MEET IN ASIA PACIFIC FOR THE WORLD’S LEADING TRANSPORT TECHNOLOGY EVENT
ACTIVATING GLOBAL MOBILITY SOLUTIONS

ITS—ENHANCING LIVEABLE CITIES AND COMMUNITIES

FINAL PROGRAM

DATE OF PUBLICATION (AUGUST 2016)
The ITS Australia Board of Directors and our corporate members warmly welcome you to Australia for the 23rd ITS World Congress 2016!
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WELCOME MESSAGES

GREETS FROM THE CONGRESS CHAIR

It is with great pleasure that I welcome you to Melbourne to participate in the ITS World Congress, 10 – 14 October, 2016. This is a wonderful opportunity to join more than 7,000 attendees and 300 exhibitors from 60 countries in Melbourne, voted the world’s most liveable city for six consecutive years. ITS Australia is delighted to host the 23rd World Congress on Intelligent Transport Systems 2016 on behalf of ITS Asia Pacific, ITS America and ERTICO.

“ITS—Enhancing Liveable Cities and Communities” is the theme for the Congress, providing the opportunity to demonstrate why Melbourne is regarded as the world’s most liveable city and explore the benefits that ITS delivers to critical elements of our daily life. Australia is at the forefront of development and deployment of ITS technologies in many fields. Australia’s ITS industry has risen to the challenge of delivering solutions to enhance our economy and communities. Our population is clustered in big cities with large urban areas where ITS technologies such as managed motorways and free flow tolling (pioneered in Australia) are leveraged to ensure mobility. Long transport distances across our vast country encourage innovation and adoption of technology across our heavy vehicle fleet, in particular to enhance safety and efficiency.

The resources industry, operating in remote locations, has led the way by embracing ITS technology such as driverless trains and automated vehicles. Improvements in productivity and safety in tough economic conditions has had a positive impact on other industry sectors. The important contribution that ITS can make to benefiting emergency services and minimising harm from natural disasters has also been recognised and is increasingly being deployed to great effect.

By attending the 2016 World Congress in Melbourne, you will have the opportunity to find out more about these innovations, and experience exciting and informative, discussions and meetings with not just Australian ITS specialists, but with those from all over the world.

In collaboration with ITS Asia Pacific, ERTICO and ITS America, ITS Australia has prepared an engaging program. In the tradition of ITS World Congresses there will be plenary, scientific, technical, commercial and interactive sessions as well as a dynamic exhibition. Through our technical tours program we are excited to showcase Melbourne as a leader in this space which will be supported by a demonstrations program featuring leading Australian and overseas applications of the latest ITS technologies.

We are also proud to announce an innovative program as part of the World Congress, involving schools and universities around Australia and Asia Pacific to encourage creativity and innovation in our next generation. Scholarships, competitions and challenges for students aged 11 – 16 years, along with university level hackathons, app and data challenges, essay and video competitions are all aimed at stimulating innovation, with students presenting their project outcomes at the congress.

The rapidly growing public interest in ITS will see the exhibition opened to the public free of charge for two days plus we will present several “Melbourne Conversations on ITS” where the community are invited to hear first-hand from global industry leaders and ask their own questions.

The 2016 World Congress is truly an opportunity for government and industry policy makers, practitioners, researchers and ITS providers to share information on social needs, opinions and technical developments addressing modern transport issues. It will be a chance to network, do business and re-connect with former acquaintances.

Of course, it is also the perfect opportunity to visit Melbourne and regional Victoria, to travel interstate and to our close neighbour, New Zealand. With wonderful food and wine, our unique heritage, animals and landscapes and welcoming culture, I welcome you to Melbourne for the 2016 World Congress.

Brian Negus
ITS Australia President
and ITS World Congress 2016 Chair

HOST ORGANISATION – ITS AUSTRALIA

Intelligent Transport Systems Australia (ITS Australia) promotes the development and deployment of advanced technologies to deliver safer, more efficient and environmentally sustainable transport across all public and private modes – air, sea, road and rail.

ITS Australia is an independent not-for-profit incorporated membership organisation representing ITS suppliers, government authorities, academia and transport businesses and users. Affiliated with peak ITS organisations around the world, ITS Australia is a major contributor to the development of the industry.

Key activities include convening national summits and international conferences, facilitating dialogue between transport modes and across government jurisdictions, promoting research and development and the export of Australian technologies.

ITS Australia advocates the application of communication, data processing and electronic technologies for in-vehicle, vehicle-to-vehicle, vehicle-to-infrastructure and mode-to-mode systems to increase transport safety and sustainability, reduce congestion, and improve the performance and competitiveness of Australia’s networks.

ITSAUSTRALIA
Intelligent Transport Systems

www.its-australia.com.au
ERTICO

On behalf of ERTICO – ITS Europe and its Partners, I would like to invite you to attend the 23rd ITS World Congress in Melbourne in 2016. The theme of “ITS—Enhancing Liveable Cities and Communities” will explore the benefits that ITS brings to all aspects of our daily lives such as improving sustainability of travel, reducing congestion, and increasing the performance and competitiveness of all modes of transport. This event will provide an opportunity to share information on big data analytics, smart cities, mobile applications, environmental sustainability, vehicle and network safety, cooperative and automated vehicles, future freight and many other innovations in ITS. Australia’s advanced development and deployment of ITS technologies across many sectors has helped to ensure Melbourne’s position as the world’s most liveable city for 6 years in a row and as an ideal venue for hosting the 2016 World Congress. European ITS stakeholders are very much looking forward to visiting and engaging in discussions on the role ITS has to play in our future transportation. I look forward to meeting you in the exciting and vibrant city of Melbourne, and to participating together in the wide range of events planned for the Congress.

Hermann Meyer
Chief Executive ERTICO - ITS Europe

ITS ASIA PACIFIC

On behalf of ITS Asia-Pacific, I would like to welcome you all to the 23rd ITS World Congress in Melbourne. Fast, safe, reliable and efficient transportation has been one of the most important elements of the society for economic growth and enhanced quality of life. We are now at the outset of an endeavor with a new set of technologies which will change the way we observe phenomena in transportation and act on it. Penetration of information and communication technologies to our daily life has given significant impact on our society. Highly automated cars will be put into market within a decade, which will dramatically reduce traffic accidents and congestion and also enable aged or challenged people to go out on their own. Inclusive society, where diverse people in diverse community actively participate in generating values, will enhance both wellness of individuals and economic development. However, technologies alone won’t bring about solutions. We need to take integrated approach combining state of the art technologies with social innovations. ITS technologies integrated with social innovations should provide everyone with mobility to fully exercise his or her capacity, enabling sustainable development of the society.

Hajime Amano
Secretary General ITS Asia-Pacific

ITS AMERICA

On behalf of ITS America, I am pleased to invite you to attend the 23rd World Congress on Intelligent Transport Systems (ITS) taking place in Melbourne, Australia, from October 10 – 14, 2016. The theme of “ITS—Enhancing Livable Cities and Communities,” will address the many benefits that ITS technologies bring to our daily lives such as improving connectivity, reducing congestion, and increasing the performance and competitiveness of all modes of transport. This event will provide an opportunity to share information on big data analytics, smart cities, mobile applications, environmental sustainability, vehicle and network safety, cooperative and automated vehicles, future freight and many other innovations in ITS. Australia’s advanced development and deployment of ITS technologies across many sectors has helped to ensure Melbourne’s position as the world’s most liveable city for 6 years in a row and as an ideal venue for hosting the 2016 World Congress. European ITS stakeholders are very much looking forward to visiting and engaging in discussions on the role ITS has to play in our future transportation. I look forward to seeing you in Melbourne at the 2016 ITS World Congress!

Regina Hopper
President and Chief Executive
ITS America

The ITS World Congress in Melbourne is exactly where you find right experts from industries, academic societies and government agencies. Policies, technologies, institutional issues and human factors are all covered with supporting facts and experiences. I hope the ITS World Congress will trigger a massive process of Enhancing Liveable Cities and Communities.
AUSTRALIAN GOVERNMENT

It is with great pleasure that the Australian Government welcomes you to the 23rd World Congress on Intelligent Transport Systems. The world is in the midst of rapid and transformative technological change, and transport systems will play a major role in that revolution. Many expect that such change will create unprecedented opportunities to improve safety and efficiency.

Australia has a strong record of leading the world in the adoption of intelligent transport systems, and this Congress provides an opportunity for us to share some of our successes and to learn from others. As a proud Program Partner for this world premier event, the Australian Government anticipates it will be an invaluable opportunity for knowledge sharing, collaboration and innovation – helping us all to push the boundaries of what is possible in the delivery of transport services.

We particularly welcome the theme of this year’s Congress - ‘Enhancing Liveable Cities and Communities’. This reflects our belief that effective transport is an essential enabler for building Australia’s modern knowledge-based economy, improving road safety and access to jobs and housing, and maintaining a healthy environment.

The Australian Government is actively engaged in this area through initiatives such as our Smart Cities Plan, which outlines the Government’s vision for a collaborative and innovative approach to creating liveable city spaces. The Australian Government has also recently developed the National Policy Framework for Land Transport Technology in collaboration with state and territory governments, which details our agreed national approach to emerging land transport technologies, including intelligent transport systems.

The Framework includes an action plan that will assist Australia to seize opportunities to implement these technologies and improve our cities and communities.

We hope you take inspiration from the setting for this Congress – Melbourne, one of the world’s most liveable cities – and enjoy Australia’s food, entertainment and hospitality.

VICTORIA GOVERNMENT

I’m delighted to welcome you to Melbourne for the 23rd ITS World Congress. Renowned for its capacity to stage large scale business events and rated the world’s most liveable city for an unprecedented six years in a row, Melbourne is the perfect place to explore this year’s congress theme ‘Enhancing Liveable Cities and Communities’.

Victoria’s economy is thriving. We have the fastest growing population in Australia and since coming to office, 150,000 jobs have been created. New businesses are prospering and innovation is booming.

This rapid population and economic growth presents challenges. Soon our transport systems will need to accommodate the daily movement of over a million people in and out of central Melbourne and facilitate the movement of a billion tonnes of freight each year.

Advanced ITS will be key to delivering safer, more efficient and environmentally sustainable transport solutions to ensure our state remains productive, prosperous and liveable well into the future.

Victorian businesses have expertise in manufacturing processes, advanced materials and autonomous systems and offer diverse and innovative transport technology solutions, from traffic software and communications, to route planning and scheduling, supply chain management, telecommunications infrastructure and smart car technology.

I wish you a productive and rewarding stay in Melbourne and encourage you to engage with our local companies and organisations to explore how ITS enabled solutions will help to better connect our state to global markets, jobs, education and each other.

The Hon. Daniel Andrews MP
Premier of Victoria

The Hon Darren Chester MP
Minister for Infrastructure and Transport

The Hon Paul Fletcher MP
Minister for Urban Infrastructure

www.itsworldcongress2016.com | #ITSWC16
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Janette Sofronidis, ITS Australia

Carmel Romano, ITS Australia

Murray Collins, ITS Australia

Barry Oosthuizen (retired)
TRANSPORT AND ACCOMMODATION INFORMATION

All of the following information is also available on the congress app and on the congress website at www.itsworldcongress2016.com/destination/travel-information

TAXI

Taxis have their own taxi ranks or can be hailed from the street. Taxis are available from the ground floor level of Melbourne Airport, outside the international terminal and both domestic terminals. Expect a taxi fare of around AUD60 for a taxi ride between the CBD and Melbourne Airport. Melbourne’s major taxi companies include:

- 13 CABS: 13 22 27—within Australia only
- Arrow: 13 22 11—within Australia only
- Embassy taxis: 13 17 55—within Australia only
- Silver top taxis: 13 10 08—within Australia only

PUBLIC TRANSPORT

Most of Melbourne’s main attractions are within walking distance to the congress venue and recommended hotels; however public transport is easily accessible and affordable. Trams within the CBD are free within the “Free Tram Zone” and no ticket is required, simply hop on / hop off (you will see signs indicating free tram zone at these stations). However, if your journey starts or finishes outside the boundaries of the Free Tram Zone, you must touch on your myki* at the reader in the normal way to make sure you have a valid ticket.

*Myki is Melbourne’s smartcard ticketing system. With myki you can travel on all of Melbourne’s trains, trams and buses. A myki can be purchased from train stations, some tram stops and bus interchanges, 7-Eleven stores, retail outlets and newsagents displaying the myki sign. A myki visitor pack containing a map, instructions for use, a myki card with enough value for one day’s travel in Zone 1 (the entire tram network) and discounts to various Melbourne attractions is also available for purchase from the Melbourne Visitor Centre.

For more information about public transport, including ticketing and planning your journey, visit www.ptv.vic.gov.au
CAR HIRE
If you require car hire, many rental companies operate from Melbourne airport. To make a booking prior to your arrival contact:

AVIS car rental:  www.avis.com.au
Budget:  www.budget.com.au
Europcar:  www.europcar.com.au
Hertz car rental:  www.hertz.com.au
Red Spot:  www.redspotcars.com.au
Thrifty car rental:  www.thrifty.com.au

CONGRESS ACCOMMODATION

A CLARION APARTMENTS
1 William St, Melbourne VIC 3000
850m from MCEC (12 minute walk)

B CROWN PROMENADE
8 Whiteman St, Southbank VIC 3006
500m from MCEC (7 minute walk)

C CROWN METROPOL
8 Whiteman St, Haig St, Southbank VIC 3006
170m from MCEC (3 minute walk)

D CROWN TOWERS
8 Whiteman St, Southbank VIC 3006
650m from MCEC (9 minute walk)

E CROWNE PLAZA
1-5 Spencer St, Melbourne VIC 3008
230m from MCEC (3 minute walk)

F GRAND HOTEL MELBOURNE
33 Spencer St, Melbourne VIC 3000
500m from MCEC (7 minute walk)

G HILTON SOUTH WHARF
2 Convention Centre Pl, Melbourne VIC 3006
Adjacent to MCEC

H HOLIDAY INN
575 Flinders Ln, Melbourne VIC 3000
550m from MCEC (8 minute walk)

I INTERCONTINENTAL MELBOURNE THE RIALTO
495 Collins St, Melbourne VIC 3000
1.1km from MCEC (17 minute walk)

J PENSIONE BOUTIQUE HOTEL
16 Spencer St, Melbourne VIC 3000
600m from MCEC (6 minute walk)

K VIBE SAVOY HOTEL
630 Little Collins St, Melbourne VIC 3000
850m from MCEC (10 minute walk)

L THE LANGHAM MELBOURNE
1 Southgate Ave, Southbank VIC 3006
1.3km from MCEC (16 minute walk)

M ADINA APARTMENT HOTEL
550 Flinders Street, Melbourne VIC 3000
600m from MCEC (6 minute walk)
GENERAL INFORMATION

EXHIBITION OPENING DATES AND TIMES

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<td>Monday 10 October 2016</td>
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<td>Tuesday 11 October 2016</td>
<td>0830 – 1900 hours</td>
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<td>Wednesday 12 October 2016</td>
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<td>Thursday 13 October 2016</td>
<td>0830 – 1800 hours</td>
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<td>Friday 14 October 2016</td>
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REGISTRATION OPENING DATES AND TIMES

<table>
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<th>Date</th>
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<tr>
<td>Sunday 9 October 2016</td>
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<td>0700 – 2000 hours</td>
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<td>Thursday 13 October 2016</td>
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<tr>
<td>Friday 14 October 2016</td>
<td>0800 – 1630 hours</td>
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CONGRESS APP
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The Congress App is available to enhance your experience at the ITS World Congress 2016. This will include information on technical tours, demonstrations, social events, program and speakers, delegate to delegate messaging, mapping, social media, and much more. Use the Activity Feed to post about your congress experience to everyone, and check the leaderboard to see who’s been the most active! Can you beat them and who will be the winner?

You can download the ITSWC app now from www.its2016.eventapp.com.au or simply search for ‘ITS World Congress 2016’ in the Apple App Store or Google Play Store. Login with your unique code to access the full range of features, some of which are only available to Fulltime and Day Registered delegates.

If you have any questions about the Congress App please visit the app helpdesk, located near the congress registration area.

BUSINESS NETWORKING LOUNGE

Delegates can search and contact each other directly through the congress app, send messages and arrange meetings. We encourage you to utilise this feature to network and connect with other attendees. A fully staffed Business Networking Lounge is available within the exhibition and is designed with these particular meetings in mind. For general networking we encourage you to use any of the other networking areas within the exhibition hall, including the ITS Australia Networking Lounge.

DEVICE RECHARGE BAR

If your phone or tablet is running low, recharge at the charge bar! Located within the exhibition hall this area has both power (three-pin power point / socket outlet) and USB points – please supply your own lead. With comfortable lounges, tables and chairs, this is the perfect place to recharge.

COFFEE CARTS

Kapsch Coffee Carts are available throughout the exhibition hall and the congress venue providing complimentary coffee, tea and hot chocolate to visitors and delegates. Muffins and pastries are also available for purchase at these carts.

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EXHIBITION HALL AUDITORIUM

There will be a purpose-built auditorium located at the rear of the exhibition hall. Review the program for sessions that are on each day and get involved in product launches, hosted debates, panel discussion presentations and the “Melbourne Conversations on ITS” informative community sessions.

DELEGATE CATERING

Complimentary morning and afternoon tea, as well as lunches are being served for all fulltime and day congress delegates* in the Delegate Catering area to the left of the exhibition.

* Not available to exhibitor personnel, exhibition visitors, accompanying persons or media

EXHIBITION HALL CAFÉ
Sponsored by

The exhibition is centred around the Queensland Café. Food and beverages will be available for purchase between 1100 – 1500 hours Tuesday to Thursday and 1100 – 1400 hours on Friday. Serving hot and cold items as well as soft drinks; this is also where exhibitors can make use of their catering vouchers and any other exhibition visitors can purchase food and beverages. Café style seating is available within this area.

NATIVE ANIMAL EXPERIENCE

Make your way to the Australian native animal experience section and get up close with some of Australia’s iconic animals. On display for a limited time only, make your ITS 2016 experience exceptionally memorable by enjoying a personal experience where you can see a koala, a dingo, a joey (baby kangaroo) or a snake! Interact with the animals as you learn each animal’s name and character with our passionate wildlife keepers. Get in touch with Australia’s wildlife!

This area is located within the exhibition and will be open during the following times:

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<th>Date</th>
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<tbody>
<tr>
<td>Tuesday 11 October 2016</td>
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DEMONSTRATIONS AND TECHNICAL TOURS LOUNGE

Find out more about the Demonstrations by visiting the Demonstrations and Technical Tours Lounge within the exhibition (just inside Door 10). Demo representatives will be available to answer your questions, and staff will be on hand to assist with onsite bookings. Remember – only Fulltime and Day Registered delegates can book demonstrations and technical tours. Timings for Technical Tour departures will also be available from this lounge area.

TIME

At the time of the congress, Melbourne Australia is in the Australian Eastern Daylight Savings Time zone, 11 hours ahead of GMT (Greenwich Mean Time).

CURRENCY

The Australian Dollar (AUD) is the currency in Australia. Units are dollars and cents and exchange rates can be obtained from your bank or online. Most credit cards are accepted in Australia, including American Express, MasterCard and Visa.

GRATUITY

In Australia tipping is not required however you can leave a tip if you feel you have received exceptional service.

ELECTRICITY

The Australian electrical frequency is 230V 50Hz. While hotels may provide their guests with plug adapters on request, supplies are limited and you are recommended to bring your own.

INTERNET / BUSINESS LOUNGE

Most Australian hotels offer wired or wireless high-speed internet access in their guest rooms. Most hotels will also have a business centre with available computers and printers for their guests to use. While onsite at the congress a complimentary wifi service is available to all delegates:

Network Name: ITS2016
Password: Melbourne

There is no other Business Lounge facility provided at the congress or at the Melbourne Convention and Exhibition Centre.

LANGUAGE

The official language of the 23rd World Congress on Intelligent Transport Systems is English.

INSURANCE

The Organising Committee of the 23rd World Congress on Intelligent Transport Systems is unable to accept responsibility for accidents or damage to the private property of participants. Please ensure that you do not leave portable and valuable pieces of equipment unattended anywhere, and that you make your own arrangements for health, travel, general and other insurance.

CLIMATE

October is Spring in Melbourne, with days and nights experiencing temperatures between 10 – 20 degrees Celsius (50 – 68 F); it is also the second wettest month, after May. The nights are quite cool and fog often occurs during the early morning, before cleaning during the day. We recommend that you bring a jacket or scarf with you especially for attendance in the congress sessions rooms where air conditioning will be used.

It is commonly said, that Melbourne has 4 seasons in 1 day!

SMOKING

There is no smoking indoors or within enclosed public areas in Melbourne. The Melbourne Convention and Exhibition Centre is also a smoke free environment.

WATER

Melbourne has some of the highest quality drinking water in the world, and is safe for drinking.

SPEAKER LOUNGE (MR 111 + 112)

A Speaker Lounge (Speaker Ready Room) is available for all moderators and speakers during the congress. This is a room specifically reserved for speakers to work on, load and practice their presentations or simply just to relax and de-stress prior to their presentation.

The Speaker Lounge (Speaker Ready Room) is located in Meeting Rooms 111 and 112 (level 1) at the Melbourne Convention and Exhibition Centre, is staffed by professional AV technicians and will be open during the following times:

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CONGRESS PROCEEDINGS

A printed copy of the congress proceedings is available for collection from the Registration Area for Full-Time and Day Registered delegates only, with a digital version also available by password.

PROFESSIONAL DEVELOPMENT HOURS

Attendance at the 23rd World Congress on Intelligent Transport Systems entitles you to earn up to 24 professional development hours. With over 24 possible units for you to acquire, your world congress attendance easily provides you with the opportunity to complete most, if not all of your annual PD requirement.

EMERGENCY – DIAL 000

In an emergency, dial 000 for fire, police, and ambulance.

The nearest public hospitals are:

Alfred Hospital
55 Commercial Road, Melbourne
T. +61 3 9076 2000
www.alfredhealth.org.au

Royal Melbourne Hospital
300 Grattan Street, Parkville
T. +61 3 9342 7000
www.thermh.org.au

FIRST AID ASSISTANCE

The congress will have professional first aid assistance onsite – see staff at the Registration Desk for information.
THE 2016 ITS WORLD CONGRESS
MOBILE APP

NOW AVAILABLE TO DOWNLOAD

DON’T MISS OUT!

App will include the below and much more!

• Technical Tours and Demonstrations
• Activity Feed: post about your congress experience
• Session schedule
• Program and Speakers
• Social Functions
• Save bookmarked favorites to your own calendar
• Delegate to delegate messaging
• Indoor / outdoor mapping
• Local destination info: places to eat, what to see

Visit the app helpdesk located near the congress registration desk area if you have any questions
CONGRESS FORMAT INFORMATION

OPENING AND CLOSING
The opening ceremony will be held on Monday 10 October in Plenary Hall 2, Melbourne Convention and Exhibition Centre. This ceremony will include the official opening of the ITS World Congress 2016 including entertainment, regional welcomes and award ceremonies. It is not to be missed!

The closing ceremony will take place directly after the final plenary session on Friday 14 October in Plenary Hall 3. This session will provide a summary of the Congress and ITS Australia will be “passing the globe” to hosts ITS America and ITS Canada.

SESSIONS
The following sessions are to be held at the Melbourne Convention and Exhibition Centre throughout the duration of the congress. A fully paid Full-Time or Day Delegate Registration type is required to attend these sessions.

- **PLenary Sessions:**
  Top level officials and industry leaders from across the globe will engage the audience in insightful presentations on future directions and challenges for Connected and Autonomous Vehicles, Smart Cities, Big Data for Transportation and Mobility as a Service developments.
  
- **INTERACTIVE SESSIONS:**
  Authors will present their papers on the Level 1 Foyer at the Melbourne Convention Centre through dynamic snapshot oral presentations followed by a walk through and discussion of e-posters. These sessions will provide a space for interactive discussion between the authors and their audience.

- **INTERNATIONAL BENEFITS, EVALUATION AND COSTS (IBEC) SESSIONS:**
  IBEC sessions led by the IBEC working group created to provide an international forum for information exchange on best practices for measuring the costs and benefits of ITS technologies. These sessions will feature an international line up of presenters discussing best practice cost benefit analysis for road pricing, smart freight, green ITS and more.

- **ASSOCIATED MEETINGS AND STAKEHOLDER WORKSHOPS**
  The congress has developed a tradition of providing open informal sessions and workshops at which new or contentious issues can be discussed by anyone with an interest in that topic. These sessions and workshops are arranged by associated organisations, groups and high level partners to the Congress. Delegates with a Full-Time or Day Registration type are invited to attend these open meetings.

- **Scientific/Technical/Commercial Sessions:**
  These sessions are comprised of presentations by international and local academics and industry experts and will include topics encompassing all technical, economic and societal aspects of ITS.
SPECIAL FEATURES
UNIVERSITY AND STUDENT ENGAGEMENT

ITS Australia is proud to continue the spotlight on the next generation of ITS professionals and to highlight career opportunities in this exciting and rapidly developing industry. The University and Student Engagement programs will showcase hundreds of students ranging from 10 year olds through to university students, providing a range of competitions, challenges and presentation opportunities throughout the entire congress week.

STUDENTS AUTOCAR PROGRAMMING CHALLENGE: SMART CITY PROJECT
STUDENTS: 12 – 17 YEAR OLDS

ITS Australia is engaging with students with an interest in Science, Technology, Engineering and Mathematics (STEM). With the SmartCity Project, teams of Victorian and Australian students are challenged to design, build a model of a smart city consisting of intelligent vehicles, smart infrastructure and sustainable buildings. This follows on from an earlier challenge in 2015 to program an autonomous vehicle.

Student Showcase Display:
TUESDAY 11 OCTOBER 2016 – FRIDAY 14 OCTOBER 2016
Presentation:
THURSDAY 13 OCTOBER 2016, 1030 – 1130 HOURS

STUDENTS MODEL SOLAR CAR CHALLENGE
Students: 11 – 16 year olds

A car pursuit will be run on the grassed lawns outside the Melbourne Convention and Exhibition Centre as part of the 23rd World Congress on Intelligent Transport Systems. It is an opportunity for teams to test their cars on the pursuit track and have a look at some of what other teams have been working on. Also featured will be an indoor track showcasing alternate powering systems.

Student Showcase Display:
TUESDAY 11 OCTOBER 2016 – THURSDAY 13 OCTOBER 2016
Presentation:
THURSDAY 13 OCTOBER 2016, 1030 – 1130 HOURS

YOUNG STUDENTS DESIGN YOUR FUTURE
Students: 10 – 13 year olds

Scienceworks will be running the Design Your Future program for school groups throughout 2016, in the lead up to the ITS World Congress. This hands-on workshop includes focused time in the Think Ahead exhibition exploring themes such as future cities and smart vehicles. Students will then design intelligent transport systems to revolutionise travel in an imaginary city. The top future transport projects will be showcased at the ITS World Congress, allowing students to present their work to their peers and experts in the field from around the world.

Student Showcase Display:
TUESDAY 11 OCTOBER 2016 – FRIDAY 14 OCTOBER 2016
Presentation:
THURSDAY 13 OCTOBER 2016, 1030 – 1130 HOURS

STUDENT ESSAY COMPETITION
For: Australian University Students

The ITS Australia Student Essay Competition was designed to inspire Australian university students to take an active interest in the application of advanced technologies to improve transport systems, for chance to win travel and registration to the congress. Winners will receive award recognition on stage during the congress.

2016 ASIA PACIFIC STUDENT EXCELLENCE SCHOLARSHIP PROGRAM
For: University Students, Asia Pacific

The Scholarship Program has sponsored 10 students from participating ITS Asia Pacific Associations to attend the world congress. The Program was created to support and encourage student participation, not just attendance, at the World Congresses globally; to recognise and showcase student excellence from the Asia Pacific Region.

UNIVERSITY GRAND CHALLENGE: LANE LEVEL LOCALIZATION ON A 3D MAP
For: University Students Worldwide

In advance of the congress, Expressions of Interest were offered to universities world-wide to participate in this ITS 2016 University Grand Challenge. This is an opportunity to showcase contributions of academic research to one identified challenge in Intelligent Transportation Systems: Lane level localization on a 3D map. The best contributions to the University Grand Challenge will present their solutions at the congress.
15th ITS Asia-Pacific Forum & Exhibition
27-29 June 2017
Hong Kong Science Park, Shatin
Hong Kong SAR, China

http://www.ITSAP2017.com

For further information, please contact:
Conference Secretariat (c/o PC Tours and Travel)
302, Tower A, New Mandarin Plaza,
14 Science Museum Road, Kowloon, Hong Kong
Tel: +852 2734 3312 or +852 2734 3315
Fax: +852 2367-3375
Email: itshk@pctours.hk

Organized by Intelligent Transportation Systems - Hong Kong
http://www.its-hk.org

CALL FOR PAPERS • OPEN 8 AUGUST 2016 • DEADLINE 30 NOVEMBER 2016
SESSION TOPICS

AUTOMATED VEHICLES AND COOPERATIVE ITS

- ES01: Advancing the deployment of automated vehicles – the roles of government
- ES02: Advancing the deployment of automated vehicles – the roles of industry
- SIS14: Strategy of Practical Implementation of V-I Cooperative Systems for Traffic Accident Avoidance
- SIS17: Future mobility and Mobility as a Service, moving from ownership to access?
- SIS19: Lessons Learned in Deploying Cooperative Systems
- SIS20: Evaluation and standardisation of connected and automated road transport
- SIS26: Digital Infrastructure for Automated Vehicles: challenges and international collaboration
- SIS28: Utilizing probe data will create the future of ITS
- SIS33: Deployment challenges on automated truck platooning
- SIS34: Connect2Car: Connectivity and Autonomy – will there be a winner?
- SIS35: Radiocommunication technologies for automated driving
- SIS36: ITS Connectivity – A future with 5G and Satellite
- SIS37: Cooperative Systems - Stakeholder Contribution and Cooperation
- SIS40: Automated vehicle pilots: challenges for data collection and sharing
- SIS42: Smart Roads - Where to next?
- SIS43: Positioning Challenges for Automotive Safety Systems & Solutions
- SIS47: Automated Transport Systems: How far are we?
- SIS56: Image-recording-type driving event video recorder (DR) technology ensuring automated driving
- SIS68: Automated Vehicles: Kangaroo caught in the headlights

CHALLENGES AND OPPORTUNITIES OF BIG OPEN DATA

- ES04: Realising the promise of Big and Open Data – practical trade-offs between benefits, costs, security and privacy
- SIS03: Telematics and Big Data – How do we make big data meaningful?
- SIS05: Securing Your Digital Community in a Hostile Cyber World
- SIS08: Insights for Performance Measurement: 5 min to the last 5 years
- SIS18: Traffic sensing by various manners
- SIS22: Big Data, driving integrated transport services
- SIS31: Ensuring the long term viability of ITS decision-support tools
- SIS41: Innovation for livable cities utilizing autonomous driving technology and IoT Big Data
- SIS49: Procurement of Real-Time Traffic Data based on FCD
- SIS53: Data fusion of collecting public and private data during disaster mitigation
- SIS57: Smart Intelligent Traffic Intersections – Evaluating Challenges of Big Data for Smart Cities
- SIS59: Traffic State Estimation using Various Sensing Data
- SIS71: ITS Development and Whole Of Life Asset Management
- SIS03: Applications and Visualization of Big Data in Public Transit, Car Sharing and Parking
- TP02: Better Traffic Management from Big Data
- TP21: Enhancing Safety through ITS - What is the data telling us?
- TP30: Enhancing the Driver Experience with Better Data
- TP37: How Traffic Big Data Fuels Traveler Information and Situational Awareness
- TP46: ITS Operations and Big Data
- TP47: Weather Information Presents Opportunities and Challenges for Big Data
- TP53: Mobile Sensing, Open Data and Data from Probes to Address Mobility Issues
- TP60: Platforms, the Cloud and Issues Related to Data Sharing and Exchange
- TP67: Safety and Security Issues for Big Data
ENRONOMICAL SUSTAINABILITY

- ES05: The role of ITS in mitigating climate change and delivering green transport
- SIS55: Global view on challenges in measuring CO2 reduction benefits from ITS
- SIS70: Advances on innovative EV Charging Technologies
- TP41: Environmental Sustainability - How Will Alternative Fuel Vehicles Contribute to a Long-Term Sustainable Outcome 1
- TP50: Environmental Sustainability - How Will Alternative Fuel Vehicles Contribute to a Long-Term Sustainable Outcome 2
- TP57: Environmental Sustainability - Initiative to Promote Sustainable Environmental Outcomes
- TP64: Environmental Sustainability - Use of Bicycles
- TP71: Environmental sustainability - Use of Existing Infrastructure and Systems to Drive Improved Environmental Outcomes
- SP17: Energy Efficiency
- SP19: Environmental Sustainability
- CP01: Environmental Sustainability and Logistics

FUTURE FREIGHT INCLUDING AVIATION AND MARITIME

- ES06: The use of connected vehicles and data exchange in Freight and Logistics, including aviation and maritime
- SIS07: How slow-moving government processes might respond to rapid transformative technologies
- SIS08: A whole-of-system system approach to aviation system modernisation
- SIS50: Innovative applications of ITS for road freight productivity and safety
- SIS52: C-ITS for optimizing transport and logistics of goods.
- SIS64: Knowledge and understanding of urban freight distribution and service trips
- TP07: Future Freight including Aviation and Maritime - The Use of Automated Vehicles on Long-Haul Freight Corridors
- TP16: Future Freight including Aviation and Maritime - The Use of ITS to Drive Freight Efficiency and Sustainability
- TP25: Future Freight including Aviation and Maritime - The Use of ITS to Optimise Freight Movements and Improve Efficiency and Productivity
- TP34: Opportunities and Challenges around Freight Management from an ITS Perspective

MOBILE APPLICATIONS

- ES07: Using smart nomadic devices safely to enhance personal mobility
- TP42: Making Safer Corridors using the Digital Revolution
- TP85: Generating Travel Information via Bluetooth, ETC and Other Crowd Sourced Data
- TP93: Keeping Drivers Better Informed using Mobile Applications
POLICY, STANDARDS AND HARMONIZATION

- SIS08: Modifying regulatory frameworks to boost mobility innovations
- SIS04: Regulation as an enabler for positive transportation change
- SIS16: What is the role of government in the deployment of ITS?
- SIS25: Accelerating ITS Deployment by Creating a More Diverse Workforce
- SIS32: Tri-lateral Automation in Road Transportation WG: achievements and next challenges
- SIS46: Certification of automated road vehicles: challenges ahead
- SIS63: Real-world ITS Architectures: Benefits, Challenges and Solutions
- SIS66: Start-ups disrupting mobility
- SIS67: Targeting road trauma: how far can ITS take us towards zero?
- SIS69: Accelerating ITS deployment: Industry and Policy compatibility
- TP08: ITS Communications - Multiple Methods, Multiple Considerations
- TP17: ITS Standards and Architecture - Guiding the Way to Successful Future Deployments
- TP26: Policy, Standards and Harmonization - Government Role in Realizing Sustainable Outcomes 1
- TP78: Policy, Standards and Harmonization - Government Role in Realizing Sustainable Outcomes 2
- TP86: Policy, Standards and Harmonization - ITS Policy Roadmap, Government and Industry Perspective

SMART CITIES AND NEW URBAN MOBILITY

- SIS09: Capitalising on the Internet of Things
- SIS10: Mobility as a service
- SIS11: Integrating physical and digital transport infrastructure to create smart cities
- SIS12: Smart and automated public transport enabling livable cities and improved mobility
- SIS01: Keeping cities liveable, using ITS to ensure service levels meet customer expectations
- SIS06: The role of ITS in a collaborative economy: towards user-oriented pricing and the gamification of mobility
- SIS11: Visualize a truly multimodal managed mobility system for your Smart City
- SIS12: Using traffic signal priority to maximise safety and minimise congestion for all
- SIS13: ITS and the Digital City - Disruptive Technologies and the New Reality
- SIS23: Parking - a driver for change?
- SIS24: Signal optimisation for connected vehicles, must we sacrifice adaptivity to achieve predictability?
- SIS27: Novel C-ITS applications and mobility services for Smart Cities
- SIS29: Roles of data analytics and transportation modelling for fast-changing urban infrastructure
- SIS30: Mobility as a Service - user centric integrated transport services
- SIS36: Enabling interaction between traffic management and mobility services
- SIS37: Location Intelligence, ITS and Smart Cities
- SIS44: Changes in Modeling for the New Mobility: Planning Challenges for Future Transportation
- SIS45: Harnessing the Economic, Societal and Environmental Benefits of Road User Charging
- SIS48: Integrated Payment = Improved Mobility
- SIS51: Data-Driven: Connecting Cars for Smarter Cities
- SIS54: Management of mobility demand through ITS: the real challenge for Smart Cities
- SIS58: Traveller Information - Meeting Increasing Customer Expectations
- SIS60: Managed Motorways - Adapting the Melbourne Concept for U.S. Applications
- SIS61: Pro-active Network and Incident Management
- SIS65: Traffic Signal Control Systems for 4th Generation
- SIS73: ITS for Global Mega Events
- TP04: Traffic Signal Control 1
- TP05: Better Efficiency with Traveler Information
- TP06: Communications Technology
- TP13: Traffic Signal Control 2 and Integrated Payment Systems
- TP14: Integrated Payment Systems
- TP15: Efficient Urban Transport Systems
- TP22: Transportation Management Centers
- TP23: Ensuring Safety and Efficiency for Vulnerable Road User
- TP24: Improving Arterial with Better Data/Algorithm
- TP31: Urban Mobility
- TP32: Improving Public Transport
- TP33: Incident Management
- TP38: Urban Public Transport
- TP39: Integrated Traffic Management
- TP40: ITS for Demand Response Transport
- TP48: ITS Planning
- TP55: Connected Mobility
- TP56: Modelling Methodologies 1
- TP62: Modelling Methodologies 2
- TP63: Motorway Management 2
- TP69: Road User Charging 1
- TP70: Parking
- TP76: Road User Charging 2
- TP77: Roadside ITS Infrastructure
- TP83: Road User Charging 3
- TP84: Network Travel Management
- TP91: Road User Charging 4
- TP92: Safety through ITS and Queue Management
VEHICLE AND NETWORK SAFETY

- **ES03**: Realising the safety and mobility benefits of automated vehicles and cooperative ITS systems
- **SIS15**: Advanced technologies in operation and maintenance of ITS facilities
- **SIS72**: Exploiting cloud and big data technologies for ADAS and Digital Cartography
- **TP09**: Preventative and Active Safety Systems
- **TP18**: Safety of Vulnerable Road Users
- **TP27**: Speed Advice and Monitoring
- **TP43**: Technology Innovation and Development

**Session sponsored by**

- **SP11**: Facilities and Traffic Modelling
- **SP13**: Evaluation of Traffic Signals
- **SP17**: Impact of Technologies on Travel Demand
- **SP20**: Integrated Transport System
- **SP21**: Motorway Management 1
- **SP22**: Multi-modal Transport
- **SP28**: Public Transport Analysis

**SP20**: Traffic Simulations
**SP21**: Transport Modelling
**CP02**: Sensing and Human Machine Interface
**CP03**: Mobility as a Service and Connected ITS
**CP06**: Public Transport
**CP07**: Tolling and ePayment
**CP08**: Traffic Management

- **SP06**: Traffic Simulations
- **SP10**: Transport Modelling
- **CP02**: Sensing and Human Machine Interface
- **CP03**: Mobility as a Service and Connected ITS
- **CP06**: Public Transport
- **CP07**: Tolling and ePayment
- **CP08**: Traffic Management

**TP09**: Advanced Driver Assistance and Support Systems
**TP18**: Human Factors and Driver Behaviour 1
**TP27**: Human Factors and Driver Behaviour 2
**TP43**: Maximizing Safe Network Operation
**TP54**: Optimal Network Management 1
**TP55**: Optimal Network Management 2
**TP56**: Collision Avoidance
**SP11**: Network Safety
**SP13**: Road Safety
**SP15**: Vehicle Sensing and Bicycle Recognition
**CP04**: Safety 1
**CP05**: Safety 2
KEYNOTE SPEAKERS

SCOTT CHARLTON
Chief Executive Officer, Transurban, Australia
Opening Ceremony
MONDAY 10 OCTOBER 2016, 1600 – 1730 HOURS
PLENARY HALL 2

In July 2012 Scott joined Transurban Group from Lend Lease, where he was Group Chief Operating Officer. Prior to this, Scott held several senior appointments across a range of infrastructure and financial institutions, including as CFO of Leighton Holdings (2007-2009) and as a Managing Director of Deutsche Bank (1995-2003). He is Deputy Chairman of Infrastructure Partnerships Australia, and a member of the Monash Industry Council of Advisors and the Business Council of Australia.

GAVIN SMITH
President, Robert Bosch (Australia) Pty Ltd, Australia
Plenary 1: Automated and Connected Vehicles
TUESDAY 11 OCTOBER 2016, 0900 – 1030 HOURS
PLENARY HALL 3

Gavin Smith joined Bosch Australia in 1990 following 10 years in various Information Technology roles at a number of well-known Multinationals in Australia and New Zealand. After a successful two years in Frankfurt as part of Bosch’s Original Equipment Sales team, Gavin held a number of senior leadership positions in the company’s Australian Automotive Components divisions including Regional President of the Powertrain Division from 2003 and Regional President of the Vehicle Safety Systems Division from 2008. In 2011, Gavin was promoted to the position of President and Chairman of the local subsidiary Robert Bosch Australia. Gavin holds a Bachelor of Commerce degree from the University of Otago in New Zealand, and an MBA from Monash University in Melbourne. In addition to his Bosch responsibilities, Gavin is a councillor for the Australian Industry Group, and holds board positions with Stillwell Motor Group, FMP and the German-Australian Chamber of Commerce.

JACK DANGERMOND
President, Esri, United States
Plenary 2: Smart Cities
WEDNESDAY 12 OCTOBER 2016, 0900 – 1030 HOURS
PLENARY HALL 3

Jack Dangermond is the co-founder and president of Esri. A geographer with deep roots in landscape architecture, Jack productised GIS after a decade of research and development as a regional planning consultant in his hometown of Redlands, California. Today, Esri dominates the geospatial technology industry and is the 4th largest privately held software company in the world.

The son of Dutch immigrants, Jack received an early education in botany and business at his parents’ landscape supply store, Dangermond’s Nursery. He credits his experience there for igniting his passion for business and landscape architecture.

After graduating from Harvard in 1969, Jack and his wife Laura used $1,100 in savings to enter the urban planning business. A consulting group called Environmental Systems Research Institute (later shortened to “Esri”), the Dangermond’s first business endeavor assisted regional planning projects in the US and Japan using digital mapping and spatial analysis methods that were part of Jack’s formal training at Harvard.

In 1981, Jack directed the design of the world’s first commercially available GIS software product, ARC/INFO, the precursor to Esri’s industry-standard geospatial platform ArcGIS. By 1999, Jack had guided Esri from a small research group of a dozen people to a global organisation of 3,500 employees. Today, Esri has more than 350,000 customers with 1 million users in 200 countries.

Jack has authored hundreds of papers on GIS relating to cartography, photogrammetry, computer science, and environmental science. In 2015, Jack and Laura received the Audubon Medal from the National Audubon Society in recognition of their conservation innovation and support for research institutions, schools, and non-profit organisations.
JEROEN WEIMAR
Chief Executive Officer, PTV, Australia

Plenary 4: Mobility as a Service
FRIDAY 14 OCTOBER 2016, 1430 – 1530 HOURS
PLENARY HALL 3

Jeroen first joined Public Transport Victoria in January 2015 as Executive Director, Performance & Contract Management. In this role he was responsible for managing the franchise agreements and operating contracts for Metro, Yarra Trams, V/Line and all bus contracts across Melbourne and regional Victoria. Jeroen also led PTV’s work on the re-negotiation, extension and tendering of new transport operation contracts.

Prior to joining PTV, Jeroen was the Chief Operating Officer, UK Bus at First Group plc, where he was responsible for the operation of over 6,000 buses and 17,000 staff operating across the UK and the turnaround of over 40 regional bus businesses. With over 20 years’ experience in the transportation sector, Jeroen has also worked at Serco Group plc as the MD for UK Transport and as the Chief Operating Officer, Surface Transport at Transport for London.

With over 20 years of experience in the transport sphere, Jeroen further bolsters PTV’s profile as a highly-capable agency, attracting excellent staff who are well-placed to meet PTV’s challenges, and reach our organisational goals.

Jeroen was appointed Acting Chief Executive Officer in January 2016.

Michele Huey
Group General Manager Strategy, Transurban, Australia

Plenary 3: Connectivity and Big Data - Challenges in capturing, securing and connecting big data
THURSDAY 13 OCTOBER 2016, 0900 – 1030 HOURS
PLENARY HALL 3

In her current role as the Group General Manager, Strategy, Michele is responsible for Transurban’s long-term strategy, sustainability and network planning and traffic modelling to support Transurban’s portfolio of motorway networks across Australia and United States. Prior to joining Transurban in 2015, Michele was the Group Head of Procurement and Group Head of Transformation at Lendlease. In these roles, Michele led a transformation program to support the organisation’s global strategy and established the group’s procurement function. Michele’s experience includes more than ten years in management consulting, working with organisations across the oil and gas, resources, industrial and financial services sectors on strategy development, operational improvement programs, and organisation transformations.
SCHEDULE AT A GLANCE

As at August 2016 - Subject to change

SAT
8 Oct

SUN
9 Oct

MONDAY
10 October 2016

TUESDAY
11 October 2016

WEDNESDAY
12 October 2016

0700
Hackathon
Registration (7am–8pm)
Exhibitor / Schools Move In (7am–2pm)

0730
0800
Registration (8am–7pm)
Speaker Ready Room (8am–5.30pm)
Registration (8am–7pm)
Speaker Ready Room (8am–5.30pm)

0830
Australian Automotive Research Centre
Technical tour (8.30am–3pm)
Demonstrations: Bus Schedule (8.30am–6.30pm)

0900
Plenary Session I
(9–10.30am)
Plenary Session 2
(9–10.30am)

0930
1000
Speaker Ready Room (10am–5.30pm)
Animals
10–11am

1030
Schools programs
(10.30am–2pm)
Break
Schools programs
(10.30am–2pm)
Break

1100
Congress sessions
Exhibition (8.30am–7pm)
Congress sessions
Exhibition (8.30am–7pm)
Congress sessions
Exhibition (8.30am–7pm)

1130
1200
1230
Lunch
Lunch
Lunch

1300
1330
1400
SolarCar Move In (1.30–4pm)
Welcome Reception and official Exhibition Opening (5.30pm–8.30pm)
Welcome Reception and official Exhibition Opening (5.30pm–8.30pm)

1430
Registration (2.30pm–8pm)

1500
Animals
3–4pm

1530
Break
Break
Break

1600
Opening Ceremony
(4pm–5.30pm)
Opening Ceremony
(4pm–5.30pm)
Opening Ceremony
(4pm–5.30pm)

1630
1700
1730
Congress sessions
Congress sessions
Congress sessions

1800
1830
1900
1930
2000
2030
2100
2130
2200
2230
2300
2330
24
www.itsworldcongress2016.com | #ITSWC16
## SESSIONS AT A GLANCE

**As of August 2016 - Subject to change**

### SUNDAY 9 OCTOBER

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**Note:** Sessions include Plenary sessions, Executive sessions, Technical/Scientific Commercial sessions, International Benefits, Evaluation and Costs (IBEC) sessions, Associated Meetings and Stakeholder Workshops.
### Session topics

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<td>Automated Vehicles and Cooperative ITS</td>
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<td>Challenges and Opportunities of Big Open Data</td>
<td>Topic sponsored by RACV / Intelematics</td>
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<td>Policy, Standards and Harmonisation</td>
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### Transportation Management Centers

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<tbody>
<tr>
<td>TP04</td>
<td>Traffic Signal Control 1</td>
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<td>TP05</td>
<td>Better Efficiency with Trawler Information</td>
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<td>TP06</td>
<td>Communications Technology</td>
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<td>TP07</td>
<td>Innovative Solutions to Reduce Congestion</td>
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<td>TP08</td>
<td>Predictive Analytics</td>
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<td>TP11</td>
<td>ISO 1 ITS Technical Interactive Session 1</td>
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<td>TP12</td>
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<tr>
<td>TP13</td>
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<td>Ensuring Safety and Efficiency for Vulnerable Road User</td>
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<tr>
<td>TP24</td>
<td>Improving Arterial with Better Data/Algorithm</td>
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<td>TP25</td>
<td>Positioning and V2X Communication</td>
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<tr>
<td>TP26</td>
<td>Facilities and Traffic Modelling</td>
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<td>TP27</td>
<td>Future Freight including Aviation and Maritime - The Use of ITS to Drive Freight Efficiency and Sustainability</td>
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<tr>
<td>TP28</td>
<td>Safety of Vulnerable Road Users</td>
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<td>TP29</td>
<td>ISO 2 ITS Scientific Interactive Session 2</td>
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<td>TP30</td>
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<td>TP31</td>
<td>Stakeholder Workshop</td>
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<td>ITS for Demand Response Transport</td>
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<td>TP41</td>
<td>Evaluation of Traffic Signals</td>
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### Sessions

- **Plenary sessions**
- **Technical/Scientific sessions**
- **Commercial sessions**
- **Interactive sessions**
- **International Benefits, Evaluation and Costs (IBEC) sessions**
- **Technical/Scientific sessions**
- **Executive sessions**
- **Technical/Scientific sessions**
- **Commercial sessions**
- **Interactive sessions**

### Thursday 13 October

#### 0900 - 1030
- **Plenary Session III Connectivity and Big Data - Challenges in capturing, securing and connecting big data**
  - **Plenary Hall 3**

#### 1100 - 1230
- **ES07** Using smart networks for devices safely to enhance personal mobility
  - **Plenary Hall 3**

#### 1230 - 1400
- **H5** Wireless Presentations
  - **H5A exhibition stand**

#### 1400 - 1530
- **ES08** Modelling regulatory frameworks to boost mobility innovations
  - **Plenary Hall 3**

#### 1530 - 1700
- **ES09** Capturing on the internet of things
  - **Plenary Hall 3**

### Friday 14 October

#### 0830 - 1000
- **ES10** Mobility as a service
  - **Special Sessions of ITS 2016 Melbourne: Cross-linking APAC - Internet of Vehicles Symposium and MMC 2016 Exhibition**

#### 1030 - 1200
- **ES11** Integrating physical and digital transport infrastructure to create smart cities
  - **Plenary Hall 3**

#### 1300 - 1430
- **ES12** Smart and automated public transport enabling livable cities and improved mobility
  - **Plenary Hall 3**

#### 1545 - 1645
- **Closing Ceremony**
HIGH LEVEL POLICY ROUNDTABLE

MONDAY 10 OCTOBER 2016, 1330 – 1530 HOURS
MEETING ROOM 219/220

The High Level Policy Roundtable is a traditional feature of the World Congress on Intelligent Transportation Systems, bringing together Ministers and Mayors from across the world.

It is an opportunity for world leaders in Intelligent Transport Systems to meet, exchange information and explore opportunities.

Hosted by the Federal Government, on Monday 10 October, High Level Policy Roundtable guests will come to Asia Pacific to consider opportunities from key transportation and mobility technologies to enhance liveability in our cities and communities.

A focus of the meeting at the 2016 ITS World Congress in Melbourne will be two key themes:

• The top three ITS challenges faced by countries and cities over the next 3-5 years to enhance the liveability of cities and communities
• The top three initiatives being undertaken by governments and cities over the next 3-5 years to enhance the liveability of cities and communities

Discussions and information shared from the High Level Policy Roundtable will assist governments and cities in making strategic decisions and contribute to future ITS implementations around the world.

The opportunity for Ministers and Mayors to interact and engage in this forum enhances international relations, collaborations and partnerships.

We welcome our High Level Policy Roundtable guests, and their attendants, to Melbourne.

Full Time and Day Registered delegates are invited to attend and observe the formal proceedings of this meeting—places are limited. No bookings required.

OPENING CEREMONY

MONDAY 10 OCTOBER 2016, 1600 – 1730 HOURS
PLENARY HALL 2

The Opening Ceremony will include the official welcome by ITS Australia and Australian Government representatives as well as the 3 regions ITS Asia Pacific, ITS America and ERTICO. The Opening Keynote presentation will be made by Mr Scott Charlton, Chief Executive Officer, Transurban. Presentation of the Hall of Fame individual Lifetime Achievement Awards will be made and senior representative from Cubic will invite guests to the Welcome Reception. Included will be an official Welcome to Country ceremony as well as lively entertainment and performances from local artists.

CLOSING CEREMONY

FRIDAY 14 OCTOBER 2016, 1545 – 1645 HOURS
PLENARY HALL 3

The Closing Ceremony will celebrate achievements of the 23rd ITS World Congress 2016 and will feature the week’s highlights video, official closing and keynote speeches, Rapporteur’s Report presented by Professor Eric Sampson, best paper awards, video presentations and invitations to 24th ITS World Congress 2017 (Montreal) and 25th ITS World Congress 2018 (Copenhagen), and Passing the Globe Ceremony. Attendees will leave the congress inspired following a display of sensational and upbeat entertainment featuring local artists.
PLENARY SESSIONS

PL1 - AUTOMATED AND CONNECTED VEHICLES
TUESDAY 11 OCTOBER 2016, 0900 – 1030 HOURS
PLENARY HALL 3

In recent years the question about driverless vehicles has largely changed from “if?” to “when?” along with the accompanying “what will this mean?” and “how will we work through the issues?” These issues range from the practical “will we licence cars in the way we now licence drivers?” to the abstract “what will a driverless car choose to hit if it cannot avoid a crash?” Nevertheless, the general consensus appears to be that the potential of driverless vehicles is so large that these challenges will be overcome, even if not immediately.

This justified excitement about driverless cars can allow other aspects of automated and connected vehicles to be overlooked. In planning for the future and in realising the substantial safety and mobility benefits achievable now, industry and government will need to work through issues as diverse as managing driver distraction in partially automated vehicles and how to achieve a convergence between work on Cooperative ITS and vehicle automation.

Given the rapid pace of change in this sector, the speakers will set out both their understanding of where things are at and their views as to how we can work together over the next few years to realise the promise of automated and connected vehicles.

ALSO: Includes presentation of the Industry Award.

Keynote Speaker
Mr Gavin Smith, President, Robert Bosch (Australia) Pty Ltd

Master of Ceremonies
Ms Kim Thomas, ITS Leader, Aurecon Group, Australia

Speakers
Mr Shin Morishita, Counsellor for SIP, Bureau of Science, Technology and Innovation, Cabinet Office, Japan
Mr Peter Sweatman, Principal, CAVita, United States
Mr Wolfgang Hoefs, Head of Sector, DG CONNECT, European Commission
Mr David Buttner, President, Federal Chamber of Automotive Industries (FCAI) and Toyota Australia, Australia

PL2 – SMART CITIES
WEDNESDAY 12 OCTOBER 2016, 0900 – 1030 HOURS
PLENARY HALL 3

Already more than half the world’s population lives in cities and UN projections shows that a further 2.5 billion people may live in cities by 2050. It is difficult to imagine a prosperous and sustainable future that does not involve smart cities; but what exactly is a smart city? Is technology enough to make a city smart, or rather how that technology is put to use that makes a city smart?

Cities rely on transport, so it follows that a smart city must include intelligent transport. There are many ways that transport can help make a city smart:

- By matching transport capacity to transport demands;
- By giving individuals personalised information and travel choices that meet their needs;
- By improving resilience in the face of disruption and disaster;
- By getting more out of the transport asset base;
- By catering better for the mobility disadvantaged; and
- By working with other elements of smart city to improve sustainability and liveability.

The speakers will set out their visions for how intelligent transport can do these and other things to make cities smarter and help achieve a more prosperous and sustainable future for the world.

ALSO: Includes presentation of the ITS 2016 Mastercard Smart City Hackathon Award Presentation

Keynote Speaker
Mr Jack Dangermond, President, Esri, United States

Master of Ceremonies
Mr Neil Scales, Director General, Queensland Department of Transport and Main Roads, Australia

Speakers
Mr Men Leong Chew, Chief Executive, Land Transport Authority, Singapore
Mr Hamed Benouar, VP of Business Development and Government Relations, Sensys Networks, United States
Mr Edzard Overbeek, Chief Operating Officer, HERE, Germany
Mr Mike Mrdak, Secretary, Department of Infrastructure and Regional Development, Australian Government, Australia
Note: Please refer to the full text for detailed information and references.
Automated Vehicles and Cooperative ITS

Continuing innovations demonstrate that connected automated vehicles and their connectivity to each other and to the roads on which they are deployed will make driving easier, allow people to be more productive and offer greater mobility to a wider range of people and goods than ever before. They will also help improve road safety, reduce emissions and ease congestion. As a result, automated vehicles will provide significant economic, environmental and social benefits, including improving access to goods and services, and encouraging participation in the community. Drawing on international experts, this session will explore the opportunities and challenges associated with the adoption of highly automated connected vehicles. Specifically, the role of government will be discussed in terms of its responsibility to ensure their deployment meets the expectations and needs of all concerned. Among the considerations that government must address are issues such as the consistency of international technology demonstrations, field operational tests, policies and standards related to connected automated vehicles. At the heart of the conversation is that while policy is often overlooked by technologists, uniform policies are absolutely essential to ensure the adoption of highly automated connected vehicles.

Automated Vehicles and Cooperative ITS

Connected automated vehicles are advancing at a rapid pace and the technology has evolved to the point where it is becoming readily available in the marketplace. The private sector is investing in this technology with the expectation that it will be welcomed on the roadway network. This session will bring together international automated vehicle leaders to discuss the opportunities and challenges associated with deployment of automated vehicles. Specifically, the role of industry will be discussed in terms of their programs and the reason these programs matter to the sponsoring governments.
ES03 - REALISING THE SAFETY AND MOBILITY BENEFITS OF AUTOMATED VEHICLES AND COOPERATIVE ITS SYSTEMS

Vehicle Network and Safety
Combining data from conventional road infrastructure (e.g., road signs, sensors, highway radio broadcasting) with the potential goldmine of information emerging from the widespread deployment of connected vehicle and (eventually) automated Vehicles has the potential to significantly reduce the number of crashes around the world. Although the deployment of these technologies poses multiple challenges, the expected safety benefits should be identified and quantified so that both governments and business can make the necessary investments necessary to realize these benefits. For example, it has been suggested that V2V and V2I could reduce the millions of crashes that occur each year by as much as 80%, saving lives and reducing injuries. Under the expectations above, in this session, we will focus on how to efficiently improve road traffic flow and road safety by using automated vehicles and Cooperative ITS systems. Then we will focus on how the industry should begin to quantify the safety payback of them, underscoring that not only does the traveling public benefit, so also do public agencies, and companies involved in the movement of goods and services with lives saved, congestion minimized, and taxpayer funds reduced in addressing these traffic incidents.

ES04 - REALISING THE PROMISE OF BIG AND OPEN DATA – PRACTICAL TRADE-OFFS BETWEEN BENEFITS, COSTS, SECURITY AND PRIVACY

Challenges and Opportunities of Big Open Data
Big Data technology is transforming just about every sphere of life including ITS markets and value chains. Open Data is potentially a key building block for ITS where efficiency and effectiveness depend on access to information, especially real-time, about traffic flows, weather conditions, driver behaviour etc. Most local, regional and national governments now embrace the principle of Open Data but its realisation is uneven and often hindered by arguments about costs and payment. Big Data properly implemented is an unprecedented driver for ITS business development but it also brings concerns about the protection and security of personal information. This session will look across Big and Open data and explore how trade-offs can be achieved whereby data can be shared among competing service providers; users approve the use of personal data because it brings them new benefits; public bodies recognize that they are data custodians and not monopolist owners; and there is public understanding that “Big Data” does not mean “Big Brother”

ES05 - THE ROLE OF ITS IN MITIGATING CLIMATE CHANGE AND DELIVERING GREEN TRANSPORT

Environmental Sustainability
Numerous projects from eco-driving to multimodality for both passengers and freight have revealed the great potential of ITS to mitigate climate change and deliver environmentally transport services. The intensive use of smartphones and future deployment of connected automated vehicles provide big and open data that will facilitate the planning, evaluation and deployment of ambitious ITS strategies supported by public and private initiatives. The analysis of these new data sources will help understand travel patterns of existing behaviour and determine how to increase public transport, electro-mobility and other alternative modes share. In this session, speakers will share outstanding experiences, future plans to increase greener transport modes and how to evaluate the benefits of ITS strategies from climate change perspective.
Future Freight including Aviation and Maritime

Although media attention remains on passenger cars, a growing number of truck manufacturers, suppliers, logistics providers and start-ups are investigating the potential of connected vehicle technology for the freight and logistics sector, including aviation and maritime. Linking the world of data with the physical world of goods requires increased integration of ITS and logistics. Co-operative Intelligent Transport Systems promise substantial improvements for the logistics sector from real-time information on traffic; load balancing; planning and managing freight distribution; better tracking and tracing of goods across transport networks; and better freight transport timeliness and efficiency as well as environmental sustainability. To this end, the use of Information Technology and leveraging of Big Data will be of critical importance, particularly considering the challenges we now face efficiently servicing mega vessels with a carrying capacity of more than 20,000 TEUs, and the pressure these vessels place on supporting transport and port infrastructure. Freight technologies aren’t waiting for public acceptance. Private fleet truck platooning systems are emerging, freight drone deployments are rapidly becoming a reality, and unmanned commercial vehicle inspection systems are being deployed that minimize human intervention and greatly reduce delays to scheduled freight delivery times. Speakers at this session will explore the rise of Co-operative Intelligent Transport Systems and how Big Data can be leveraged to optimize end-to-end port supply chains to cope with the future increased demand.

ES07 - USING SMART NOMADIC DEVICES SAFELY TO ENHANCE PERSONAL MOBILITY

Mobile Applications

Since the advent of smart nomadic devices, their use in the vehicle has been strongly discouraged and, in many places banned, as this activity is widely considered a distraction to the driver.

However, smart nomadic devices have also started to fill a big gap in terms of providing drivers with tools and resources to make their personal mobility quicker and safer. Road authorities have been developing apps to provide drivers with travel time, incident, detour and emergency information.

The demand for information and tools is growing, especially with the increase in the processing power of smart nomadic devices, which enables them to do much more in less time.

As smart nomadic devices become more and more devices that are not to be used whilst undertaking the driving task, such apps are also becoming more and more redundant.

If road authorities fail to accommodate the demand, the private sector will continue to fill that gap. As a result, transport clients and users will turn to the private sector to seek information.

Road authorities might lose an important channel to influence and promote safety and other messages to road users, especially drivers.

In this session, speakers will discuss how to embrace the fact that smart nomadic devices are present almost in each vehicle and demonstrate ways in which they can be truly utilised as a personal mobility device, without compromising safety.
Policy, Standards and Harmonisation

Transport legislation (Regulations and Standards) tends to take a long time to create and changes equally slowly. But the transport sector is in a period of unprecedented transformation – connected and increasingly automated vehicles, Big and Open Data, Social Media, 24/7 connectivity through smart phones etc and transport business environments and models are also evolving rapidly. We also live in a world of malicious cyber-attacks, hacking and social engineering which threaten our trust in systems and the continuity of service. As ITS moves from standalone systems to more integrated and centralised services adequate protection for secure and personal or sensitive data is even more important. There are concerns that legislation designed for different technical, commercial and social times is impeding the adoption of new products and services. The challenge for regulators is finding the balance between a very open regime that encourages innovation and a more specific approach to create an open marketplace that encourages competition, inhibits monopolies and presents a sensible operating environment for transport service providers. This session will explore what governments can do to remove barriers, harmonise standards to enable interoperability, balance privacy and the public interest, and maintain an emphasis on outputs rather than a focus on the means by which they are delivered.

Moderator:
Mr Anthony Ferguson, Deputy Director Traffic, Department for Transport, United Kingdom

Speakers:
Mr Wolfgang Hoefs, Head of Sector, DG CONNECT, European Commission
Ms Leslie Richards, Director, Pennsylvania Department of Transportation, United States
Yuko Sano, Chief Superintendent, National Policy Agency, Japan
Mr Paul Retter, Chief Executive and Commissioner, National Transport Commission, Australia

Smart Cities and New Urban Mobility

The phenomenon now commonly called Internet of Things (IoT) allows the creation of new technology-based services for the users of the transportation system, thereby improving regional mobility. Among a number of new technologies, connected and automated Vehicles and drones have the potential to be linked to the information backbone that will support the development of new traveler services. This session will focus on how these technologies can be integrated into the existing transportation infrastructure to provide information services that will benefit travelers, service providers and other transportation businesses. For example, connected and automated vehicles might have the potential to identify available parking spaces in their path, and this information could be provided to nearby travelers in real-time.

Moderator:
Mr Stan Caldwell, Executive Director, Traffic21, Carnegie Mellon University, United States

Speakers:
Mr Andrea Petti, Head of ITS, Ericsson, Sweden
Mr John Maddox, President & CEO, American Center for Mobility - Michigan Transformation Center (MTC), United States
Mr Yuji Nakamura, Director, Ministry of Internal Affairs and Communications, Japan
Mr Barry Einsig, Chief Technology Officer, Cisco Australia and New Zealand, United States

Smart Cities and New Urban Mobility

Users are already benefitting from new technology-enabled transport services that bring different choices about trip-making and support the idea of mobility on demand. Mobility as a Service is a concept that changes the use of different transport modes from a focus on ownership and management of separate systems to a user service promise. MaaS has the potential to contribute to solving many of society’s mobility problems and offers an attractive alternative to car ownership thereby giving users more choice and the possibility to influence the development of new mobility services. However MaaS will only happen through a systematic change to the ways in which we operate our transport systems. A re-definition is required regarding how we organise the transport eco-system – regulation v deregulation; private sector thinking and its business models v public transport provision; understanding the impact of MaaS on land-use planning; understanding what it takes for people to give up their private automobiles. This session will explore what needs to be done to encourage a truly user-centric transport service ecosystem.

Moderator:
Mr Sampo Hietanen, CEO and Founder, MaaS Global, Finland

Speakers:
Mr Andrew Everett, Chief Strategy Officer, Transport Systems Catapult, United Kingdom
Mr Kirk Steudle, Director, Michigan Department of Transportation, United States
Jianping Wu, Professor, Tsinghua University, China
Mr Michael Brown, Regional General Manager, Uber, United States
Mr Andrew Somers, Director, Mobility as a Service, Australia
ES11 - INTEGRATING PHYSICAL AND DIGITAL TRANSPORT INFRASTRUCTURE TO CREATE SMART CITIES
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
PLENARY HALL 3

Smart Cities and New Urban Mobility
The creation of Smart Cities will require a wide variety of new technologies including new sensors, mobile environmental platforms and wearable technology, among many others. Each part of this new technology infrastructure across metropolitan areas will provide unique insights into the functioning of the city, all with the idea of making it a viable environment in which its citizens and workers exist. For example, we will know which streets are congested, where roads are icy, and how many parking spots are available, all with the purpose of helping travelers negotiate the city’s streets. However, in order to best utilize the new infrastructure, innovative analytics capabilities will be needed to take full advantage of the data that is generated, to ensure that the data is of the highest possible quality, and to convert the data into actionable information. In this session, speakers will identify the key opportunities and challenges associated with preparing for and operating Smart Cities and how best these be taken on by public agencies, private service providers, and travelers themselves.

Moderator:
Ms Pat Elizondo, Senior Vice President, Global Sales & Marketing, Xerox Service, United States

Speakers:
Mr Klaas Rozema, CTO, Dynniq, The Netherlands
Mr Scott Sedik, General Manager and Vice President, INRIX, United States
Mr John Merrit, Chief Executive, VicRoads, Australia
Dr YC Chang, Managing Director, Far Eastern Electronic Toll Collection Co, Ltd., Chinese-Taipei

ES12 - SMART AND AUTOMATED PUBLIC TRANSPORT ENABLING LIVABLE CITIES AND IMPROVED MOBILITY
FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS
PLENARY HALL 3

Smart Cities and New Urban Mobility
Globally over 50% of the population already lives in cities with developing countries rapidly shifting from rural towards more urban societies. In many locations urban populations are also ageing, placing different demands on services. These strains on mobility provision and limitations or physical inability to expand existing infrastructure, require cities to make difficult choices about priorities and be more innovative in the development of strategies. In many cities expanding public transport capacity is seen as a key solution and fortunately we are now seeing the emergence of connected and increasingly automated vehicles. They can conduct complex manoeuvres with far greater accuracy and safety than human controlled vehicles; operate themselves with improved service frequency; park on their own, deliver items and turn drivers into passengers able to sleep, eat, work or simply relax. The Bordeaux World Congress showed through live demonstrations the potential for driverless vehicles on ordinary roads. Urban driverless public transport is poised for deployment and future visions of individual pods and on-demand shuttles are becoming a reality. Nevertheless, potential users need to be reassured about safety, legislation needs to be clarified and adapted and we need to understand the interaction of such vehicles in mixed traffic and with vulnerable road users. This session will discuss the role that highly automated and driverless vehicles can play in public transport and review the key issues that need to be addressed to fully realise their contribution to mobility.

Moderator:
Hermann Meyer, Chief Executive Officer, ERTICO – ITS Europe

Speakers:
Mikkel Balskilde Hansen, Chief of Traffic Unit, City of Copenhagen
Mr Martin Howell, Director of External Affairs, Cubic, United Kingdom
Mr Andrew Chow, President, ITS Singapore, Singapore
Mr Chang Woon Lee, President, KOTI, Korea
SIS01 - KEEPING CITIES LIVEABLE, USING ITS TO ENSURE SERVICE LEVELS MEET CUSTOMER EXPECTATIONS

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS

Organiser
Nicholas Fisher, VicRoads, Australia

Moderator
Nicholas Fisher, VicRoads, Australia

Speakers
Nicholas Fisher, VicRoads, Australia
Amanda Fairley, Public Transport Victoria, Australia
Sameem Moslih, VicRoads, Australia
The University of New South Wales, Australia

Smart Cities and New Urban Mobility
Melbourne is consistently ranked amongst the world’s most liveable cities, having topped The Economist’s rankings for five straight years. Keeping Melbourne’s liveability high and catering for continued population growth has meant catering for changes in travel patterns using a Movement and Place strategy to preserve vibrant places while supporting important transport corridors. A SmartRoads is used to manage demands and prioritise key movements across the modes. During the session, attendees will hear from city planners including transport agencies in VicRoads and Public Transport Victoria (PTV) as well as from other cities around the world who are also using Movement and Place strategies to plan their approach to transport and how to get the best value from ITS.

SIS11 - VISUALIZE A TRULY MULTIMODAL MANAGED MOBILITY SYSTEM FOR YOUR SMART CITY

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS

Organiser
Matthew Lesh, Local-Motors, United States

Moderator
Matthew Lesh, Local-Motors, United States

Speakers
Koorosh Olyai, Stantec, United States
Jana Sochor, Chalmers University of Technology, Sweden
Zachary Wasserman, On-Demand Transit, United States

As Smart Cities emerge, leveraging cooperative ITS in creative ways will be critical in fostering an environment which produces more efficient management and operations of our transportation systems. Innovations in Connected Vehicle technologies, Integrated Corridor Management, and Decision Support Systems are making it possible to manage transport infrastructure and operations in real-time. As individuals users of the system require Mobility on Demand (MOD), Innovative operational strategies such as Demand Response Transportation and Mobility as a Service (Maas) and new business models within the arena of shared-use mobility will make even greater impacts on our urban and rural areas. Integrating new technologies like automation, new business models like Uber and Lyft, and operational strategies like Bus Rapid Transit (BRT) through cooperative ITS will impact the way our communities move and manage mobility now and in the future.

SIS03 - TELMATIC AND BIG DATA – HOW DO WE MAKE BIG DATA MEANINGFUL?

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS

Organiser
Kathryn Belton, Intelematics, Australia

Moderator
Dean Economou, NICTA, Australia

Speakers
Dyana Szibbo, Intelematics, Australia
Chris Bailey, AA, United Kingdom
Henry Wu, JYW Consulting, Australia

Challenges and Opportunities of Big Open Data
The goal of this session is to get key players from the Telematics ecosystem to discuss:
- Capturing and Assessing telematics data
- Challenges
- Market trends in the current & future
- Opportunities of presenting this information in meaningful way that enables businesses to make decisions that make the ecosystem safe and secure.

Empower customers with tools to make their journey safe and less stressful. This session will gather speakers from different industries across the globe, covering the topic from different perspectives. One key aspect that will be debated by the speakers and the attendees during this session is ‘what big data actually means’ and discuss the opportunities in the marketplace. The session will also cover the current challenges in capturing telematics data from a technical standpoint and discuss measures that have been put in place to overcome this.
SIS04 - REGULATION AS AN ENABLER FOR POSITIVE TRANSPORTATION CHANGE

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 213

Policy, Standards and Harmonisation

The era of the transport sector, including mobility markets, as we know it will experience a dramatic overhaul. Changes in the operating models are gaining pace. During the 2015 ITS World Congress, Mobility as a Service (MaaS), eMobility and automation were hailed as future megatrends. For them to materialize, and to bring about the positive impacts desired, the current regulatory environments need to change. However, regulation is known to be rigid and slow to adjust, especially in today’s world where the speed of technological development is staggering. Therefore regulators across the globe are working hard to strike a delicate balance between enabling new, better and innovative transport services whilst securing a fair operating landscape for consumers, workforces and the environment. This session will be a moderated panel discussion. It will discuss how regulation is enabling and being adapted to the paradigm shift taking place in the transport sector. It will compare actions taken across the globe. It will also try to answer the question whether regulation is able to keep up with the pace of changes in its operating environment. Can regulation even go beyond enabling new services and bring about positive disruption?

Organiser
Krista Huhtala-Jenks, Ministry of Transport and Communications, Finland

Moderator
Sampo Hietanen, MaaS Global, Finland

Speakers
Neil Pedersen, Transport Research, United States
Magda Kopczynska, DG MOVE - Directorate General for Mobility and Transport within the European Commission, Belgium
Sampo Hietanen, MaaS Global, Finland
Krista Huhtala-Jenks, Ministry of Transport and Communications, Finland
Iain McGlinchy, Ministry of Transport, New Zealand
Phil Blythe, Chief Scientific Adviser, Department for Transport, United Kingdom

SIS05 - SECURING YOUR DIGITAL COMMUNITY IN A HOSTILE CYBER WORLD

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 219

Challenges and Opportunities of Big Open Data

Cyber attacks on critical public infrastructure is a rapidly growing threat and an increasing risk as we become more networked and readily accessible in our digital communities. ITS managers and public officials must understand these threats and build systems that are resilient to hackers wanting to disrupt our systems, cyber-terrorists who want to create chaos, and causal pranks that consume precious resources. This session will look at recent attacks on transportation systems and offer ways to create a security aware culture, present best practices for mitigating threats, and look at organization sharing activities to avoid repetitive attacks. Additionally, this session will look at the security, privacy, and safety issues that come from the increasing level of connectivity and what can be done to assure mobility travelers that they are truly safe.

Organiser
C Douglass Couto, Independent Consultant, United States

Moderator
C Douglass Couto, Independent Consultant, United States

Speakers
David St. Amante, Econolite, United States
Nader Mehrarari, Axio Inc., United States
Dhruba Sarmi, KPIT Technologies, India
Muneesh Chellani, KPIT Technologies, India
Pete Rahn, Maryland State Highway Administration, United States
Neil Pederson, Transportation Research Board, United States

SIS07 - HOW SLOW-MOVING GOVERNMENT PROCESSES MIGHT RESPOND TO RAPID TRANSFORMATIVE TECHNOLOGIES

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 220

Future Freight including Aviation and Maritime

In recent years, the transport sector has seen rapid technology advancements. The developing unmanned aerial vehicle (UAV) industry is opening up significant business opportunities in the commercial, freight and service industries. But with that growth, comes potential safety risks. Rapid technological change challenges traditional policy and regulatory development processes to keep pace, be flexible and responsive, and to balance the potential benefits with management of safety risks. This session will discuss the various policy and regulatory approaches to UAVs and other transformative transport technologies that are challenging the current pace of change. This will include any lessons from aviation for land transport.

Organiser
Lee McKenzie, Ministry of Transport, New Zealand

Moderator
Shelley Tucker, Ministry of Transport, New Zealand

Speakers
Jonathan Barron, New Zealand Civil Aviation Authority, New Zealand
Nick Brown, Ministry of Transport, New Zealand
Jim Coyne, UAS International, United States
SIS06 - THE ROLE OF ITS IN A COLLABORATIVE ECONOMY: TOWARDS USER-ORIENTED PRICING AND THE GAMIFICATION OF MOBILITY

TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 210

Improving urban congestion and reducing emissions stands at the core of the smart city concept and have been the focus of many research efforts over the past decades. Unfortunately, individual rational behavior usually results in inefficiency in social outcomes, especially in transport networks. Further, the emergence of extensive mobility services, e.g. on-demand transportation, carsharing, real-time parking, etc.; has redefined the way we travel. In this context, the role of Intelligent Transportation Systems has yet to be fully identified. The advent of innovative communication technologies opens the door to complement traditional transportation policies and services with real-time, user-oriented schemes. Developing a collaborative economy is therefore a promising step towards addressing these societal challenges. It is urgent to discuss the questions underlying these developments, such as the management of big data and its impact on privacy issues; the identification of new marketing strategies to support growth, e.g. gamification, incentivization; as well as pricing and the development of public/private partnerships to benefit the transportation industry. This session will explore new advances, from both industry partners and academics, in the development of user-oriented pricing schemes and innovative approaches for the gamification of mobility.

Organisers
David Rey, University of NSW, Australia
Vinayak Dixit, University of NSW, Australia
Jean-Luc Ygnace, IFSTTAR, France

Moderator
Megan Beecroft, Ministry of Transport, New Zealand

Speakers
Jean-Luc Ygnace, IFSTTAR, France
Majid Sarvi, University of Melbourne, Australia
S. Travis Waller, UNSW Australia, Australia
Zoltan Maklary, Advisian, Australia
Mike Papineau, RideFlag, United States
Neil Roberts, Yarra Trams, Keolis Downer, Australia

SIS28 - UTILIZING PROBE DATA WILL CREATE THE FUTURE OF ITS

TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 211

Automated Vehicles and Cooperative ITS

With the progress toward the creation of an “Internet of Things” (IoT) in recent years, governments and companies in many countries have shown great interest in various types of applications for probe data collected by vehicles. These include resolving road transport issues such as eliminating traffic congestion and reducing accidents, as well as the development of automated driving and “Smart Cities.” Efforts have included not only promoting research and development but actual deployment of such applications. This session will present case studies of actual deployment of the use of probe data in the cooperative ITS being studied jointly by Japan, the U. S. and the EU, in order to ensure safety and achieve smoother road transport. It will also feature discussion of such matters as future directions for the use of cooperative ITS (including probe data) and the approach to international collaboration.

Organiser
Kana Ito, Road Transport Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan

Moderator
Hironao Kawashima, Keio University, Japan

Speakers
Kana Ito, Road Transport Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan
Carl Andersen, U.S. Department of Transportation / FHWA, United States
Wolfgang Hoefs, European Commission Directorate-General for Communication Networks, Content and Technology Smart Cities and Sustainability, Belgium
Joanna Robinson, Queensland Department of Transport and Main Roads, Australia

SIS08 - A WHOLE-OF-SYSTEM SYSTEM APPROACH TO AVIATION SYSTEM MODERNISATION

TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 212

Future Freight including Aviation and Maritime

For most countries, aviation system modernisation has been incremental. A new suite of tools and set of processes are needed to transition systems across performance based navigation, surveillance, navigation aids and airspace, in an integrated and coherent manner. This session will explore the utility of various tools and processes, the order of their development and introduction and their overall value to a ‘whole of system’ transformation. It will share lessons learned and experiences to date.

Organiser
Lee McKenzie, Ministry of Transport, New Zealand

Moderator
Lee McKenzie, Ministry of Transport, New Zealand

Speakers
Steve Smyth, New Zealand Civil Aviation Authority, New Zealand
Nick Brown, Ministry of Transport, New Zealand
Greg Dunstone, Airservices Australia, Australia
The number of megacities has more than tripled in the last 30 years – from only 9 in 1985 to 35 in 2015. That number will only rise as people continue moving to cities and with technologies enabling the birth of Smart Cities, agencies and public services are scrambling to find the tools to help them effectively plan and manage their networks. As economies grow, other factors that agencies will need to cope with is the fact that with more people migrating to cities, with them will come the commercial vehicles and services needed to keep commerce flowing. Therefore, the development, measurement and management of networks will rely on data from a wider variety of sources. This session will discuss, through theory and use cases, how agencies are starting to use tools that enable them to track and analyse trend flows of traffic and people, and assess performance of networks through charts and dashboards for any time period from within the last 5 minutes to the last 5 years or more.

Organiser: Ali Savio, INRIX, United States
Moderator: Rick Schuman, Inrix, United States
Speakers:
- Olaf Vroom, National Data Warehouse for Traffic Information, The Netherlands
- Charlotte Holstrøm, Vejdirektoratet, Denmark
- Darcy Bullock, Purdue University, United States

Organisational and Enterprise Mobility
Disruptive technologies and innovation are being used by both the private and public sector to better serve customers and citizens. These innovative digital cities are changing expectations for real-time services, immediate response, access to data, input to data and mobility on demand. These communities are bridging the digital divide as more people become connected to their digital communities and neighborhoods. It also provides a unique way to better operate digital transportation and ITS systems, improve communications with all system users (travelers), and enhance planning for future transportation needs. This session will look at the uses of social media and networks, mobile computing, analytics (big data) and geospatial technologies, and cloud solutions to create better collaboration between internal and external technology customers.

Organiser: C Douglass Couto, Independent Consultant, United States
Moderator: C Douglass Couto, Independent Consultant, United States
Speakers:
- Terry Bills, Esri, United States
- Jason JonMichael, HNTB, United States
- Hamed Benouar, Sensys Networks, United States
- Mohit Sindhwani, Quantum Inventions Pte Ltd, Singapore
- Jo van Onsem, Xerox, Belgium

Using Traffic Signal Priority to Maxmise Safety and Minimise Congestion for All
As urban traffic congestion increases across the world, in the future, how will we prioritise transport network users to maximise safety for all users, reduce the response rates of life-saving services, and minimise related network disruptions during individual and community-wide emergency management? An expert panel will discuss current successes and challenges of existing priority solutions (e.g. emergency vehicle priority [EVP], bus, tram, cyclist priority) and the innovations that may be used in the future to address the need for alternative ways of managing traffic in order to improve safety for all road users and minimise traffic disruptions. This technology (traffic signal priority) has the potential to be used in a range of traffic management scenarios, for example, road freight priority, fleet management, crisis management, Cooperative ITS, and VIP vehicle priority just to name a few. These emerging technologies will provide many new and innovative ways to identify, track and prioritise all sorts of classes of vehicles, bicycles, and pedestrians, well beyond the capabilities of current-generation EVP-type systems.

Organiser: Jonathon Clarke, Transmax, Australia
Moderator: Michael Watts, Transmax, Australia
Speakers:
- Brett McPherson, Transmax, Australia
- Dennis Walsh, Customer Services, Safety & Regulation Division, Australia
- Christian Chong-White, NSW Roads and Maritime Services, Australia
- Thomas Riedel, Verkehrs-Systeme AG, Switzerland
- Toshihiko Oda, Institute of Electrical Engineers of Japan, Japan
- Andry Rakotonirainy, QUT, Australia
SIS14 - STRATEGY OF PRACTICAL IMPLEMENTATION OF V-I COOPERATIVE SYSTEMS FOR TRAFFIC ACCIDENT AVOIDANCE

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS  MEETING ROOM 212

Automated Vehicles and Cooperative ITS

It is the most important problem through many countries to prevent road traffic users from having traffic accident, especially critical accident, which are negative products in motorized societies. Many of traffic accidents are occurred by human error. We are considering that if driver could recognize some dangerous situations approaching to him in advance and the recognition could prevent him from occurring human error, the process will be able to restrain many of traffic accident previously. ITS technology can realize the process. We think that the V-I Cooperative systems for traffic accidents avoidance is indispensable technology during rapidly developing of autonomous vehicle around the world. Japanese Police is developing and deploying the Driving Safety Support Systems (DSSS) that is a kind of V-I Cooperative systems. Especially, the development and deployment of DSSS are promoted by Cross-Ministerial Strategic Innovation Promotion Program (SIP), Automated Driving Systems (Auds) in Japan since 2014. The V-I Cooperative systems are also developed and deployed by US and EU. This session aims to introduce the development and deployment of V-I Cooperative systems and to discuss some technological and political subjects of V-I Cooperative systems for traffic accidents avoidance.

Organisers
Takashi Kimura, UTMS Society of Japan, Japan
Tomohiro Sekikawa, National Police Agency, Japan

Moderator
Takashi Oguchi, Institute of Industrial Science, The University of Tokyo, Japan

Speakers
Tomohiro Sekikawa, National Police Agency, Japan
Masao Fukushima, UTMS Society of Japan, Japan
Masafumi Kobayashi, UTMS Society of Japan, Japan
Carl Andersen, U.S. Department of Transportation / FHWA, United States
Tom Alkim, Senior Advisor C-ITS-Automated Driving, Rijkswaterspout, The Netherlands

SIS15 - ADVANCED TECHNOLOGIES IN OPERATION AND MAINTENANCE OF ITS FACILITIES

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS  MEETING ROOM 213

Vehicle Network and Safety

Needless to say, the operation and maintenance of road facilities is important to keep the systems in good condition and gets the benefits from them. It has been passed nearly 20 years from the commencement of ITS deployment, and it is time to consider what is the most effective way to keep the function updated. Last year in Bordeaux, we successfully established the session of this topics for the first time. This year in this session, we will continue to address the same topic, and introduce the effective maintenance method of variable-message signs, the proactive maintenance management by big data analysis and the operation and maintenance of self-owned communication networks on our expressways. Especially, we will share the good practice of maintaining the self-owned communication networks after the large earthquake occurred in KUMAMOTO prefecture in 2014.

Organiser
Takahiro Azuma, West Nippon Expressway Facilities Company Ltd., Japan
Yasuhioko Kumagai, Kochi University of Technology, Japan

Moderator
Masao Kuwahara, Tohoku University, Japan

Speakers
Yasuhioko Kumagai, Kochi University of Technology, Japan
Tetuo Ando, West Nippon Expressway Company Limited, Japan
Masaki Komeno, Nippon Expressway Research Institute Company Limited, Japan
Shingo Shiratani, West Nippon Expressway Facilities Company Ltd., Japan
Tran Vu Tuan Phan, NACENTECH, Vietnam
Keith Weegberg, VicRoads, Australia

SIS18 - TRAFFIC SENSING BY VARIOUS MANNERS

WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS  MEETING ROOM 204

Challenges and Opportunities of Big Open Data

Traffic sensing is the key for traffic monitoring. Traditionally, sensing devices, such as loop counter and ultrasonic detector, are embedded into the road infrastructure. Thanks to the ICT technology, traffic volume data created from probe cars or smartphone applications becomes one of the promising sources for visualizing traffic conditions. Or it may collect from advanced sensing technology such as image processing and active sensing by either OBU or RSU. However, data from different sources have different characteristics. This session will try to bring various approaches in one session and discuss in wide range their advantages and disadvantages from various applications point of views. From the point of traffic control, it may have innovative control strategy with innovative sensing approaches. New and challenging way of traffic control will be discussed from both seed and need sides.

Organiser
Nobuyuki Ozaki, Toshiba Corporation, Japan

Moderator
Nobuyuki Ozaki, Toshiba Corporation, Japan

Speakers
Nobuyuki Ozaki, Toshiba Corporation, Japan
Jeroen Brouwer, Traffic Product Manager, TomTom, Amsterdam
Frédéric Roulland, Xerox Research Centre Europe, France
Masahiro Nakajima, Sumitomo Electric Industries, Ltd., Japan
J. Carlos Aydos, Roads and Maritime Services, Australia
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SPECIAL INTEREST SESSIONS
Automated Vehicles and Cooperative ITS

This session surveys progress in cooperative system deployments. Cooperative systems can deliver significant benefits for road users, especially in terms of safer, more energy-efficient, and environmentally friendly surface transportation. In the fall of 2015, the United States Department of Transportation (U.S. DOT) initiated three pilot deployments of connected vehicle applications to improve multimodal surface transportation system performance and enable enhanced performance-based systems management. In Japan, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has been conducting research and development of “Smartway” as a new vehicle-to-infrastructure cooperative system, in collaboration with academia and industry. In Europe, several countries have deployed Cooperative Intelligent Transport Systems (C-ITS) pilots in preparation of large scale deployment of C-ITS services. These have been either co-financed by EU or relied just on national funding. Thus, there is a growing interest in deployment of cooperative systems across the globe. Furthermore, to encourage the adoption and deployment of cooperative systems, it is essential to demonstrate the value of these systems. This session will also provide public and private sector stakeholders an overview of the common evaluation challenges and approaches for overcoming them. Regions and nations can benefit through collaboration and sharing of experiences.

Organiser
Michael Brown, SwRI, United States

Moderator
Michael Brown, SwRI, United States

Speakers
Kate Hartman, US DOT, United States
Blaine Leonard, Utah Department of Transportation, United States
Meenakshy Vasudevan, Noblis, United States
Hideyuki Kanoshima, National Institute for Land and Infrastructure Management, Ministry of Land, Infrastructure, Transport and Tourism, Japan

Policy, Standards and Harmonisation

ITS technology continues to develop extremely quickly. Much of it will be implemented and marketed by private companies without the direct involvement of governments. However in some cases governments will lead deployment, either by implementing technologies directly on major transport networks, or by actively requiring ITS technologies through regulation. In other cases, governments will take an enabling role by providing supporting infrastructure, or a regulatory environment that is flexible and responsive to allow new technological innovations to be tested and deployed. This session will discuss what different government organisations are doing around the world to enable their countries to benefit from ITS as much as possible.

Organiser
Lee McKenzie, Ministry of Transport, New Zealand

Moderator
Iain McGlinchy, Ministry of Transport, New Zealand

Speakers
Nick Brown, Ministry of Transport, New Zealand
Liz Halsted, Auckland Transport, New Zealand
Randy Iwasaki, Contra Costra Transportation Authority, United States
Peter Lee, Department for Transport, United Kingdom
Päivi Antikainen, Ministry of Transport and Communications, Finland

Automated Vehicles and Cooperative ITS

Connected and automated driving has the potential to solve many of the challenges we face in road transport in terms of safety, congestion and sustainability. However, in order to be able to deploy automated vehicles, many tests have to be performed in public roads for development purposes before its final market introduction. Once mature enough, different levels of automation shall be found in our public roads. Industry, researchers and policy makers are aware of the great impact of these technologies but must balance the need of their market and societal benefits with a safe introduction of the technology. This SIS will allow relevant stakeholder to show different worldwide progress on connected and automated driving evaluation methodologies as well as best practices and standards that may lead for new certification schemes. The session will involve representatives from the industry, academia as well as policy makers that are involved in past and ongoing initiatives regarding the topic.

Organiser
Alvaro Arrúe, Applus IDIADA, Spain

Moderator
Alvaro Arrúe, Applus IDIADA, Spain

Speakers
Bastiaan Krosse, TNO, The Netherlands
Marcos Pillado, Applus+ IDIADA, Spain
Richard Bishop, Bishop Consulting, United States
Adrian Zlocki - IKA Senior Manager ADAS department, Germany
Jun Shibata, Convenor ISO TC204 WG3 and Senior Researcher, JDRMA, Japan
SIS21 - IMPACT ASSESSMENT OF AUTOMATED DRIVING SYSTEMS ON ENERGY CONSUMPTION AND CO2 EMISSIONS

WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 213

Environmental Sustainability

There is growing interest in automated driving systems and its development has been advanced throughout the world. Automated driving systems are expected to contribute to reduce energy consumption and CO2 emissions from vehicular highway traffic by improvement of traffic flow, reduction of traffic accidents and changing citizen’s travel behavior. This session invites speakers from Europe, the US and Asia Pacific and introduces recent projects of each of the three regions related to development of the automated driving systems that lead reduction of energy consumption and CO2 emissions and how we will evaluate the impact.

Organiser
Daisuke Oshima, Pacific Consultants Co., Ltd., Japan
Takashi Oguchi, Institute of Industrial Science, The University of Tokyo, Japan

Moderator
Masao Kuwahara, Tohoku University, Japan

Speakers
Akira Mitsuyasu, Pacific Consultants, Japan
Nour-Eddin El Faouzi, IFSTTAR, France
Hesham Rakha, Virginia Tech, United States
Mitsuo Yonezawa, Japan Automobile Research Institute, Japan

SIS22 - BIG DATA, DRIVING INTEGRATED TRANSPORT SERVICES

WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 219

Challenges and Opportunities of Big Open Data

ITS has always been about collecting, processing and using data. However, with the recent increases in data storage, processing and availability, we are now seeing a real breakthrough in urban wide and network wide information and intelligence. Some may consider “big data" to be just another fad and not worth understanding. This session will show how real services are being enabled that use the big data visualization and intelligence to make a real difference to transport, mobility and to daily lives as we strive for more liveable cities.

Organiser
John Funny, The Grice Consulting Group, United States

Moderator
John Funny, Grice Consulting Group, LLC, United States

Speakers
Richard Harris, Xerox, United Kingdom
Carol Schweiger, Schweiger Consulting LLC, United States
Adam Lyons, Iteris, Inc., United States

SIS23 - PARKING - A DRIVER FOR CHANGE?

WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 220

Smart Cities and New Urban Mobility

Up to 30 percent of traffic in cities is caused by drivers looking for parking, especially where on-street parking is free and off-street parking is unavailable (or when there’s a big difference in price between metered on-street parking spots and off-street parking). This session will focus on parking innovation and how it is supporting authorities achieve their policy objectives. Parking advances in recent years are already changing the expectations of drivers and those living and working in our cities. From smart payment systems, more efficient operations, useful current information and guidance to suitable parking areas, through data analytics and dynamic pricing - there is no doubt that parking is a major influence when it comes to making cities more liveable.

Organiser
Richard Easley, E-Squared Engineering, United States

Moderator
Richard Easley, E-Squared Engineering, United States

Speakers
Mike Hayward, Transport Logic Limited, United Kingdom
Leonid Antsfeld, Xerox, France
Murphy Sun, Sunsky International, LTD, Taiwan
Richard Easley, E-Squared Engineering, United States
SIS24 - SIGNAL OPTIMISATION FOR CONNECTED VEHICLES, MUST WE SACRIFICE ADAPTIVITY TO ACHIEVE PREDICTABILITY?

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 204

Smart Cities and New Urban Mobility

This session will explore the emerging tension between connected vehicle services that seek predictability in traffic signal timings for GLOSA (green light optimal speed advisory) / GLIDEPATH (GLOSA + automation) and the ability to use full adaptive and actuated operation. There is an argument that adaptive traffic signal operation benefits all users and that losing adaptivity outweighs the advantages of GLOSA. Should signal operators push back on predictable operation or can we find a win-win for connected vehicles and optimised signal operation?

Organiser
Andrew Somers, Transoptim, Australia

Moderator
David St Amant, President & Chief Operating Officer, Econolite Group Inc, United States

Speakers
Christian Chong-White, Roads and Maritime Services, Australia
Thomas Riedel, Verkehrs-Systeme AG, Switzerland
Robert Rausch, Vice President, Transcore, United States

SIS25 - ACCELERATING ITS DEPLOYMENT BY CREATING A MORE DIVERSE WORKFORCE

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 210

Policy, Standards and Harmonisation

Technology is no longer the Big Issue for ITS. What counts now is understanding the needs of users, having a full awareness of costs and benefits, and finding ways of deploying ITS which are acceptable and affordable. This puts emphasis on getting maximum gain from areas that have not been looked at seriously as yet. This session will be a panel discussion about the benefits of diversity in the ITS workforce and how to achieve it. The panelists will be very high-level, “VIP Status”, individuals, in order to create excitement and importance around the session and its topic. The Session will be accompanied by the second annual Award for “Best Idea to Create a Diverse, Representative ITS Workforce”. The team proposing the session will have run and judged the competition for the Award prior to Melbourne, and will present the Award at the Congress.

Organiser
Jennie Martin, ITS United Kingdom, United Kingdom

Moderator
Susan Harris, Chief Executive Officer, ITS Australia, Australia

Speakers
Kim Thomas, Aurecon, Australia
Timothy Scott, SICE PTY Ltd, Australia
Martin Russ, AustriaTech, Austria
Pat Elizondo, Senior Vice President Global Sales & Marketing, Xerox Services, United States

SIS26 - DIGITAL INFRASTRUCTURE FOR AUTOMATED VEHICLES: CHALLENGES AND INTERNATIONAL COLLABORATION

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 211

Automated Vehicles and Cooperative ITS

The rule of Digital Infrastructure appears essential in order to support the deployment of highly automated vehicles. Digital Infrastructure indicates the static and dynamic digital representation of the physical world with which the automated vehicle will interact to operate. The activities related to Digital Infrastructure address several aspects such as for instance standardized representations, content types, guarantee quality, collection and minimum requirements. In this Special Interest Session, several points will be debated taking into account the point of view of several stakeholders. The focus will be on how to create a Digital Infrastructure framework between public authorities and map providers including governance, role and responsibilities, roadmap towards a digital infrastructure and regulations. The issue of impact/benefits of shift of investments between roadside furniture (post signs) and digital infrastructure will be also considered in the discussion. Finally some applications of Digital Infrastructure in different use cases will be presented. The discussion in this session will benefit from the contribution of the European Project Vehicle and Road Automation (www.vra-net.eu) Working Group on Digital Infrastructure and of the Trilateral Automation in Road Transportation WG which fosters the international cooperation, between US, Japan and Europe on this point.

Organiser
Davide Brizzolara, ERTICO - ITS Europe

Moderator
Maxime Flament, ERTICO - ITS Europe

Speakers
Ahmed Nasr, HERE, Belgium
Stephen T’Siobbel, TOM TOM, Belgium
Carl Andersen, U.S. Department of Transportation / FHWA, United States
Geert Van Der Linden, EUROPEAN COMMISSION, Belgium
Ryota Shirato, Nissan, Japan
SIS27 - NOVEL C-ITS APPLICATIONS AND MOBILITY SERVICES FOR SMART CITIES

**Organiser**
Angelos Amditis, Institute of Communication and Computer Systems (ICCS), Greece

**Moderator**
Angelos Amditis, Institute of Communication and Computer Systems (ICCS), Greece

**Speakers**
- Suzanne Hoadley, POLIS, Belgium
- Andreas Festag, Technical University Dresden, Germany
- Oliver Sawade, Group Manager, Fraunhofer FOKUS, Germany
- Miranda Blogg, Department of Transport and Main Roads, Australia
- Jean-Charles Pandazis, ERTICO - ITS Europe

Smart Cities and New Urban Mobility

The last decade significant effort has been put in C-ITS and respective applications and services have been developed. Huge benefits are anticipated from the insertion of such systems on the roads, making them safer, more efficient and more sustainable. Although great progress has been made, the deployment of C-ITS is rather slow in Europe and worldwide and there are still issues to be tackled in order to address properly the needs of drivers and travelers and result in overall improved mobility in urban areas. The session is aiming to present the current developments in the field and discuss the way forward. During this session the speakers and the attendees will have the chance to discuss about the current C-ITS applications, the challenges hindering their large scale deployment and to debate about the next steps.

SIS29 - ROLES OF DATA ANALYTICS AND TRANSPORTATION MODELLING FOR FAST-CHANGING URBAN INFRASTRUCTURE

**Organisers**
- Adriana Simona Mihaita, NICTA / Data61 / CSIRO, Australia
- Yan Xu, NICTA, Australia

**Moderator**
Adriana Simona Mihaita, NICTA / Data61 / CSIRO, Australia

**Speakers**
- Aditya Menon, NICTA, Australia
- J. Carlos Aydos, Roads and Maritime Services, Australia
- Alexandre Torday, TSS, Australia
- Josh Johnson, Southwest Research Institute, United States
- Dr Chueh, Chia-Hung (Charles), CEO of Datarget Innovation Inc., R.O.C.
- Siew Mun Leong, President of ITS Malaysia, Malaysia

Smart Cities and New Urban Mobility

Rapidly increasing cities are facing a high demand for new and efficient urban infrastructure. For example, the Australian Federal, State and Territory Governments have made commitments to invest over $100 billion in infrastructure in order to support the fast-increasing urban population. Following this commitment, a number of ambitious infrastructure projects (e.g. WestConnex and Western Sydney Airport in New South Wales, East West Link in Victoria, Bruce Highway in Queensland) have been launched to reshape the transportation systems in major cities of Australia: Sydney, Melbourne, Brisbane, etc. In this context, transportation modelling and simulation techniques are the perfect tool to understand and accurately estimate the travel demand around the city. But a fast-changing urban infrastructure will attract new moving population, thus inevitably entailing new generated data which will trigger new challenges in modelling, prediction and decision making (e.g. demand estimation and prediction, incident management and project management). In this context, this session focuses on the role of data analytics, transportation modelling and their combination to deal with challenges in a fast-changing urban infrastructure in Australia and/or different countries around the globe.

SIS30 - MOBILITY AS A SERVICE - USER CENTRIC INTEGRATED TRANSPORT SERVICES

**Organiser**
Richard Harris, Xerox, United Kingdom

**Moderator**
Rasmus Lindholm, ERTICO - ITS Europe

**Speakers**
- Sampo Hietanen, MaaS Global, Finland
- Richard Harris, Xerox, United Kingdom
- Jacob Bangsgard, FIA
- Carol Schweiger, Schweiger Consulting LLC, United States

Smart Cities and New Urban Mobility

Mobility as a Service is a concept that changes the use of different transport modes from separate systems to a service promise. It has the potential to fundamentally change the behaviour of travellers in and beyond cities, hence regarded as a biggest paradigm change in transport since affordable cars came to market.Integrating services through smart, ‘Mobility as a Service’ (MaaS) solutions puts users at the heart of the transport network, offering tailor-made travel services based on preferences. These services also provide the means to achieve the smarter, simplified transportation landscape envisioned and expected by future users. This session will consider the current status of MaaS and outline plans for deployment from the Mobility as a Service Alliance.
SIS31 - ENSURING THE LONG TERM VIABILITY OF ITS DECISION-SUPPORT TOOLS

WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS

Organiser
Richard Harris, Xerox, United Kingdom

Moderator
Eric Sampson, ERTICO – ITS Europe

Speakers
Richard Harris, Xerox, United Kingdom
Phil Blythe, University of Newcastle, United Kingdom
Marcia Pincus, US DOT, United States
Steve Kanowski, Queensland Department of Transport and Main Roads, Australia
Martin Boehm, Head of Mobility Systems & ITS Deployment, AustriaTech, Austria
Tom Kern, Managing Director, National Operations Center of Excellence, AASHTO, United States

SIS32 - TRI-LATERAL AUTOMATION IN ROAD TRANSPORTATION WG: ACHIEVEMENTS AND NEXT CHALLENGES

WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS

Organiser
Davide Brizzolara, ERTICO – ITS Europe

Moderator
Maxime Flament, ERTICO - ITS Europe

Speakers
Jane Lappin, Toyota, United States
Carl Andersen, U.S. Department of Transportation / FHWA, United States
Wolfgang Hoefs, European Commission Directorate-General for Communication Networks, Content and Technology Smart Cities and Sustainability, Belgium
Shinji Itsubo, National Institute for Land and Infrastructure Management, Japan

SIS33 - DEPLOYMENT CHALLENGES ON AUTOMATED TRUCK PLATOONING

WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS

Organiser
Bastiaan Krosse, TNO, The Netherlands

Moderator
Bastiaan Krosse, TNO, The Netherlands

Speakers
Steven Shladover, University of California, Berkeley, United States
Dirk-Jan Bruijn, de, Rijkswaters, The Netherlands
Jeroen Ploeg, TNO, The Netherlands
Charles Karl, ARRB Group, Australia
Richard Bishop, Bishop Consulting, United States
Florien van der Windt, Project leader Automated Driving, Rijkswaterstaat, The Netherlands
Automated Vehicles and Cooperative ITS

The assumption is that the future of ground transportation will inherently include vehicles that “talk” to each other and the surrounding infrastructure utilizing many different networks. These communications will eventually reduce traffic congestion, traffic accidents (especially fatalities), and provide options for a better, safer driving experience. This panel brings together leaders from the various organizations to talk about how this collaboration works today, and how autonomous vehicles might affect how we view the need for connectivity. The session will discuss the areas where we need some deeper thought and address current issues that may impede the progress in realizing the future goals of integrated transportation. Further, we will highlight the possibilities of new technologies coming to the market now that will impact implementation of V2V/V2I, and identify the next steps for the automotive and transportation industries.

Organiser
Joy Lancaster, SAE International, United States
James Sherman, SAE International, United States

Moderator
Regina Hopper, President and CEO, ITS America, United States

Speakers
John Ellis, Ellis and Associates, United States
Paul Godsmark, Canadian Automated Vehicles Centre of Excellence, Canada
James Sherman, SAE International, United States
Randy Iwasaki, Contra Costa Transportation Authority, United States
Neil Pederson, TRB, United States

Automated Vehicles and Cooperative ITS

In November 2015, World Radio Conference 2015 (WRC-15) approved a WRC-19 new agenda item on global or regional spectrum harmonization of ITS Applications. This means, ITS was recognized as an important radiocommunication applications in ITU-R. In this session, the speakers invited from Europe, the United States, Japan, and the automaker will report current status of their ITS radiocommunication policies, standards and technologies. Especially, In Japan, 700 MHz band Vehicle to Vehicle (V2V) Communication and Vehicle to Infrastructure (V2I) Communication have been already in operation. The 5.9 GHz Wireless Access in Vehicular Environments (WAVE) will also be used soon in Europe and North America. We will figure out and dissect current issues regarding our international harmonization of ITS radiocommunication standards and related projects, and then discuss solutions to each toward WRC-19.

Organiser
Takanori Mashiko, Ministry of Internal Affairs and Communications (MIC), Japan

Moderator
Satoshi (Sam) Oyama, Association of Radio Industries and Businesses, Japan

Speakers
Hiroaki Satake, Ministry of Internal Affairs and Communications (MIC), Japan
Niels Peter Skov Andersen, C2C-CC Communications Consortium, Denmark
John Kenney, Toyota Info-Communication Center, United States
Colin Langtry, International Telecommunication Union, Switzerland
Norifumi Ogawa, Mazda Motor Corporation, Japan

Smart Cities and New Urban Mobility

Traffic Management is evolving into a multi-stakeholder cooperation where road operators and traffic information service providers, including OEMs are offering optimal end-to-end mobility guidance for people and goods. In the new traffic management concept, traffic planners are using floating car data in order to estimate traffic flow and study congestion patterns and bottlenecks while traffic information service providers are able to integrate relevant traffic management plans and strategies in their traffic information feed to their customers. The TM 2.0 Innovation Platform is leading this win-win concept in Europe, while similar traffic management developments are taking place in the US, Japan and Australia. This Session, will discuss the different traffic stakeholders viewpoints on TM 2.0 and identify differences and similarities globally among them.

Organiser
Andrea Toth, ERTICO - ITS Europe
Lina Konstantinopoulu, ERTICO - ITS Europe

Moderator
Johanna Tzanidaki, TomTom, The Netherlands

Speakers
Ulrich Fastenrath, BMW, Germany
Yuko Sano, National Police Agency of Japan, Japan
Robert Sheehan, US DOT, United States
Thomas Kusche, Westdeutscher Rundfunk Köln, Germany
Fred Curtis, Intelematics, Australia
Martin Russ, Managing Director, AustriaTech, Austria
SIS37 - LOCATION INTELLIGENCE, ITS AND SMART CITIES

Smart Cities and New Urban Mobility

Demand for dynamic and sustainable urban ecosystems and creating livable cities is growing and putting enormous pressure on urban planners and local governments to better utilize the technology to transform urban centres to smart cities. Population growth, land scarcity and environmental sustainability have shifted the focus of most road and transport agencies from expanding the road network to better utilizing and operating the existing road network and maximising the utility of existing transport infrastructure through the use of Intelligent Transport Systems (ITS). ITS and Smart Cities have used Location Intelligence to a great degree for the integration, analysis and visualization of real-time and static information. Many of the ITS and Smart City applications have been heavily reliant on Location Intelligence. This includes journey planning, navigation, traveller information, safety management; incident management and traffic management systems.

Organiser
Hossein Parsa, VicRoads, Australia

Moderator
Hossein Parsa, VicRoads, Australia

Speakers
Evan Quick, Esri Australia, Australia
Mohsen Kalantari, The University of Melbourne, Australia
Yanming Feng, Queensland University of Technology, Australia
Meead Saberi, Monash University, Australia
Hossein Parsa, VicRoads, Australia

SIS64 - KNOWLEDGE AND UNDERSTANDING OF URBAN FREIGHT DISTRIBUTION AND SERVICE TRIPS

Future Freight including Aviation and Maritime

Cities face every day new challenges in urban freight. It is therefore more and more essential to deeply understand what are they and how can be overcome. ITS solutions, involving public and private stakeholders are a key element on this aspect and can be used for implementing efficient rules of urban freight transport. Coordinated policies for a more sustainable urban mobility will help to make aware to a wide public of their benefits and advantages. This session aims to provide knowledge and understanding of freight distribution and service trips and discuss the take up process in worldwide cities.

Organiser
Lina Konstantinopoulou, ERTICO - ITS Europe

Moderator
Georgia Aifandopoulou, CERTH, Greece

Speakers
Lina Konstantinopoulou, ERTICO - ITS EUROPE, Belgium
Steve Manders, Jacobs Group (Australia) Pty Ltd, Australia
Suzanne Hoadley, POLIS, Belgium

SIS38 - ITS CONNECTIVITY – A FUTURE WITH 5G AND SATELLITE

Automated Vehicles and Cooperative ITS

Many ITS services rely on resilient connectivity fabric. The deployment of such ITS services in countries with extended urban areas, sparsely populated area, large geographical landmass and extensive road networks poses technological challenge. In many cases such challenges can only be addressed adequately by combining terrestrial and space technologies. Vehicular connectivity can be achieved through satellite using devices no larger than a smart phone and in many cases are not as expensive. In sparsely populated regions, where investment in terrestrial infrastructure can be prohibitively costly, satellite communications provides instantaneous coverage over large geographical footprints. Such connectivity is sufficient for the deployment of essential ITS services such as emergency calls, fleet management, remote diagnostics and road tolling. These technologies – in conjunction with their terrestrial counterparts - not only have the potential to address existing challenges, but also to unlock new areas of exploitation for ITS services and applications for the future. With new satellite constellations in the near future, along with the convergence of terrestrial and satellite technology within the scope of 5G, the provisioning of high bandwidth connectivity on the move – in urban, rural and wilderness - will become a reality and pave the way for richer ITS services.

Organiser
Ashweeni Beeharee, Satellite Applications Catapult Ltd, United Kingdom

Moderator
Ashweeni Beeharee, Satellite Applications Catapult Ltd, United Kingdom

Speakers
Terry Bleakley, Intelsat, Singapore
Jiansong Gan, Huawei, China
Joel Schroeder, Inmarsat, United Kingdom
SIS39 - COOPERATIVE SYSTEMS - STAKEHOLDER CONTRIBUTION AND COOPERATION
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 210

Automated Vehicles and Cooperative ITS
As a follow-up to a similar session last year, this session would update attendees on successful cooperative system programs from around the world. Each region has an ongoing program of demonstrations and trials with the goal of real commercial deployment. M City and the Mobility Transformation Center in Michigan, USA and the European Commission’s Cooperative ITS Platform are showing how the public and private sectors can work together to prove out new technologies. In Japan, the government continues to develop a cross-ministerial Strategic Innovation Program. This session will update attendees on these and other programs providing insight and understanding as to how initiatives are progressing.

Organiser
Richard Harris, Xerox, United Kingdom
Moderator
Scott Silence, Xerox, United States
Speakers
Maxime Flament, ERTICO, Belgium
James Sayer, University of Michigan Transportation Research Institute, United States
Takahiko Uchimura, ITS Japan, Japan
Peter Sweatman, CAVita, United States
Risto Kulmala, Finnish Transport Agency, Finland
Wei Ping Ong, Xerox Services, Singapore
Claire Depre, European Commission

SIS40 - AUTOMATED VEHICLE PILOTS: CHALLENGES FOR DATA COLLECTION AND SHARING
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 211

Automated Vehicles and Cooperative ITS
During the past years the numbers of Field Operational Tests (FOT) and Naturalistic Driving Study (NDS) have been performed worldwide and nowadays companies and research organizations are developing large-scale FOTs and Pilots for automated vehicles. The open research questions to be answered by FOTs will take into account several aspects: not only the functional one but also those related to the wide societal impact. This will require the collection a massive amount of data and several issues have to be faced: data acquisition (e.g. standard format and the related attributes) and analysis have to be efficiently to support the assessment. In addition, data sharing practices should be considered to improve significance, comparability and transferability of up-coming FOT results supporting the involved stakeholders. Capitalising on the previous experience (e.g. FESTA methodology), the proposed session aims to discuss the next challenges highlighting the research needs and possible solutions. The following questions will be discussed: How to perform data collection and analyse data? How to evaluate the impact and foster data sharing? The discussion of this session will support the debate among researchers and industrial stakeholders on the topic considering the international activities in different regions of the world.

Organiser
Davide Brizzolara, ERTICO - ITS Europe
Moderator
Satu Innamaa, VTT, Finland
Speakers
Bastiaan Krosse, TNO, The Netherlands
Kazuya Takeda, Nagoya University, Japan
Carl Andersen, U.S. Department of Transportation / FHWA, United States
Paul Tyler, Data61, Australia
Helena Gellerman, SAFER, Chalmers, Sweden

SIS41 - INNOVATION FOR LIVABLE CITIES UTILIZING AUTONOMOUS DRIVING TECHNOLOGY AND IOT BIG DATA
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 212

Challenges and Opportunities of Big Open Data
Currently OEMs, IT giants, are collecting tremendous amount of IoT Big Data from the vehicles, especially for autonomous driving. These data include precise vehicle speed and location, vehicle trajectory, images of the vehicle surroundings, 6-axis acceleration, condition of devices such as wiper, light, brake, ABS and so on. With these data we can understand cities’ context in real time. Also, Mobility IoT Big Data can be gathered from smart phones and transportation IC cards. If can mash up these Big Data with the vehicle Big Data, we can perceive the mobility of the entire city more clearly. Once we understand the context of the city in real time, we may change cities’ functionalities/behaviors according to the context. We will discuss how we can gather these Mobility IoT Big Data and make contribution to Livable Cities and Communities.

Organiser
Naoki Tokitsu, Internet ITS Consortium, Japan
Moderator
Makoto Maekawa, NEC, Japan
Speakers
Makoto Maekawa, NEC, Japan
Takuro Yonezawa, Keio University, Japan
Mandali Khalesi, Here, Japan
Stefan Myhrberg, Ericsson, Sweden
Tsuguo Nobe, Intel K. K., Japan
SIS42 - SMART ROADS - WHERE TO NEXT?

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS

MEETING ROOM 213

Automated Vehicles and Cooperative ITS

EastLink is a 40km Managed Motorway and private toll road in Melbourne’s east, beginning to plan for the new generation of autonomous and connected vehicles (V2X). Consultation with various State and Federal bodies showed lack of clarity for legislative direction, design and build for the future planning of public and private roadways to suit these future capabilities. Consideration must be given to the likely features, functions and standards for future road operations and infrastructure, specifically including:

- Legislation and compliance,
- Safety,
- Performance and operations in both the near term mixed traffic scenario and ultimately to a wholly autonomous vehicle environment.

This session aims to canvass viable solutions for the State, Federal and International road operators, consistent with the development of connected and autonomous vehicles and the supporting infrastructure. Due to the short time available it is proposed to limit the discussion to the requirements of an essential, high level “Policy Framework” as the first step to viable vehicle and road integration.

Organiser
Ian Oxworth, ConnectEast PL, Australia

Moderator
Charles Griplas, ConnectEast PL, Australia

Speakers
Stuart Ballingal, Austroads, Australia
Knut Evensen, Q-Free, Norway
Peter Sweatman, CAVita, United States

SIS43 - POSITIONING CHALLENGES FOR AUTOMOTIVE SAFETY SYSTEMS & SOLUTIONS

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS

MEETING ROOM 219

Automated Vehicles and Cooperative ITS

All forms of automotive applications including Connected Vehicles, Cooperative ITS, Advanced Driver Assistance Systems and Autonomous Vehicles depend or will depend on GNSS as the absolute positioning system. Within the next few years, GNSS will be put to the test as a core technology enabling this next wave of automotive ITS applications emerge as V2X, which collectively includes V2V, V2I, V2P, and all other vehicle communications-based safety systems. Compared to any GNSS application available to date, these safety-critical applications undoubtedly bring in the toughest combination of challenges to GNSS. The expectation is for GNSS to deliver near real-time position with an accuracy of a meter or better for a mobile user moving anywhere from residential speed zones to freeway speed zones through any kind of drivable environment imaginable. More importantly, GNSS-based system is expected to notify the user of any compromise of performance with very high reliability, leaving ample time for human involvement or to engage appropriate safety mechanisms, if necessary. This SIS will focus on V2X applications, standards, current state of the art, and challenges.

Organiser
Chaminda Basnayake, Renesas Electronics, Canada

Moderator
Chaminda Basnayake, Renesas Electronics, Canada

Speakers
Angelo Joseph, Rockwell Collins, United States
Ian Sainsbery, Director of Engineering, Locata Corporation, Australia
Allison Kealy, Department of Infrastructure Engineering, University of Melbourne, Australia
Rod Bryant, u-blox AG, Australia

SIS44 - CHANGES IN MODELING FOR THE NEW MOBILITY: PLANNING CHALLENGES FOR FUTURE TRANSPORTATION

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS

MEETING ROOM 220

Smart Cities and New Urban Mobility

The shift in young people’s mobility, including extensive use of technology, NOT purchasing/owning a private automobile and lack of interest in getting a driver’s license, are, in part, changing the way we need to look at mobility. For this and several other reasons, we will need to make significant changes in travel modeling. The current travel preference modeling and analysis does not account for new mode choice behavior, especially with the advent of MaaS and Internet of Mobility, and new modes (e.g., Bridj, Uber, Lyft). Further, travel behavior will be influenced by incorporating incentives or rewards to encourage social involvement in being mobile (e.g., rating services). Finally, changes in land use due to autonomous and shared use modes will have to be included. This session will explore the current work that is being done to develop new transportation models that incorporate these elements.

Organiser
Carol Schweiger, Schweiger Consulting LLC, United States

Moderator
Carol Schweiger, Schweiger Consulting LLC, United States

Speakers
Dean Economou, Telstra, Australia
Jana Sochor, Chalmers University of Technology, Sweden
S.K. Jason Chang, National Taiwan University, Chinese-Taipei
Marije de Vreeze, Connekt / ITS Netherlands, The Netherlands
Nick Jones, Transport Systems Catapult, United Kingdom
Road user charging has three key drivers of change: - A pressing need for governments to develop alternative funding sources for public infrastructure, facilitating economic growth. - Secondly, new systems employing GNSS and connective technologies are accelerating the decline of traditional road tolling solutions. - Third driver is an increasing awareness of and demand for liveable cities and communities. Our panellists will explore and elaborate on the key drivers causing migration from traditional tolling systems to multi-lane free-flowing (MLFF) systems, with an emphasis on the resulting economic, social and environmental benefits.

Organiser
Richard Whitehead, Main Roads Western Australia, Australia
Dom Thatcher, Main Roads Western Australia, Australia

Moderator
David Ungemah, WSP I, United States

Speakers
Dirk van Amelsfort, Viktoria Swedish ICT, Sweden
Malcolm Dougherty, CalTrans, United States
Kellie Houlahan, Main Roads Western Australia, Australia
Gideon Mbiydzenyuy, Netport Science Park AB, Sweden

Policy, Standards and Harmonisation
This session will present the challenges for the certification of automated road vehicles and it will foster the debate on views and recommendations for handling certification for automated road vehicles. It will focus both on operational and infrastructural constraint and requirements. It will also consider system versus device-level testing/certification. Benefit of a global testing framework for vehicle and system suppliers as well as system operators and road/transport/urban authorities will be illustrated. The session will also debate the topic of the standards needed for the certification in order to enable the deployment of automated vehicles. The following speakers will provide a worldwide overview on the topic referring to specific projects.

Organiser
Davide Brizzolara, ERTICO - ITS Europe

Moderator
Francois Fischer, ERTICO - ITS Europe

Speakers
Álvaro Arrúe, Applus IDIADA, Spain
Bastiaan Krosse, TNO, The Netherlands
Phil Blythe, University of Newcastle, United Kingdom
Carl Andersen, U.S. Department of Transportation / FHWA, United States
Sharon Nyakuengama, Australian Government, Australia
Iain McGlinchy, Ministry of Transport, New Zealand

The goal of this session is to gather all the key players and the relevant stakeholders in automation in road transport, assess the current developments in the field and identify probable path(s) for future deployment. This session will gather speakers from different sectors and geographical areas covering well the topic from different perspectives, i.e. automotive manufacturers, traffic managers, automation solution providers, maps providers, researchers. One key aspect that will be debated by the speakers and the attendees during this session is how far we are from full automation in the road transport system. With the term automated transport systems we envisage a transport system in which all involved elements are automated to a certain extent, thus including not only driverless cars but also automated transport operations and automated traffic management.

Organiser
Angelos Amditis, Institute of Communication and Computer Systems (ICCS), Greece

Moderator
Angelos Amditis, Institute of Communication and Computer Systems (ICCS), Greece

Speakers
Steven Shladover, University of California, Berkeley, United States
Giovanni Russo, Research Staff Member Optimization, Control and Decision Science, IBM Research, Ireland
Dennis Walsh, Queensland Transport and Main Roads, Australia
Brent Stafford, HERE Maps, Australia
SIS48 - INTEGRATED PAYMENT = IMPROVED MOBILITY
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 212

Smart Cities and New Urban Mobility

Integrated payment is a necessity to improve mobility, particularly as we move away from mode-specific travel. Further, multiple payment options (including “dematerializing” transport tickets into a single payment mechanism for multiple modes); the use of mobile devices for payment (for both public transport and tolls); and open payment systems that result in lower ticket issuance and distribution costs and help achieve interoperability must be considered in the “new mobility.” This session will cover examples of where integrated payment systems have resulted in improved mobility and will discuss lessons learned from these examples.

Organiser
Carol Schweiger, Schweiger Consulting LLC, United States

Moderator
Richard Easley, E-Squared Engineering, United States

Speakers
Noora Saloon, Sito, Finland
Frederic Roulland, Xerox Research Center, France
Arnd Baetzner, Mobility Genossenschaft, Switzerland

SIS49 - PROCUREMENT OF REAL-TIME TRAFFIC DATA BASED ON FCD
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 213

Challenges and Opportunities of Big Open Data

Floating Car Data (FCD) is considered a promising source for traffic data. In the Netherlands and Denmark, road authorities have started researching the possibilities this data source offers through a number of pilot projects and procurements. In this session, the National Data Warehouse for Traffic Information (NDW) from the Netherlands and the Vejdirektoratet from Denmark will jointly present the findings of their initial pilot projects and procurement ambitions for the future, together with the companies that have participated and assisted them in the supply of FCD. These two organizations are European front-runners in the large scale procurement of FCD: their experience and findings so far will offer novel insights in the processes and possibilities of this kind of data. A panel discussion will follow, allowing different perspectives and insights to be discussed with the audience.

Organiser
Edoardo Felici, National Data Warehouse for Traffic Information, The Netherlands

Moderator
Olaf Vroom, National Data Warehouse for Traffic Information, The Netherlands

Speakers
Jeroen Brouwer, TomTom, The Netherlands
Jan Cools, Chief Executive Officer, Be-Mobile
Edoardo Felici, National Data Warehouse for Traffic Information, The Netherlands
Charlotte Holstrøm, Vejdirektoratet, Denmark
Mandali Khalesi, Here, Japan
Rick Schuman, INRIX, United States

SIS50 - INNOVATIVE APPLICATIONS OF ITS FOR ROAD FREIGHT PRODUCTIVITY AND SAFETY
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 219

Future Freight including Aviation and Maritime

This SIS brings together practitioners, experts from Australia, Sweden and South Africa (other countries to be confirmed), representing government organisations, universities and industry. The focus will be how the exchange of information, knowledge and capability with respect to ITS initiatives, policies and programs (focussing on heavy vehicle reforms) are benefitting regions through mutual cooperation. The centrepiece is Australia’s Intelligent Access Program (IAP), which has operated in Australia since 2008. The IAP is the first land-based regulatory application of telematics. Collaboration between Sweden and Australia was initiated in 2009. An Operational Pilot of the IAP in Sweden began in 2013 as a key part of Sweden’s HCT research and innovation program, ahead of HCT reforms in 2017. The collaborative relationships that exist between Australia, Sweden and South Africa assist in the identification of policy, institutional, legal, operational, technical and commercial elements that contribute to the development of ITS initiatives across the globe. The SIS will consist of presentations and an interactive discussion.

Organiser
Gavin Hill, Transport Certification Australia (TCA), Australia

Moderator
Gavin Hill, Transport Certification Australia (TCA), Australia

Speakers
Sten Wandel, Lund University, Sweden
Chris Koniditsiotis, Transport Certification Australia, Australia
Chris Walker, University of New South Wales, Australia
Marcus Burke, National Transport Commission (Australia), Australia
Sipho Khumalo, Cross Border Road Transport Agency (CBRTA), South Africa
**SIS51 - DATA-DRIVEN: CONNECTING CARS FOR SMARTER CITIES**

**THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS**

**Organiser**
Ali Savio, INRIX, United States

**Moderator**
Ted Trapanier, Inrix, United States

**Speakers**
Steffen Rasmussen, City of Copenhagen, Denmark
Sebastian Althen, Siemens, United States
Eric-Mark Huijtema, IBM, The Netherlands
Sam Friedman, ParkMe, Germany
Charlotte Vithen, Danish Road Directorate, Denmark

**Smart Cities and New Urban Mobility**

Managing the massive population growth in our cities is one of the most important development challenges of the 21st century. Over half of the world’s population lives in our urban centers. We have 28 Megacities of 10 million or more people. By 2030, this will increase to 41 megacities, placing a huge strain on an aging infrastructure. Increasing congestion makes mobility more stressful for urban residents and more challenging for cities’ transportation management efforts. Emerging connected car technologies can now leverage floating car data, taking on a new approach to enable mobility. At its most fundamental level, the ability to understand current traffic conditions for all roads through the connected car forms the foundation for autonomous vehicles in the future. Automaker OEMs, can now leverage data generated inside as well as outside of the vehicle to deliver new services, such as smarter parking – helping drivers find the closest and most cost effective parking, intermodal like intermodal navigation that navigates drivers to a bus or train when traffic conditions or available charge prevents them from completing their journey on time. These mark just a few examples of how technology helps reduce urban congestion and build and promote smarter cities worldwide.

**SIS52 - C-ITS FOR OPTIMIZING TRANSPORT AND LOGISTICS OF GOODS**

**THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS**

**Organiser**
Andre Perpey, Geoloc Systems, France

**Moderator**
Jean-Philippe Mechin, CEREMA DTerSO, France

**Speakers**
Helene Wiedemann, Renault, France
Antonella DiFazio, Telespazio, Italy
Andre Perpey, Geoloc Systems, France
German Herrero, Computer Science, Engineering, Entertainment and Arts, Atos S.A., France
Lina Konstantinopoulou, ERTICO - ITS Europe
Eric Louette, ITS Officer, Ministry of Ecology, Sustainable Development and Energy, France

**Future Freight including Aviation and Maritime**

ITS can support reducing CO2 emissions thanks to higher load factors and an overall efficiency of the whole logistics system (including the infrastructure) without forgetting more efficient travel (traffic) management. Transport operators could more easily measure and work on a reduction of their environmental impacts. First of all, this session will develop how C-ITS can optimize each transport leg (e.g. Eco driving, slow steaming, speed advice at intersections or reduction of time spent to look for a parking place thanks to real-time information on available places). Furthermore, it could also show how goods could be transported in innovative ways (Port loading/unloading optimization, last mile delivery and automation). Finally, the usefulness of C-ITS will be demonstrated in the security management of the transport of dangerous goods. The speakers of this session will present their experience of the benefits of C-ITS to the transport of goods acquired through several experimentations and pilots launched in 3 European (Compass4D, CO-GISTICS and CORE) and 2 French national (Noscifel, GeotransMD) projects.

**SIS74 - FUTURE MANAGED MOTORWAY INFRASTRUCTURE IN THE CONTEXT OF DIGITAL DISRUPTION**

**THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS**

**Organiser**
Kim Thomas, Aurecon, Australia

**Moderator**
Hoa Nguyen, Aurecon, Australia

**Speakers**
Manu Hingorani, QTMR, Australia
Marco Morgante, Roads and Maritime Services NSW, Australia
Vincent Vong, VicRoads, Australia
Chris Coghlan, VicRoads, Australia

**Assorted topics**

Digital Disruption is a common theme across multiple industries, and stands to impact the ITS industry greatly into the future. This session looks at how our major motorway infrastructure providers are planning for future operational needs across their networks.
SIS53 - DATA FUSION OF COLLECTING PUBLIC AND PRIVATE DATA DURING DISASTER MITIGATION

THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 211

Challenges and Opportunities of Big Open Data

General public has recently raised concerns to reexamine their current disaster reduction activities due to the increase of unexpected natural disasters. We also have to consider the large-scale earthquake that is estimated to occur and reevaluate the system to minimize casualties as much as possible. Under these circumstances, information delivery to drivers are critical for their own and it is serious for the administrators of the local government too. In this session, we'd like to introduce how we can provide these types of information not just in Japan, but to the people in need and how we can use public data to improve the quality.

Organiser
Makoto Otsuki, ITS Japan, Japan

Moderator
Masao Kuwahara, Tohoku University, Japan

Speakers
- Masao Kuwahara, Tohoku University, Japan
- Makoto Bando, Tokushima Prefecture, Japan
- Yoshifumi Matsumoto, Kyusyu Practice group of IT&ITS-QPITS, Japan
- Satomi Sudo, Micro Media Disaster Information Network, Japan
- Nobuyuki Ozaki, Toshiba Corporation, Japan

SIS54 - MANAGEMENT OF MOBILITY DEMAND THROUGH ITS: THE REAL CHALLENGE FOR SMART CITIES

THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 212

Smart Cities and New Urban Mobility

The proposed SIS deals with one of the main themes of the ITS World Congress 2016 “Smart Cities and New Urban Mobility”. Such topic is really important and quite urgent also due to the environmental challenges now faced by many big cities in the Asia Pacific area, for which ITS could represent a possible solution, especially as regards the management of mobility demand. The SIS will focus on the exchange of policies, best practices and lessons learnt regarding ITS for mobility demand management from different cities. In this SIS “advanced in ITS” and “less advanced in ITS” cities from Asia/Europe will be involved as well as some big companies, that can explain their experiences working together with urban authorities on large ITS projects, and the results obtained. The cities of Torino, Singapore and Beijing will be involved as speakers, in order to have two cities with advanced policies on the management of mobility demand, and one city (Beijing) that is experimenting big problems concerning the environmental impact due to traffic congestion. As companies, speakers will include Swarco, Engineering an Italian company that worked with the city of Milan for Expo 2015, and Inrix.

Organiser
Olga Landolfi, TTS Italia, Italy

Moderator
Olga Landolfi, TTS Italia, Italy

Speakers
- Richard Harris, Xerox, United Kingdom
- Andrew Chow, ITS Singapore, Singapore
- Scott Sedlik, INRIX, United States
- Carmine Rossin, Engineering SpA, Italy
- Gino Franco, SWARCO, Austria
- Fabrizio Arnedodo, Chief Technology Officer, 5T, Torino, Italy
- Hao Liu, Beijing Transportation Information Center, China

SIS55 - GLOBAL VIEW ON CHALLENGES IN MEASURING CO2 REDUCTION BENEFITS FROM ITS

THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 213

Environmental Sustainability

ITS has the potential to be one of the major enablers to reduce CO2 emission if successfully deployed. Many initiatives have investigated and demonstrated the effectiveness of the proposed solutions. One of the main issues remaining is the comparison of the solutions with respect to the claimed reduction of emission, i.e. the way they are validated and the corresponding impact assessment. International cooperation has taken place since many years, between the different region Europe, Japan and USA in order to “speak” the same language when addressing this topic of measuring the level of CO2 reduction of ITS solution in transport. ERTICO just conducted a study in Europe on “ITS reducing CO2 emission for passenger cars” presented at the ACEA press conference during the Frankfurt Motorshow in September 2015. As a conclusion of this work, the challenge remains to propose a reproducible way/methodology to assess ITS systems/services for reducing CO2 emission on which we can rely to take the right decisions and push for the most promising solutions. This session will provide the current status of the activities in the three regions and discuss the way forward to harmonise the way we perform such measurement.

Organiser
Jean-Charles Pandazis, ERTICO - ITS Europe

Moderator
Jean-Charles Pandazis, ERTICO - ITS Europe

Speakers
- Matthew Barth, University of California - Riverside, United States
- Jean-Charles Pandazis, ERTICO - ITS Europe, Belgium
- Ryota Horiguchi, i-Transport Lab. Co., Ltd., Japan
This SIS developed a global consensus through last six WCs that “image-recording type driving event video recorder” (DR) technology contributed greatly to the reduction of traffic accidents combined with matured software application. As shown in the SIS session at Bordeaux in 2015, some 5 million units of DR are distributed in Japan at 2014 and similarly widely spread in East Asia among professional and private drivers including taxi, bus and trucks as well as private cars. More concerns with an application of DR for safety management are increasing nowadays particularly while “automated driving” is likely put into practice by the year of “Tokyo Olympic and Paralympics 2020” as illustrated in “driverless taxi” in less populated country side in Japan. Even if “automated driving” spreads, the traffic accident will never disappear as far as the mixed traffic of “an automated driving car” and “the conventional manually-operated driving car” continues. There is new and big turn of a DR recording the operation of the car exactly and a crucial role is highly expected on this context. The DR technology is indispensable to inspect whether “an automated driving car” realized designed specifications.

Organiser
Koji Ukena, UK-Consultant, Japan
Moderator
Sadao Horino, Kanagawa University, Japan
Speakers
Joseph Kanianthra, Active Safety Engineering LLC, United States
Takurou Miyazaki, NTT DATA i-corporation, Japan
Koji Ukena, UK-Consultant, Japan
Takahiko Uchimura, ITS Japan, Japan
Sadao Horino, Kanagawa University, Japan

SIS57 - SMART INTELLIGENT TRAFFIC INTERSECTIONS—EVALUATING CHALLENGES OF BIG DATA FOR SMART CITIES

Smart Intelligent Traffic Intersections (SITI) talking to Connected Cars will provide the foundations for Smart Cities of the future generating Big Data on Transportation Systems, Vehicles, Bicyclists, Pedestrians and User Information Systems as we start seeing Self-driving Cars on the roads using Machine Intelligence to detect obstacles in their pathways. This is the 3rd of a series of Special Interest Sessions started at the ITS World Congress Detroit generating a lot of interest for Connected Cars of the Future; at Bordeaux for leveraging the Internet of Things and now at Melbourne to evaluate challenges of Big Data Science for Smart Cities, for Collection, Transmission and Urban Analytics of V2X Data. Can similar Machine Intelligence proposed to be used for Autonomous Cars also be used in Roadside Infrastructure to provide Data Visualization and Predictive Analytics? How will we apply Data Fusion to sensor data coming from various sources at traffic intersections? What are the human factors and what will be the Human Machine Interfaces for such emerging systems? What kind of intelligence will be required at the edge for such computing?

Organiser
Harsh Verma, R Systems, United States
Moderator
Ted Trepanier, Inrix, United States
Speaker
David St. Amant, Econolite, United States
Bob Rausch, Transcore, United States
Darcy Bullock, Purdue University, United States
Hamed Benouar, Sensys Networks, United States

SIS58 - TRAVELLER INFORMATION - MEETING INCREASING CUSTOMER EXPECTATIONS

Providing reliable, timely and accurate traffic and travel Information (including public transport information) to customers is critical for well-informed travel decisions (pre-trip) as well as information during the customer’s journey (on-trip). With advancing technology and diversified data sources there is now more data available than ever before. As a result, customers’ expectations about the information, when and how it is provided, has increased. As government agencies how do we keep up with these changing expectations and what service do we provide to meet their expectations? What is our relationship with industry and how do we work together to provide better information to the customer? This session will explore some of the customer research that has been undertaken and how government agencies and industry are meeting expectations. This session will also look at how traffic and travel information services are using emerging/agile technologies to merge and blend multiple data sets from a wide variety of sources to meet those customer expectations.

Organiser
Joanna Robinson, Queensland Department of Transport and Main Roads, Australia
Moderator
Phil Charles, The University of Queensland, Australia
Speakers
Sharon Hunter, Transport Management Centre, Australia
Joanna Robinson, Queensland Department of Transport and Main Roads, Australia
Paige Fitzgerald, Waze, United States
Danny Woolard, GEWI, United Kingdom
Wietske Smith, Translink, Australia
**SIS59 - TRAFFIC STATE ESTIMATION USING VARIOUS SENSING DATA**

**FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS**

**Challenges and Opportunities of Big Open Data**

The session focuses on recent development of traffic state estimation using various sensing data such as traffic detector data, probe vehicle data, bluetooth data, mobile data, image data, twitter data, etc. Conventionally, traffic detectors have been used as major sensors for traffic monitoring. However, various data especially from moving objects are now available because of the advanced sensing and communication technologies. Studies, that try to utilize these available sensing data to monitor and predict traffic states, have been therefore a hot issue throughout the world. This session is organized to exchange our cutting-edge research outcomes.

**SIS60 - MANAGED MOTORWAYS - ADAPTING THE MELBOURNE CONCEPT FOR U.S. APPLICATIONS**

**FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS**

**Smart Cities and New Urban Mobility**

Managed Motorways builds upon existing ITS and managed lanes concepts to implement a comprehensive package of strategies to fully control freeway traffic. Managed motorways utilize extensive data, coordinated ramp metering and advanced systems management to synchronize traffic flow to match real time operational capacity. Experience on M1 in Melbourne shows fully traffic control can eliminate recurring congestion and increase throughput by up to 25% during peak periods. Key to the success in Melbourne is the ability to control all access to the freeway. Transmax STREAMS provides the framework for coordinating components, including HERO and ALINEA algorithms that optimize ramp metering to balance traffic. VicRoads success has prompted interest in adapting the concept for U.S. applications. Colorado and Utah DOT’s have completed feasibility assessments with modeling for I-15 in Utah showing potential to reduce total travel delays by 37%. CDOT has identified a 13 mile section of I-25 in Denver for a managed motorways pilot to be operational in 2017. This session will review the Melbourne experience with managed motorways and keys to success, and will provide an overview of current U.S. efforts to implement the concept.

**SIS61 - PRO-ACTIVE NETWORK AND INCIDENT MANAGEMENT**

**FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS**

**Smart Cities and New Urban Mobility**

This SIS will present perspectives on the vision of proactive transport network and incident management, and the opportunities, challenges and learnings of agencies as they move towards it. Increasing emphasis on the integration and reliability of urban transport networks has led to a focus on how incidents are managed to minimise customer impacts. Transport agencies are moving from a reactive road incident management focus to a pro-active transport network management focus, where potential disruptions are predicted and prevented before they eventuate. Agencies are also planning for the shift from predominantly single to multi-modal network management services, in recognition that customers traverse different modes during their journeys and the overall capacity of all modes in the system need to be optimised to achieve best outcomes. This requires a new level of business integration across numerous stakeholders in the transport operations domain. ITS/ICT are significant enablers by helping to achieve more complete situational awareness, greater proactive transport management capabilities, collaborative operations and information sharing, faster execution of operational processes and improved analytical capabilities. Participants in this SIS will share their experience, planning and learnings on optimising multi-modal incident management through services delivered by TMCs.
SIS62 - IOT AND CONNECTED AUTOMATION: DISRUPTIVE TRENDS IN TRANSPORT
FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS
MEETING ROOM 219

Smart Cities and New Urban Mobility

Australians are amongst the fastest adopters of new technology in the world. We are frequently used to market test new technologies and devices. In most cases the physical effects of these devices on our society is minimal, however, this is certainly not the case with connected, automated vehicles. In parallel we see increasing information systems throughout of built environment along with electrically powered vehicles and a myriad of public transport and active transport offerings. Collision of this wide range different system functions will now require a managed interaction to reap the greatest rewards for society. The Internet of things will be the cornerstone of the discussion, as a key enabling technology which is providing unprecedented connectivity and immediate benefit to a wide range of business users in Australia. Looking further forward the panel will discuss the implications for IoT in interacting with automated vehicles and other transport systems. Key opportunities and barriers to deployment will be discussed.

Organisers
Shivaani Polley WSP | Parsons Brinckerhoff, Australia
Glenn Geers, ARRB Group, Australia

Moderator
Glenn Geers, ARRB Group, Australia

Speakers
Henry Okraglk, WSP, Australia
Hussein Dia, Swinburne University of Technology, Australia
Dirk van Amelsfort, Viktoria Swedish ICT, Sweden
James Sayer, University of Michigan Transportation Research Institute, United States
Reinhard Pliegl, Chief Executive Office, A3PS

SIS63 - REAL-WORLD ITS ARCHITECTURES: BENEFITS, CHALLENGES AND SOLUTIONS
FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS
MEETING ROOM 220

Policy, Standards and Harmonisation

ITS architectures benefit jurisdictions and suppliers by allowing more efficient development of ITS solutions to deliver better real-world benefits to users and managers of the transport network. This SIS provides a rare opportunity to engage with developers of ITS architectures from around the world who will share their practical experiences and collectively illustrate: 1. What ITS Architectures look like and their different approaches, 2. Real-world benefits ITS architecture can deliver in developing solutions, and 3. Challenges faced in developing, deploying & maintaining the ITS architectures, and real-world experiences of how these were overcome. An interactive Q&A panel is intended to round out the session. Given the breadth of experience, both novices and experienced practitioners alike will acquire greater awareness, understanding and ideas for deploying ITS architectures around the globe to assist in local application.

Organiser
Jason Venz, Department of Transport and Main Roads, Australia

Moderator
Jason Venz, Department of Transport and Main Roads, Australia

Speakers
David Yee, Transport Management Consulting, Australia
Tom Lusco, Iteris, Inc., United States
Horst Wieker, htw saar, University of Applied Sciences, Germany
Knut Evensen, Q-Free, Norway
Neil Frost, ISAHA, South Africa

SIS65 - TRAFFIC SIGNAL CONTROL SYSTEMS FOR 4TH GENERATION
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 210

Smart Cities and New Urban Mobility

This session will present the R&D framework of the next generation traffic signal control system utilizing information and communication technology to detect the vehicles approaching the intersections instead of the conventional detectors. The detection technology might include the connected vehicle with V2X communication and a few promising sensors installed in the infrastructure. New hardware and software systems are integrated with an innovative concept of control and management algorithms. A methodology of how to test a system on the road would be discussed in terms of performance measures to be evaluated and validated.

Organiser
Young-Jun Moon, The Korea Transport Institute, Korea

Moderator
Young-Jun Moon, The Korea Transport Institute, Korea

Speakers
Sangsun Lee, Hanyang University, Korea
Jae-Hyoun Park, Metabuild, Korea
Gyeheeong Ahn, Korea Road Traffic Authority, Korea
Kitae Jang, Korea Advanced Institute of Science and Technology(KAIST), Republic of Korea
Anjae Lee, Pantom, Korea
SIS66 - START-UPS DISRUPTING MOBILITY
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 211

Policy, Standards and Harmonisation
Disruption creates new opportunities, and this session is the only one at the congress to focus specifically on how start up companies are disrupting mobility. Hear from founders and CEO of start-ups in the shared mobility and Mobility as a Service sector as these entrepreneurs present how their business idea will change the future of mobility and what they have learned along their journey so far.

Organiser
Andrew Somers, Mobility as a Service Australia, Australia

Moderator
Andrew Somers, Mobility as a Service Australia, Australia

Speakers
Will Davies, Car Next Door, Australia
Steve Johnson, Carhood, Australia
Mosstyn Howell, UbiPark, Australia
Paul Nyberg, Shareit Blox Car, Finland
Yann Leriche, TRANSDEV, France
Sampo Hietanen, MaaS Finland, Finland

SIS67 - TARGETTING ROAD TRAUMA: HOW FAR CAN ITS TAKE US TOWARDS ZERO?
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 212

Policy, Standards and Harmonisation
Recognising that over 1.2 million die and some 50 million are injured in road crashes annually across the world, the UN has included a target within the UN Sustainable Development Goal (SDG) 3 of the 2030 Agenda for Sustainable Development, to “by 2020, halve the number of global deaths and injuries from road traffic accidents”.
A safe system approach is vital in meeting this target as well as the target in many advanced nations to strive towards zero preventable deaths and injuries from road crashes. When so many lives can be saved with innovative, integrated technologies, why are ITS solutions sometimes overlooked in setting road safety agendas? This session will discuss how the broader range of ITS can support the mission of reducing road trauma and what target might be set for ITS to contribute towards reaching zero.

Organiser
Lauchlan McIntosh, McIntosh Management Services, Australia

Moderator
Lauchlan McIntosh, McIntosh Management Services, Australia

Speakers
Mark Jackman, Robert Bosch Australia, Australia
Younghan Youn, Korea University of Technology and Education, Korea
Samantha Cockfield, Transport Accident Commission, Australia

SIS68 - AUTOMATED VEHICLES: KANGAROO CAUGHT IN THE HEADLIGHTS
FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS
MEETING ROOM 204

Automated Vehicles and Cooperative ITS
Road vehicles and our road environment are becoming increasingly better equipped to improve driver safety. Driverless vehicles may be with us in the very near future. The implications for road agencies and operators to plan; deliver and maintain infrastructure; consider standards and regulation; and importantly how to manage access and operation of our networks will become a key challenge. On a wider scale the societal implications are significant with great potential impacts on public transport and mobility. Key challenge: How do we meet these key challenges while our understanding of the technologies is as yet incomplete and development of most technologies are controlled by other countries? This has led to many governments appearing to be like a kangaroo ‘caught in the headlights’ of the fast pace of technology and a changing society. The panel will discuss how they see a systems approach to managing and solving these complex objectives of our society. Key principles forming part of the discussion are the changing role of public and private organisations in delivering solutions, collaboration, and public engagement. This is a roll-call for effective leadership for the creation and fulfilment of a vision of a safer, smarter future for us all.

Organisers
Wayne Glenn WSP | Parsons Brinckerhoff, Australia
Lachie Gray WSP | Parsons Brinckerhoff, Australia

Moderator
Dennis Walsh, Queensland Transport and Main Roads, Australia

Speakers
Lauren Isac, WSP | Parsons Brinckerhoff, United States
Stuart Ballingall, Austroads, Australia
Carl Liersch, Robert Bosch, Australia
Jack Hall, P.E. ITS CV/AV Program Manager, Contra Costa Transportation Authority, Australia
SIS69 - ACCELERATING ITS DEPLOYMENT: INDUSTRY AND POLICY COMPATIBILITY

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS

Policy, Standards and Harmonisation

Industry is already working towards open systems, standards and operating models. However, there is still much to be done. This session will consider how best to accelerate ITS deployment. The eminent panel of speakers will share their perspectives and insight into future mobility. In particular it will address how recent developments and new thinking can help overcome barriers to deployment. It also considers the importance and the role of political leadership and how industry can best cooperate with the authorities to ensure sustained operational acceleration. Topics covered include open data, transport revenue, integrated systems and services and unlocking the potential of the always connected society.

Organiser
Richard Harris, Xerox, United Kingdom
Moderator
Rasmus Lindholm, ERTICO - ITS Europe
Speakers
Grace Ong, Land Transport Authority of Singapore, Singapore
Leonid Antsfeld, Business Development for Transportation, Xerox Research Centre Europe, France
Robert Sykora, Siemens, Germany
Klaas Rozema, Dynniq, The Netherlands
Atsushi Yano, Sumitomo Electric Industries. Ltd., Japan

SIS70 - ADVANCES ON INNOVATIVE EV CHARGING TECHNOLOGIES

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS

Environmental Sustainability

Even though progress in EV range extension has been impressive lately, analogous progress was achieved for ICE vehicles at lower price. This fact combined with the scarcity of the EV charging stations and the long recharging times reduce the user acceptance hindering the large market penetration of EVs. Novel recharging technologies aim at increased user convenience and decreased EV immobilization time so that EVs become more attractive to the consumer and become a viable, affordable solution for daily short and long range mobility. Nonetheless these new technologies and the now technically and business-wise isolated charging infrastructures need to be unified to enable the proliferation of EVs and the decarbonization of transport. More frequent, short-duration, high-power charging can eliminate the “range anxiety” of future EV drivers but as a prerequisite many technical, policy and standardization hurdles must be overcome. In this workshop key experts will have the chance to discuss advances on electromobility technologies, EV-focused V2X ICT and standardization SoA and gaps that delay wide market deployment.

Organiser
Angelos Amditis, Institute of Communication and Computer Systems (ICCS), Greece
Moderator
Jean-Charles Pandazis, ERTICO - ITS Europe
Speakers
Angelos Amditis, Institute of Communication and Computer Systems (ICCS), Greece
Ning Duan, Research Scientist, IBM Research, China
Paolo Guglielmi, Politecnico di Torino, Italy
YouJun Choi, Korea Automotive Technology Institute/ E-Mobility Research Center, Korea
Beth Rehman, Elways AB, Norway

SIS71 - ITS DEVELOPMENT AND WHOLE OF LIFE ASSET MANAGEMENT

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS

Challenges and Opportunities of Big Open Data

The field of ITS is an area of rapid change through technological and operational advances which provide a challenge for asset owners and managers to understand the whole of life value beyond the initial investment. In this session asset owners, managers, industry experts and researchers can discuss approaches to lifecycle asset management considering influencing how ITS is deployed, asset assessment, asset performance data and the use of methods such as reliability centered maintenance in an often forgotten and unglamorous area of ITS.

Organiser
Dean Parker, New Zealand Transport Agency, New Zealand
Speakers
Marcus Van der velden, ARCADIS, Australia
Nalinda Punchihewa, VicRoads, Australia
Ian Espada, ARRB Group, Australia
Lina Inglis, ARRB Group, Australia
Quddus Wazirzada, Roads and Maritime, NSW Government, Australia
Dean Parker, New Zealand Transport Agency, New Zealand
Vehicle Network and Safety

The Cloud-LSVA project presents a research plan to advance technology and performance in the key automotive industry by employing Semi-Automated Video Annotation, Scene Recognition, Object Recognition and Deep Learning, in conjunction with vehicle sensor data. The complexity of data produced by automotive sensors presents a significant research challenge that, if addressed, will provide quantifiable impact on society and industries. The Cloud-LSVA project will focus on applications in the Advanced Driver Assistance Systems (ADAS) and Digital Cartography domains. Real consumer demand for the next generation of ADAS technologies exists and is growing and both domains are key underpinning elements of the Semi-Autonomous and Autonomous vehicle initiatives. The current session will feature topics on the relation between ADAS and Big Data; the importance of - Computer Vision based semi-automatic annotation, as well as touch on the sensitive issue of Insurance and liability in the future autonomous vehicles.

Organiser
Andrea Toth, ERTICO - ITS Europe
Francois Fischer, ERTICO - ITS Europe

Moderator
Francois Fischer, ERTICO - ITS Europe

Speakers
Suzanne Little, DCU, Ireland
Oihana Otaegui, Vicomtech, Spain
Hassane Essafi, CEA, France
Mr Marcos Nieto, Principal Researcher, Vicomtech

Smart Cities and New Urban Mobility

This session will present how ITS takes the global mega events (e.g. World Cup Soccer, Olympic Games, etc.) which generate additional travel demands and have significant impacts on transport systems in the host cities and regions. Managing transport systems before and during a global mega event obviously is a big challenge in ITS area. Speakers from around the world who are operators of public transport, provider of ITS services with traveller information or transport planner for mega events will introduce their experiences with transport services for the Olympic Games 2012 London, 2014 in Sochi, 2016 in Rio, 2018 in PyeongChang, 2020 in Tokyo, and 2022 in Beijing.

Organiser
Young-Jun Moon, The Korea Transport Institute, Korea

Moderator
Young-Jun Moon, The Korea Transport Institute, Korea

Speakers
Kyuok Kim, The Korea Transport Institute, Korea
Jae-Hyoung Park, Metabuild, Korea
Sang-Keun Lee, Korea Research Institute for Human Settlement, Korea

Automated Vehicles and Cooperative ITS

Although a transition to fully self-driving cars is still several years away, disruptive changes to mobility business models are already occurring. The global megatrend of the rise of the sharing economy that has disrupted industries such as tourist accommodation is starting to be felt in transport. This session will seek to address some of the questions that result from this disruption. What do these new forms of mobility look like and how will people choose to use them to get around? Given the long-standing romance of the motor car, how ready are people to move from car ownership from accessing on-demand transport services? How well might Mobility as a Service be suited to markets such as Australia and New Zealand?

Organiser
Andrew Somers, Mobility as a Service Australia, Australia

Moderator
Geoff Rose, Institute of Transport Studies, Monash University, Australia

Speakers
Hussein Dia, Swinburne University of Technology, Australia
Alexa Delbosc, Monash University, Australia
Sampo Hietanen, MaaS Finland, Finland
Andrew Somers, Mobility as a Service Australia, Australia
SCIENTIFIC SESSIONS

SPO1 - INNOVATIVE SOLUTIONS TO REDUCE CONGESTION
TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 104

Automated Vehicles and Cooperative ITS

Moderator: Dominique Winn, Transport for NSW, Australia

EU-SP0229 Preconditions for establishing and maintaining test sites for cooperative mobility
Aki Aapaoja, VTT Technical Research Centre of Finland Ltd., Finland

AN-SP0286 An innovative approach to reduce road traffic congestion
Manoucher Pajouhesh-Kia, Independent?, Australia

AP-SP0500 Labelling the depth of traffic congestion with model adaptation approach
Takamasa Koshizen, Honda R&D Co. Ltd., Japan

AP-TP0641 Developing and implementing moving light guide system in urban expressway
Dai Tamagawa, Hanshin Expressway Company Limited, Japan

SPO2 - PREDICTIVE ANALYTICS
TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 103

Challenges and Opportunities of Big Open Data

Moderator: Mohsen Ramezani, Monash University, Australia

AP-SP0121 Road event learning from streaming telematics data
Weishan Dong, IBM Research, China

AN-SP0135 Automatic classification of traffic incident’s severity using machine learning approaches
Hoang Nguyen, NICTA / Data61 / CSIRO, Australia

EU-SP0627 Predictive dynamic distributed network management
Phillip Walsh, Mott MacDonald, Australia

AP-SP0629 An Anonymity Comparison between Theoretical Model and Real Log of Transit Ridership
Seongun Choi, Graduate School of Information Science and Technology, The University of Tokyo, Japan

SPO3 - MAPPING AND ROUTING
TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 104

Automated Vehicles and Cooperative ITS

Moderator: Phil Delaney, CRC for Spatial Information, Australia

AP-SP0064 Methods to reduce the nodes of multi-hypothesis map matching algorithm
Kai Zhang, Tsinghua University, China

EU-SP0065 Towards a Semantically Enriched Local Dynamic Map
Patric Schneider, Siemens AG Österreich, Austria

AP-SP0376 Information Capacity of Graphic Route Information Panels at Motorway Junctions
Yoshiyasu Murashige, Japan Expressway Technical Research Institute, Japan

AP-SP0502 Reachability Analysis for Electric Cars: Project Management Inspired Approach
Shunichiro Suenaga, National Institute of Informatics, Japan

SPO4 - TRANSPORT DATA ISSUES
TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 103

Challenges and Opportunities of Big Open Data

AN-SP0148 Calibration and clustering of traffic flow fundamental diagrams for mesoscopic simulation applications
Ziyuan Gu, Monash University, Australia

AP-SP0197 Decision Fusion with Conflicting Evidences for Vehicle Classification of Convolutional Neural Networks
Jianrong Wu, Fujitsu Research and Development Center, China

EU-SP0370 Setting up an ITS innovation environment with many stakeholders
Juho Kostiainen, VTT Technical Research Centre of Finland Ltd., Finland

AP-SP0696 Traffic state estimation of Nanjing based on multi-source data fusion
Weifang Wang, ITS Research Centre, China
**SP05 - POSITIONING AND V2X COMMUNICATION**

**TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 104**

**Automated Vehicles and Cooperative ITS**

**Moderator:** Makoto Itami, Tokyo University of Science, Japan

**EU-SP0104** The European InDrive Project – Automotive EGNSS for High Integrity ITS Applications  
Robin Streiter, Technische Universität Chemnitz, Germany

**AP-SP0223** A machine learning approach to detect non-line-of-sight GNSS signals in Nav2Nav  
Monsak Socharoentum, National Electronics and Computer Technology Center, Thailand

**AN-SP0565** A Study on Consumer Grade GNSS Receiver for Time Synchronization in VANET  
Khondokar Fida Hasan, Queensland University of Technology, Australia

**AP-SP0573** Improving Positioning Precision of Pedestrians by Using both GPS Satellites and Vehicles  
Ryo Yamashita, The University of Electro-Communications, Japan

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**SP06 - FACILITIES AND TRAFFIC MODELLING**

**TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 103**

**Challenges and Opportunities of Big Open Data**

**Moderator:** Wayne Harvey, VicRoads, Australia

**AP-SP0021** An Investigation On Generic Properties Of PFLOW  
Mikio Sasaki, Denso Corporation, Japan

**EU-SP0228** Optimizing Allocation of Public Facilities in Sustainable Urban Planning  
Alessandra Pascale, IBM Research, Ireland

**AP-SP0390** Application of particle filter to identification of time-varying car-following model  
Makoto Kasai, Nippon Expressway Research Institute Company Limited, Japan

**EU-SP0587** Travel times and vehicle statistics using CAM messages over ETSI ITS-G5  
Ola Martin Lykkja, Q-Free ASA, Norway

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**SP07 - V2X APPLICATIONS**

**WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS**

**MEETING ROOM 104**

**Automated Vehicles and Cooperative ITS**

**Moderator:** John Wall, Transport for NSW, Australia

**AP-SP0103** Node-Clustering in Vehicle-to-Pedestrian Communications for Crash Warning Applications  
Takeshi Hirai, Nagoya University, Japan

**EU-SP0106** Software Defined Platform for Data Fusion in Safety Critical ITS Applications  
Robin Streiter, Technische Universität Chemnitz, Germany

**AM-SP0304** Subtle anomaly detection in the global dynamics of connected vehicle systems  
Michael Brown, SwRI, United States

**EU-SP0548** Fusion of V2X and Sensor Data Based on Motion Pattern Correlation  
Oliver Sawade, Fraunhofer FOKUS, Germany

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**SP08 - EVALUATION OF TRAFFIC SIGNALS**

**WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS**

**MEETING ROOM 103**

**Smart Cities and New Urban Mobility**

**Moderator:** Masafumi Kobayashi, Sumitomo Electric Industries, ltd., Japan

**AN-SP0041** Evaluation of Traffic Signal Performance and Signal Failure Impact  
Clarissa Han, ARRB Group, Australia

**AP-SP0584** Development of Novel Queue-Length Based Signal Control Algorithm for Individual Road Intersection  
Yong Yao Yang, Zhe Jiang Supcon Information Co.,Ltd., China

**EU-SP0619** Evaluation of a Fuzzy Intelligent Traffic Signal Control System Using Traffic Simulation  
Junchen Jin, KTH Royal Institute of Technology, Sweden
**SP09 - COLLISION AVOIDANCE**

**WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS**

**MEETING ROOM 104**

**Vehicle Network and Safety**

**Moderator:** Jianqiang Wang, Tsinghua University, China

- **EU-SP0260 A New Method for Identifying Hazardous Road Locations using GPS and Accelerometer**
  Kristian Hegner Reinau, Aalborg University, Denmark

- **EU-SP0460 Using EDR to evaluate the loss of control risk**
  Thierry Serre, IFSTTAR, France

- **AP-SP0622 Deployment of a roadside-enhanced V2X Field Trial System for Intersection Collision Avoidance**
  Mingta Tu, Industrial Technology Research Institute, Chinese-Taipei

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**SP10 - IMPACT OF TECHNOLOGIES ON TRAVEL DEMAND**

**WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS**

**MEETING ROOM 103**

**Smart Cities and New Urban Mobility**

**Moderator:** Justin Passaportis, GoGet Car Share, Australia

- **AP-SP0119 Optimal automated booking of on-demand transportation**
  Theja Tulabandhula, Xerox Research Centre India, India

- **AP-SP0300 Analysis of micro-car's influence on traffic network**
  Rui Mu, Nagoya University, Japan

- **EU-SP0647 Evaluating the social network concept within new ICT-enabled mobility schemes**
  Susan Grant-Muller, University of Leeds, United Kingdom

- **AM-SP0670 Analysis of the impacts of CAV technologies on travel demand**
  Joshua Auld, Argonne National Laboratory, United States

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**SP11 - NETWORK SAFETY**

**WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 104**

**Vehicle Network and Safety**

- **AP-SP0074 Evaluation of an assistive technology for winter maintenance personnel**
  Naoto Takahashi, Civil Engineering Research Institute for Cold Region, Japan

- **EU-SP0108 CHOREM: Choreographing services for emergency management**
  Lei Chen, Viktoría Swedish ICT, Sweden

- **AN-SP0269 An ITS application to predict urban railway level crossing closure times**
  Inhi Kim, Institute of Transport Studies, Monash University, Australia

- **AN-SP0586 Evaluation of in-vehicle technologies to prevent unlicensed driving in Queensland**
  Sebastien Demmel, Queensland University of Technology, Australia

- **AM-SP0732 Investigating the Feasibility of Using SHRP2 Naturalistic Driving Study to Support Data Requirements of VSL Decision Making Algorithms and its Application in Connected Vehicle**
  Ali Ghasemzadeh, University of Wyoming, United States

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**SP12 - INTEGRATED TRANSPORT SYSTEM**

**WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 103**

**Smart Cities and New Urban Mobility**

**Moderator:** Chris Bax, Cubic, Australia

- **AP-SP0143 Cloud Implementation of Interagency Traffic Management and Control System with Case Study**
  Shing Tenqchen, CHTTL, Chinese-Taipei

- **AN-SP0318 Pedestrian Activity Analysis Using High Dimensional Clustering in a City Environment**
  Tuan Doan, The University of Melbourne, Australia

- **EU-SP0654 Bluetooth Beacon Enabled Mobility Services and Opportunities in Public Transit**
  Janne Lahti, VTT Technical Research Centre of Finland, Finland

- **AP-SP0706 Network Resilience and Recoverability in Urban Rapid Transit Systems during Disruption**
  Ghim Ping Ong, National University of Singapore, Singapore
SP13 - ROAD SAFETY
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS MEETING ROOM 104

Vehicle Network and Safety
Moderator: Shunsuke Kamijo, The University of Tokyo, Japan

AP-SP0067 A Dynamic Freeway Climbing Lane Operations Strategy for Safer Truck Traffic Management
Cheol Oh, Hanyang University, Republic of Korea

AM-SP0118 Analysis of Incidents Durations: Estimation of Random Parameter and Quantile Regressions
Behram Wali, The University of Tennessee, Knoxville, United States

EU-SP0486 Where can SSAM support Safety Analysis - An Austrian Example
Michael Haberl, Graz University of Technology, Austria

AN-SP0582 Assistive tactical decisions for safe and fast trajectories
Gregoire Larue, Centre for Accident Research & Road Safety - QLD, QUT, Australia

AP-SP0733 Examining the Impact of the Compliance Rate and the Penetration of Automatic Daytime Running Lights on the Safety Effectiveness of Regulatory Headlight Signs
Mohamed Ahmed, University of Wyoming, United States

SP14 - MOTORWAY MANAGEMENT 1
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS MEETING ROOM 103

Smart Cities and New Urban Mobility
Moderator: Nobuhiro Uno, Kyoto University, Japan

AN-SP0066 Can variable speed limits promote higher traffic flows on motorways?
J. Carlos Aydos, Roads and Maritime Services, Australia

AM-SP0434 A Cycle-Based Variable Speed Limit Methodology for Improved Freeway Merging
Jia Hu, Federal Highway Administration, United States

AP-SP0555 Effects of Variable Speed Limits and Ramp Metering on Reducing Freeway Congestions
Zhixin Li, Southeast University, China

SP15 - VEHICLE SENSING AND BICYCLE RECOGNITION
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS MEETING ROOM 104

Vehicle Network and Safety
Moderator: Chris Jones, VicRoads, Australia

AP-SP0201 Occluded Driving Vehicle Detection Based on Fast R-CNN with Refined Region Proposals
Xiaoping Liu, Fujitsu Research and Development Center., Ltd. Shanghai Laboratory, Shanghai, China

AN-SP0263 Using Dynamic Time Warping for Vehicle Classification via Inductive Loops
Mahmood Hikmet, HMI Technologies, New Zealand

AN-SP0279 Design of an Over-height Vehicle Detection and Warning System
Jo Chang, Opus International Consultants Ltd, New Zealand

AP-SP0705 Robust Multi-directional Bicycle Recognition under Pose Variation using Stereo Vision
Kousuke Matsushima, National Institute of Technology, Kurume College, Japan

SP16 - MULTI-MODAL TRANSPORT
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS MEETING ROOM 103

Smart Cities and New Urban Mobility
Moderator: Mike Clarke, Yarra Ranges, Australia

AN-SP0081 Measuring Excessive Congestion Delay and Travel Time Reliability Cost for Multi-modal Travels
Clarissa Han, ARRB Group, Australia

EU-SP0276 New Approach to Integrated Cross Modal Transport FOX and USEiT Projects Experience
Ewa Zofka, Road and Bridge Research Institute (IBDiM), Poland

AP-SP0572 Examining commuting intention conversion from private cars to bicycles using smartphone application
Keiichi Higuchi, TTRI (Toyota Transportation Research Institute), Japan
**SP17 - ENERGY EFFICIENCY**

**THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 104**

**Environmental Sustainability**

**Moderator:** Haruki Kawanaka, Aichi Prefectural University, Japan

**EU-SP0528** Immersive driving simulation architecture to support gamified eco-driving instructions

Olivier Orfila, IFSTTAR, France

**AP-SP0574** Time Sharing of Driving Modes from Probe Data for Fuel Consumption Estimation

Napon Srisakda, Graduate School of Science and Technology, Nihon University, Japan

**EU-SP0669** Verifying claims of energy efficiency improvement A practical & systematic approach

Konstantinos Demestichas, ICCS - Institute of Communication and Computer Systems, Greece

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**SP18 - PUBLIC TRANSPORT ANALYSIS**

**THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 103**

**Smart Cities and New Urban Mobility**

**Moderator:** Andrea Rau, TUM CREATE Limited, Singapore

**AN-SP0133** Modelling the Direct Impact of Tram Operations on Traffic

Duy Nguyen, Monash University, Australia

**AP-SP0235** Increasing the Capacity of Signalized Intersections with dedicated bus lane

Yanxi Hao, Key Laboratory of Road and Traffic Engineering of the Ministry of Education, Tongji University, China

**EU-SP0373** Time reliability diagnosis by AVL data in bus transit networks

Benedetto Barabino, Technomobility srl, Italy

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**SP19 - ENVIRONMENTAL SUSTAINABILITY**

**FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS**

**MEETING ROOM 104**

**Environmental Sustainability**

**Moderator:** Ryota Horiguchi, i-Transport Lab. Co., Ltd., Japan

**EU-SP0530** Wireless Sensor Networks for Monitoring and Prediction of Road Traffic Induced Emissions

Xiaoliang Ma, KTH Royal Institute of Technology, Sweden

**EU-SP0535** OBSIE Innovative Noise Measurement Method for Sustainable Urban Development

Ewa Zofka, Road and Bridge Research Institute (IBDiM), Poland

**AN-SP0691** Life-cycle greenhouse gas emissions of electric and conventional vehicles in Australia

Peter Stasinopoulos, RMIT University, Australia

**EU-SP0730** Thermal performance of the Heating system of the Electric Vehicle

Aisling Doyle, Transport Research Institute, Scotland

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**SP20 - TRAFFIC SIMULATIONS**

**FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS**

**MEETING ROOM 103**

**Smart Cities and New Urban Mobility**

**Moderator:** Takashi Oguchi, The University of Tokyo, Japan

**AP-SP0344** Simulation framework for the autonomous mobility on demand systems in SimMobility

Katarzyna Marczuk, National University of Singapore, Singapore

**AN-SP0363** Integrating a mesoscopic traffic simulation model and a simplified NO2 estimation model

Adriana Simona Mihaita, NICTA / Data61 / CSIRO, Australia

**AP-SP0474** A Traffic Simulation for Hyper-congestion Traffic Flow on Shanghai Urban Expressway

Danpeng Ma, Nagoya University, Japan

**EU-SP0480** Dynamic Optimisation of Urban Collective Taxis by Discrete-Event Simulation

Jennie Lioris, IFTTAR, France
SP21 - TRANSPORT MODELLING
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS MEETING ROOM 103

Smart Cities and New Urban Mobility
Moderator: Hiroko Mori, Aichi Shukutoku University, Japan
AN-SP0142 Estimating Time Dependent Origin-Destination Demand Using SCATS Traffic Count Data
Sajjad Shafiei, Institute of Transport Studies, Monash University, Australia
AP-SP0237 A Multi-objective Algorithm for Eco-Efficient Demand Responsive Transit Systems (DRTS)
Ta-Yin Hu, Department of Transportation & Communication Management Science, National Cheng Kung University, Chinese-Taipei
AP-SP0365 Application of T-S Fuzzy Inference System on Urban Distribution Demand Forecasting
Shanshan Fang, Beijing Key Laboratory of Traffic Engineering, Beijing University of Technology, China
EU-SP0537 Max Pressure Variant controls for a network of signalized intersections
Jennie Lioris, IFTTAR, France

SP22 - HUMAN FACTORS
FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS MEETING ROOM 103

Automated Vehicles and Cooperative ITS
Moderator: Steve Spalding, RACQ, Australia
AN-SP0293 Real-time feedback reduces the incidence of fatigue events in heavy vehicles
Mike Lenne, Seeing Machines, Australia
AP-SP0508 Factors related to driving behaviour of older drivers
Misako Yamagishi, Nagoya University, Japan
AP-SP0708 An Integrated Framework for Real-Time Interaction of Vehicles with Human
Youngmi Baek, DGIST, Republic of Korea
AN-SP0728 Detecting passenger discomfort from abnormal driving manoeuvres
Jonathan Liono, RMIT, Australia
TECHNICAL SESSIONS

TPO1 – ANALYSES OF V2X ENVIRONMENTS

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Peter Bentley, Collaborative ITS Consulting, Australia

AP-TP0313 Local adaptive network reconstruction strategy for V2X
Lei Du, Research Institute of Highway, Ministry of Transport, P.R.C., China

AP-TP0352 A Feasibility Study on Traffic Safety Effect of Cooperative ITS
Tag-young Kim, The Korea Transport Institute, Republic of Korea

AP-TP0648 Analysis of speed limit control in V2X environment
Jooyoung Kim, Integrated Urban Research Center, University of Seoul, Republic of Korea

AM-TP0690 Evaluating performance of content & rate control schemes
S M Osman Gani, West Virginia University, United States

TPO2 - COMMUNICATION PROTOCOLS AND METHODS

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 208

Automated Vehicles and Cooperative ITS

Moderator: Evangelos Bekiaris, CERTH, Greece

AM-TP0357 Integrating vehicular safety contextual information with channel congestion control for DSRC
Hongsheng Lu, Toyota InfoTechnology Center, United States

AP-TP0453 Performance evaluation of DS/SS-IVC Scheme based on Location Oriented Hadamard Code Allocation
Kazuki Kobayashi, Tokyo University of Science, Japan

EU-TP0529 Decentralized congestion control for multi-hop vehicular communication
Andreas Festag, Fraunhofer Institute for Transportation and Infrastructure Systems, Germany

AN-TP0549 Telecommunications Network Strategies for ITS and Smart Cities
Andrew Craig, Aurecon, Australia

EU-TP0636 Next steps for multi-channel operation in EU V2X Systems
Tim Leinmueller, DENSO Automotive Deutschland, Germany

AP-TP0676 Delay Reduction by Relay-Assisted Broadcast Transmission for Dependable V2V communications
Yasushi Yamao, The University of Electro-Communications, Japan

TPO3 - APPLICATIONS AND VISUALIZATION OF BIG DATA IN PUBLIC TRANSIT, CAR SHARING AND PARKING

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: S.K. Jason Chang, National Taiwan University, Chinese Taipei

EU-TP0232 Experimenting with early business models for parking data publication
Ali Lattunen, Finnpark Ltd., Finland

EU-TP0257 Predictive Analytics: the Future of Optimising Autonomous and Car-Share Performance
Peter Soutter, Good Trave, Ireland

AP-TP0319 Analysis of relationship between fare structure and passenger behaviour using smartcard data
Hiroshi Shimamoto, University of Miyazaki, Japan

AP-TP0645 The Development of Big Data Visualization for Taiwan Bus Fleets
Siang-Jie Chen, Institute of Transportation, Chinese-Taipei
TP04 - TRAFFIC SIGNAL CONTROL 1
TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 216

Smart Cities and New Urban Mobility
Moderator: Meng Lu, Dynniq, The Netherlands
EU-TP0459 SCATS Virtual Bus Priority and Information System for Dublin City
Trevor Piatt, Nicander, United Kingdom
AP-TP0501 Case Study of Queue Growth Equalization for Urban Traffic Signal Optimization
In Gwun Jang, Korea Advanced Institute of Science and Technology(KAIST), Republic of Korea
AN-TP0519 The SCATS Priority Engine
Ghassan Jarjees, Prioritize Pty Ltd, Australia
AP-TP0563 Customer and service reporting in SCATS
Christian Chong-White, NSW Roads and Maritime Services, Australia
AP-TP0607 Strategies for decreasing delays at Median U-Turns
Sandy Mae Gaspay, IIS, The University of Tokyo, Japan

TP05 - BETTER EFFICIENCY WITH TRAVELER INFORMATION
TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 217

Smart Cities and New Urban Mobility
Moderator: Vera Jin, Sopra Steria Asia Pte. Ltd., Singapore
AP-TP0076 Evaluating Social and Economic Benefits of VICS WIDE and Its Future Prospects
Toshibiko Oda, Vehicle Information and Communication System Center, Japan
EU-TP0112 Strategic Routing and “virtual” Traffic Control System
Ulrich Haspel, Bavarian Road Administration, Germany
AM-TP0115 The role of the traveler in future traffic flow improvement
Greg Yova, QvisionTechnology.com, United States
AP-TP0224 Expressway Operations Management Using a GPS Vehicle Location Management System
Masanori Tomita, NEXCO Engineering Niigata Company Limited, Japan
AP-TP0423 Unlocking Big Data for Smarter City traffic
Phil Allen, TomTom, New Zealand
AN-TP0650 Smart Work Zone
Scott Benjamin, WSP | Parsons Brinckerhoff, Austroads, Australia

TP06 - COMMUNICATIONS TECHNOLOGY
TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 218

Smart Cities and New Urban Mobility
Moderator: François Fischer, ERTICO - ITS Europe, Belgium
AP-TP0191 Analysis of Radio Propagation for Automobile using Ray-tracing Techniques on 79GHz band
Toshiteru Hayashi, Japan
AP-TP0210 Evaluation of dsrc antenna for mlff on toll road
Michiaki Nishikori, Nippon Expressway Research Institute Company Limited, Japan
AP-TP0218 Development of vehicle management system using MQTT communication
Kenta Hara, Mitsubishi Research Institute, Inc., Japan
AN-TP0451 Centre to Centre Interface: Gateway Solution for Traffic and Incident Data Exchange
Victor Shapilsky, Roads and Maritime Services, Australia
### TPO7 - FUTURE FREIGHT INCLUDING AVIATION AND MARITIME - THE USE OF AUTOMATED VEHICLES ON LONG-HAUL FREIGHT CORRIDORS

**TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS**  
MEETING ROOM 102

**Moderator:** Lina Konstantinopoulou, ERTICO - ITS Europe, Belgium

**A review of current and emerging technologies used for heavy vehicle enforcement**  
David Green, ARRB Group, Australia

**Higher productivity road trains and regulatory ITS: results of trialling Super Quads**  
Paul Corkill, Transport Certification Australia, Australia

**Regulatory Telematics Architecture for Dangerous Goods Transport and Cooperative ITS**  
Fabrice Reclus, CEREMA Centre-Est, France

**A TMP for long distance freight transport**  
Masclee Marjolein, Rijkswaterstaat, The Netherlands

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### TPO8 - ITS COMMUNICATIONS - MULTIPLE METHODS, MULTIPLE CONSIDERATIONS

**TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS**  
MEETING ROOM 101

**Policy, Standards and Harmonisation**

**Moderator:** Adam Lyons, Iteris, United States

**Electric mobility requirements for ITS architectures**  
Horst Wieker, htw saar, University of Applied Sciences, Germany

**Wireless Roadside Access Technology Trial on England’s Highways**  
Gabriel Ozique, Fluor Corporation, United Kingdom

**LTE-based V2X Services: A 3GPP Standardization Perspective**  
Yi Shi, Huawei Technologies, China

**DSRC and RF Spectrum Sharing**  
Andrew Myles, Cisco Systems, Australia

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### TPO9 - PREVENTATIVE AND ACTIVE SAFETY SYSTEMS

**TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS**  
MEETING ROOM 203

**Vehicle Network and Safety**

**Moderator:** Toshio Yokoyama, Honda R&D Co., Ltd., Japan

**Development of Information Contents for Driving Safety of Vehicles due to Crosswinds**  
Hiromichi Shirato, Kyoto University, Japan

**Analysis of Vehicle Collision Avoidance using Model Predictive Control with Threat Assessment.**  
Umar Zakir Abdul Hamid, Malaysia-Japan International Institute of Technology, Universiti Teknologi Malaysia, Malaysia

**Experimental Analysis of Influence of Pedestrian Approaching Information with Different Accuracy**  
Toshiyuki Nakamura, Kyoto University, Japan

**Verification of the Detection of Raised Profile Line Markings by Millimeter-Wave Radar**  
Kotaro Ishimoto, Fujitsu Ten Limited, Japan

**Japan road sign classification using cascade convolutional neural network**  
Reza Fuad Rachmadi, Image Media Lab., Kumamoto University, Japan
TP10 - AUTOMATED TO MANUAL DRIVING TRANSITION

**TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS**

**MEETING ROOM 207**

**Automated Vehicles and Cooperative ITS**

**Moderator:** Meng Lu, Dynniq, The Netherlands

- **AP-TP0092** Human-factors issues of transition from an automated driving system to manual driving
  Ryohei Homma, Japan Automobile Research Institute, Japan

- **AP-TP0355** Time Required for Take-Over from Automated to Manual Driving when Exiting Highway
  Arata Takada, Shibaura Institute of Technology, Japan

- **AP-TP0384** Driver model in unconscious driving state
  Kenta Yamazaki, Shibaura Institute of Technology, Japan

- **AP-TP0499** Time required for take-over from automated to manual driving by driver behaviour
  Toshio Ito, Shibaura Institute of Technology, Japan

- **AP-TP0599** Effects of Feedback in Driver’s Drowsiness Level Estimation from Event Data Recorder
  Yuki Kaneko, Aichi Prefectural University, Japan

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TP11 - COOPERATIVE ITS APPLICATIONS

**TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS**

**MEETING ROOM 208**

**Automated Vehicles and Cooperative ITS**

- **AM-TP0176** Jacobs Engineering Group Connected Vehicle Deployment: Lessons Learned
  Christopher Armstrong, Jacobs Engineering Group, United States

- **AP-TP0332** Joint public–private research for the realization of next-generation C-ITS in Japan
  Gaku Ohtake, National Institute for Land and Infrastructure Management, MLIT, Japan

- **EU-TP0383** Towards C-ITS DAY1 for PTW - issues and opportunities
  Arne Pirschwitz, Diplom Ingenieur, BMW Motorrad, Germany

- **AP-TP0421** Proposed ACC improvements for congestion mitigation
  Hitoshi Yoshimura, National Institute for Land and Infrastructure Management, MLIT, Japan

- **EU-TP0635** An Open Source TTCN-3 conformance testing tool for C-ITS
  Álvaro Arrúe, Applus IDIADA, Spain

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TP12 - BETTER TRAFFIC MANAGEMENT FROM BIG DATA

**TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS**

**MEETING ROOM 209**

**Challenges and Opportunities of Big Open Data**

**Moderator:** David Hanus, Transurban, Australia

- **EU-TP0035** Travel time estimation on highways
  Jure Pirc, Q-Free Traffic Design, Slovenia

- **AP-TP0149** Verify China National Urban Traffic Congestion Patterns through Location-Based Big Data Techniques
  Cheng Li, China Academy of Transportation Sciences, Ministry of Transportation, China

- **AN-TP0225** Post-Implementation of Pinch Point Projects
  Ian Espada, ARRB Group, Australia

- **AN-TP0571** A new process for learning what is ‘normal’ on road networks
  David Johnston, Intelligent Transport Services, Australia
TP13 - TRAFFIC SIGNAL CONTROL 2
TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 216

Smart Cities and New Urban Mobility

Moderator: Graham Hanson, Department for Transport, UK Government, United Kingdom

EU-TP0071 Measuring public transport priority quality with special attention to competing calls
Thomas Riedel, Adaptive Traffic Control AG and Verkehrs-Systeme AG, Switzerland

AM-TP0287 Active Control of Traffic Signals using a Multi-objective Approach and Evolutionary Algorithms
Samara Leal, CEFETMG, Brazil

AP-TP0562 Frame signal control based on traffic condition using estimated data in Korea
Inhi Kim, Institute of Transport Studies, Monash University, Australia

AP-TP0505 Development of a Realtime Optimal Signal Control Algorithm Using Vehicular Trajectory Data
Eum Han, Ajou University, South Korea

TP14 - INTEGRATED PAYMENT SYSTEMS
TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 217

Smart Cities and New Urban Mobility

Moderator: Eddie Lim, NCS Pte. Ltd., Singapore

EU-TP0461 MOBiNET: EU-wide interoperable payment services
Rasmus Lindholm, ERTICO – ITS Europe, Belgium

AP-TP0620 The Use of Ticketing Vending Machine in Indonesia
Ahmad Munawar, Gadjah Mada University, Indonesia

TP15 - EFFICIENT URBAN TRANSPORT SYSTEMS
TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 218

Smart Cities and New Urban Mobility

Moderator: Steve Manders, Jacobs, Australia

AP-TP0129 Implementation of an Integrated Traffic Management System
Chong Chee Chung, ST Electronics (Info-comm Systems) Pte Ltd., Singapore

AM-TP0169 From Smart to Intelligent Mobility
John Jung, Intelligent Community Forum, United States

AN-TP0445 Operational Efficiency Audits, A New Tool for Optimizing Freeways Designs
Kamal Weeratunga, Main Roads Western Australia, Australia

AN-TP0595 The Integrated Network Management (INM) Framework
Hai Vu, Swinburne University of Technology, Australia

TP16 - FUTURE FREIGHT INCLUDING AVIATION AND MARITIME - THE USE OF ITS TO DRIVE FREIGHT EFFICIENCY AND SUSTAINABILITY
TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 102

Future Freight including Aviation and Maritime

Moderator: Lina Konstantinopoulou, ERTICO - ITS Europe, Belgium

AP-TP0113 New Approaches for Heavy Vehicle Traffic Management Using ETC2.0
Kazuya Tamada, National Institute for Land and Infrastructure Management, MLIT, Japan

AP-TP0213 Study of heavy vehicle toll management with ITS technology
Hideyuki Wakisima, CTI Engineering Co., Ltd., Japan

EU-TP0230 Large Scale Train Detector Network ensures efficiency and safety in train operation
Martin Novak, Prosoft Sued Consulting Gmbh, Austria

AM-TP0290 Impact study of the implementation of free-flow system in Brazilian highways
Tulio Santos, Federal University of Rio de Janeiro, Brazil

AN-TP0336 On board mass monitoring for regulatory purposes: operational learnings
Paul Corkill, Transport Certification Australia, Australia
TP17 - ITS STANDARDS AND ARCHITECTURE - GUIDING THE WAY TO SUCCESSFUL FUTURE DEPLOYMENTS

TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 101

Policy, Standards and Harmonisation

Moderator: Sadahiro Kawahara, JTEKT Corporation, Japan

AN-TP0299 Australia’s National ITS Architecture Framework (NIAF) – An Enterprise Architecture Approach
Jason Venz, Dept. of Transport and Main Roads, Australia

AM-TP0427 Design of an architectural model suitable for Colombia Metropolitan West Central Area.
Luz Natalia Giraldo Martínez, INTEGRA S.A., Colombia

AN-TP0475 Interfacing SCADA and ITS: Challenges, Learnings, and Successes
Robert Hodges, Queensland Department of Transport and Main Roads, Australia

AN-TP0578 New Zealand Transport Agency Principles of ITS Standards Specifications and Guidelines
Cormac McBride, TDG, New Zealand

EU-TP0716 Implementation of portfolio, program, project & IT best practices in GDDKiA.
Krzysztof Modelewski, Generalna Dyrekcja Drogi Krajowych i Autostrad, Poland

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TP18 - SAFETY OF VULNERABLE ROAD USERS

TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 203

Vehicle Network and Safety

Moderator: Kiran Kapila, International Road Federation, India

AP-TP0145 Categorization of c-ITS Safety Services of Two-Wheeled Vehicles
JooYoung Kim, Korea National University of Transportation, Republic of Korea

AN-TP0189 Impact of Autonomous Vehicles
Nicholas Platt, RACV, Australia

AP-TP0208 Development of the multi-function Push Button Box considering usability of pedestrians
Takashi Shimizu, Tokyo Metropolitan Police Department, Japan

AP-TP0236 Semi-supervised Learning on Real-time Pedestrian Detection System
Kuo-Ching Chang, Automotive Research & Testing Center, Chinese-Taipei

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TP19 - AUTOMATED VEHICLE APPLICATIONS

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Michael Case, RACV, Australian

EU-TP0087 LUTZ Pathfinder real-world trials of fully automated pods
Eric Chan, Transport Systems Catapult, United Kingdom

AN-TP0272 Synopsis of advi’s autonomous vehicle demonstration
Shoukry Marzouk, ARRB Group, Australia

AN-TP0338 A Review of Issues Encountered Installing Aftermarket DSRC Equipment into Heavy Vehicles in Australia
Paul Tyler, Data61, Australia

EU-TP0407 GATEway – early results from a living laboratory for automated vehicles
Nick Reed, TRL, United Kingdom

AP-TP0659 Basic study on general acceptability of automated truck platoon using driving simulator
Toshiyuki Sugimachi, The University of Tokyo, Japan

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TP20 - DEPLOYMENT SCENARIOS FOR AUTOMATED VEHICLE

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 208

Automated Vehicles and Cooperative ITS

Moderator: Yoichi Sugimoto, Honda R&D Co., Ltd., Japan

AN-TP0998 Is Australia ready for Mobility as a Service?
Andrew Somers, Mobility as a Service Australia, Australia

AN-TP0193 Autonomous Cars will be Fun to Drive
Nick Szwed, Consultant, Australia

AN-TP0543 Proposed Methodology for Cooperative ITS Implementation
Mark Henaway, Aurecon, Australia
TP21 - ENHANCING SAFETY THROUGH ITS - WHAT IS THE DATA TELLING US?

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: Sally S.F. Lai, Takming University of Science and Technology, Chinese Taipei

AP-TP0359 Study of VADS using Big Open Data for Safety Driving Scoring Index
Youngho Kim, Ajou University, Republic of Korea

AP-TP0416 Effect of the In-vehicle Traffic Sign on Driving Behavior and Gaze Movement
Kimihiko Nakano, The University of Tokyo, Japan

AN-TP0425 Leveraging Traffic Content and High Frequency Data in Usage Based Insurance
Jason Lowder, Intelematics Australia, Australia

AP-TP0458 Driving Assistance Technology to Prevent Potential Hazards
Chiharu Yamamoto, Fujitsu Ten Limited, Japan

TP22 - TRANSPORTATION MANAGEMENT CENTERS

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 216

Smart Cities and New Urban Mobility

Moderator: Mark Stead, Transport for London, United Kingdom

EU-TP0105 Co-operation between the Finnish road authorities in the TMCs.
Sami Luoma, Finnish Transport Agency, Finland

AM-TP0274 Improving Service by Reconfiguring Maryland’s State Highway Administration’s Statewide Operations Center
Jeffrey Randall, Jacobs Engineering Group, United States

AN-TP0358 The Role of an Integrated Transport Management Centre
Scott White, Transport for New South Wales, Australia

AP-TP0374 The start of ITS operation in the New Traffic Control Center
Masayuki Tokuda, East Nippon Expressway Company Limited, Japan

TP23 - ENSURING SAFETY AND EFFICIENCY FOR VULNERABLE ROAD USER

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 217

Smart Cities and New Urban Mobility

Moderator: Susan Grant-Muller, University of Leeds, United Kingdom

AN-TP0306 Emergency Vehicle priority
Kelvin Marrett, Queensland Transport and Main Roads, Australia

AP-TP0177 Valuation on Traffic Safety Improvement by Providing Warning Information
Fumitaka Kurauchi, Gifu University, Japan

AP-TP0194 A Study of Pedestrian Recognition Method Using 79GHz-band Infrastructure Radar System
Toshihiro Kasahara, Panasonic System Networks Co., Ltd., Japan

AN-TP0684 Improving Network Safety for Vehicle and Pedestrian While Maintaining Network Capacity
David Jones, Dept. of Transport and Main Roads, Australia

EU-TP0686 V2X-based cooperative protection system for vulnerable road users, impact on traffic
Tim Ruß, ifak e.V. Magdeburg, Germany
TP24 - IMPROVING ARTERIAL WITH BETTER DATA/ALGORITHM

Smart Cities and New Urban Mobility

Moderator: Ryota Horiguchi, i-Transport Lab. Co., Ltd., Japan

AP-TP0017 Data Processing Procedure for DSRC Probe-based ATIS on Signalized Arterial
Jinhwan Jang, Korea Institute of Construction Technology, Korea

EU-TP0037 Real-time traffic situation awareness based on open data sources
Laura Niittyla, Mattersoft Ltd., Finland

AP-TP0325 Clustering analysis of link-based traffic pattern of urban network
Hee-jin Jung, Korea Institute of Science Technology Information, Korea

AP-TP0411 Real-time traffic signal control with simple calculation using probe vehicle data
Jinchao Wu, Tsinghua University, China

AM-TP0713 Large scale urban active traffic management systems nyc's midtown in motion
Mohamed Talas, NYCDOT, United States

TP25 - FUTURE FREIGHT INCLUDING AVIATION AND MARITIME - THE USE OF ITS TO OPTIMISE FREIGHT MOVEMENTS AND IMPROVE EFFICIENCY AND PRODUCTIVITY

Future Freight including Aviation and Maritime

AP-TP0083 Freight Vehicle Identification Based on Records and Rules of V2I Communication
Kazunori Inoue, Panasonic Corporation, Japan

AN-TP0271 Prioritising Actions to Provide Enhanced Travel Information for Commercial Travel Operations
Jo Chang, Opus International Consultants Ltd, New Zealand

AN-TP0454 Mobile Mapping Technology for Managing Heavy Vehicle Access Conditions
Lina Inglis, ARRB Group, Australia

AN-TP0688 Truck and Trailer Management in Fleet Optimisation
Mark Wallace, Faculty of Information Technology, Monash University, Australia

TP26 - POLICY, STANDARDS AND HARMONIZATION - GOVERNMENT ROLE IN REALIZING SUSTAINABLE OUTCOMES

Policy, Standards and Harmonisation

Moderator: Marcus Blake, National Transport Commission, Australia

AM-TP0172 Public-private partnerships approach for sustainable development
Osama Elhamshary, California Department of Transportation, United States

AN-TP0349 Implementing electronic work diaries - safety, productivity, efficiency
Peter Girgis, Transport Certification Australia Limited, Australia

AM-TP0448 Adapting road agency business models to private sector provision of ITS
Matthew Dorfman, D’Artagnan Consulting, United States

AM-TP0492 Procurement and logistics – closing the gap
Michael Onder, 3C Consulting LLC, United States

AN-TP0558 Asset Management – Establishing The VicRoads ITS Approach
Marcus Van der velden, ARCADIS, Australia

EU-TP0700 Assisted and Automated Driving – Effects on value added and employment
Andrey Cacilo, Researcher, Germany
TP27 - SPEED ADVICE AND MONITORING
TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 203

Vehicle Network and Safety
Moderator: Josh Johnson, Southwest Research Institute, United States

AP-TP0195 Traffic Accident Deterrence Measures Utilising Uplink Data Analysis
Akira Endo, Tokyo Metropolitan Police Department, Japan

EU-TP0296 Utilization of traffic light assistance in Trondheim
Orjan Tveit, NPRA, Norway

AN-TP0317 Hard braking and older drivers
Anna Chevalier, The George Institute for Global Health, School of Public Health, The University of Sydney, Australia

AP-TP0361 The effect of the Congestion Relief by the Moving Light Guide System
Hirofumi Onishi, Central Nippon Expressway Company Limited, Japan

AP-TP0397 An Immune based dynamic evaluation model for traffic congestion of urban roads
Feng Wang, Henan University of Technology, China

AN-TP0542 Rapid deployment of Intelligent Speed Adaptation through a smartphone application
John Wall, Transport for NSW, Australia

TP28 - DSRC VS LTE - COMPARATIVE ANALYSES
WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 207

Challenges and Opportunities of Big Open Data
Moderator: Jack Opiola, D’Artagnan Consulting, United States

AM-TP0056 Assessment of Emerging Wireless Technologies for Vehicle Safety Applications
Hirofumi Onishi, Alpine Electronics Research of America, Inc., United States

EU-TP0246 Co-operative ITS: IEEE 802.11p or LTE?
Kees Moerman, NXP Semiconductors, The Netherlands

AM-TP0308 Preliminary Comparison of Suitability of DSRC and LTE-V2X for V2V Safety Applications
Takayuki Shimizu, TOYOTA InfoTechnology Center, U.S.A., Inc., United States

AM-TP0419 Dedicated Short-Range Communications: Revolutionizing Transportation and Advancing Spectrum Innovation
Suzanne Sloan, U.S. Department of Transportation, United States

AN-TP0604 Communications for Autonomous Vehicles in the Mining Sector
Craig Copes, Titan ICT Consultants, Australia

TP29 - MAP TECHNOLOGIES
WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 208

Automated Vehicles and Cooperative ITS
Moderator: Satoru Nakajo, The University of Tokyo, Japan

AP-TP0144 LDM(Local Dynamic Map) Requirements Definition For Cooperative Automated Driving (Level2)
Jiyeon Lee, ICS Korea, Republic of Korea

AP-TP0226 Development of automatic map creation function
Akira Otabe, AISIN AW CO., LTD., Japan

EU-TP0503 Geolocation accuracy improvement by means of shared C-ITS sensor information.
Paul Spaanderman, PaulsConsultancy BV, The Netherlands

EU-TP0525 Leveraging synergies between the HAD and the ADAS map
Stephen T’Sioibbel, TomTom Maps, Belgium
**TP30 - ENHANCING THE DRIVER EXPERIENCE WITH BETTER DATA**

**WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS**

**MEETING ROOM 209**

**Challenges and Opportunities of Big Open Data**

**Moderator:** Koji Oguri, Aichi Prefectural University, Japan

**AM-TP0072 Integrating social media, dispatch, and commercial probe data for after-action reviews**
Stephen Remias, Wayne State University, United States

**AP-TP0440 An Application of the Mesh-wised Traffic Information System for Nationwide Road Network**
Hisatomo Hanabusu, i-Transport Lab. Co., Ltd., Japan

**AN-TP0466 Understanding the causes of traffic congestion in Brisbane, Australia**
Katherine Johnston, Dept. of Transport and Main Roads, Australia

**AP-TP0517 The Issues in Promoting Wider Use of ETC2.0**
Aiko Iwasaki, West Nippon Expressway Company Limited, Japan

**AP-TP0569 LoS Evaluation using ETC2.0 Probe-Data in Serious Traffic Jam Section**
Hiroki Yamazaki, Kyoto University, Japan

**AN-TP0576 Addressing Sydney’s traffic congestion using a new service delivery model**
Norman Cheung, Roads and Maritime Services, Australia

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**TP31 - URBAN MOBILITY**

**WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS**

**MEETING ROOM 216**

**Smart Cities and New Urban Mobility**

**Moderator:** Stephan Winter, University of Melbourne, Australia

**AN-TP0022 Strategy to Systems: An integrated approach to transform the way we move**
Kathryn Musgrave, New Zealand Transport Agency, New Zealand

**AP-TP0028 Urban mobility ITS application deployment in Japan**
Junichi Hirose, Highway Industry Development Organization, Japan

**AP-TP0096 Intelligent Transport Systems Developments in South Australia**
Philip Blake, Department of Planning, Transport and Infrastructure, South Australia, Australia

**EU-TP0638 Smart Corridors – What are they and the benefits?**
Ian Achurch, Northamptonshire County Council, United Kingdom

**AN-TP0711 Policies and Strategies to foster ITS to support Sustainable Mobility**
Josef Czako, Policy Committee on ITS – International Road Federation, Switzerland

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**TP32 - IMPROVING PUBLIC TRANSPORT**

**WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS**

**MEETING ROOM 217**

**Smart Cities and New Urban Mobility**

**EU-TP0243 In-Vehicle Real-Time Navigation in Public Transit Vehicles for Multi-Modal Transport Routes**
Olaf Czogalla, ifak e.V. Magdeburg, Germany

**AM-TP0495 The new mobility revolution: what role and opportunities for public transport?**
Alexandre Savard, GIRO Inc. and Organizing Committee for the 2017 ITS World Congress in Montréal, Canada

**AN-TP0541 Specifying for life: O-Bahn City Access Project, Adelaide South Australia**
Matthew Taylor, iSolve Engineered Solutions, Australia

**AP-TP0693 Demand Sensitive Scheduling of Public Transport using past ticketing data**
Narayanan Edakunni, Xerox Research Centre India, India

**AN-TP0707 A simple way to improve public transport uses and ease congestion**
Ranjan Pant, New Zealand Transport Agency, New Zealand
TP33 - INCIDENT MANAGEMENT

**WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS**

**MEETING ROOM 218**

**Smart Cities and New Urban Mobility**

**Moderator:** Jean-Michel Henchoz, DENSO, Belgium

**AN-TP0211** Micro trenching and distributed acoustic sensing technologies for congestion and incident management  
Henry Wu, JYW Consulting, Australia

**AP-TP0362** A Study on System for Finding Hit-and-Run Based on CCTVs  
Kyunghoon Kang, MiraeNS, South Korea

**AN-TP0603** Next Generation Incident Management, a review of other industries for transportation management  
Kim Thomas, Aurecon, Australia

**AP-TP0675** Application of ITS to Risk and Emergency Management  
Yoshiyuki Kato, CTI Engineering Co., Ltd., Japan

**AN-TP0699** Automatic Incident Detection using Distributed Acoustic Sensing  
Robin Marston, VicRoads, Australia

TP34 - OPPORTUNITIES AND CHALLENGES AROUND FREIGHT MANAGEMENT FROM AN ITS PERSPECTIVE

**WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS**

**MEETING ROOM 102**

**Future Freight including Aviation and Maritime**

**Moderator:** Pete Costello, Iteris, United States

**AN-TP0034** Initiative to improve productivity, safety and environmental of urban freight operations  
Steve Manders, Jacobs Group (Australia) Pty Limited, Australia

**AM-TP0261** Use of data analytics to help revolutionize the heavy vehicle insurance market  
Gail Levario, EROAD Inc., United States

**AN-TP0436** Overcoming Barriers to the Off-Peak Movement of Freight in Urban Areas  
Samantha Taylor, ARRB Group, Australia

**AP-TP0533** Advanced simulation model in the region of Tokyo metropolitan urban expressway rings  
Takashi Oguchi, Institute of Industrial Science, The University of Tokyo, Japan

**AN-TP0689** Container Transport Optimisation: Challenges and Opportunities  
Mark Wallace, Faculty of Information Technology, Monash University, Australia

TP35 - HUMAN MACHINE INTERFACE FOR COOPERATIVE ITS

**WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS**

**MEETING ROOM 207**

**Automated Vehicles and Cooperative ITS**

**Moderator:** Richard Easely, E-Squared

**EU-TP0205** Designing a Dual-display HMI System for Connected Vehicles: the AutoNet2030 Approach  
Panagiotis Pantazopoulos, Institute of Communication and Computer Systems (ICCS), Greece

**AN-TP0329** Participant Management and HMI design in the establishment of a CITS testbed  
Vanessa Vecovski, Transport for New South Wales, Australia

**AP-TP0369** Distraction Free Human Machine Interface Design Study for Personal Gadgets  
Praveen Kumar Mogilipalpepu, Renault Nissan Technology Business Centre India Pvt Ltd, India

**AP-TP0491** An HMI for users’ understanding of the function of driver assistance systems  
Nobuyo Kasuga, Shibaura Institute of Technology, Japan
TP36 - METHODOLOGIES TO IMPLEMENT COOPERATIVE ITS

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS

MEETING ROOM 208

Automated Vehicles and Cooperative ITS

Moderator: Toru Saito, Honda R&D Co., Ltd., Japan

AP-TP0120 Driver drowsiness detection to assess differences between states of drowsiness and relaxation
Yasuhiko Nakano, Fujitsu Laboratories Ltd., Japan

AP-TP0150 Development of the Standard Architecture of China Urban Intelligent Bus Systems
Xianglong Liu, China Academy of Transportation Sciences, Ministry of Transportation, China

EU-TP0239 Impact assessment methodology for connected ITS corridor
Alan Stevens, Transport Research Laboratory, United Kingdom

AN-TP0568 A Research Agenda to Inform Smart Mobility Policies for the Urban Millennium
Hussein Dia, Swinburne University of Technology, Australia

EU-TP0442 Evaluations of the collaborative TEAM-applications
Merja Penttinen, VTT Technical Research Centre of Finland, Finland

TP37 - HOW TRAFFIC BIG DATA FUELS TRAVELER INFORMATION AND SITUATIONAL AWARENESS

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS

MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: Graeme Scott, IBI Group, United Kingdom

AN-TP0080 The Role of Real-Time Crowdsourced Information and Technology in Supporting Traveller Information
Dale Harris, Ailty Transportation Consultants Ltd, New Zealand

AP-TP0348 Statistical approach to improve accuracy of traffic speed fused from various sensors
Sok Ee Poh, Land Transport Authority of Singapore, Singapore

AP-TP0618 Automated data deduction of road updates with road authorities' help
Satoru Nakajo, The University of Tokyo, Japan

EU-TP0721 Innovative procurement method of real-time traffic information snapshot
Mika Kulmala, City of Tampere, Finland

AN-TP0722 Fuelling intelligent traffic management with crowdsourcing and open data
Simon Jackson, Esri Australia, Australia

TP38 - URBAN PUBLIC TRANSPORT

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS

MEETING ROOM 216

Smart Cities and New Urban Mobility

Moderator: Carol Schweiger, Schweiger Consulting LLC, United States

AP-TP0161 The Development and Application of Taiwan Railway Traveler Information System
Chao Hsuan Lee, CECI Engineering Consultants, Inc., Chinese-Taipei

AP-TP0512 The Network of iBeacon guides the Passenger of the Tramway
Hitoshi Morita, University of Nagasaki, Japan

EU-TP0609 Bus priority at roundabouts
Arvid Aakre, NTNU - Norwegian University of Science and Technology, Norway

EU-TP0038 Enhancing public transport planning by data visualization
Laura Niittyla, Mattersoft Ltd, Finland
TP39 - INTEGRATED TRAFFIC MANAGEMENT

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 217

Smart Cities and New Urban Mobility

Moderator: Michael Watts, Transmax, Australia

AM-TP0167 Using moveable barrier in the new urban environment
Paul Grant, Lindsay Transportation Solutions, United States

AN-TP0298 New Zealand's First Smart Motorway
Bruce Walton, Beca Ltd, New Zealand

AN-TP0340 Working Towards On-Road Dynamic Variable Speed Limit and Ramp Metering Integration
Vincent Vong, VicRoads, Australia

EU-TP0429 DATEX II and C-ITS: a promising engagement in SCOOP@F
Loïc Blaive, CEREMA, France

AP-TP0640 Signal control with critical path mechanism for coordinating the highway and freeway
Fan Yu, National Chiao Tung University, Chinese-Taipei

AM-TP0683 – How to monitor and tune the world largest Traffic Control System
Lihua Zhang, Transcore, United States

TP40 - ITS FOR DEMAND RESPONSE TRANSPORT

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 218

Smart Cities and New Urban Mobility

Moderator: Fumitaka Kurauchi, Gifu University, Japan

EU-TP0117 Towards novel public transport services via optimisation of demand and supply
Marcin Seredyński, Luxembourg Institute of Science and Technology, Luxembourg

AN-TP0393 Technology-based options for taxis and hire cars in Australia
Gavin Hill, Transport Certification Australia (TCA), Australia

AN-TP0552 Cost-efficient Co-modal Ride-sharing Scheme Through Anticipatory Dynamic Optimisation
Ronny Kutadinata, The University of Melbourne, Australia

TP41 - ENVIRONMENTAL SUSTAINABILITY -HOW WILL ALTERNATIVE FUEL VEHICLES CONTRIBUTE TO A LONG-TERM SUSTAINABLE OUTCOME 1

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 102

Environmental Sustainability

Moderator: Fabio Galatioto, Transport Systems Catapult, United Kingdom

AN-TP0136 Smart Data-logging System for Coordination of EVs in Distributed Energy Management System
Sayidul Morsalin, Macquarie University, Australia

AP-TP0152 Operational Evaluation of the EV and Wireless Battery Charges for road Maintenance
Hiroshi Kobayashi, Centoral Nippon Expressway Company Limited, Japan

AP-TP0432 Methodologies for EV Charge Point Planning
Andrew Pickford, MVA Hong Kong, Hong Kong

AM-TP0497 Energy Impact of Connected and Automated Vehicles
Dominik Karbowski, Argonne National Laboratory, United States

AP-TP0521 85 kHz band 44 kW wireless rapid charging system for electric bus
Shuichi Obayashi, Toshiba Corporation, Japan
TP42 - MAKING SAFER CORRIDORS USING THE DIGITAL REVOLUTION
WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 101

Mobile Applications

Moderator: Anita Byrnes, Forum8, Australia
EU-TP0216 Impacts and CBA of new ITS deployments in NEXT-ITS corridor
Merja Penttinen, VTT Technical Research Centre of Finland Ltd., Finland
AM-TP0062 Performance Measures of Smartphone Warning Messages in Work Zones and Intersections
Qing Li, Texas Southern University, United States
AN-TP0178 Real-time Recommendation of Safest Routes for Emergency Evacuation
Hoang Tam Vo, IBM Research Australia, Australia
AN-TP0488 Using mobile devices as an alternative to a fixed infrastructure for Surface Transport Management
Kevin Moat, Cubic Transportation Systems, United Kingdom
AN-TP0606 Computationally Simulating Intermodal Terminal Attractiveness and Demand
Soumya Banerjee, NICTA / Data61 / CSIRO, Australia

TP43 - TECHNOLOGY INNOVATION AND DEVELOPMENT
WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 203

Vehicle Network and Safety

Moderator: Makoto Miwa, CloudMindsJapan kk, Japan
AP-TP0099 Vehicle control using edge computing and mobile network
Masatoshi Ito, Denso Corporation, Japan
EU-TP0165 Remote operation of canal locks and bridges in England
Robert Lynch, Arcadis Consulting Ltd, United Kingdom
EU-TP0680 Requirements for Next generation 112 eCall
Kate Yeadon, Post Luxembourg, Luxembourg

TP44 - IMPROVING AUTOMATED VEHICLE PERFORMANCE
WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Risto Kulmala, Finnish Transport Agency, Finland
EU-TP0045 Evaluation of a laser-based reference system fro ADAS
Nico Steinhardt, Honda Research Institute EU GmbH, Germany
AM-TP0116 V2P Communications for Vehicle-Pedestrian Crash-Warning
Kelly Wu, Alpine Electronics Research, United States
AP-TP0122 Situation Assessment for Autonomous Lane Change Based on Precision Map
Jihyun Yoon, Hyundai Motors, Republic of Korea
AP-TP0241 Object detection method for AGV by computer vision with artificial neural networks
Jittima Varagul, Shibaura Institute of Technology, Japan
EU-TP0494 UDRIVE Data Protection Concept
Helena Gellerman, Chalmers University of Technology, Sweden
EU-TP0630 Evaluation of safety and performance in a multi-brand environment of cooperative automation
Álvaro Arrúe, Applus IDIADA, Spain
TP45 - PILOTS OF COOPERATIVE ITS

**WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 208**

**Automated Vehicles and Cooperative ITS**

**Moderator:** Masahiko Ikawa, Mitsubishi Electric Corporation, Japan

- EU-TP0297 Implementing Traffic light assistance in Trondheim
  Ørjan Tvet, NFRA, Norway

- AN-TP0303 Citi – An Update on Australia’s First Pilot Deployment of CITs
  Paul Tyler, Data61, Australia

- AN-TP0422 Assessing the benefits and costs of C-ITS in Queensland
  Miranda Blogg, Project Manager, Department of Transport and Main Roads, Australia

- AM-TP0433 Tampa Hillsborough Expressway Authority Connected Vehicle Pilot Deployment
  Steve Novosad, HNTB, United States

- AM-TP0462 Developing a Connected Vehicle Deployment Plan: Real-World Strategies for Early Deployment
  Scott Shogan, WSP | Parsons Brinckerhoff, United States

TP46 - ITS OPERATIONS AND BIG DATA

**WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 209**

**Challenges and Opportunities of Big Open Data**

**Moderator:** Andry Rakotonirainy, Queensland University of Technology, Australia

- AN-TP0435 Tourism Signage - Baby Steps to a Digital World
  Joanna Robinson, Queensland Department of Transport and Main Roads, Australia

- AP-TP0444 A study of applying probe data for prediction method
  Yuichi Takayanagi, Panasonic System Networks Co., Ltd, Japan

- EU-TP0479 Relating different types of data in the NDW Traffic Observatory at DitTlab
  Edoardo Felici, National Data Warehouse for Traffic Information, The Netherlands

TP47 - WEATHER INFORMATION PRESENTS OPPORTUNITIES AND CHALLENGES FOR BIG DATA

**WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 216**

**Challenges and Opportunities of Big Open Data**

**Moderator:** Gavin Leng, Transport Systems Group, Australia

- EU-TP0111 Maintaining visibility of data quality in a world of Big Open Data.
  Daniel Johns, Vaisala, United Kingdom

- AM-TP0114 Innovations in automating real-time winter road condition reporting in Minnesota
  Peter Davies, Castle Rock Associates, United States

- AP-TP0262 Challenging for extended rainfall service: a preliminary study
  Toshitaka Azuma, Vehicle Information and Communication System Center, Japan

- AP-TP0341 An analysis of probe data deriving from a road management system
  Katsuhiko Nakamura, East Nippon Expressway Company Limited, Japan

TP48 - ITS PLANNING

**WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 217**

**Smart Cities and New Urban Mobility**

**Moderator:** Rasmus Lindholm, ERTICO - ITS Europe, Belgium

- AN-TP0378 Overview of Intelligent Transportation Systems Deployment and Future Development in New Zealand
  Neha Sharma, The University of Auckland, New Zealand

- EU-TP0410 A Platform to support service lifecycle management for ITS
  Rafia Inam, Ericsson AB, Sweden

- AM-TP0559 ITS Strategic Planning – A Foundation for Sustaining Livable Cities and Communities
  Steven Cyra, HNTB Corporation, United States

- AP-TP0692 An integrated transportation platform for engaging commuters in modern smart cities
  Mohit Sindhwani, Quantum Inventions Pte Ltd, Singapore
TP49 - MOBILITY AS A SERVICE

WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 218

Automated Vehicles and Cooperative ITS

Moderator: Dennis Walsh, Department of Transport and Main Roads, Australia

EU-TP0157 Integration as a conduit for sustainable forms of Mobility as a Service
Steven Sarasini, Viktoria Swedish ICT, Sweden

EU-TP0209 Dublin vs. Helsinki – A ‘Mobility as a Service’ comparison
Orla O’Halloran, Ove Arup and Partners Ltd., Ireland

AN-TP0472 Autonomous mobility on demand – A review of recent literature
Hussein Dia, Swinburne University of Technology, Australia

EU-SP0532 Future Needs and Visions for Mobility-as-a-Service: Insights from European Workshops
Jana Sochor, Chalmers University of Technology, Sweden

AN-TP0540 Modelling the Impacts of Autonomous Shared Mobility Systems
Hussein Dia, Swinburne University of Technology, Australia

EU-TP0666 State-of-the-art survey on stakeholders’ expectations towards Mobility-as-a-Service (Maas)
David König, AustriaTech - Gesellschaft des Bundes für technologiepolitische Maßnahmen, Austria

TP50 - ENVIRONMENTAL SUSTAINABILITY - HOW WILL ALTERNATIVE FUEL VEHICLES CONTRIBUTE TO A LONG-TERM SUSTAINABLE OUTCOME 2

WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 102

Environmental Sustainability

Moderator: Jean-Charles Pandazis, ERTICO - ITS Europe, Belgium

AP-TP0153 ADAS Sensor Requirements for Eco Driving
Takahiro Narita, Denso Corporation, Japan

AN-TP0347 A multivariate regression model to predict the GHG emission in urban logistics
Reham Alhindawi, School of Aerospace, Mechanical and Manufacturing Engineering, RMIT University, Australia

EU-TP0396 Location-based Hydrogen efficiency of a Fuel-cell car in Different Climates
Ernst Pucher, Vienna University of Technology, Austria

EU-TP0447 Assessment of a battery electric taxi fleet based on empirical taxi data
Martin Reinharter, AIT Austrian Institute of Technology GmbH, Austria

EU-TP0718 Environmental incident management: lower-cost AQM equipment and ITS opportunities
Graeme Scott, IBI Group, United Kingdom

TP51 - POLICIES AND REGULATIONS FOR AUTOMATED VEHICLE

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Matthew Leyson, Australian Driverless Vehicle Initiative, Australia

AM-TP0175 Challenges and Opportunities of Worldwide Connected Vehicle and Automated Vehicle Deployment
Brian Burkhard, Jacobs Engineering Group, United States

AN-TP0185 Autonomous vehicles - re-engineering the regulators
James Holgate, Martin Small Consulting, Australia

AP-TP0289 Addressing regulatory barriers to more automated road and rail vehicles
James Williams, National Transport Commission, Australia

AP-TP0360 Investigation of Registration, Driver Licensing and Insurance Issues Associated with Automated Vehicles
Michael Regan, ARRB Group, Australia

AN-TP0649 Guidance on Impacts of Automated Vehicles for ANZ Road Operators
Scott Benjamin, WSP | Parsons Brinckerhoff, Austroads, Australia
TP53 - MOBILE SENSING, OPEN DATA AND DATA FROM PROBES TO ADDRESS MOBILITY ISSUES

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: Davide Brizzolara, ERTICO – ITS Europe, Belgium

AN-TP0047 Technologies to Monitor Individual Vehicles
David Green, ARRB Group, Australia

EU-TP0124 Using big data to improve urban mobility
Richard Harris, Xerox, United Kingdom

AM-TP0190 Leveraging Big Data to Identify and Address Mobility Issues
Aditya Mokkapati, ARCADIS, United States

AP-TP0196 Processing of Probe Data to Detect Transportation Modes
Hiroyuki Kumazawa, Osaka Sangyo University, Japan

EU-TP0220 Open source big data landscape and possible ITS applications
Adam Warski, SoftwareMill, Poland

TP54 - ADVANCED DRIVER ASSISTANCE AND SUPPORT SYSTEMS

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS MEETING ROOM 216

Vehicle Network and Safety

Moderator: Lauchlan McIntosh, Australasian College of Road Safety, Australia

AP-TP0054 Pedestrian recognition for autonomous emergency braking system
Takahiro Baba, Denso Corporation, Japan

EU-TP0173 Enabling technologies for testing ADAS/HAD
Roman Katz, Ibeo Automotive Systems GmbH, Germany

AP-TP0280 Cooperative Vehicular Surrounding Sensing System
Che-Cheng Chang, Automotive Research & Testing Center (ARTC), Chinese-Taipei

AP-TP0326 Nighttime pedestrian detection by onboard monocular camera
Yuki Takata, Shibaura Institute of Technology, Japan

EU-TP0651 In-vehicle object detection through Time-of-Flight camera background segmentation
Benedikt Brück, TU München, Germany

TP55 - CONNECTED MOBILITY

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS MEETING ROOM 217

Smart Cities and New Urban Mobility

Moderator: Jean-Michel Henchoz, DENSO, Belgium

EU-TP0240 Simulation Platform for Prototyping, Testing, and Validation of Cooperative Intelligent Transportation Systems
Ines Ben Jemaa, IFSTTAR, France

AP-TP0277 A Method to Improve Parking Space Efficiency using Centrally Controlled Auto-valet Parking
Takeki Ogitsu, Gunma University, Japan

AN-TP0468 Mapping the value of collaborative mobility
Hussein Dia, Swinburne University of Technology, Australia

EU-TP0481 Business models for incentive-based mobility services for changing traveller behavior
Dirk van Amelsfort, Víktría Swedish ICT, Sweden

AP-TP0628 Connected Mobility Services in Future Smart City
Da Wang, Robert Bosch (SEA) Pte Ltd, Singapore
TP56 - MODELLING METHODOLOGIES 1
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 218

Smart Cities and New Urban Mobility

Moderator: Mark Nogaki, Econolite, United States

EU-TP0128 Adapting Turn-by-Turn Navigation to User Expectations with the Help of Machine Learning
Henning Hasemann, TomTom, Germany

AP-TP0251 Pedestrian swarming modeling at signalized intersections
Yu Qin, Beijing University of Technology, China

AN-TP0388 Traffic Flow Modelling with Point Processes
K.W. Lim, ANU and NICTA, Australia

AN-TP0617 Simulating Intelligent Transport Systems with Discrete Traffic Models on Grid Topologies
Frank Lehmann, University of Auckland, New Zealand

AN-TP0656 Accessibility Driven Planning with Open Data
Callum Hooper, Arup, Australia

TP57 - ENVIRONMENTAL SUSTAINABILITY - INITIATIVE TO PROMOTE SUSTAINABLE ENVIRONMENTAL OUTCOMES
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 102

Environmental Sustainability

Moderator: Jean-Charles Pandazis, ERTICO - ITS Europe, Belgium

EU-TP0160 Control Centre – European Common Model
Philip Gardner, ARCADIS, United Kingdom

EU-TP0409 Short-term prediction of Traffic levels and Pollution exceedances using ensemble techniques
Fabio Galatiioto, Transport Systems Catapult, United Kingdom

AN-TP0538 Road corridor regeneration alongside Australian toll roads – Two case studies
Matthew Brennan, Transurban, Australia

AP-TP0621 Assisted Human Powered Vehicle with Innovative Steering System for Sustainable Urban Mobility
Jeffrey Too Chuan Tan, The University of Tokyo, Japan

EU-TP0624 Climate and pollution challenges - ITS can make a difference!
Helge Jensen, City of Oslo, Agency for Urban Environment, Norway

TP58 - POSITIONING TECHNOLOGY AND TECHNIQUES
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Richard Couto

AP-TP0082 Ultra-Low Field Magnetic Guidance System
Michiharu Yamamoto, Aichi Steel Corporation, Japan

EU-TP0398 Safe vehicle trajectory prediction using deep neural networks and camera images
Dzmitry Tsishkou, Imra Europe Sas, France

AP-TP0593 Moving Sensor Detectable Code on Lane Markings for Vehicle Position Estimation
Yumi Ishino, Aichi Prefectural University, Japan

EU-TP0615 Advanced topological map matching: a step towards full integrity and reliability
Lauri Koponen, TomTom International B.V, The Netherlands
TP59 - SECURING THE COOPERATIVE VEHICLE

THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 208

Automated Vehicles and Cooperative ITS

Moderator: Kian-Keong Chin, Land Transport Authority, Singapore

AM-TP0315 A Novel Approach to Digital Key Sharing for Vehicle Access Control
Pino Porciello, TrustPoint Innovation Technologies Ltd, Canada

AM-TP0350 International Harmonisation of C-ITS-Task Group 7
Peter Girgis, Transportation Certification Australia, Australia

AN-TP0353 ITS16 Technical Paper - Implementing a secure, operational environment for C-ITS
Peter Girgis, Transport Certification Australia Limited, Australia

AP-TP0380 Automatic Braking and Lane-keeping Design for Driver Assistance System
Ping-Ming Hsu, Automotive Re, Chinese-Taipei

AP-TP0661 Privacy Enhancement for Interconnected Vehicles via Secure Multiparty Computation
Muthuramakrishnan Venkitasubramaniam, University of Rochester, United States

AP-TP0723 Security System for Connected Vehicles
Takeshi Kishikawa, Panasonic Corporation, Japan

TP60 - PLATFORMS, THE CLOUD AND ISSUES RELATED TO DATA SHARING AND EXCHANGE

THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: Kazuya Takeda, Nagoya University, Japan

EU-TP0265 oneTRANSPORT: A smart mobility open and scalable data platform
Mark Wedlock, Ove Arup and Partners, London, United Kingdom

EU-TP0561 FOT project agreements crucial for data sharing
Helena Gellerman, Chalmers University of Technology, Sweden

AP-TP0633 Development of a Big Data Platform for Urban Traffic Management
Quanfang Fan, Zhejiang Supcon Information Technology Co., Ltd., China

EU-TP0644 A Road Operator’s View on Cloud-based ITS – Requirements and Cooperation Models
Bernd Datler, ASFINAG, Austria

TP61 - HUMAN FACTORS AND DRIVER BEHAVIOUR 1

THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 216

Vehicle Network and Safety

Moderator: Jane Lappin, Toyota, United States

AP-TP0049 Visual behavior and vehicle fluctuation in using HUD and gesture input interfaces
Hiroshi Uno, Japan Automobile Research Institute, Japan

AP-TP0126 Examining driver’s injury severity in two-vehicle crashes: Case study in Toyota City
Jia Yang, TTRI (Toyota Transportation Research Institute), Japan

AP-TP0283 Distributed Vehicular Network System Regardless of Node Crashes
Che-Cheng Chang, Automotive Research & Testing Center (ARTC), Chinese-Taipei

AP-TP0343 Human Skeleton Recognition using 3D Depth Camera on Vehicle
Yoshihisa Asayama, Fujitsu Laboratories Ltd., Japan

AP-TP0367 Success of Red Light Camera System in Bangkok
Amornchai Leelakajonjit, Royal Thai Police, Thailand

AP-TP0389 Extraction and analyses of rat-run traffic based on floating car data
Yuki Sakuragi, Toyohashi University of Technology, Japan
TP62 - MODELLING METHODOLOGIES 2
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 217

Smart Cities and New Urban Mobility

Moderator: Russell Pinchen, New Zealand Transport Agency, New Zealand

AN-TP0270 Trackside Safety Innovation – Queensland Rail Track Access System
James Dong, JYW Consulting Ltd., Australia

AP-TP0631 Bus system modelling using smart card data in Singapore
Yuan Zhou, Tum Create Ltd., Singapore

AN-TP0695 Network management and planning with the operational controller as the constraint
Julian Laufer, VicRoads, Australia

TP63 - MOTORWAY MANAGEMENT 2
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 218

Smart Cities and New Urban Mobility

Moderator: Phil Charles, University of Queensland, Australia

AN-TP0048 One Network, Planning for Operations of Australasia’s largest motorway tunnel.
Blair Monk, ITSNZ and Aurecon, New Zealand

AP-TP0351 Advanced traffic monitoring system for expressways
Sadaaki Hattori, West Nippon Expressway Company Limited, Japan

AN-TP0356 Diverging Diamond Intersections and their impact on Smart Motorways
Kerry Farley, Arup, Australia

AM-TP0545 Next generation i-495 & i-95 express lanes in washington dc
Joe Silva, Transurban, United States

TP64 - ENVIRONMENTAL SUSTAINABILITY - USE OF BICYCLES
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 102

Environmental Sustainability

AP-TP0192 Effect on bicycle network plan and expectation of ITS for bicycle traffic
Ryoichi Ebisawa, Tokyo Metropolitan Police Department, Japan

AP-TP0337 Cluster analysis of Beijing public bicycle stations using behavioral dataset
Zheng Zhang, Beijing University of Technology, China

EU-TP0392 First European evaluation of a vehicle occupancy sensor fosters carpooling
Fabrice Reclus, Cerema Centre-Est, France

AP-TP0509 Evaluating the Bicycle-friendliness of Asian Cities
Nikola Medimorec, Kojects, Republic of Korea

AN-TP0557 Automatic Cycle and Pedestrian Monitoring
Chris Myatt, TDC Systems Pty Ltd, Australia

EU-TP0637 A GID-based approach to determine beneficial meeting points for long-distance ride-sharing trips
Paul Czioska, Leibniz Universitat Hannover, Germany

TP65 - PUBLIC ACCEPTANCE OF AUTOMATED VEHICLE
THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Maxime Flament, ERTICO - ITS Europe, Belgium

EU-TP0212 Bumps in the road?
Stuart Pritchard, Arcadis Consulting (UK) Ltd, United Kingdom

AN-TP0231 Ant colonies as inspiration for cooperative and automated transportation systems
Tanya Latty, The University of Sydney, Australia

AP-TP0312 Feasibility Study on Novel System of Auto-parking with Human Cooperation
Yuta Abe, Tokyo University of Science, Japan
TP66 - TESTING AND CERTIFICATION OF V2X
THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 208
Automated Vehicles and Cooperative ITS
Moderator: Matthew Leyson, Australian Driverless Vehicle Initiative, Australia
EU-TP0088 Simulation of Vehicle Flocking Using Game Engine
Jo Skjermo, SINTEF, Norway
AM-TP0264 Next stage certification environment for connected vehicles
Michael Brown, SwRI, United States
AM-TP0415 Certification for V2X technologies supporting connected vehicle deployments
Dmitri Khijniak, 7layers, United States
EU-TP0687 Automated testing of V2X-based applications for cooperative traffic systems
Tim Ruß, ifak e.V. Magdeburg, Germany

TP67 - SAFETY AND SECURITY ISSUES FOR BIG DATA
THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 209
Challenges and Opportunities of Big Open Data
Moderator: Panagiotis Lytrivis, Institute of Communication and Computer Systems (ICCS), Greece
EU-TP0268 Protecting the data, should it be encrypted?
Peter Crumpton, Fluor Ltd, United Kingdom
AP-TP0291 Ways to regulate enforcement access and use of ITS personal information
James Williams, National Transport Commission, Australia
AP-TP0372 Feasibility study of identifying passable routes after disasters made from ETC2.0 probe data
Tomoki Mizutani, National Institute for Land and Infrastructure Management, MLIT., Japan
AP-TP0408 Development of Road Patrol Support System and Car Telematics Platform
Koichi Sakai, Metropolitan Expressway Co., Ltd., Japan
AP-TP0643 Adaptive Scaling Anonymization Method to Secure Privacy of Transport Trajectory Data
Toshiro Hikita, Graduate School of Information Science and Technology, The University of Tokyo, Japan

TP68 - HUMAN FACTORS AND DRIVER BEHAVIOUR 2
THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 216
Vehicle Network and Safety
Moderator: Pri Boyd, Siemens, United Kingdom
AP-TP0284 Validation Study on Evaluation of Traffic Safety Using fNIRS
Yamamoto Kouji, Central Nippon Expressway Company Limited, Japan
AP-TP0334 Virtual experience and dynamic evaluation system of distracted driving
Ying Yao, Beijing University of Technology, China
AP-TP0386 The analysis of sudden braking event using event-data-recorder data
Kentaro Kondo, Fujitsu Ltd., Japan
EU-TP0418 Evaluating traffic signs use of the tachistoscopic method
Romain Chaumontet, CEREMA, France
AP-TP0611 Analysis of wrong-use of urban expressway entrance by using probe data
Takehiro Nishi, Hanshin Expressway R&D Company Limited, Japan
TP69 - ROAD USER CHARGING 1
THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 217

Moderator: Bob McQueen, The OCash Company, United States

- AP-TP0015 A review of rfid-based etc system architecture for multi-lane free flow
  Noriani Mohammed Noor, Malaysia
- AP-TP0053 Passive RFID-Based ETC System for Multi-Lane Free Flow using Cloud Computing
  Noriani Mohammed Noor, Malaysia
- AP-TP0377 Hybrid dsrc trial for integrated etc
  Yosuke Takeuchi, Mitsubishi Heavy Industries, Ltd., Japan
- AP-TP0567 Design and implementation of MLFF system under the ETC national standard
  Panpan Hu, Wuhan Wanji Information Technology Co., Ltd., China

TP70 - PARKING
THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 218

Moderator: Tongkarn Kaewchalermtong, Chulachomklao Royal Military Academy/ ITS Thailand, Thailand

- AP-TP0234 Smart Parking Service for Smart City
  Yisyuan Huang, National Taiwan University, Chinese-Taipei
- AP-TP0302 A Study on Information Provision to Tourists for Effective Usage of P&R
  Nobuhiro Uno, Kyoto University, Japan
- AP-TP0382 Gaze-based signage recognition for parking navigation system
  Kazuyo Yoshimura, Mitsubishi Electric Corporation Advanced Technology R&D Center, Japan
- AP-TP0452 Analysis of Packet Collision in Parking Navigation System
  Yuka Kawashima, Tokyo University of Science, Japan
- AP-TP0510 An intelligent Parking System Design Based on Bluetooth Technology
  Quanfang Fan, Zhejiang Supcon Information Technology Co. Ltd., China
- AP-TP0616 Application of RFID Technology in Urban Parking Management System
  Shen Jianhui, Zhe Jiang Supcon Information Co. Ltd., China

TP71 - ENVIRONMENTAL SUSTAINABILITY - USE OF EXISTING INFRASTRUCTURE AND SYSTEMS TO DRIVE IMPROVED ENVIRONMENTAL OUTCOMES
THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 102

Moderator: Fabio Galatioto, Transport Systems Catapult, United Kingdom

- EU-TP0107 Monitoring and Optimizing Coordinated Signal Control
  Michael Haberl, Graz University of Technology, Austria
- AP-TP0156 Application of Simultaneous Optimization Control for Reductions of Numbers of Vehicle Detectors
  Koichiro Iwaoka, Panasonic System Networks Co., Ltd., Japan
- AP-TP0207 The experiment of axle load measurement on highway for long-term structure maintenance
  Takehiro Yamada, Central Nippon Expressway Company Limited Nagoya Branch, Japan
- AN-TP0579 VicRoads Collaborative Performance Based Asset Management Contract Model for ITS Asset Maintenance
  Nalinda Punchihewa, VicRoads, Australia
- EU-TP0717 HITRANS-E-Paper Real Time Passenger Transport Information Systems
  Graeme Scott, IBI Group, United Kingdom

TECHNICAL SESSIONS
TP72 - USING COOPERATIVE ITS TO ENABLE AUTOMATED VEHICLE

FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Michael Brown, Southwest Research Institute, United States
AP-TP0052 An Investigation on PFLOW in View of Generic Transform
Mikio Sasaki, Denso Corporation, Japan
AP-TP0181 A Study of Adjacent Signal Recognition Enhancement System
Kengo Kishimoto, UTMS Society of Japan, Japan
AP-TP0346 Effect Evaluation of Cooperative ITS Services
Hiroaki Kimura, UTMS Society of Japan, Japan
AP-TP0476 Development of evaluation methodology for cooperative automated driving highway systems
Jungmin Kim, ITS Korea, Republic of Korea

TP74 - THE IMPACT OF BIG DATA ON ETC AND FOR EXPRESSWAY MANAGEMENT

FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS
MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: Hiroyuki Kumazawa, Osaka Sangyo University, Japan
EU-TP0046 The Electronic Toll Collection in the Czech Republic 9 years success
Karel Feix, Kapsch Telematic Services, Czech Republic
AP-TP0305 Field experiment of distribution support using ETC 2.0 probe data
Tatsuyuki Negishi, National Institute for Land and Infrastructure Management, MLIT, Japan
AP-TP0327 Study of resting behavior on inter-urban expressways using ETC2.0 probe data
Shoichi Hirai, Nippon Expressway Research Institute Company Limited, Japan
AP-TP0366 Effort to Improve the Service in Expressways by Utilizing Big Data
Yasushi Kimura, Nexco-East Innovation & Communications Company Limited, Japan
AN-TP0570 A platform for real-time operational decision support using a Cell Transmission Model
Andrew Hooper, Auckland Motorway Alliance, New Zealand

TP75 - MAXIMIZING SAFE NETWORK OPERATION

FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS
MEETING ROOM 216

Vehicle Network and Safety

Moderator: Risto Kulmala, Finnish Transport Agency, Finland
AN-TP0039 Effectiveness of wet weather pilot scheme on M1 (Sydney)
Quddus Wazirzada, Roads & Maritime, NSW Government, Australia
AP-TP0400 System which detects persons entering the expressway by using an infrared camera
Kazuhisa Kojima, East Nippon Expressway Company Limited, Japan
AN-TP0420 Alcohol interlocks - a national approach
Peter Giggins, Transport Certification Australia Limited, Australia
AN-TP0469 Exploring ITS Enhancing Safety in Road Construction
Alexander Chapman, Lend Lease Services, Australia
AN-TP0470 The Necessity of a F.I.T. Intelligent Transport System
Alexander Chapman, Lend Lease Services, Australia
### TP76 - ROAD USER CHARGING 2

**Friday 14 October 2016, 0830 – 1000 Hours**

#### Smart Cities and New Urban Mobility

**Moderator:** Carl Anderson, USDOT, United States

- **AP-TP0134** VPS (Vehicle Position System) with Bluetooth Beacon Technology  
  JJ Fan, YDT Technology International Co. Ltd., Chinese-Taipei

- **AP-TP0381** Verification of the GNSS Positioning Accuracy and sky view factor  
  Masayuki Yagi, Nippon Expressway Research Institute Company Limited, Japan

- **AN-TP0564** Applications of 5G mobile communications for road user charging  
  Shannon Crum, D’Artagnan Consulting, United States

- **AM-TP0585** Road Usage Charging Systems: Five Approaches to Ensuring Personal Privacy Protection  
  Jeff Doyle, D’Artagnan Consulting, LLP, United States

- **EU-TP0646** Accuracy of Smartphones for GNSS Road User Charging  
  Ola Martin Lykkja, Q-Free ASA, Norway

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### TP77 - ROADSIDE ITS INFRASTRUCTURE

**Friday 14 October 2016, 0830 – 1000 Hours**

#### Smart Cities and New Urban Mobility

- **AP-TP0198** Degree of Saturation by the traffic-monitoring camera sensor system  
  Yoshihiro Sakamoto, OMRON Social Solutions Co., Ltd., Japan

- **AP-TP0281** Design and Evaluation of Automatic Road Surface Mapping System using Kinect Sensor  
  Yuki Chin, Tokyo University of Science, Japan

- **AN-TP0316** Transitioning to Full Colour Variable Message Signs  
  Peter Bathgate, Resolvegroup, New Zealand

- **AN-TP0446** Renewing existing Variable Message Signs in an emerging connected vehicle technology era  
  Andrew Causley, Queensland Department of Transport and Main Roads, Australia

- **AN-TP0566** FDS Test Site development  
  Robin Marston, VicRoads, Australia

- **EU-TP0720** Digital Management Dashboard - Managing the Scottish Road Network  
  Graeme Scott, IBI Group, United Kingdom

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### TP78 - POLICY, STANDARDS AND HARMONIZATION - GOVERNMENT ROLE IN REALIZING SUSTAINABLE OUTCOMES 2

**Friday 14 October 2016, 0830 – 1000 Hours**

#### Policy, Standards and Harmonisation

**Moderator:** Takaaki Sugiura, Mitsubishi Research Institute, Inc., Japan

- **AP-TP0097** Transport Engineering into the future – ripe for disruption?  
  Philip Blake, Department of Planning, Transport and Infrastructure, South Australia, Australia

- **AN-TP0174** Better Business Outcomes through ITS  
  Stephen Griffith, Resolve Group, New Zealand

- **AM-TP0516** Advanced technologies & challenges to public transportation agencies  
  Navin Nageli, Navjoy Consulting Services, Inc, United States

- **AN-TP0523** Public Resistance to innovation — behavioural reasoning perspective for road charging  
  John Opiola, D’Artagnan Consulting, LLP, United States

- **AM-TP0527** The Policy Imperative: A Comparison of Distance-Based Charging in California and Oregon  
  Travis Dunn, D’Artagnan Consulting, United States
TP79 - V2I FOR AUTOMATED DRIVING

FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Tim Leinmueller, DENSO AUTOMOTIVE Deutschland GmbH, Germany

AM-TP0413 Development of Vehicle-to-Infrastructure Safety Applications in the United States
Carl Andersen, U.S. Department of Transportation / FHWA, United States

AM-TP0556 Using communications to improve the performance of road vehicle automation systems: automated merging
Steven Shladover, University of California, Berkeley, United States

EU-TP0639 Cooperative infrastructure in closed test track for traffic monitoring and safety enhancement
Marcos Pillado, Applus+ IDIADA, Spain

AN-TP0657 Soft Vehicles, Soft Roads, Soft Transport
Scott Benjamin, WSP | Parsons Brinckerhoff, Austroads, Australia

AM-TP0701 Large-scale Evaluation of CV Applications using Analysis, Modeling and Simulation Testbed
Raj Kamalanathsharma, Booz Allen Hamilton, Inc., United States

TP80 - VEHICLE LOCALIZATION AND NAVIGATION

FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 208

Automated Vehicles and Cooperative ITS

Moderator: John Funny, Grice Consulting Group, LLC, United States

AP-TP0063 A simple Car Navigation algorithm (Case study Tehran city, a Comparative Study)
Ehsan Barjasteh Askari, Iran University of Science and Technology, Iran

AP-TP0387 Cooperative Relative Positioning Scheme for V2X Safety Application
Lei Du, Research Institute of Highway, Ministry of Transport, P.R.C., China

AP-TP0507 Evaluation of accuracy and availability of GNSS Satellite-Based Augmentation Services in Thailand
Monsak Socharoentum, National Electronics and Computer Technology Center, Thailand

AP-TP0522 Vehicular Localization Using Traffic Sign Information and GNSS
Tomotaka Nagaosa, Kanto Gakuin University, Japan

AP-TP0536 Road network management – moving towards road capacity management
Hany Eldaly, Mobility as a Service | Australia, Australia

TP81 - TRANSIT RIDERS AND BICYCLES, ENHANCING THEIR EXPERIENCE USING DATA

FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: Mads Gaml, City of Copenhagen, Denmark

AM-TP0320 Fully Convolutional Neural Detector for Real-time Pedestrian Detection using Deep learning
Min Young Kim, Panasonic Corporation, United States

AP-TP0404 Application of Wireless Power Transfer System for Sensor Devices on a Bicycle
Osamu Maeshima, Iwate Prefectural University, Japan

EU-TP0612 Passengers’ data to measure perceived impact of schedule deviation in public transit
Frédéric Roulland, Xerox Research Centre Europe, France

AP-TP0658 Seamless, personalised transport notifications: machine learning for disruption notifications
Matt Low, Arup, Australia

TP82 - OPTIMAL NETWORK MANAGEMENT 1

FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 216

Vehicle Network and Safety

Moderator: Trevor Platt, Nicander, United Kingdom

AP-TP0078 Development of Traffic Management System Using Uplink Data
Shinya Adachi, Vehicle Information and Communication System Center, Japan

AP-TP0127 Next service with WIM for the sustainable expressway operations
Akihumi Shimatuku, Central Nippon Expressway Company Limited, Japan

EU-TP0247 Creating a national framework for traffic management aid system
Jeremie Bossu, Cerema/DTeC/IM, France

AP-TP0331 The effective control method for over-weight heavy trucks using toll charging devices
Hideki Takahashi, Central Nippon Highway Engineering Nagoya Co., Ltd., Japan
TP83 - ROAD USER CHARGING 3
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 217

Smart Cities and New Urban Mobility
Moderator: Eddie Lim, NCS Pte. Ltd., Singapore
AN-TP0203 Implementing an electronic road user charges solution
Nina Elter, EROAD, New Zealand
AM-TP0449 Untangling environmental and roadway revenue policy
Matthew Dorfman, D’Artagnan Consulting, United States
EU-TP0531 Open RUC systems - are PPPs for the past?
LeighFisher, Scott Wilson, United Kingdom
AN-TP0547 The Road Pricing Solution: Turning Theory into Practice
Michele Huey, Transurban, Australia
AP-TP0550 Build a configurable, extendible, scalable and cloud based Road User Charging System
Miao Guo, IBM, Singapore

TP84 - NETWORK TRAVEL MANAGEMENT
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 218

Smart Cities and New Urban Mobility
AP-TP0016 Data Feature Selection and Data Clustering Methods for Travel Time Prediction
Chi-Hua Chen, Chunghwa Telecom Co., Ltd., Chinese-Taipei
AP-TP0070 Merging FCD and detector data: testing and improving the new VICS algorithm
Thomas Riedel, Adaptive Traffic Control AG and Verkehrs-Systeme AG, Switzerland
AP-TP0282 The Study of Long Distance Travel Time Prediction
Jinyuan Wang, National Chiao Tung University, Chinese-Taipei
AP-TP0295 Traffic Information Provision for Route Choice between Toll and Non-toll Roads
Ricardo Sigua, Institute of Civil Engineering, University of the Philippines, Philippines
AN-TP0438 Modelling Travel Time Reliability for Cost-Benefit Analysis of an ITS Initiative
David Shteinman, Industrial Sciences Group, Australia

TP85 - GENERATING TRAVEL INFORMATION VIA BLUETOOTH, ETC AND OTHER CROWD SOURCED DATA
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 104

Mobile Applications
Moderator: Richard Young, Beca, New Zealand
AP-TP0077 Wake-on-demand push notification system through Bluetooth low energy using an edge server
Tsuyoshi Takahashi, Iwate Prefectural University, Japan
AM-TP0091 Using Bluetooth Low Energy Technology to Trigger In-Vehicle Messages at Workzones
Chen-Fu Liao, University of Minnesota, United States
AP-TP0184 Arterial travel time estimation system using electronic toll collection transponders
Pei - Jung Lu, Chunghwa Telecom Laboratories, Chinese-Taipei
AP-TP0330 Delivery of travel time information by using Bluetooth technology
Hisanaga Sato, Central Nippon Highway Engineering Tokyo Company Limited, Japan
AN-TP0554 Real-time travel time information using crowdsourced data
Manish Gupta, NSW Roads and Maritime Services, Australia
TP86 - POLICY, STANDARDS AND HARMONIZATION - ITS POLICY ROADMAP, GOVERNMENT AND INDUSTRY PERSPECTIVE

FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 102

Policy, Standards and Harmonisation

Moderator: Gummada Murthy, AASHTO

AM-TP0163 How Local Government Can Plan for Driverless Vehicles
Lauren Isaac, WSP | Parsons Brinckerhoff, United States

AN-TP0314 VicRoads ITS RoadMap - FIT in TIME by 2020
Kelly Dang, VicRoads, Australia

Sonia Arora, Institute of Urban Transport (India), India

AN-TP0395 Australia's National Telematics Framework
Gavin Hill, Transport Certification Australia (TCA), Australia

EU-TP0667 Updating and new perspectives for the design of Interoperable Transport Systems
Herve Philippe, Ministry of Ecology, France

EU-TP068 A harmonized approach towards National Access Points for Information Services in Europe
Ronald Jorna, Mobycon, The Netherlands

TP87 - V2X ENABLED AUTOMATED VEHICLE APPLICATIONS

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS
MEETING ROOM 207

Automated Vehicles and Cooperative ITS

Moderator: Sue Bai, Honda R&D Americas, Inc., United States

EU-TP0043 Environmental Impact Assessment of Automated Driving
Adrian Zlocki, ADAS, Germany

EU-TP0426 Performance simulations versus field trials at Bordeaux test site for COMPASS4D project
Louahdi Khoudour, CEREMA DTerSO, France

EU-TP0250 Sensor Safety for the European Truck Platooning Challenge
Bastiaan Krosse, TNO, The Netherlands

TP88 - AUTOMATED TRUCK PLATOONING

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS
MEETING ROOM 208

Automated Vehicles and Cooperative ITS

Moderator: Kimihiko Nakano, The University of Tokyo, Japan

EU-TP0394 The EcoTwin 2016 EU Truck Platooning Challenge Demonstrator
Gerardo Daalderop, NXP Semiconductors, The Netherlands

AM-TP0465 Evaluation and Testing of Driver Assistive Truck Platooning: Final Project Results
Richard Bishop, Bishop Consulting, United States

EU-TP0490 In-Vehicle Architectures for Truck Platooning: The Challenges to reach SAE Automation Level3
Tjerk Bijlsma, TNO, The Netherlands

EU-TP0515 Applying V2V for operational safety within cooperative adaptive cruise control
Ellen van Nunen, TNO, The Netherlands

EU-TP0594 Functional validation and performance assessment of automated truck platoons in controlled environment
Marcos Pillado, Applus+ IDIADA, Spain

TP89 - USING BIG DATA TO BETTER ASSESS AN AGENCY’S INFRASTRUCTURE AND ASSETS

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS
MEETING ROOM 209

Challenges and Opportunities of Big Open Data

Moderator: Mohit Sindhwani, Quantum Inventions Pte Ltd, Singapore

AM-TP0090 Data Collection and remote monitoring at remote intersections
Bill Sowell, Eberle De, United States

AP-TP0202 An approach for efficient inspection and repair-planning of ITS-facilities using mobile devices
Atsushi Edahiro, West Nippon Expressway Company Limited, Japan

AM-TP0504 Analysis of Sign Visual Condition from Mobile LiDAR Imaging and Digital Photologs
Kevin Heaslip, Virginia Tech, United States

AP-TP0678 Design of acoustic vehicle count system using DTW
Shigemi Ishida, Kyushu University, Japan
TP90 - OPTIMAL NETWORK MANAGEMENT 2

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS

MEETING ROOM 216

Vehicle Network and Safety

Moderator: Glenn Geers, ARRB, Australia

AP-TP0424 Ensure Nonstop IP Surveillance with an Optimized Industrial Ethernet Network
Ning-Chien Hsu, Moxa, Chinese-Taipei

AP-TP0439 Traffic Accident Hotspots Identification Based on Clustering Ensemble Model
Tao Gang, China

EU-TP0457 Dynamic trigger speed for vehicle activated signs
Diala Jomaa, Department of Computer Engineering, Dalarna University, Sweden

EU-TP0518 Smartsensor: A noticeable technology gap in highway management in Nigeria
Joshua Odeleye, Nigerian Institute of Transport Technology (NITT), Zaria, Nigeria

AP-TP0596 Smart Junction System for Safe & Smooth Driving with Connected Vehicles
Hiroki Saito, IHI ASIA PACIFIC PTE. LTD., Singapore

TP91 - ROAD USER CHARGING 4

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS

MEETING ROOM 217

Smart Cities and New Urban Mobility

Moderator: Takakazu Tsuji, Mitsubishi Heavy Industries, Ltd., Japan

AP-TP0050 Factors and Strategies for Successful Taiwan Freeway Electronic Toll Collection System Implementation
Edmond Chang, EDCPC, Inc., United States

AP-TP0055 A new approach to keeping a high-quality ETC service
Yotaro Nagai, West Nippon Expressway Company Limited, Japan

AP-TP0137 The current situation and development of Beijing’s traffic management
Hongji Du, Beijing University of Technology, China

EU-TP0391 Road User Charging: Improving Customer Services
Tim Gammons, Arup, United Kingdom

AN-TP0180 Considerations related to road pricing
John Gardiner, Transurban Queensland, Australia

TP92 - SAFETY THROUGH ITS AND QUEUE MANAGEMENT

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS

MEETING ROOM 218

Smart Cities and New Urban Mobility

Moderator: Akihisa Kawasaki, Panasonic Corporation, Japan

AN-TP0328 Queue Detection and Queue Protection algorithms - Automating motorway queue management
William Lee, Queensland Department of Transport and Main Roads, Australia

AN-TP0417 Can Significant investment in Managed Motorways be Justified?
John Gaffney, VicRoads, Australia

TP93 - KEEPING DRIVERS BETTER INFORMED USING MOBILE APPLICATIONS

FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS

MEETING ROOM 104

Mobile Applications

Moderator: Pino Porciello, TrustPoint Innovation, Canada

AP-TP0368 Provision of traffic and supporting information together affects tourist travel behavior
Masatoshi Sugita, Japan Road Traffic Information Center, Japan

AN-TP0414 Smart real time advisory and journey planning
David Scott, Wave Digital, Australia

AN-TP0577 Learnings from providing Traffic Information Services
Edward Beak, Department of Transport and Main Roads, Queensland, Australia

AP-TP0580 Development of Structural Equation Modeling for Media Preference Depending on Traffic Conditions
Hangeom Ko, Ajou Transportation Research Institute, Republic of Korea

EU-TP0719 The Traffic Scotland Information Service – Past, Present and Future
Graeme Scott, IBI Group, United Kingdom
COMMERCIAL SESSIONS

CP01 - ENVIRONMENTAL SUSTAINABILITY AND LOGISTICS

WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 101

Environmental Sustainability

EU-CP0248 The new 1Watt Technology to significantly reduce carbon footprint of traffic signals
Denis Philipp Hahn, Siemens AG, Germany

AP-CP0307 Study of Shanghai’s EV Parc Forecasting and Market Features Analysis
Xiaohua Ding, Shanghai Electric Vehicle Public Data Collecting Monitoring and Research Center, China

AN-CP0324 Managing City Logistics with MobileDOCK
Russell Thompson, The University of Melbourne, Australia

AN-CP0345 Electro-Mobility: It’s more than just the car; the big picture.
Lance Douglass, Visionstream, Australia

CP02 - SENSING AND HUMAN MACHINE INTERFACE

WEDNESDAY 12 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 101

Smart Cities and New Urban Mobility

Moderator: Glenn Geers, ARRB, Australia

AN-CP0058 Bluetooth Intelligence informs High-Value Decisions in the ITS and Investment Environment
Richard Young, Beca Ltd, New Zealand

EU-CP0385 HD-Maps as enabler for HAD
Oliver-Patrick Berger, Ibeo Automotive Systems GmbH, Germany

EU-CP0437 MARWIS takes off a load from drivers’ shoulders
Helena Wingert, Lufft, Germany

AP-CP0610 Application of COM Technology in Metro ISCS Development
Yong Yao Yang, Zhe Jiang Supcon Information Co.,Ltd., China

AP-CP0614 Evaluation and testing of diversity antenna with Bi-Directional Amplifier
Vaclav Mecerod, Alps Electric Co., LTD, Japan

EU-CP0704 Leveraging probe data to build and maintain up-to-date and accurate maps
Pieter Gillept-Vergauwen, TomTom Maps, Belgium

CP03 - MOBILITY AS A SERVICE AND CONNECTED ITS

THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS
MEETING ROOM 101

Smart Cities and New Urban Mobility

Moderator: Hany Eldany, Mobility as a Service, Australia

EU-CP0154 Aurora - the intelligent Arctic transport test ecosystem in Finland
Reija Viinanen, Fell Lapland Business Services, Finland

AM-CP0285 A Personal Autonomous Chair for Independent Mobility.
David Bruemmer, 5D Robotics, United States

AN-CP0560 A Thirty Year Journey - Carnegie Mellon University and Autonomous Vehicles
Emil Bolongaita, Carnegie Mellon University Australia, Australia

EU-CP0589 Developing Mobility as a Service model in Seinäjoki, Finland
Noora Salonen, Sito Oy, Finland

EU-CP0668 NAVYA
Christophe Sapet, Navya Technology, Villeurbanne, France

EU-CP0671 Yiläs Mobility as a Service (MaaS) Project
Antti Vehvilainen, Finnish Transport Agency, Finland
**CP04 - SAFETY 1**
**THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS**

**Meeting Room 101**

**Vehicle Network and Safety**

**Moderator:** Yu Sun, Sunsky International Ltd., Chinese Taipei

**EU-CP0042** Real-time safety alerts for severe weather and queue ends  
Nick Cohn, TomTom, The Netherlands

**AM-CP0110** Helios – A New Tool for Road Weather Awareness in Smart Cities  
Sheldon Drobot, Harris Corporation, United States

**AN-CP0473** Incident Detection and Virtual Variable Messaging using Bluetooth  
James Cox, Department of Planning, Transport and Infrastructure, South Australia, Australia

**EU-CP0725** A cost effective & proven traffic collision warning system  
Mark Schwartz, Global Traffic Technologies, United Kingdom

**AM-TP0734** What is Transportation Tech?  
Valerie Lefler, IGD, United States

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**CP05 - SAFETY 2**
**THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS**

**Meeting Room 101**

**Vehicle Network and Safety**

**Moderator:** Takeki Ogitsu, Gunma University, Japan

**EU-CP0402** Highways England Action Applications  
Graeme Scott, IBI Group, United Kingdom

**AP-CP0471** FleetRisk™ - The How and Why of Driver Behaviour™ Beyond GPS  
Michael Graham, Mercurien, Australia

**EU-CP0575** Smart Enforcement in Smart Cities  
David Montgomery, Siemens, United Kingdom

**EU-CP0600** Multi-Mode Traffic Enforcement  
Richard Middelmann, Vitronic Machine Vision Australia Pty Ltd, Australia

**EU-CP0726** EVP System Operating in a SCATS Based Traffic Regime in Doha Qatar  
Timothy Hall, Global Traffic Technologies, United Kingdom

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**CP06 - PUBLIC TRANSPORT**
**FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS**

**Meeting Room 101**

**Smart Cities and New Urban Mobility**

**AN-CP0188** The connected bus shelter – smart collaboration for a complex problem  
Murray Robertson, Downer, New Zealand

**AN-CP0309** Towards implementation of on-demand, multimodal, off-peak public transport  
Philip Kilby, NICTA and ANU, Australia

**EU-CP0484** Long range RFID for hands-free access to public transport  
Mahdi Mekic, NXP Semiconductors, Austria

**AN-CP0709** Enhancing urban productivity and liveability through integrated transport  
Sandrine Gaubert, Keolis Downer, Australia
CP07 - TOLLING AND EPAYMENT
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 101

Smart Cities and New Urban Mobility

AN-CP0140 Achieving accuracy in a high volume environment
Jean-Marc Genesi, Transurban, Australia

EU-CP0217 Mobile tolling services
Thomas Siegl, Kapsch TrafficCom AG, Austria

AP-CP0244 The New Parking Mobile APP “ParkPay”
Ling Yu Wu, YDT Technology International Co. Ltd., Chinese-Taipei

AM-CP0245 UTP ElecTraCop as a New Concept for ITS
Mikhail Molchanov, Matsur & Co., Inc., United States

AM-CP0590 Advanced Toll Back Office Using A Service Orientated Architecture
Bob Deiter, Cubic Transportation Systems (Australia) Pty Limited, Australia

CP08 - TRAFFIC MANAGEMENT
FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS
MEETING ROOM 101

Smart Cities and New Urban Mobility

Moderator: Mohsen Fadaee Nejad, Kapsch, Australia

AN-CP0027 THE ROLE OF ITS IN A MATURING TRANSPORT ENVIRONMENT
Gino Dompietro, Jacobs Group (Australia) Ltd, Australia

EU-CP0085 Traffic Management 3.0 – Progress towards Utopia?
Jeroen Brouwer, TomTom, The Netherlands

EU-CP0275 REAL TIME TRAFFIC MODELS AND SMART CITIES : VIENNA
Luca Paone, PTV Group, Italy

AN-CP0310 Upgrading Managed Motorways in a live environment
Hawkins John, Visionstream Pty Ltd, Australia

AN-CP0487 Enterprise Cloud Hosting cost model for Surface Transport Management
Kevin Moat, Cubic Transportation Systems, United Kingdom

AN-CP0731 ITS System Integration in congested Urban Environments
Timothy Scott, SICE PTY Ltd, Australia
ISO1 – ITS TECHNICAL INTERACTIVE SESSION 1

Moderator: Mohit Sindhwani, Quantum Inventions Pte Ltd, Singapore

EU-TP0084 Privacy in a fast evolving Location Technology Industry
Jeroen Brouwer, TomTom, The Netherlands

AP-TP0321 Definition and Use of Autonomous ITS
Choi Yoon-Hyuk, Korean Expressway Corporation, Republic of Korea

AP-TP0323 Roles of the Road System in Assisting Autonomous Driving
Choi Yoon-Hyuk, Korean Expressway Corporation, Republic of Korea

AP-TP0405 Intelligent in-vehicle air quality management dealing with traffic air pollution
Wei Sun, IBM Research, China

AP-TP0428 A study on post-trip multi-modal information provision
Shinji Tanaka, Yokohama National University, Japan

EU-TP0583 Traffic Lab Finland - Creating PPP-ecosystem for Digital Mobility Services
Anders Granfelt, Tafi of Finland, Finland

EU-TP0613 Dynamic scheduling through mobile based location advisory services of African informal transportation
Obakeng Morapeli Matlhoko, Afta Robot Platform Systems, South Africa

AP-TP0655 Characteristics of travel time variability in congested traffic
Hyungjoo Kim, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea

ISO2 – ITS SCIENTIFIC INTERACTIVE SESSION 2

Moderator: Tim Gammons, Arup, United Kingdom

AN-SP0093 Estimating delay reduction associated with bus priority measures using kinematic wave theory
Long Truong, Institute of Transport Studies, Monash University, Australia

AP-SP0100 Genetic Algorithm for Functional Areas Layout in Logistics Park Combining Traffic Organization
Yuanfa Gao, Tongji University, China

AP-SP0101 An Investigation and Analysis on Actual Performance of Old RSE for DSRC
Byung Hwa Kim, Korea Institute of Civil Engineering and Building Technology (KICT), Republic of Korea

AP-SP0182 Design of Microscopic Traffic Stimulation System for Highway Toll Station
Ning Chen, Beijing University of Technology, China

AP-SP0238 Intersections’ level of service evaluation using smart card data in Singapore
Xiaodong Liu, Tum Create Ltd., Singapore

AM-SP0266 Artificial intelligence based station-level rail transit ridership forecasting using smart card data
Yue Liu, University of Wisconsin-Milwaukee, United States

AP-SP0294 A Model for Hotspot Identification Based on Citizen Participation and Its Assessment
Younshik Chung, The Korea Transport Institute (KOTI), Republic of Korea

AP-SP0602 A Complete Public Transport Route Choice Model from Origin to Destination
Rui Tan, National University of Singapore, Singapore

AN-SP0605 Multi-sensor detection of pedestrian position and behaviour
Stewart Worrall, ACFR, Australia
ISO3 – ITS TECHNICAL INTERACTIVE SESSION 3
THURSDAY 13 OCTOBER 2016, 1100 – 1230 HOURS

Moderator: Marianne Robertson, VicRoads, Australia

EU-TP0079 Case-based Reasoning for Alpine Road Operation Support
Jo Skjermo, SINTEF, Norway

AN-TP0132 Autonomous Vehicles: past, present and future implications
Saeed Asadi Bagloee, Melbourne University, Australia

AN-TP0171 Creating smart drivers for New Zealand’s first smart motorway
Philippa Ross-James, Fletcher Construction, New Zealand

AP-TP0183 Design of Pedestrian Stimulation System for the Metro Junctions by Cellular Automaton
Wang Han, Beijing University of Technology, China

AP-TP0199 Improved Traffic Simulation Method for Congestion Reproducibility
Hiroko Mori, Aichi Shukutoku University, Japan

AM-TP0267 The Critical Importance of Infrastructure in the Connected Vehicle World
Timothy O’Leary, Iteris, Inc., United States

AP-TP0288 Development of design guidance of highway intelligent transportation system of Taiwan
Tien-Pen hsu, National Taiwan University, Chinese-Taipei

AP-TP0322 Geo-registration of Aerial Images for Grasping Road Situation
Rei Kojima, Shizuoka University, Japan

AP-TP0339 Registration of oblique aerial images in mountainous areas using DEM
Kota Suzuki, Shizuoka University, Japan

EU-TP0526 Automation control and acceptance on construction and maintenance works of highways constructions
Sadykov Ayrat, Ministry of transport and road economy of the Republic of Tatarstan, Russia

ISO4 – ITS TECHNICAL INTERACTIVE SESSION 4
FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS

Moderator: Jeff Sharp, Downer Group, Australia

AP-TP0131 A detection and analysis of elderly’s street-crossing behaviour for walking safety at non-signalized crosswalks
Jeong Ah Jang, Ajou University, Republic of Korea

AP-TP0186 A framework to forecast long-term bus travel time in urban areas
Eunmo Gu, Korea Advanced Institute of Science and Technology(KAIST), Republic of Korea

AP-TP0215 A study on roadside antenna of three lanes MLFF-ETC using single frequency
Masashi Takeda, Aoyama Gakuin University, Japan

EU-TP0401 A user centric development of a handheld DSRC transceiver
Øyvind Standal, Q-Free ASA, Norway

AP-TP0403 Channel Measurement of Infrastructure-to-Vehicle Image Sensor Communication
Masayuki Kinoshita, Nagoya University, Japan

AN-TP0467 Software-in-the-loop simulation as testing and visualisation framework for ITS algorithms
Johan Philips, KU Leuven, Belgium

AP-TP0478 Developing the Traffic Data Acquisition Technology Based on Multi-Output Traffic Axle Sensors
Sang Hyup Lee, Korea Institute of Construction Technology, Republic of Korea

AP-TP0592 Motorcycle Crash and Management System in Korea
Jisun Lee, The Korea Transport Institute (KOTI), Republic of Korea

AP-TP0601 Analysis of Elderly Cyclists at Intersections and Proposal for Enhancing Traffic Safety
Koji Suzuki, Nagoya Institute of Technology, Japan
ENHANCING THE WORLD’S MOST LIVEABLE CITY

Rated the world’s most liveable city for an unprecedented six years in a row, Victoria’s capital Melbourne is the ideal location to explore the 23rd ITS World Congress theme ITS – Enhancing Liveable Cities and Communities.

Victoria offers diverse and innovative transport technology solutions from traffic software and communications, to route planning and scheduling, supply chain management, telecommunications infrastructure and smart car technology.

To learn more, please visit the Victorian Government Networking Function

TIME: 4pm-5.30 pm
DATE: Wednesday 12 October 2016
VENUE: Melbourne Convention and Exhibition Centre, Victorian Government Pavilion (Stand No. 1316 P)
MC01 - MELBOURNE CONVERSATION I - DRIVERLESS CARS AND ROAD SAFETY: WHAT WILL THIS MEAN FOR YOU?

WEDNESDAY 12 OCTOBER 2016, 1730 – 1930 HOURS (FOR 1800 START)  CLARENDON AUDITORIUM

No longer a science fiction movie stunt, driverless cars are now a reality. Companies like Google, Tesla, Audi and Mercedes-Benz have been testing driverless cars overseas for years. In November 2015, trials of driverless cars were conducted in South Australia. Within the next 5 years all new cars will have some ability to drive themselves. Join this informative discussion and find out exactly what this means for you, your city, and what’s ahead for the next generation of drivers.

How to Register:
Pre-registration via the City of Melbourne website is required. www.thatsmelbourne.com.au

MC02 - MELBOURNE CONVERSATION II - SMART TRANSPORT – SMART CITY: MAKING STREETS BETTER PLACES FOR PEOPLE

THURSDAY 13 OCTOBER 2016, 1200 – 1330 HOURS (FOR 1230 START)  EXHIBITION HALL AUDITORIUM

An increasing majority of us live, work and enjoy the city every day, putting pressure on infrastructure and resources. Much of this pressure comes from our transport requirements. How might intelligent transport systems contribute to a smarter city of the future, and help make our streets better places for people?

How to Register:
Included with existing ITS2016 delegate/exhibitor registration. Open to Public registration – is available on the congress website

MC03 - MELBOURNE CONVERSATION III - END OF CAR OWNERSHIP: HOW WILL WE GET AROUND?

FRIDAY 14 OCTOBER 2016, 1130 – 1300 HOURS (FOR 1200 START)  EXHIBITION HALL AUDITORIUM

We’ve all heard of the likes of Uber, Lyft, RideScout and MyTaxi apps – corporations investing billions in this exploding global transport service market. This shift from people owning cars to accessing different forms of mobility will be disruptive, even in scenarios where many of us choose to continue to own a car. Speakers will comment on the future of mobility and how companies and transport services can thrive in a changing market, suggest what the future of mobility, as a form of service, might look like and speculate on how will get around in a future Melbourne.

How to Register:
Included with existing ITS2016 delegate / exhibitor registration. Open to Public registration – is available on the congress website
TECHNICAL TOURS AND DEMONSTRATIONS

Option to attend the Technical Tours and Demonstrations programs are available to Full-Time and Day Registered Delegates. Bookings for the demonstrations are available via the congress app. If you wish to book to go on a technical tour please visit the registration desk to purchase tickets for available tours.

TECHNICAL TOURS

Buses will depart from the Clarendon Street end of the MCEC, unless otherwise indicated. Please arrive at this entrance 15 minutes prior to departure and wait inside by the designated signage for your escort to your bus.

Safety Precaution: Closed shoes must be worn for all tours.

Who Can Attend: Full-Time and Day Registered Delegates, pre-bookings and payment required. Tickets would have been provided with your name badge. Please have these ready as you board your bus.

Demonstrations and Technical Tour Lounge: Located in the exhibition hall near Door 10, here you can find the tour listing and bus schedule, as well as make any demonstration bookings. You should see staff at the Registration Desk in the main foyer to place new technical tour bookings and make a payment or cancellation.

Technical tours and demonstrations are subject to change and for the most updated information and schedules please download the congress app or visit the official congress website.

1. CityLink: Go behind-the-scenes at one of the world’s first fully electronic toll roads

   Join Transurban road managers to take an up close look at the workings of CityLink, one of Melbourne’s most sophisticated, fully managed motorways. Opened in 1999, CityLink was one of the world’s first fully electronic toll roads. Today, millions of trips are made across the 22 kilometre (14 mile) motorway each year. This tour will provide a unique opportunity to see first-hand the ITS systems and equipment in place across CityLink’s roadside network, operations, maintenance and in the Operations Centre.

   Organisation: Transurban

   Schedule:
   - Wednesday 12 October 2016: 1330 – 1700 hours
   - Thursday 13 October 2016: 1330 – 1700 hours

   Cost: AUD50 incl GST

2. EastLink is Melbourne’s Newest and Safest Fully Electronic Tollway: Operations, Traffic Control and Maintenance Facilities

   Opened in 2008, EastLink is Melbourne’s most recent fully electronic tollway. EastLink is 39km long and carries approximately 250,000 vehicles per day, with its design and operations making it the safest freeway in Melbourne. EastLink is also renowned for: twin 1.6km tunnels to protect an environmentally sensitive valley; 480 hectares of landscaping with 4 million native trees, shrubs and plants; wetlands that treat road run-off rainwater; distinctive architecture; public artworks and the EastLink Trail shared use path. This tour will include a drive on EastLink and through an EastLink tunnel, and a visit to the EastLink Operations Centre.

   Organisation: EastLink

   Schedule:
   - Wednesday 12 October 2016: 0830 – 1200 hours
   - Thursday 13 October 2016: 0830 – 1200 hours

   Cost: AUD50 incl GST

3. Smart Work Zones and the Construction of Managed Motorways

   This tour will provide an on road tour of Smart Work Zones in practice and presentation on the future direction of Smart Work Zones in the form of temporary ITS devices to manage traffic during roadworks and inform road users of travel conditions. Participants will also view a demonstration of the VicRoads Project Traffic Events Centre used to remotely manage major traffic events during roadworks construction, inspect temporary ITS devices and be provided a presentation on the construction of Managed Motorway works from development to commissioning.

   Organisation: VicRoads

   Schedule:
   - Tuesday 11 October 2016: 1330 – 1700 hours
   - Wednesday 12 October 2016: 1330 – 1700 hours
   - Thursday 13 October 2016: 0830 – 1200 hours
   - Friday 14 October 2016: 0830 – 1200 hours

   Cost: AUD50 incl GST

4. Managed Motorway Operation: Largest managed motorway network in Australia

   Melbourne operates 100km of managed motorways consisting of 76 metered ramps and is the largest managed motorway network in Australia carrying approximately 220,000 vehicles per day. This tour involves a trip along the Monash Managed Motorway experiencing the operation of Melbourne’s longest Managed Motorway. During the trip participants will be given the opportunity to experience and monitor the ramp metering operation using a customised tablet in real time, the opportunity to understand the University of Crete ramp metering algorithm parameters and operational functionality, including integration with the STREAMS freeway management system, freeway data stations, and the lane use management system, plus an overview of the dynamic speed limit algorithm used to control vehicle speeds along the managed motorway network to minimise flow traffic break down.

   Organisation: VicRoads

   Schedule:
   - Wednesday 12 October 2016: 0900 – 1230 hours
   - Thursday 13 October 2016: 0900 – 1230 hours

   Cost: AUD50 incl GST

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23rd World Congress on Intelligent Transport Systems 2016 Melbourne
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| **5** VicRoads Traffic Management Centre and using SmartRoads to Achieve Improved Network Performance** | VicRoads is the state's primary Road Authority and is responsible for the operation of approximately 22,000 km of declared roads in Victoria. The Melbourne metropolitan road network has around 3,500 km of arterial roads and approximately 1,800 km of major roads. VicRoads monitors the declared road network and has over 250,000 calls each year. This tour will provide insight into its operation, monitoring techniques, and various tools available to operators. VicRoads has also developed a smarter way to manage the increasing number of trips on roads so that Victoria remains a great place to live. 'SmartRoads' is an approach that manages competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day. By deciding which modes have priority on which roads, Melbourne's road network can work better for everyone. This tour will demonstrate how this works.  
**Organisation:** VicRoads  
**Schedule:**  
- Wednesday 12 October 2016: 1330 – 1630 hours  
- Thursday 13 October 2016: 1330 – 1630 hours  
**Cost:** AUD 50 incl GST |
| **6** Public Transport Control Centres – Yarra Trams and Metro Trains | Get an insight into Melbourne’s key metropolitan public transport control centres for metro trains and the world's largest tram network. Yarra Trams Operations Centre is based at Tram Hub, a 'depot for people' in the heart of the CBD. It brings the power and operations centres into the same room for the first time in 110 years of Melbourne’s electric trams. Controllers monitor 250 kilometres of double track – 75% of which is shared with motor vehicles – as more than 400 trams deliver 35,000 services each week. Trams operate 20 hours a day, with 24-hour services on six lines on weekends as part of the city’s Night Network. To improve customer service, a customer information team is based in the Operations Centre to provide real-time updates through digital and on-network channels. The centre handles more than 300,000 calls per year as Yarra Trams enables half a million passenger trips each day.  
**Organisation:** Public Transport Victoria  
**Schedule:**  
- Tuesday 11 October 2016: 1400 – 1700 hours  
- Wednesday 12 October 2016: 0930 – 1230 hours  
- Thursday 13 October 2016: 1400 – 1700 hours  
- Friday 14 October 2016: 0930 – 1230 hours  
**Cost:** AUD50 incl GST |
| **7** Port of Melbourne: Operations Control Centre and Hydrographic Survey Boat | Visit the Port Operations Control Centre which provides Melbourne Vessel Traffic Services (VTS). Melbourne VTS manages and coordinates safe and efficient movement of 3,000 vessel visits per year through the southern part of Port Phillip and the Heads. It also acts as a key focal point for incident and emergency of arterial roads and approach roads. Tour will take delegates onboard the survey boat to showcase the Dynamic Under Keel Clearance (DUKC) movements and demonstrate enhanced navigation safety and mitigate groundings risks within port channels. The hydrographic survey is important for anchoring, dredging, structure construction, pipeline and cable routing and fisheries habitat. Featured will be the multi-beam echo sounder technology in hydrographic survey to enhance navigation safety.  
**Organisation:** Port of Melbourne Corporation  
**Schedule:**  
- Tuesday 11 October 2016: 0930 – 1200 hours  
**Cost:** AUD50 incl GST |
| **8** Melbourne Port System Tour: Enhancing Future Freight Productivity with ContainerChain | Visit the Port of Melbourne’s Port Education Centre, located on the bank of Melbourne’s Yarra River. The purpose-built facility is one of the vantage points where visitors can experience a passing ship up close as backdrop during the overview briefing with regards to the application of Containerchain, a web-based software to manage park operations, enhance gate access efficiency and yard processes, eliminate vehicle congestion. See the recently launched the ‘eGate’ app for smartphones and tablets, connecting the container driver with empty container parks and other parts of container logistics supply chain operators. The site visit will demonstrate how future freight technology innovation developed by Melbourne companies, is providing the logistics efficiency solutions through online truck bookings, paperless gate control, automated truck arrival processing, automated container surveys, real-time container status management and forklift work allocation. Tour will also include an onsite visit to Melbourne’s newest container terminal site.  
**Organisation:** Port of Melbourne Corporation  
**Schedule:**  
- Tuesday 11 October 2016: 1400 – 1630 hours  
**Cost:** AUD50 incl GST |
| **9** Managing Traffic in an Airport Environment | With almost 33 million passengers a year, Melbourne Airport is the gateway for international and domestic air travel and is Australia’s second busiest passenger airport and leading air freight exporter. In order to meet the growing demand for air travel, AUD10 Billion will be invested over the next 20 years to expand and enhance the airport’s infrastructure. Melbourne Airport owns, maintains, and operates 32 km of road network, accessing two key freeways, in addition to operating 24,000 bay car parks. The ITS infrastructure and deployment at the airport is the solution to ensure the road network operates efficiently for more than 65,000 vehicles accessing the various passenger and freight cargo terminals each day, providing a key priority for the Parking and Ground Transport team. This tour will provide participants with a site visit of recent infrastructure developments at Melbourne Airport and discuss ways in which this airport is deploying the use of ITS solutions to improve the traffic flow within the airport environment.  
**Organisation:** Melbourne Airport  
**Schedule:**  
- Thursday 13 October 2016: 1330 – 1630 hours  
**Cost:** AUD50 incl GST |
| **10** Aerospace, Automotive and Manufacturing Laboratory Showcase at Royal Melbourne Institute of Technology (RMIT) | RMIT University is a global university of technology and design, focused on creating solutions that transform the future for the benefit of people and their environments. This tour will include a visit to cutting edge laboratory facilities, research and technology in Aerospace, Automotive and Manufacturing field at RMIT University. The Wackett Aerospace Research Centre is internationally renowned in aerospace related science and technology research and has a vast range of world class facilities including airspaces and flight simulators, unmanned aircraft and wind tunnels, whilst the Automotive and Green Engines Research Facility supports leading-edge experiments on propulsion and engine performance management and alternative fuels for advanced and more efficient internal combustion engines.  
**Organisation:** RMIT University, Bundoora Campus  
**Schedule:**  
- Tuesday 11 October 2016: 0830 – 1230 hours  
**Cost:** AUD50 incl GST |
Factory of the Future, Smart Structures and Research-Led Innovation at Swinburne University of Technology

Swinburne University of Technology supports innovative, leading-edge research with outstanding research facilities. This tailored tour will give you a behind the scenes look at Swinburne’s technology labs, including the only Smart Structures Research facility in the southern hemisphere, the Electric Vehicles development facility, the award-winning advanced manufacturing research facility, as well as the Aviation Lab and Flight Simulator.

Organisation: Swinburne University of Technology, Hawthorn Campus

Schedule: Thursday 13 October 2016 0830 – 1230 hours
Cost: AUD50 incl GST

Future Immersive Digital Environments for Transport and Collaboration, including the CAVE2, Woodside Innovations Centre and Institute of Rail Technology

This tour explores the future of immersive digital environments for Transport and Collaboration. Includes visit to The Monash CAVE2, an immersive hybrid 2D and 3D virtual reality environment, showcasing Monash’s leadership in the data visualisation domain, accelerating research across a range of disciplines including engineering, science and medicine. A visit to the Woodside Innovations Centre, focused on researching industry-wide technology innovation will demonstrate how big data, immersive analytics and rapid proto-typing are changing the industry. The tour also includes a visit to the Institute of Railway Technology (IRT), the premier track and vehicle railway research centre in Australia, and one of the main technology service providers to heavy haul railway operations.

Organisation: Monash University

Schedule: Tuesday 11 October 2016 0830 – 1300 hours
Cost: AUD50 incl GST

Telstra Customer Insight Centre – Gain, share and develop insights

Telstra is Australia’s largest telecommunications provider and the Telstra Customer Insight Centre is where you can gain, share and develop insights and experience a new way to engage customers, leading to more rewarding relationships. From the moment you enter the new Customer Insight Centre, you’ll find yourself immersed in an environment that takes collaboration to a completely new level, combining interactive spaces with the latest trends in innovation such as mobility trends, Internet of Things, Telstra Health, Connected Transport, Smart Home and Smart Cities. This tour will provide delegates with a deeper and more consultative understanding of how Telstra’s technology extends far beyond products and services.

Organisation: Telstra

Schedule: Thursday 13 October 2016 1430 – 1630 hours
Cost: AUD50 incl GST

Telstra Global Operations Centre - Central management of Telstra’s network across Australia

Telstra is Australia’s largest telecommunications provider. Officially opened in August 1999 and globally recognised as the first centre of its type, Telstra’s leading edge Global Operations Centre now manages the operation of Telstra’s fixed and mobile telecommunications networks, high speed internet options and broadcast television to support Telstra’s and customers’ diverse range of products and services, both domestically and internationally. Telstra’s Australian and international customers have access to more than 230 countries and territories via a network of interconnected digital gateway exchanges and major satellite earth station complexes. This tour will provide a unique opportunity to showcase the integration of future technologies.

Organisation: Telstra

Schedule: Thursday 13 October 2016 1000 – 1200 hours
Cost: AUD50 incl GST
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**POST-Congress:**

**Electronic Lane Control System (ELCS) on Sydney Harbour Bridge**

National Heritage Listed Sydney Harbour Bridge, known by the locals as the ‘Coathanger’, uses the Electronic Lane Changing System (ELCS) to control flow for eight lanes of bridge traffic. With more than 160,000 vehicle movements per day, the bridge is managed remotely from the TMC by dedicated SHB traffic controllers. ELCS integrates the use of electronic overhead signage, automatic movable medians and in-pavement lighting to adjust traffic direction an average of five times per day in four different configurations. Roads and Maritime Services led the design of the ELCS which uses German componentry and programmable logic controller operating on two new fibre optic networks with dual redundant servers. The ELCS system won the 2015 PACE Zenith innovation award for the Transport, Power and Infrastructure category. This tour will include visit and presentation in the Transport Management Centre and guided site visit to the bridge.

**Organisation:** Roads and Maritime Services NSW

**Schedule:** Monday 17 October 2016 1100 – 1500 hours

**Cost:** AUD50 incl GST – TOUR ONLY (travel to Sydney, accommodation and other costs are own arrangements and expense)

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**Multi-Modal ITS in Metropolitan Brisbane**

The tour will include visits to key transport research institutions (including the Queensland University of Technology), travel on road, tunnel and public transport networks to see ITS field deployments, and first-hand exposure to the operation of transport management centres in Brisbane. It will conclude with a reception event at Brisbane City Hall with keynote speakers. For half of the day, there will be two separate options to choose from: the traffic management option will include a bus trip around the Brisbane motorway network to see in action the technologies used to actively manage traffic and enable efficient, safe and informed journeys; or the public transport option which will provide a tour of state-of-the-art intermodal facilities at the Roma Street Station bus-rail interchange and the new rail control centre. Delegates will be shown real-time traveller information services and systems, and electronic payment technologies.

**Organisations:** Hosted by the Queensland Department of Transport and Main Roads and Brisbane City Council on behalf of the ITS16 Queensland Pavilion Consortium

**Schedule:**
- Monday 17 October 2016, 0900 – 1800 hours
  - **THE TOUR WILL COMMENCE AT THE RMS TRANSPORT MANAGEMENT CENTRE, 25 GARDEN STREET, EVELLEIGH (SYDNEY), NEW SOUTH WALES**
- Optional extra day, one-to-one meetings with local ITS experts: Tuesday 18 October 2016
  - **THE TOUR WILL COMMENCE AT MINERAL HOUSE, 41 GEORGE STREET, BRISBANE, QUEENSLAND.**

**Cost:** AUD50 incl GST – TOUR ONLY (travel to Brisbane, accommodation and other costs are own arrangements and expense)

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**PRE-Congress:**

**Heavy Vehicle Automation: New research and technologies for Road-Trains, B-Doubles and Prime Movers**

Developments in Prime Mover and trailers will be demonstrated on a 4.2-kilometre highway circuit with participants able to travel in the cabin of the vehicles on display. As well as new technologies there will also be Road Trains and B-Doubles operating, as the challenges for these larger vehicles are unique to Australian traffic conditions and pose particular problems for autonomous vehicle operation. New developments by Robert Bosch will be demonstrated with live displays on the 6.2 hectare skid pan of the Dynamic Handling Facility. Military vehicle developments will be demonstrated on the Vehicle Design and Validation area, adjacent to the highway circuit by Rheinmattell. The Australian Automotive Research Centre (AARC) at Anglesea in Victoria is Australia’s largest independently owned proving ground, covering 1,000 hectares and has over 100 kilometres of track of varying grades and surfaces, providing test facilities for many of the world’s leading automotive and defence businesses. A tour of the facility will include demonstration of vehicles operating in autonomous and semi-autonomous modes.

**Organisation:** Australian Automotive Research Centre (AARC)

**Schedule:** Monday 10 October 2016 0830 – 1500 hours

**Cost:** AUD50 incl GST – TOUR ONLY (travel to Melbourne, accommodation and other costs are own arrangements and expense)

**Schedule:** Monday 10 October 2016 0830 – 1500 hours

**The tour will depart and return from the MCEC.**

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**Post-Congress:**

**Electronic Lane Control System (ELCS) on Sydney Harbour Bridge**

National Heritage Listed Sydney Harbour Bridge, known by the locals as the ‘Coathanger’, uses the Electronic Lane Changing System (ELCS) to control flow for eight lanes of bridge traffic. With more than 160,000 vehicle movements per day, the bridge is managed remotely from the TMC by dedicated SHB traffic controllers. ELCS integrates the use of electronic overhead signage, automatic movable medians and in-pavement lighting to adjust traffic direction an average of five times per day in four different configurations. Roads and Maritime Services led the design of the ELCS which uses German componentry and programmable logic controller operating on two new fibre optic networks with dual redundant servers. The ELCS system won the 2015 PACE Zenith innovation award for the Transport, Power and Infrastructure category. This tour will include visit and presentation in the Transport Management Centre and guided site visit to the bridge.

**Organisation:** Roads and Maritime Services NSW

**Schedule:** Monday 17 October 2016 1100 – 1500 hours

**This is a Post-congress tour in Sydney, NSW**

The tour will commence at the RMS Transport Management Centre, 25 Garden Street, Eveleigh (Sydney), New South Wales

**Cost:** AUD50 incl GST – TOUR ONLY (travel to Sydney, accommodation and other costs are own arrangements and expense)

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**Multi-Modal ITS in Metropolitan Brisbane**

The tour will include visits to key transport research institutions (including the Queensland University of Technology), travel on road, tunnel and public transport networks to see ITS field deployments, and first-hand exposure to the operation of transport management centres in Brisbane. It will conclude with a reception event at Brisbane City Hall with keynote speakers. For half of the day, there will be two separate options to choose from: the traffic management option will include a bus trip around the Brisbane motorway network to see in action the technologies used to actively manage traffic and enable efficient, safe and informed journeys; or the public transport option which will provide a tour of state-of-the-art intermodal facilities at the Roma Street Station bus-rail interchange and the new rail control centre. Delegates will be shown real-time traveller information services and systems, and electronic payment technologies.

**Organisations:** Hosted by the Queensland Department of Transport and Main Roads and Brisbane City Council on behalf of the ITS16 Queensland Pavilion Consortium

**Schedule:**
- Monday 17 October 2016, 0900 – 1800 hours
  - **This is a Post-congress tour in Brisbane, QLD**
- Optional extra day, one-to-one meetings with local ITS experts: Tuesday 18 October 2016
  - **The tour will commence at Mineral House, 41 George Street, Brisbane, Queensland.**

**Cost:** AUD50 incl GST – TOUR ONLY (travel to Brisbane, accommodation and other costs are own arrangements and expense)
DEMONSTRATIONS

Demo bookings are made via the congress app

Places are strictly limited, and will be offered on ‘first come, first served’ basis.
There are 4 Demo Groups, which are available to Full-Time and Day Registered Delegates - there is no extra fee to book a demo.

GROUP A
ALBERT PARK PRECINCT DEMONSTRATIONS
Location:
Held at the Albert Park Precinct, accessed via a return bus transfer schedule, departing every 15 minutes from the MCEC bus pick-up point (located Hilton Hotel end of MCEC).
Bookings:
Bookings are required, places are limited. Bookings can be made in advance via the congress app, or onsite at the Demonstration and Technical Tours Lounge located in the exhibition hall.

GROUP B
BUS TRANSFER DEMONSTRATIONS
Location:
These are demonstrations that will be presented on the buses that transfer delegates between the MCEC and Albert Park Precinct.
Bookings:
Bookings are not required, simply hop on the bus displaying the demonstration you are interested in.

GROUP C
CAR PARK AT MCEC DEMONSTRATIONS
Location:
Demonstrations that will depart / return from demo vehicles that are located in the undercover MCEC car park. Accessed from Door 10 Exhibition Hall Concourse.
Bookings:
Bookings are required, places are limited. Bookings can be made in advance via the congress app, or onsite at the Demonstration and Technical Tours Lounge located in the exhibition hall.

GROUP U
UBIQUITOUS DEMONSTRATIONS
Location:
These are demonstrations featuring ubiquitous technology utilising deployed technology at various demonstration sites and other congress venues.
Bookings:
Bookings are not required, simply follow instructions on how to access the demonstration.

HOW TO BOOK A DEMONSTRATION
For Full-Time and Day Registered delegates, demo bookings are made via the congress app. Onsite bookings can also be done from the Demonstration and Technical Tour Lounge located in the exhibition hall. Places are limited.
DEMONSTRATIONS

ALBERT PARK PRECINCT DEMONSTRATIONS

Remote Parking and Automatic Stop with the Driver Monitor System
Organization: Aisin Group
Congress Theme: Cooperative and Automated Vehicles
Category most closely aligns with: Education, Research and Development
Overview Statement: Showcasing advancements in Automatic Stop to the Road Shoulder and Remote Braking
AISIN Group will contribute to the practical use of automated driving by driver sensing technology, navigation system technology and brake system technology. In Melbourne, AISIN Group will demonstrate a remote parking and automatic stop with the Driver Monitor System and the Dynamic Map. The linchpin of the 192 companies that make up the AISIN Group, Aisin Seiki produces and sells automotive parts. Building on technical expertise amassed in this field, the company is expanding into other areas such as lifestyle and energy-related products. AISIN AW is the world’s number one manufacturer of automatic transmissions. The company also produces car navigation systems and hybrid transmissions, and is committed to delivering cutting-edge products to our customers around the world. As a global supplier of brake systems, ADVICS develops and markets systems tailored to customer needs.
Demo Duration: Approximately 30 minutes
Bookings: This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

Bosch Highly Automated Driving Vehicle Demonstration
Organization: Robert Bosch Australia
Congress Theme: Vehicle and Network Safety
Category most closely aligns with: Education, Research and Development
Overview Statement: Today, efficient driver assistance systems are already helping drivers reach their destination in a safer, more relaxed manner. In the future, these systems will manage increasingly complex driving situations, assisting the driver and even acting independently. Each innovation brings us a little closer to accident-free, automated driving. Automated driving will change the future of mobility. There will be fewer accidents, fewer traffic jams and lower harmful emissions. The future of mobility will be connected, electrified and automated. Instead of driving the vehicle ourselves, we will gain time for other things, while the car safely transports us with little, or zero input. At the world class venue Albert Park Precinct, the home of the Melbourne F1 Grand Prix, Bosch will demonstrate a Melbourne built, Highly Automated Driving vehicle prepared with a particular focus on the UX (user experience), the benefit to the driver and the occupants. This will demonstrate the next incremental step towards self-driving vehicles becoming reality.
Demo Duration: Approximately 20 minutes
Bookings: This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

Shared Driverless Transportation for the Last Mile
Organization: EasyMile
Congress Theme: Smart Cities and New Urban Mobility
Category most closely aligns with: ICT Enabling Multi-Modal Transportation
Overview Statement: Shared Driverless Transportation for the Last Mile
EasyMile, a joint venture between Ligier Group, a vehicle manufacturer, and Robosoft, a high tech company specializing in services robotics, provides shared driverless transportation for the last mile in urban environment. By combining the expertise from both companies, EasyMile developed the EZ10, an electric driverless shuttle dedicated to smart mobility that is designed to cover short distances and predefined routes in mixed-use environments.
The EZ10 can transport up to 12 people (6 seating and 6 standing) and can also cater to passengers with reduced mobility. The electric driverless shuttle has no steering wheel and neither a dedicated front nor back. The EZ10 does not require additional infrastructure, and operates autonomously following a virtual line mapped and loaded in the software of the vehicle.
Demo Duration: Approximately 10 minutes
Bookings: This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

NXP’s V2X Technology Makes Melbourne’s Streets Smarter (Communicating Cars Demo)
Organization: NXP Semiconductors
Congress Theme: Smart Cities and New Urban Mobility
Vehicle and Network Safety
Cooperative and Automated Vehicles
Category most closely aligns with: Education, Research and Development
Overview Statement: NXP’s V2X tech makes streets safer
At Albert Park, NXP - together with Siemens, Marben, Chemtronic, Cohda and NTU - will showcase some of the latest automotive technology which is helping to drive the industry towards more intelligent, safer vehicles. Visitors will get to experience first-hand some of the innovations that will power the connected vehicles of the future. Live demonstrations from NXP and our partners include a number of in car features, such as V2X and green light optimized speed technology, designed to protect drivers, passengers and other vulnerable road users. NXP will demonstrate among all how V2V communications units ‘talk’ to other vehicles to let drivers know what other traffic is coming around corners as well as information about current road situations that could affect their journeys such as road works or accidents.
Demo Duration: Approximately 20 minutes
Bookings: This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.
**BUS TRANSFER DEMONSTRATIONS**

**B1**

**CO-GISTICS Open Roads Demonstration in Melbourne**

*Organization:* CO-GISTICS  
*Congress Theme:* Environmental Sustainability, Mobile Applications, Future Freight, Cooperative and Automated Vehicles  
*Category most closely aligns with:* Public Transport, Ports – Air and Sea  

**Overview Statement:**
CO-GISTICS will present its two services: Speed Advice (GLOSAY) and Cargo Transport Optimization. A G5 OBU is installed in the bus transfer shuttle between the congress venue and the Albert Park Precinct demonstration area. The application will be available to the driver and to the passengers through several smartphones. The OBU will recover traffic light information and will permit the display of Green Light Optimal Speed Advice. Four tablets will be available for people seated in the first rows of the bus to follow the different tools and advices that the driver receives in real-time. The tablets will also display Cargo Transport Optimization services created live through a transport order and a mission order on the Noscifel platform. The goal is to show all the administrative steps for the transport of goods: appointments summary, transport documents, traceability, geofence creation, CO2 footprint estimation.

**Demo Duration:** Approximately 20 minutes  
**Bookings:** Pre-bookings are not required for this demonstration. Please refer to the Demo Bus Schedule, Congress App and/or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

**B2**

**GALILEO, Ready for a Reliable Positioning for ITS**

*Organization:* Aerospace Valley  
*Congress Theme:* Mobile Applications  
*Category most closely aligns with:* ICT Enabling Multi-Modal Transportation  

**Overview Statement:**
A major breakthrough in ITS positioning techniques with Galileo is the demonstration of new commercial products that use Galileo key capabilities will be carried out during the whole ITS congress. The delegate transfer shuttle bus operating between the congress venue to Albert Park Demo Precinct will be equipped with several types of ITS-specific GNSS receivers that will show in real conditions the benefits of using Galileo to determine the position of the circulating bus.

In addition to this real conditions demonstration, visitors are kindly invited for a demonstration of the use of innovative Controlled Reception Pattern Antenna (CRPA) that takes a maximum benefit of Galileo new generation signals in order to remove the impact of signal reflections, particularly disturbing GNSS positioning performances in urban environment. These innovative techniques are particularly designed for ITS applications, and will for sure be seen as remarkable innovation in the way of using GNSS signals in the future.

**Demo Duration:** Approximately 20 minutes  
**Bookings:** Pre-bookings are not required for this demonstration. Please refer to the Demo Bus Schedule, Congress App and/or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

**B3**

**NXP’s V2X Technology Makes Melbourne’s Streets Smarter (Bus Demonstration)**

*Organization:* NXP  
*Congress Theme:* Smart Cities and New Urban Mobility, Vehicle and Network Safety, Cooperative and Automated Vehicles  
*Category most closely aligns with:* Roads and Tunnels  

**Overview Statement:**
On the delegate transfer shuttle bus operating between the congress venue to Albert Park Demo Precinct, NXP together with Marben, Chemtronics, Cohda and NTU, will showcase some of the latest automotive technology which is helping to drive the industry towards more intelligent, safer vehicles. Visitors will get to experience first-hand some of the innovations that will power the connected vehicles of the future. Live demonstrations from NXP and partners include a number of in-car features, such as V2X, RFID and green light optimized speed technology, designed to protect drivers, passengers and other vulnerable road users. NXP will demonstrate among all how V2V communications units ‘talk’ to other vehicles to let drivers know what other traffic is coming around corners as well as information about the type of vehicle and their speed. Furthermore the demo includes use cases to show how drivers can be alerted with up-to-the-minute information about current road situations that could affect their journeys such as road works or accidents.

**Demo Duration:** Approximately 20 minutes  
**Bookings:** Pre-bookings are not required for this demonstration. Please refer to the Demo Bus Schedule, Congress App and/or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

**B4**

**Q-Free ITS Station: Smart applications based on standard ITS messages**

*Organization:* Q-Free ASA  
*Congress Theme:* Environmental Sustainability, Policy, Standards and Harmonization  
*Category most closely aligns with:* Roads and Tunnels  

**Overview Statement:**
Visitors to the outdoor demonstration area will be able to learn about the capabilities of Q-Free’s Universal ITS Station. This enables two-way vehicle-to-vehicle and vehicle-to-roadside connectivity for Cooperative ITS applications. It is available in roadside and in-vehicle versions, and provides full hybrid, ETSI/ISO-standard communications.

On the delegate transfer shuttle bus operating between the congress venue to Albert Park Demo Precinct, a coach equipped with the Q-Free ITS station will showcase a representative selection of ITS applications, such as travel time, low bridge warning and road works. Q-Free has also equipped the road to the Albert Park demonstration area with roadside ITS stations. These SCATS-connected intersections will be broadcasting standard messages including SpAT/MAP (intersection map and traffic signal status), safety messages and service announcements. The interactive demonstration is live on the Web and accessible by smartphone, tablet or PC.

**Demo Duration:** Approximately 20 minutes  
**Bookings:** Pre-bookings are not required for this demonstration. Please refer to the Demo Bus Schedule, Congress App and/or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

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CAR PARK AT MCEC DEMONSTRATIONS

**C1** GPSless Positioning for V2X

**Organization:** Cohda Wireless

**Congress Theme:** Smart Cities and New Urban Mobility

**Vehicle and Network Safety**

**Cooperative and Automated Vehicles**

**Category most closely aligns with:** Roads and Tunnels

**Ports – Air and Sea**

**Overview Statement:**

GPSless positioning for V2X

In V2X systems vehicles determine their position using GPS. This information is then shared over 5.9 GHz with surrounding vehicles and infrastructure to deliver safety and mobility applications. In environments such as forests, urban canyons, parking garages and tunnels positioning via GPS is challenged or unavailable. In this Demonstration Cohda shows vehicles being positioned in an underground car park where GPS is not available. The vehicles position themselves and transmit messages containing GPS coordinates as if GPS was available. Only standard V2X hardware deployment and standard messaging over the air are employed. Participants will ride in the vehicles and observe the V2X system performing in GPS occluded environments.

**Demo Duration:** Approximately 30 minutes

**Bookings:** This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

**C2** Downtown Melbourne Challenge: Real-time localization and reference generation in urban traffic

**Organization:** Ibeo Automotive Systems GmbH

**Congress Theme:** Smart Cities and New Urban Mobility

**Vehicle and Network Safety**

**Cooperative and Automated Vehicles**

**Category most closely aligns with:** Roads and Tunnels

**ICT – Enabling Multi-Modal Transportation**

**Overview Statement:**

Real-time Localization and Reference Generation

This demonstration will present real-time localization of a vehicle in challenging urban scenarios where standard GPS localization is not possible. The technology will be mainly based on lidar-based perception that works in combination with digital maps collected a-priori. Online data will be obtained during the drive in addition to the localization results to show the online capabilities of the state-of-the-art perception system. In addition, reference data of the drive will be generated during an offline processing stage for evaluation and assessment purposes. The participants will get on the end of the drive a print out with all relevant information of the drive.

**Demo Duration:** Approximately 30 minutes

**Bookings:** This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

**C3** Emergency Vehicle Alert

**Organization:** Intelematics

**Congress Theme:** Vehicle and Network Safety

**Category most closely aligns with:** Roads and Tunnels

**Education, Research and Development**

**Overview Statement:**

At last, practical Emergency Vehicle Alerts

Safety for all road users is vital when emergency vehicles are attending an emergency. Soundproofing in modern cars, combined with in-car entertainment means a driver’s awareness of approaching emergency vehicles can be limited or non-existent, even when sirens and lights are in use. Emergency Vehicle Alert (EVACast) is the solution to that problem. It requires no special equipment in either the emergency vehicle or the car – a requirement that has hindered many previously proposed solutions. Using standard GPS in the emergency vehicle and a connection to their base station, combined with the EVACast geo-processing platform and an embedded app or smartphone in the car, a clear warning can be provided to road users. For such a system to be successful minimising false warnings is critical while ensuring an appropriate warning is provided when required. EVACast can use a number of sophisticated processing algorithms to ensure high reliability of warning messages.

**Demo Duration:** Approximately 30 minutes

**Bookings:** This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

**C4** Kapsch: Enabling Mobility

**Organization:** Kapsch TrafficCom Australia

**Congress Theme:** Smart Cities and New Urban Mobility

**Cooperative and Automated Vehicles**

**Mobile Applications**

**Category most closely aligns with:** Roads and Tunnels

**Overview Statement:**

Kapsch TrafficCom is demonstrating its Mobile Tolling application and V2X capabilities. The V2X showcase, on Melbourne’s roads and Transurban’s Toll Roads, is based on existing ETSI ITS G5 standards including the most recent specifications from the co-operative ITS corridor project ECo-AT (part of the European ITS corridor between Netherland, Germany and Austria). The seamless integration of V2X functionalities in DYNAC ATMS® (Advanced Traffic Management), a proven system environment, shows the easy management of V2I and I2V simultaneously. The demonstration includes the Harbour Esplanade, the CityLink and M1 Freeway. Along this path several Cooperative ITS use cases will be demonstrated, e.g. road works warning (RWW), in-vehicle information – speed limits, weight and dimension warnings, co-existence with 5.8GHz DSRC based Tolling and more.

The Mobile Tolling showcase demonstrates how mobile applications enhance the video toll performance in tolling systems and at the same time improve the journey experience on toll highways by offering an alternative tolling solution that is of particular interest to infrequent users. Along the CityLink toll road, the mobile tolling application informs the road user about entering and exiting the toll road as well as the incurred tolls.

**Demo Duration:** Approximately 20 minutes

**Bookings:** This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.
GPS Emergency Vehicle Pre-emption

Organization: Aldridge Traffic Controllers

Congress Theme: Smart Cities and New Urban Mobility
Vehicle and Network Safety

Category most closely aligns with: Roads and Tunnels

Overview Statement:
GPS Emergency Vehicle Pre-emption

Aldridge Traffic Controllers (ATC) in conjunction with Global Traffic Technologies (GTT) will be providing a field demonstration of the latest technology in Emergency Vehicle Pre-emption (EVP). The Opticom GPS EVP system utilizes satellite-derived GPS coordinates combined with a bi-directional radio which allows the vehicle to “handshake” constantly with the intersection to ensure EVP is only activated precisely when required. Legacy Infra-Red (IR) systems using direct line-of-site are subject to aging or degradation and require regular cleaning for optimal performance. All of the factors impacting IR systems are eliminated with GPS. The demonstration will be conducted in a small bus and commence at the intersection of City/Moray/Queensbridge and conclude after the Pedestrian Operated Signals of City near Fanning. The proposed demonstration will involve travelling along City Road twice, once without any Pre-emption activated and then with Pre-emption activated. This will demonstrate the reduced delay and travel time using EVP.

Demo Duration: Approximately 30 minutes

Bookings: This is a bookable demonstration – pre-bookings required. Please refer to the Congress App or the Demonstrations and Technical Tours Lounge located in the exhibition hall.

HMI Technologies “RouteTIP Bluetooth I2X” Demonstration

Organization: HMI Technologies Pty Ltd

Congress Theme: Cooperative and Automated Vehicles
Mobile Applications

Category most closely aligns with: ICT Enabling Multi-Modal Transportation

Overview Statement:
Bluetooth messaging from infrastructure to delegates

RouteTIP is a world first in intelligent transport systems, a state of the art communication channel for transport agencies, to make safer and more enjoyable journeys. Developed by HMI Technologies, a world leader in Intelligent Transport Solutions, the RouteTIP app is used by road users to receive alerts from beacons on roadside infrastructure such as street lights, bridges, or sign posts.

The innovative aspects of RouteTIP are numerous; beacons send simple, location-specific messages to the RouteTIP app on a smartphone, which works completely hands free, requiring no interaction from users. Messages include alerts about hazards and traffic congestion ahead, reminders of speed restrictions, journey time information and much more. RouteTIP users are able to subscribe to different information streams which ensure that they only receive information that they find relevant. Furthermore, RouteTIP guides consumers in their cars, on public transport, on a bicycle or simply on foot as pedestrians. RouteTIP is also an end to end solution for busy Airport environments; providing users with information such as optimal routes, detailed descriptions of facilities, travel time estimation between gates and flight details.

Unlike a majority of apps, RouteTIP does not rely on cellular data or GPS in its functionalities and is completely free and is operational even without a simcard. HMI designed RouteTIP with the intent of managing traffic after disasters - RouteTIP is compact and solar driven, and can continue to operate up to 9 days without a power source.

For the ITS World Congress in Melbourne, RouteTIP will be deployed at a number of locations, including Melbourne Airport, the Melbourne Convention and Exhibition Centre, Melbourne’s Southbank, Federation Square, Botanical Gardens, Arts Centre and Sports and Entertainment district. Messages will be transmitted to delegates’ smart phones, provided they have Bluetooth switched on and the app downloaded – see instructions below.

How to experience the HMI Technologies demo:
For instructions on how to access the RouteTIP Demonstration app, please click this link: www.routetip.com/worldcongress

This will take you to the HMI RouteTIP webpage for further instructions on how to download the RouteTIP app for Apple and Android users.

Once you have connected via your smartphone and have your bluetooth switched on, you will begin to receive messages from the 31 RouteTIP units deployed for the World Congress.

Please also visit HMI Technologies at Stand #1101 in the Exhibition Centre for a coffee and to discuss RouteTIP and our many other products.

Bookings: There are no bookings required for this demonstration – RouteTIP can be experienced 24/7 at all congress venues and selected locations around Melbourne. To experience the demo, refer to above instructions or visit the HMI Technologies stand in the exhibition hall – Stand #1101.
SAVE THE DATE!
19–22 June 2017
Strasbourg, France

Europe’s largest event in Intelligent Transport Systems and Services

www.itsineurope.com
GALA DINNER
Join us on a truly immersive dinner experience that will be a celebration of the eclectic and urban style Melbourne is famous for.
The journey will begin as a sit down dinner and as the evening unfolds dazzling spaces will come alive with magical wonder, mesmerizing music and enthralling entertainment.
Guests will be delighted by the humour and quick wit of MC James O’Loghlin. Entertainment will include the soulful sounds of one of Melbourne’s best jazz quartets. After dinner, stunning trio The Sapphires will thrill the audience with a sensational show featuring music from the original sisters of swing and soul, to the modern divas of disco and pop.
Coaches depart for the gala dinner from 1800 hours from the Melbourne Convention Centre porte cochere (the entrance near the DFO and Hilton Hotel).

SOCIAL EVENTS

WELCOME RECEPTION
Held in the Exhibition Hall, a short walk from the plenary auditorium, the welcome reception will be a chance to connect and catch up with colleagues from around the world.
Enjoy a glass of wine and some delicious local food from the region whilst being entertained by iconic Australian performers. Chat to larger than life Australian Football League (AFL) players and cricketers and be rescued by giant lifesavers. Be treated to a self-portrait by a world renowned caricaturist and be dazzled by vibrant lifesize flowers. You might even get the chance to meet Crocodile Dundee!

Date: Monday 10 October 2016
Time: 1730 – 2030 hours
Location: Exhibition Hall (MCEC)
Tickets: Included with Fulltime Registration, Accompanying Person and Exhibition Registration*. Additional tickets can be purchased from the registration desk.
*Not included in Exhibition Visitor and Day Registration passes.
Additional tickets: AUD80 per person (inc. GST)
Dress code: Business casual

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Coaches depart for the gala dinner from 1800 hours from the Melbourne Convention Centre porte cochere (the entrance near the DFO and Hilton Hotel).

Date: Thursday 13 October 2016
Time: 1830 – 2400 hours
Location: Peninsula at Atlantic
161 Harbour Esplanade, Docklands
Tickets: AUD198 per person (inc. GST)
Dress code: Business casual
ITS NATIONAL AWARDS PRESENTATION NIGHT DINNER

The National ITS Awards program is a major ITS Australia initiative to recognise professional ITS expertise and to raise awareness across all levels of government and community about the benefits of ITS technologies to our everyday lives. Join the World Congress Board of Directors, ITS Australia and over 250 industry professionals to celebrate achievements. Evening includes optional behind-the-scenes guided tour of special MCG highlights.

Coaches depart for the ITS Australia National Awards dinner from 1800 hours from the Melbourne Convention Centre porte cochere (the entrance near the DFO and Hilton Hotel).

Date: Friday 14 October 2016
Time: 1830 – 2330 hours
Location: Melbourne Cricket Ground (MCG)
Brunton Ave, Richmond
(Enter via Gate 6A)
Tickets: AUD242 per person (inc. GST)
Discounted rate for ITS Australia Members:
AUD198 per person (inc. GST)
Dress code: Business
AWARDS

WORLD CONGRESS HALL OF FAME AWARDS

The World Congress Hall of Fame Awards recognise the highest standards in achievement across Asia Pacific, the Americas and Europe in intelligent transport systems across Industry, Government and personal Lifetime Achievement. Recipients are selected annually from each region based on their leadership and performance.

The Lifetime Achievement Awards will be presented during the Opening Ceremony.

The Industry Awards will be presented during Plenary 1.

The Local Government Awards will be presented during Plenary 2.

LIFETIME ACHIEVEMENT AWARD

ASIA PACIFIC

2016 Dr Hiroyuki Watanabe, Former Chairman ITS Japan, Japan

With strong background in automobile research and development, Dr Watanabe exercised leadership in product design projects with innovative technologies at Toyota Motor Corporation for more than 40 years, such as electronic stability control, hybrid powertrain and fuel cell batteries. Since early days of Intelligent Transport Systems, he has played crucial roles as a thought-leader at the frontier of technological and social innovations with both precisely structured logic and ambition. Dr Watanabe presented the concept of integrated approach of policy, infrastructure, advanced vehicles, participation of general public and ITS technologies as enabler. He led a number of projects for automated vehicles, low carbon transportation and big data analyses. Dr Watanabe also reached out to global ITS community to share ideas and experiences to create inclusive society, together.

• 2015 Martin Matthews, Ministry of Transport, New Zealand
• 2014 Taro Ishi, Waseda University, Japan
• 2013 Chi-Kuo Mao, Executive Yuan, Chinese-Taipei
• 2012 Xiaojing Wang, National ITS Center, China
• 2011 Keung-Whan Young, Korea Institute of Transportation Systems, Korea
• 2010 Shoichiro Toyoda, Toyota Motor Corporation, Japan

EUROPE

2016 Professor Eric Sampson, Newcastle University and ERTICO – ITS Europe

Eric Sampson has consistently demonstrated qualities and achievements to the highest standard. He contributes in five areas: for the UK Government; as Professor at four universities; as the guardian of the context for Europe and World ITS Congresses; as a trusted advisor to 5 countries’ Ministers, EC Officials, and the European Parliament; and counselling and guidance for a worldwide network of contacts especially many junior players and students. Eric has made major contributions to the ITS World Congresses and is one of the few who have participated in every one. He continues his ITS mission as an advocate of the ERTICO mission, and the work it is doing.

• 2015 Richard Harris, Xerox, United Kingdom
• 2014 Heinz Sodeikat, AHS Management Consulting, Germany
• 2013 Risto Kulmala, Finnish Transport Agency, Finland
• 2012 Job J Klijnghout, Rijkswaterstaat, The Netherlands
• 2011 Monica Sudström, Swedish Transport Administration, Sweden
• 2010 Fotis Karamitsos, European Commission

AMERICAS

2016 Mr Kirk Steudle, Director, Michigan Department of Transportation, United States

Under the leadership of Kirk T. Steudle, the State of Michigan has deployed one of the largest Connected Vehicle programs in the United States, allowing researchers and consumers to learn and improve the technology. Steudle, director of the Michigan Department of Transportation (MDOT) since 2006, oversees the state’s vast multi-modal network, some 2,500 employees and a more than $4 billion annual budget. Steudle, a national leader in the development of Connected Vehicle Technologies, was the 2014-2015 Chair for the Intelligent Transportation Society of America (ITS America) Board of Directors. Director Steudle showcased Connected Vehicle programs and Michigan’s pioneering work by hosting one of the largest and most successful World Congress meetings in 2014, in Detroit. Mr. Steudle has served on the ITS America Board and numerous committees. Few people in the industry have done more toward advancing Intelligent Transportation Systems for the purpose of saving lives and reducing congestions.

• 2015 Mortimer Downey, Deputy Secretary, US Department of Transportation, United States
• 2014 Lyle Saxon, Federal Highway Administration, United States
• 2013 Harry Voccola, NAVTEQ, United States
• 2012 Gerry Conover, PRC Associates, United States
• 2011 William M Spreitzer, General Motors, United States
• 2010 Russell Shields, Ygomi LLC, United States

INDUSTRY AWARD

ASIA PACIFIC

2016 Taiwan High Speed Rail Corporation (THSRC), Chinese-Taipei

Taiwan High Speed Rail Corporation is the licensed entity with exclusive concession to own and run HSR Taiwan, which has been regarded as the largest BOT project of public transportation infrastructure over the world until now. THSRC has successfully self-developed innovative and created ‘the Smart Railway Services system’ (THSRC ITS SRS System), with its smart applications into high speed railway operations management, emergency management and passenger services. This Taiwan-style ITS SRS System has generated continual improvement in smart railway services operational efficiency and management, whilst improving passenger services particularly in ticketing systems, and providing innovative ‘real time’ operational information.

• 2015 Far Eastern Electronic Toll Collection Co Ltd, Chinese-Taipei
• 2014 Korea Expressway Corporation, Korea
• 2013 Transport Certification Australia, Australia

AMERICAS

2016 General Motors, United States

General Motors (GM) is being awarded for its revolutionary commitment to Connected Vehicle Technology Deployment across the United States. In September 2014, Chief Executive Mary Barra announced at the Detroit ITS World Congress the company’s commitment to Connected Vehicle (CV) technology, taking many in attendance by firestorm, and igniting the industry to push technology forward at a rapid pace. GM committed to producing vehicles off the assembly line in the 2017
model year equipped with DSRC technology, and that is on track to come true with the Cadillac CTS. GM continues their commitment to Connected Vehicles with active participation in Vehicle Research and Testing, Standards Committee (SAE J2735), active legislation (Michigan Senate Bills 169,663) and active participation with automobile consortiums. The internal expertise in CV technology makes GM a global leader in manufacturing vehicles to meet the needs of 21st century mobility.

- 2015 Qualcomm Technologies Inc and Honda R&D Americas, United States
- 2014 Streetline Inc, United States
- 2013 Ecolinote, United States

### LOCAL GOVERNMENT AWARD

**ASIA PACIFIC**

The Queensland Department of Transport and Main Roads vision is to create a single integrated transport network accessible to everyone. In a Queensland first, the Department has deployed a Real-Time Travel Information System (Real-Time) that provides accurate service information for public transport stops and stations across the TransLink South East Queensland network. The system uses on-vehicle 3G/GPS technology to track vehicles and combines timetable data with prediction logic to determine service departure times. This multi-modal service (bus, train and ferry) covers numerous local government jurisdictions and over 18 operators. Combined with the release of the MyTransLink mobile application, the Real-Time system has improved passenger information, allowing customers to make travel choices based on actual, not scheduled, travel times.

- 2015 Queensland Department of Transport and Main Roads, Australia
- 2014 Ministry of Transport, New Zealand
- 2013 Seoul Metropolitan Government - TOPIS, Korea

### AMERICAS

**2016 Michigan Department of Transportation, United States**

Michigan Department of Transportation (MDOT) is being awarded for its mobility efforts, working in partnership with automobile manufacturers and suppliers, universities and local agencies. MDOT has set a vision for a connected vehicle environment encompassing a large segment of southeast Michigan, centered along the freeway and surrounding arterial network in the metropolitan Detroit area. This corridor goes through the heart of Michigan’s automotive and technology development area, and links to several other connected vehicle Pilot deployments, including the USDOT’s test bed in Oakland County, a deployment in the City of Detroit, and the Safety Pilot Model Deployment / Ann Arbor Connected Vehicle Test Environment. Over many years of sustained investment, MDOT’s long term connected vehicle vision encompasses communities outside of the metropolitan Detroit area, resulting in “connected regions” and a “connected state”.

- 2015 British Columbia Ministry of Transportation and Infrastructure, Canada
- 2014 Mississippi Department of Transportation, United States
- 2013 Oregon Department of Transportation, United States

### EUROPE

**2016 City of Olsztyn, Poland**

Olsztyn (175,000 inhabitants) and capital of Warmia and Mazury Region in North Poland implemented a full ITS solution for its citizens. A traffic management centre opened, including 2 video walls and 10 station operators connected to several cameras at intersections. ITS solutions include information boards, 35 stationary ticket machines, 150 mobile machines and the city card. Olsztyn benefits from an ITS system that can be envisaged by numerous European cities. Knowing the difficulties for medium sized cities to implement holistic ITS solutions, the Polish city of Olsztyn can be regarded as a real ITS Hero.

Website: [www.its.olsztyn.pl](http://www.its.olsztyn.pl)

- 2015 AustriaTech, Austria
- 2014 Transport for London, United Kingdom
- 2013 Grand Lyon, France

### ITS AUSTRALIA NATIONAL AWARDS 2016

This year the Awards Presentation Night will be held on the last day of the congress and in conjunction with the World Congress Board of Directors Closing Dinner. Not only will it be a night to celebrate excellence in the Australian ITS industry, but also a night to celebrate the accomplishments of the 2016 ITS World Congress in Melbourne. A double celebration!

The National ITS Awards program is a major ITS Australia initiative. Winners will be announced at the Awards Presentation Night Dinner, Friday 14 October 2016, to be held at the Melbourne Cricket Ground (MCG) – see staff at the Registration Desk to purchase tickets.

### 2016 AWARD FOR BEST ACTION FOR SUPPORTING DIVERSITY IN THE ITS WORKFORCE

Award Presentation: Thursday 13 October, 12.30pm at the ITS Australia Networking Lounge.

An Award is provided to recognise the best action taken to promote the creation of an ITS workforce which reflects the clients and users of the ITS being supplied and managed. Depending on your location and your organisation, this will involve addressing various ratios including genders, ethnicities, ages, religious and sexual orientations. The Award is open to any organisation or individual anywhere in the world and is coordinated by ITS United Kingdom.
INTERNATIONAL BENEFITS, EVALUATION AND COSTS (IBEC) SESSIONS

INTERNATIONAL BENEFITS EVALUATION COMMUNITY (IBEC) WORKSHOP ON CONNECTED AND AUTOMATED MOBILITY

MONDAY 10 OCTOBER 2016, 1245 – 1545 HOURS
MEETING ROOM 205

MONDAY 10 OCTOBER 2016, 1515 – 1545 HOURS (for the Annual General Meeting)
MEETING ROOM 205

In addition to organising four sessions during the congress, IBEC is pleased to announce an IBEC special event in Melbourne on Monday 10 October. The event will include:

- Keynote Address
- Launch of the book Evaluation of Intelligent Road Transport Systems: Methods and Results, edited and authored by a number of IBEC members.
- Workshop by some of the book’s authors, looking at the evaluation of connected and automated vehicle initiatives.

Enquiries to IBEC Co-Chair Andrew Somers andrew.somers@transoptim.com.au

IBEC SESSION 1: DEVELOPMENTS IN BENEFITS, EVALUATION AND COSTS OF ROAD CHARGING

TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 204

Around the world, states, provinces and countries are examining and evaluating potential policy initiatives to change the way they pay for their transportation infrastructure to mitigate the decline in fuel tax revenues. Road charging is a funding mechanism where drivers pay to maintain roads based on the miles they drive, rather than the amount of fuel their vehicles consume. It sends the right price signals to drivers and directly helps them to first think about their trip and its cost impacts on themselves and others. Road charging recognizes that a city, a state, or indeed a country’s road network, is more than a series of individual roads. It is a complex network, where congestion problems (and mobility solutions) are always interlinked. Several recent and planned pilot projects provide participants a variety of manual and technological choices for reporting the miles they travel, as well as a choice for submitting real or simulated payments. This session will comprise speakers who are addressing declining revenues from fuel taxes – a major issue states/provinces/countries are wrestling with – by promoting road charging as a utility-based approach to paying for road usage.

IBEC SESSION 2: POTENTIAL BENEFITS OF MOBILITY AS A SERVICE AND WHAT IS ALREADY PROVEN?

TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS
MEETING ROOM 204

In the last couple of years several initiatives on “Mobility as a Service” (MaaS) have been undertaken around the globe. Within the MaaS concept transport services from public and private providers are promoted together as mobility packages for travellers. In this concept no one single mode (e.g. car usage) is the driver for mobility; rather mobility is the driver for single modes (e.g. having a mobility security to come from A to B). This concept would be based on a systematic change through a changed travel behaviour of people – from ownership of a vehicle towards ownership of mobility services. The first results from MaaS demonstrations and pilots are now available and will be discussed in this IBEC session. Questions will be posed such as: Are travellers willing to rely on mobility services instead of car ownership? What does a benefit-cost ratio look like for the single stakeholders – including travellers? Will sharing services promoted via MaaS led to a reduced need for public transport as well as for individual car ownership? Are there different expectations from travellers across the globe?
IBEC SESSION 3: EVALUATION OF CONNECTED AND INCREASINGLY AUTOMATED VEHICLES

THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS

Evaluating the impact of connected vehicles (cooperative ITS) presents unique challenges beyond the already complex world of ITS evaluation. Factors include additional stakeholders, multiple communication technologies and the possibility of implementing services in many different ways. As connected vehicles become increasingly automated the situation changes in ways that may be difficult to predict. Currently, there is a dearth of experimental data but “ex-ante” assessments to help determine investment priorities have been based on relevant data from elsewhere, hypotheses about impacts, and estimates from “expert judgement”. Such systems promise to: (i) improve traffic safety by reducing driver workload and minimizing human errors due to driver distraction or reduced vigilance; (ii) increase mobility through reduction of congestion; (iii) reduce vehicle emissions and fuel consumption; and (iv) provide individual, organizational and commercial productivity improvements. But, to what extent are these benefits likely to be realized? How will drivers actually behave and react? What new metrics and performance measures do we need to consider in deployment? Limited trials and pilots are now underway but we know that data will often be confounded. The session will explore, through examples and case studies, the challenge of evaluating the potential benefits of connected vehicles.

IBEC SESSION 4: EFFECTS OF AUTOMATED DRIVING TO REDUCE ACCIDENTS AND FATALITIES - THE COST/BENEFIT PERSPECTIVE

THURSDAY 13 OCTOBER 2016, 1600 – 1730 HOURS

Worldwide, the economic cost of road accidents and fatalities burdens the national budget (public economy cost) by billions of USD every year. In 2010 UN and IRF introduced a Decade of Action initiative with the ambition to half the number by 2025. One aspect with the potential to dramatically reduce fatalities, accidents and increase efficiency is implementation of automated driving (SAE Level 5).

Highly or fully automated cars and trucks require a new approach for evaluating benefits and costs, particularly for SAE Level 5 vehicles (full autonomous in all conditions without any driver). Level 5 vehicles promise to:

- (i) improve traffic safety
- (ii) increase mobility through reduction of congestion
- (iii) reduce vehicle emissions and fuel consumption and
- (iv) provide individual, organizational and commercial productivity improvements.

But to what extent are these benefits likely to be realized and when?

APEC SESSION

SPECIAL SESSION OF ITS-WC 2016 MELBOURNE: CROSS-LINKING APEC INTERNET OF VEHICLES SYMPOSIUM AND MMC 2016 EXHIBITION

FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS

Internet of Vehicles (IOV) are advanced applications including sensing, networking, computing and controlling which, without embodying intelligence as such, aim to provide innovative services relating to different modes of vehicles, road infrastructure, transport and traffic management and enable various users to be better connected virtually (V2V, V2R, V2S and V2X) and informed and make safer, more coordinated, and ‘smarter’ use of transport networks to improve traffic efficiency, reduce road accidents. It is defined that IOV is an integrated synergistic system in which information and communication technologies are applied in the field of road transport, holding vast knowledge of road and traffic data to assist in providing routing direction to minimizing the impact of road congestion and maximizing driving safety - all in real time, as well as for interfaces with other modes of transport.

Under the APEC framework, our project focuses on information technology, its broad applications on transport, road and vehicles and will accelerate the digital economy in the Asia-Pacific region as a subsidiary result. It was hoped to cooperate with APEC economies to promote the development of a complete IOV system, as well as a possible harmonized standards/regulations system in the future. This will dramatically promote the application of Intelligent Transport Systems (ITS) for vehicles, roads and infrastructure. The project develops solutions to road safety and transportation efficiency and a framework of measures for applying IOV in APEC economies; and to show the latest commercial and scientific achievements in ITS, ICT applications on vehicles and IOVs in a close collaboration with ITF-OECD, ITS-WC and IEEE. In addition, a number of APEC and non-APEC speakers will join this special session and share their achievement on IOV and ITS, including research agencies and governmental authorities such as: ITS-WC, ITF-OECD, IEEE, ISMG, CVTA, PASC, ISO System, WIPO, etc.
ASSOCIATED MEETINGS

The congress has developed a tradition of providing open informal sessions and workshops at which new or contentious issues can be discussed by anyone with an interest in that topic. These sessions and workshops are arranged by associated organisations, groups and high level partners to the 2016 World Congress.

Delegates with a Full-Time or Day Registration type are invited to attend these open meetings, unless specified otherwise.

ISO/TC 204 INTELLIGENT TRANSPORT SYSTEMS FORUM SECRETARIAT: UNITED STATES (ANSI) INTELLIGENT TRANSPORTATION SOCIETY OF AMERICA

SUNDAY 2 OCTOBER – FRIDAY 7 OCTOBER 2016

AOTEA CENTRE, AUCKLAND

The TC204 Forum will take place in Auckland, hosted by ITS New Zealand for the first time, and brings international experts of the technical committee together with the objective to progress recognised international standards for Intelligent Transport Systems.

The scope of ISO/TC204 is standardization of information, communication and control systems in the field of urban and rural surface transportation, including intermodal and multimodal aspects thereof, traveller information, traffic management, public transport, commercial transport, emergency services and commercial services in the intelligent transport systems (ITS) field. (Excluded: in-vehicle transport information and control systems (ISO / TC 22)).

ISO / TC 204 is responsible for the overall system aspects and infrastructure aspects of intelligent transport systems (ITS), as well as the coordination of the overall ISO work programme in this field including the schedule for standards development, taking into account the work of existing international standardization bodies.

ITS NEW ZEALAND SUMMIT 2016

WEDNESDAY 5 OCTOBER 2016

AOTEA CENTRE, AUCKLAND

Organisation: ITS New Zealand

Attend this year’s summit, an opportunity to gain perspective on ITS and sustainability of transport infrastructure. The ITS NZ Summit features presentations and panel discussions from NZ speakers and key members of the ISO TC204 working group. The event will attract over 150 ITS leaders and transport technology proponents from Asia Pacific and around the world. The annual one-day summit will feature respected international and local speakers.

To be held at the Aotea Centre in Auckland, the summit will feature updates and results from local and international projects, research findings and benchmarks for Intelligent Transport Systems, transport standards and safety.

FEDERATION OF EUROPEAN HIGHWAYS AND RESEARCH LABORATORIES (FEHRL) GENERAL ASSEMBLY

SUNDAY 9 OCTOBER 2016, 0900 – 1700 HOURS

CLARENDON ROOM A

Organisation: FEHRL

This is a coming together of representatives throughout Europe for a general meeting, it is usually held in Europe on conjunction with various conferences. Refreshments and lunch provided.

ITS SAFETY AND SUSTAINABILITY FOCUS GROUP

MONDAY 10 OCTOBER 2016, 0730 –1030 HOURS

MEETING ROOM 105

Organisation: ITS New Zealand and ITS Australia

The Sustainability and Safety in ITS Focus Group is an initiative by ITS New Zealand and ITS Australia, started in China during the 2015 ITS Asia Pacific Forum, to establish a new group to collaborate, and share information on sustainability and safety practices and experiences in ITS. The initiative had good support from many members and the following are founding ITS-related regions and organizations:
Inaugural Sustainability and Safety in ITS Focus Group:

1. ITS New Zealand
2. ITS Australia
3. China ITS Industry Alliance
4. ITS Finland
5. ITS Germany
6. ITS Korea/KOTI
7. ITS Norway
8. ITS Singapore
10. ITS Sweden
11. ITS Taiwan
12. ITS United Kingdom

Goals of the Sustainability and Safety in ITS Focus Group:

• Share information on areas / sectors / use cases where sustainability and safety practices have been used to improve safety and mobility.
• Promote the implementation of sustainable and safety practices to reduce casualties, improve mobility, efficiency and impacts on the environment.
• Share information and experiences in relation to better disaster management and recovery by the use of ITS.
• Share successes with participating nations.
• Reach out to and support new/potential members of the Group.

Invited presenters from across the globe will be present in Melbourne for the World Congress. Please join us by registering and we look forward to seeing you in October 2016. Breakfast provided.

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**AASHTO INTERNATIONAL DAY**

**MONDAY 10 OCTOBER 2016, 0800 – 1200 HOURS**

**MEETING ROOM 109**

**Organisation:** American Association of Highway Transportation Officials (AASHTO)

For more than a decade, beginning in Nagoya, Japan in 2004, AASHTO Day has taken place at the outset of the ITS World Congresses, attracting a wide array of outstanding speakers and participants to discuss the challenges and opportunities facing public agencies as they deploy technologies to transform our transportation systems. This year also AASHTO with support from USDOT is planning to hold the AASHTO International Day in conjunction with the 2016 ITSWC and seeking participation from around the world who might benefit from the presentations and subsequent conversations on Transportation Infrastructure readiness and integration of currently in place ITS with upcoming and emerging technologies including Connected Vehicle and Autonomous Vehicle and their associated impacts on Transportation Infrastructure operations. The topics to be covered are expected to pan over key policy, procedures and regulations needs and requirements to achieve this seamless infrastructure integration with technologies to offer a reliable transportation system. This is the 13th AASHTO Annual International Day Event.

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**FOT-NET DATA INTERNATIONAL WORKSHOP: DATA SHARING AND RE-USE IN FIELD OPERATIONAL TESTS**

**MONDAY 10 OCTOBER 2016, 0900 – 1530 HOURS**

**MEETING ROOM 103**

This workshop is organised in collaboration with the US Department of Transportation (DOT).

FOT-Net is a networking platform open to stakeholders interested in Field Operational Tests (FOTs). It was established in 2008 as a European Commission’s support action. FOT-Net meets periodically to tackle common working issues and foster cross-region cooperation. The three regions (Europe, Asia-Pacific and North America) cooperate on common FOT issues, such as data handling and sharing, methodology and deployment. The FOT-Net Data project operates the network activities during 2014–2016. Besides the networking, the main goal of the project is to make data collected in FOTs more widely available to researchers, public authorities and industry. FOT-Net Data therefor develops and promotes a framework for sharing data, including several guidelines, and creates a catalogue of available datasets and tools. It takes into account the pre-requisites necessary in the FOTs, such as legal agreements, to enable future re-use of data.

This workshop will focus practices and initiatives in data sharing and re-use for Field Operation Tests taking. The following points will be discussed:

• Successful stories and lessons learnt from data sharing and re-use (mainly from EU and US)
• FOT-NET Data achievements in supporting data sharing (2014-2016)
• Future challenges and exploitation of the current available platform (Data catalogue – EU; RDE - USA)
• How to support international collaboration?
• How the next EC funded H2020 projects (e.g. for automated vehicles) in Europe will tackle the issues of data sharing and reuse?

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**COMMITTEE FOR MELBOURNE**

**MONDAY 10 OCTOBER 2016, 1100 –1230 HOURS**

**MEETING ROOM 105**

**Organisation:** Committee for Melbourne

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**SPATIAL WORKSHOP – LOCATION TECHNOLOGIES FOR ITS**

**TUESDAY 11 OCTOBER 2016, 1100 –1230 HOURS**

**MEETING ROOM 109**

**Organisation:** Spatial Industries Business Association (SIBA)

SIBA members will run a workshop on Location Technologies and how they are an essential part of Intelligent Transport Systems.
ITS/ICT have the highest impact on flow of user information. User information originates from the information provider and needs to be delivered to the end user via ITS/ICT infrastructure. It is critical to properly design the communication infrastructure but more importantly to identify critical nodes and interchanges so user information gets delivered in real time. The meeting will discuss the concept of truly user-centric transport (using ITS) that offers integrated door-to-door journeys and seamless flow of information across all modes.

This specific focus session will be a unique opportunity for ITS leaders from the Asian region to gather and explore both the significant opportunities available from the deployment of ITS in developing countries as well some of the complexities and challenges. In some instances developing nations can leap frog to the latest technologies but in other instances limits to existing physical infrastructure can be a serious impediment. Make sure you join these key leaders to better appreciate the opportunities that lie ahead in Asia and strategies to overcome the challenges.

Welcome address, Hermann Meyer, ERTICO-ITS Europe
Session 1: Challenges that Ports are facing around the world
- Introduction to the Port of the Future Initiative, Lina Konstantinopoulou, ERTICO-ITS Europe
- Port of Hamburg, Germany, Sascha Westermann,
- Port of Fremantle, Australia, Michael Pal
- Port of Singapore, Singapore, Nelson Quek
- Port of Montreal, Canada, Daniel Dagenais

Session 2: Port of the Future technology trends
- Automation in containers, Luke Duffy, Container Chain
- Connected to the Digital Infrastructure in Ports, Ralf Willenbrock, T-systems
- Connecting roads to Ports – an example in the Netherlands, Serge Van Dam, RWS
- The role of Automated driving in Ports, Angelos Amditis, ICCS

Working towards a combined vision of the “Port of the future Initiative”
Technical Tour to the Port of Melbourne

Public and private sector organisations across Australia are working to integrate automated vehicles into the nation’s transport network to improve mobility choices for all Australians. Regulatory reviews are underway, legislative requirements and options are being assessed, changes in design rules and technical standards are being discussed and a diversity of vehicle trials are being implemented in many different environments. The impact on existing road infrastructure is a priority. This session discusses national co-ordination for the deployment and management of automated vehicles in an Australian context.

A truly integrated transport system for freight is the one that can operate synchronodally in end to end logistics. Synchronodal means: the optimally flexible and sustainable deployment of different modes of transport in a network so that the customer is offered an integrated and sustainable solution for his (inland) transport. Coordination of logistics chains, transport chains and infrastructure, is made in such a way that, given aggregated transport demand, the right mode is used at every point in time.
If you haven’t seen Australia’s spectacular West, this is the ARSC conference for you! The Australasian College of Road Safety (ACRS), Austroads, ARRB Group and Curtin Monash Accident Research Centre (C-MARC) invite you to attend the largest road safety-dedicated conference in the Southern Hemisphere. The 2017 Australasian Road Safety Conference (ARSC2017) will be held in Perth at the beautiful Crown complex from Tuesday to Thursday 10-12 October 2017.

With a theme of “Expanding our horizons”, ARSC2017 will showcase the regions’ outstanding researchers, practitioners, policy-makers and industry spanning the plethora of road safety issues identified in the United Nations Decade of Action for Road Safety: Road Safety Management, Infrastructure, Safe Vehicles, User Behaviour, and Post-Crash Care. ARSC2017 will bring with it a special focus on engaging all levels of government and community, from the city to the bush, to move Towards Zero. The comprehensive 3-day scientific program will showcase the latest research; education and policing programs; policies and management strategies; and technological developments in the field, together with national and international keynote speakers, oral and poster presentations, workshops and interactive symposia.

**WHO SHOULD ATTEND?**

ARSC2017 is expected to attract over 500 delegates including researchers, policing and enforcement agencies, practitioners, policymakers, industry representatives, educators, and students working in the fields of behavioural science, education and training, emergency services, engineering and technology, health and rehabilitation, policing, justice and law enforcement, local, state and federal government, traffic management, and vehicle safety.

**DESTINATION PERTH**

Perth is a beautiful contemporary city, set amidst the natural wonder of the picturesque Swan River and the world’s largest inner city park, Kings Park. It is also the gateway to the West’s iconic Margaret River wineries, white sand beaches, Rottnest Island with its unique quokka population, and bohemian ocean-side Fremantle. Now’s the time to plan that long-considered WA holiday!

**FOR MORE INFORMATION**

For more information on ARSC2017, past conferences, to submit your abstract, or to receive regular conference updates visit [www.australiasianroadsafetyconference.com.au](http://www.australiasianroadsafetyconference.com.au) or contact the Conference Secretariat on (08) 3383 1488 or ARSC2017@ecw.com.au

ARSC2017 also offers unique branding opportunities for organisations in road safety and injury prevention. See the website for further details.
STAKEHOLDER WORKSHOPS

THE FUTURE OF TRANSPORT - WILL WE USE CARROT, STICK OR MACHINE TO ENSURE GOOD BEHAVIOUR?

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS

**Policy, Standards and Harmonisation**

How we regulate all modes of transport has enormous impacts. Regulations need to be forward-looking and responsive. But in times of flux, such as when technologies are rapidly changing and disrupting established customs, it is impossible to plan for a predictable future. Instead we need to plan for different foreseeable, or possible futures. This session will draw on findings from the Ministry’s recent project ‘Transport Regulation 2025’ in which four plausible scenarios have been developed. The scenarios investigated the influence of two major drivers: technologies and social attitudes. There are a wide range of project findings for example; regulatory challenges and opportunities, implications for international reputation, regulatory style, enforcement, road safety and new regulatory objectives. Future ‘legislation’ has been developed for each scenario. The workshop will be an interactive session, where we will discuss how the scenarios could play out in different jurisdictions, the implications for future regulatory decision-making and possible tools and practices emerging from the findings.

UNLOCKING THE INSIGHTS IN YOUR BIG DATA WITH LOCATION-BASED ANALYTICS

TUESDAY 11 OCTOBER 2016, 1100 – 1230 HOURS

**Challenges and Opportunities of Big Open Data**

Big Data and open data systems house the potential to help us more effectively manage our urban transportation systems, however, transportation professionals can be overwhelmed by the sheer volume and complexity of real-time technology and other data systems.

Advanced location-based analytics – when applied to Big Data – can deliver context and reveal insights in transportation patterns, allowing professionals to better plan and manage our transportation systems. This session will discuss how transportation agencies can leverage the power of location intelligence to increase mobility and create more liveable and sustainable smart cities of the future.

INNOVATION IN TRAFFIC AND TRANSPORTATION MANAGEMENT

TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS

**Smart Cities and New Urban Mobility**

Join Microsoft, MasterCard, Cubic along with the NSW Dept. of Transport to hear how cloud computing, big data and real-time analytics are transforming urban transport in dramatic ways by giving cities the power to:

- gather all transport system information in one place
- map transport data with economic activity to better serve citizens
- draw on external data and passenger experiences

As a result, progressive cities around the globe are using this new technology to create dynamic, efficient and rider-friendly public transport systems.

Two of the biggest questions transport leaders face are:

- How do we get more people out of private cars and on to public transport?
- How can we empower commuters to make better transport decisions and influence their choices through the use of intelligent analytics and data.

In this 90 minute presentation and interactive panel discussion you’ll hear from the people behind the success stories and learn:

- how transport organisations from around the world are using traffic management systems, including analytics, predictive maintenance and on time arrival applications for rail, road and transport.
- how Microsoft, Cubic and MasterCard along with global transport organisations are succeeding with connected sensor, cloud and real-time analytics capabilities.
**ARCHITECTING INTERNET OF THINGS FOR SMART CITIES**

**TUESDAY 11 OCTOBER 2016, 1400 – 1530 HOURS**

**MEETING ROOM 105**

**Moderator**
Arpita Somani

**Speaker**
Mauro Favero

**Smart Cities and New Urban Mobility**

Cities are engines of innovation, prosperity and economic growth. Over the next 15 years, 65% of the global population will be living in cities. Learn how cities can monitor and integrate conditions of its critical infrastructures and better optimize its resources, plan its preventive maintenance activities, and monitor security aspects while maximizing services to its citizens.

**TRANSPORT ANALYTICS FROM THE TRENCHES, UNCOVERING INSIGHT FROM ACROSS THE INDUSTRY**

**TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 220**

**Moderator**
David Hanus, Transurban, Australia

**Speakers**
Wayne Harvey, VicRoads, Australia
Anthony Stewart, Singtel Optus Limited, Australia
Scott Benjamin, WSP | Parsons Brinckerhoff, Australia
Phil Allen, TomTom, New Zealand
Thor Essman, Versent, Australia
Mark Potter, VicRoads, Australia

**Challenges and Opportunities of Big Open Data**

Analytics and automation will be foundation capabilities that support transportation networks in the coming years. Timely use of information will be critical for transport decisions ranging from investments in new infrastructure, the route you or your autonomous vehicle take or when to safely schedule a maintenance activity and how to notify a range of transport consumers. In this workshop we will seek to explore the differences between analytics capabilities developed by a range of Operators, Road Authorities, Transport Service Providers and Telecommunications companies, how these platforms are configured, the use cases they are striving to solve and how can we integrate these platforms to improve insights for a broader transport ecosystem, what obstacles still need to be overcome in order to accelerate innovation and the delivery of benefits into the future.

**Discussion areas**

- Anatomy of the respective cloud analytics platform (arch overview)
- Data sources and how these are configured for linear or network assets
- Perspectives of the use cases we individually and collectively are trying to solve
- Refining transport analytics for the local context
- What problems do we think we will be able to solve more effectively if we collaborate into the future?
- What are prerequisites and enablers to enable greater information exchange, security, consistency and reliability of data etc into the future?

**REAL WORLD APPLICATION OF ITS STANDARDS**

**TUESDAY 11 OCTOBER 2016, 1600 – 1730 HOURS**

**MEETING ROOM 105**

**Moderator**
Andrew Mehaffey, Roads and Maritime Services, Australia

**Speakers**
Dick Schnacke, TransCore, United States
Achim Schade, TSE Consulting, Germany
Steven Shaw, Roads and Maritime Services NSW, Australia
Young-Jun Moon, The Korea Transport Institute, Korea
Tim Cooper, Skedgo, Australia
Neil Frost, iSAHA, South Africa
Glenn Geers, ARRB Group, Australia
Peter Girgis, Transport Certification Australia Limited, Australia

**Policy, Standards and Harmonisation**

The development and adoption of standards is key to ensuring the deployment of consistent, quality, cost-effective, interoperable and safe ITS solutions.

In this session the real-world application of ITS Standards will be discussed by leading international and Australian ITS Experts, with a focus on the following topics:

- Cooperative ITS
- Mobility as a Service
- Big Data
- International Standards Harmonisation Efforts
SMART TICKETING FOR SMART CITIES CONGRESS

WEDNESDAY 12 OCTOBER 2016, 1100 – 1230 HOURS

MEETING ROOM 105

Moderator
Dean Zabrieszach, HMI Technologies, Australia

Speakers
T Russell Shields, Ygomi LLC, United States
Martin Matthews, Martin Matthews Consulting, New Zealand
Peter Damen, Australian Driverless Vehicle Initiative, Australia
Peter Sweatman, CAVita, United States
Patrick Walker, Royal Automobile Club Western Australia, Australia

The benefits of mobile & open loop public transport fare collection models

Public transit fare collection in urban areas remains relatively fragmented with an array of cash, paper tickets and transit smart cards used across different towns and cities. For the world’s increasingly connected citizens the public transport environment is full of friction – friction that mobile and digital technology has removed from other aspects of their daily lives. For cities promoting positive environments for employment, business, housing and tourism outdated public transport infrastructure is letting them down and costing them money. Increasingly, transit authorities and cities around the globe are looking towards mobile and digital technologies in order to make public transport services quicker and more efficient.

Mobile and contactless payments have transformed the retail environment, natural progression is for the technology to now tackle public transport fare collection. With cities like London, New York and Chicago reaping the benefits of smart ticketing systems and numerous other cities following suit the session will explore how digital technologies and contactless pay-per-ride and mobile pre-purchase fare collection models can benefit cities.

CHALLENGES AND OPPORTUNITIES FACING THE DEPLOYMENT OF AUTOMATED VEHICLES

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS

MEETING ROOM 213

Automated Vehicles and Cooperative ITS

We all know that the introduction of automated vehicles is just around the corner, but what are the key Challenges and Opportunities that need to be addressed. This workshop will investigate those challenges and opportunities issues in some detail.

Moderator
Doug Howe

Speakers
Mark Streeting, LEK Consulting
Boris Karsch, Cubic Transportation Systems
Josh Nicklin, Masabi
Garry Duursma

HOW WILL ARTIFICIAL INTELLIGENCE AND COGNITIVE IMPACT URBAN MOBILITY

WEDNESDAY 12 OCTOBER 2016, 1400 – 1530 HOURS

MEETING ROOM 109

By any measure, the past few years have been landmark years for the discussion around artificial intelligence and its potential impact on business and society. Be part of the conversation as we explore a fascinating and diverse set of issues related to the powerful cognitive technologies that are emerging to augment human capacity and understanding how these relate to our Transport ecosystem.

During this session you will learn about IBM Watson and how it’s Cognitive capabilities are already changing Urban Mobility.
QUALITY OF TRAFFIC INFORMATION

Smart Cities and New Urban Mobility

Quality traffic information increases the safety of road users, as improves the efficiency of their travel. Providing appropriate traffic information to road users increasingly is seen as valuable to support the traffic management objectives of road authorities.

Quality improvement requires that the traffic environment needs to become more homogeneous in order to accommodate consistent provision of high quality traffic information, including a closer interaction of traffic management and road users. At current, transport infrastructure and traffic management is very heterogeneous across countries and regions in terms of quality and availability of systems and services such as incident management, traffic information, road works, etc., content and data standards for Traffic Information and Traffic Management data and Plans, and iv) processes, e.g. governance and operations, and quality assurance.

In this associated event, public and private stakeholders from around the globe are brought together to discuss the needs and proper pathways for improving the quality of traffic information, with resultant needs for stakeholder harmonization and collaboration. In this event, quality improvement initiatives and successes are presented, and further harmonization needs discussed. The aims are to exchange best practices, and to foster increased collaboration and harmonization between the stakeholders in the traffic information value chain.

This associated event is targeted at public and private stakeholders operating in the traffic information value chain with an interest in improving quality of traffic information and collaboration between actors in the traffic information value chain.

SAFETY CHALLENGES FOR AUTOMATED VEHICLES

Automated Vehicles and Cooperative ITS

Everyone wants to be assured that automated vehicles will be safer than human drivers. This session explores the considerations that feed into the safety of automated vehicles and the work required to achieve this.

INFORMATION IS THE FOUNDATION OF A SMART CITY

Challenges and Opportunities of Big Open Data

The Smart Cities agenda is transforming how cities manage their infrastructure and how they communicate with citizens and local businesses. A prerequisite that underpins this outcome is access, availability and analysis to structured and unstructured data that describes the operational state of a city. This workshop explores the pros and cons of how PTV is using open data, real time data and big data to transform how its customers experience Victoria’s public transport network.
AUSTRALIAN EV CASE STUDIES - TRENDS OVER THE LAST 5 YEARS
THURSDAY 13 OCTOBER 2016, 1400 – 1530 HOURS
MEETING ROOM 105
Speaker
Lance Douglass, Charge Point, Australia

Environmental Sustainability
Charging Infrastructure company, Charge Point, will share key trends, experiences, and implications in EV charging dynamics from a number of Australian sectors including:
• Municipal Government Fleet owners
• Retail property operators
• Energy Networks and explore future opportunities and developments for the Transport industry.
As the Transport and Energy sectors continue to converge, ICT and ITS (themselves evolving) will play an ever more critical role.

ROAD CERTIFICATION CRITERIA FOR AUTONOMOUS VEHICLES
FRIDAY 14 OCTOBER 2016, 0830 – 1000 HOURS
MEETING ROOM 105
Moderator
Ian Oxworth, ConnectEast, Australia
Speaker
Charles Karl, ARRB Group, Australia

Vehicle Network and Safety
Discuss the merits of certifying roads for use by vehicles equipped with the various AV levels 2 to 5, which classes of roads should be certified, the certification criteria, who administers the certification and how certification is communicated to vehicles/drivers as they approach and depart certified roads.

THE TFNSW FUTURE TRANSPORT ROADMAP
FRIDAY 14 OCTOBER 2016, 1030 – 1200 HOURS
MEETING ROOM 105
Moderator
Simon Barrett, L.E.K. Consulting, Australia
Speaker
Tim Reardon, Transport for New South Wales, Australia
Clare Gardiner-Barnes, Transport for New South Wales, Australia
Tony Braxton Smith, Transport for New South Wales, Australia
Kate Burleigh, Intel Australia and New Zealand, Australia
Andrew Stevens, Advanced Manufacturing Growth Centre, Australia

Smart Cities and New Urban Mobility
The Future Transport Program kicked off in April 2016 with the Future Transport Summit, the goal of which was to bring together some of the best, most creative and forward-thinking minds and have them work together to help us create the future for NSW transport. A future where we leverage breakthrough technological solutions to create new ways of doing things, find innovative solutions to old problems and revolutionise the way we plan, build and use transport in the state. Guided by our Technology Leaders Panel, which is co-chaired by David Thodey and Andrew Stevens, we have synthesised the summit outcomes with other work to produce a Future Transport Technology Roadmap. The roadmap is being launched to coincide with the 23rd ITS World Congress and will map out the future role of technology in transport, and will set out how TfNSW will become a world leader in using technology to deliver better customer experiences, as well as more efficient transport services. In developing the roadmap we have engaged with our customers, with industry, and with our own people. The workshop aims to continue this engagement by presenting the roadmap and requesting feedback and input from ITS delegates.

A VISION FOR A SECURE, CONNECTED FUTURE THROUGH COOPERATIVE INTELLIGENT TRANSPORT SYSTEMS (C-ITS)
FRIDAY 14 OCTOBER 2016, 1300 – 1430 HOURS
MEETING ROOM 105
Moderator
Ian Webb, Roads Australia, Australia
Speaker
Miranda Blogg, Department of Transport and Main Roads, Australia
Peter Giglis, Transport Certification Australia Limited, Australia
Gavin Hill, Transport Certification Australia, Australia
Chris Koniditsiotis, Transport Certification Australia, Australia
Integrated Mobility
Driving Smart Cities

MONTRÉAL, QUEBEC
OCTOBER 29 – NOVEMBER 2, 2017

Don’t Miss a “Taste of Montreal” Reception
2017 Montréal World Congress Pavilion
Wednesday, October 12th  |  17:30 - 18:30

Please visit the
2017 Montréal World Congress Pavilion
in the Exhibit Hall, Booth 2313

For sponsorship opportunities please contact:
Tracy Mulligan (tmulligan@itsa.org) or
Kelly Alexis (kalexis@itsa.org)

For exhibit opportunities please contact:
Carly DiVito (carly@corcexpo.com)

www.itsworldcongress2017.org
REGIONAL CONTACTS

ASIA PACIFIC
Ikuko Okada - Congress Manager
ITS Japan
Tel: +81 3 5777 1013
i-okada@its-jp.org

AUSTRALIA
Edward Chung - WC IPC Chair 2016 and Co-Chair
Local Program Sub-Committee
Queensland University of Technology
edward.chung@qut.edu.au

Brian Smith - Co-Chair Local Program Sub-Committee
Intelematics
brian.smith@intelematics.com

Judy Kingston - Abstract Submission Manager
ITS World Congress 2016 Melbourne
Tel: +61 3 9320 8631
program@itsworldcongress2016.com

AMERICAS
Mike Freitas
ITS America
WorldCongress@itsa.org

EUROPE
Pamela Valente - Congress Manager
ERTICO-ITS Europe
Tel: +32 2 400 07 85
p.valente@mail.ertico.com

ASIA PACIFIC
International Affairs
ITS Japan
Tel: +81 3 5777 1013
exhibition-melbourne@its-jp.org

AUSTRALIA
Jerome Buchanan
Sponsorship Development Manager
ITS World Congress 2016 Melbourne
Tel: +61 3 9320 8631
sponsor.sales@itsworldcongress2016.com
www.itsworldcongress2016.com

EUROPE
Benoit Augarde
Exhibition and Sponsoring Manager
ERTICO—ITS Europe
Tel: +32 2 400 07 86
b.augarde@mail.ertico.com

AMERICAS
Tracy Mulligan and Kelly Alexis
Exhibition and Sponsorship Sales
ITS America
TMulligan@itsa.org and KAlexis@itsa.org

DEMONSTRATIONS
Graham Taylor
Demonstrations Project Manager
Tel: +61 408 068 190
marche2016demos@its-australia.com.au

TECHNICAL TOURS
Hany Eldaly
Chair, Technical Tours Sub-Committee
Tel: +61 429 039 524
heldaly@maasaustralia.com

GROUP ACCOMMODATION
Guest Service Team
Group Accommodation Enquiries, ITS World Congress 2016 Melbourne
Tel: +61 7 3858 5451
accommodation@itsworldcongress2016.com
www.itsworldcongress2016.com

MEDIA / PUBLIC RELATIONS
Joanna Spanbroek
Media Partnership Enquiries, ITS World Congress 2016 Melbourne
Tel: +61 2 9213 4000
Media@itsworldcongress2016.com
www.itsworldcongress2016.com

Charlotte Jover
Public Relations Advisor, Red Agency
Tel: +61 4 2207 3394
Charlotte.Jover@redagency.com.au

Murray Collins
Marketing and Communications Manager, ITS Australia
Tel: +61 4 2207 3394
murray.collins@its-australia.com.au

ITS AUSTRALIA
Susan Harris
Chief Executive, ITS Australia
Tel: +61 3 9646 6466
admin@its-australia.com.au
www.its-australia.com.au

REGISTRATIONS
Registration Team
Registrations Enquiries, ITS World Congress 2016 Melbourne
Tel: +61 2 8039 1920
registration@itsworldcongress2016.com
www.itsworldcongress2016.com

Joanna Spanbroek
Media Partnership Enquiries, ITS World Congress 2016 Melbourne
Tel: +61 2 9213 4000
Media@itsworldcongress2016.com
www.itsworldcongress2016.com

Charlotte Jover
Public Relations Advisor, Red Agency
Tel: +61 4 2207 3394
Charlotte.Jover@redagency.com.au

Murray Collins
Marketing and Communications Manager, ITS Australia
Tel: +61 4 2207 3394
murray.collins@its-australia.com.au

ITS AUSTRALIA
Susan Harris
Chief Executive, ITS Australia
Tel: +61 3 9646 6466
admin@its-australia.com.au
www.its-australia.com.au