane, and after the bus moves out of the section it becomes a normal lane again, open to general traffic. Therefore when bus services are not so frequent, general traffic will not suffer much, and bus priority can still be obtained. The underlying motivation to the development of the concept of IBL is rather simple: (1) The productive effectiveness and regularity of buses is strongly improved whenever they may run unimpeded by the general traffic; (2) Providing (permanent) bus lanes in streets serviced by only a few buses per hour is rather inefficient, because the corresponding space could be serving a higher number of passengers in private cars; (3) But if those streets are congested, those few buses will lose a lot of time, which could be avoided if a bus lane would be activated in each section only when strictly necessary (i.e. when the bus is approaching). The theoretical development of the IBL has already been concluded (Lu, 2000), in which the relationships among bus message, general traffic flow and the related IBL signals and normal traffic signals are established and the calculations to obtain the optimal control parameters are also derived. Results from the simulation in a typical case, suggest that average bus travelling times can be reduced about 30% with less that 2% decrease in the general traffic average speeds. Besides these results a real world application is still necessary to act as a prototype. This paper describes the demonstration project that is being developed in Lisbon, in cooperation between the University, the Municipality and the urban bus operator (CARRIS). The most important methodological steps of the demonstration project are the following: (1) Selection of Test Locations; (2) Computer based traffic micro-simulation; (3) Preparation of the Technological Prototype and Interfaces; (4) Preparation of the Physical Conditions to Demonstration (road structure, traffic detectors, signals); (5) Public Communication of Project Activities; (6) Demonstration; (7) Evaluation of the IBL, Conclusions and Recommendations. The demonstration activities are expected to start in late September and last for about six months. The paper to be submitted in December and the Communication to be presented in February will focus on the preparatory activities and on the first results and recommendations from this demonstration.

UNIQUE PROPERTIES OF SMARTCARD INFRASTRUCTURE IN SEOUL

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The key words for the success in transportation card business or e-money are "omni-presence" of infrastructure, comprising card readers and value-loading terminals and "wide-spread" cards. These two words are promoting each other. More than 90% of fare transactions in mass transportation are made through RF transportation card, T-money. It implies that almost all Seoulites have at least one T-money card in his/her pocket and almost all vehicles of Seoul mass transportation are accessible through T-money card. To make the two words realized, it is very important to let the RF infrastructure open to all potential card issuers, including banks, and induce VAN operators into developing their business models and infrastructure that are compatible to the RF infrastructures. In most of major cities, there is only one card issuing company and it operates RF infrastructure for its cards only. This paper is to show how Seoul creates the open business structure for transportation card and the success of T-money.