



**AIIT 3RD INTERNATIONAL CONFERENCE  
NEW SCENARIOS FOR TRANSPORT INFRASTRUCTURE  
AND SYSTEMS TRANSITION TO INCLUSIVITY,  
RESILIENCE AND SUSTAINABILITY**



**September 15-16, 2022  
Roma, ACI Building, Via Marsala, 8**



[www.tisroma.aiit.it](http://www.tisroma.aiit.it)

# TIS ROMA 2022

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**AIIT 3RD INTERNATIONAL CONFERENCE  
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AND SYSTEMS TRANSITION TO INCLUSIVITY,  
RESILIENCE AND SUSTAINABILITY**

***Program***

**Thursday, September 15, 2022**

|             |   |  |  |  |
|-------------|---|--|--|--|
| 8.30-9.00   | <i>Registration</i>   |  |  |  |
| 9.00-10.30  | Opening Ceremony – Plenary session 1 - Keynote speech 1 - <b>Hall 1</b>             |  |  |  |
| 10.30-11.00 | <i>Coffee Break</i>   |  |  |  |
| 11.00-13.00 | <b>Session 1 - Hall 1</b><br><i>Public Transport</i>                                | <b>Session 4 – Hall 2</b><br><i>Road geometric design, safety and operating conditions – 1</i> | <b>Session 7 – Hall 3</b><br><i>Equity in transportation</i>     | <b>Special Session 1 – Hall 4</b><br><i>Innovations in last mile logistics towards inclusivity, resilience and sustainability (1)</i>                    |
| 13.00-14.00 | <i>Lunch</i>  |  |  |  |
| 14.00-16.00 | <b>Session 2 – Hall 1</b><br><i>Sustainable Transport Planning and Policies - 1</i> | <b>Session 5 – Hall 2</b><br><i>Road geometric design, safety and operating conditions – 2</i> | <b>Session 8 – Hall 3</b><br><i>Ports and maritime transport</i> | <b>Special Session 2 – Hall 4</b><br><i>Innovations in last mile logistics towards inclusivity, resilience and sustainability (2)</i>                    |
| 16.00-16.30 | <i>Coffee Break</i>   |  |  |  |
| 16.30-18.30 | <b>Session 3 – Hall 1</b><br><i>Sustainable Transport Planning and Policies - 2</i> | <b>Session 6 – Hall 2</b><br><i>Active mobility</i>  | <b>Session 9 – Hall 3</b><br><i>Rail systems</i>                 | <b>Workshop – Hall 4</b><br><i>Triple Access Planning for Uncertain Future - Workshop for SUMP (Sustainable Urban Mobility Plans) Guidelines reviews</i> |
| 19.30-22.30 | <b><i>Gala Dinner at “NH Collection Roma Palazzo Cinquecento”</i></b>               |  |  |  |

## Friday, September 16, 2022

|             |  |   |  |  |
|-------------|--|---|--|--|
| 8.30-9.00   | <i>Registration</i>  |   |  |  |
| 9.00-11.00  | <b>Session 10 – Hall 1</b><br><i>Transport Infrastructure strategic management</i>   | <b>Session 13 – Hall 2</b><br><i>Road user behaviour – 1</i>    | <b>Session 16 – Hall 3</b><br><i>Sustainable road construction, maintenance and recovery</i> | <b>Session 19 – Hall 4</b><br><i>Mobility in a post-COVID era</i>  |
| 11.00-11.30 | <i>Coffee Break</i>  |   |  |  |
| 11.30-13.00 | Plenary session 2 - Keynote speech 2 - <b>Hall 1</b>                                 |   |  |  |
| 13.00-14.00 | <i>Lunch</i>   |   |  |  |
| 14.00-16.00 | <b>Session 11 – Hall 1</b><br><i>Traffic Data and Modeling</i>                       | <b>Session 14 – Hall 2</b><br><i>MaaS and shared mobility</i>   | <b>Session 17 – Hall 3</b><br><i>Road materials</i>  | <b>Session 20 – Hall 4</b><br><i>Road user behaviour – 2</i>   |
| 16.00-16.30 | <i>Coffee Break</i>  |   |  |  |
| 16.30-18.30 | <b>Session 12 – Hall 1</b><br><i>Future transport and demand-responsive services</i> | <b>Session 15 – Hall 2</b><br><i>Advancement in Road Safety</i> | <b>Session 18 – Hall 3</b><br><i>Road pavements</i>  | <b>Session 21 – Hall 4</b><br><i>Sensors, Technologies and Modeling for road infrastructure management</i> |
| 18.30-19.30 | Closing ceremony and “arrivederci” – <b>Hall 1</b>                                   |   |  |  |

## DETAILED PROGRAM

**Thursday, September 15, 2022**

|   |  |
|---|--|
| <b>Opening Ceremony – Hall 1</b><br><i>(9.00-10.30)</i>   |  |
| <p><b>Welcome address of authorities</b></p> <p><b>Introduction</b><br/><i>Stefano Zampino</i><br/>Conference Coordinator, AIIT President</p> <p><b>Opening Lecture: “A fast road to a better future?”</b><br/>Keynote Speaker<br/><i>Rik Nuyttens</i><br/>European Union Road Federation - ERF</p> <p><b>Congress Overview</b><br/><i>Giuseppe Cantisani</i><br/>Scientific Committee Coordinator, Director of AIIT Study and Research Centre<br/><i>Enrico Pagliari</i><br/>Organizing Committee Coordinator, AIIT Vice President</p> |  |

| <b>Session 1 – Hall 1 (11.00-13.00)</b><br><i>Public Transport</i>   | <i>Chairperson</i><br><i>Marco Medeghini/Valentina Astori</i> |
|--|---|
| Improving the environmental performance of bus fleets in Europe<br><i>Daniela Vasari, Maria Vittoria Corazza and Anita Toni</i>  | 33  |
| Boarding Stop Assignment for Public Bus Trips Using Smart Card Data: Comparison of Two Algorithms<br><i>Hediye Tuydes-Yaman, Bilgin Kocak, Elif Karagumus and Gulcin Dalkic</i>                  | 101   |
| The post-pandemic public transport crisis: a statistical analysis of travel habits in Sicily, Italy<br><i>Tiziana Campisi, Georgios Georgiadis, Socrates Basbas and Muhammad Ahmad Al Rashid</i> | 121   |
| Enabling technologies assessment for reducing Italian LPT emissions on short and long-term time frames<br><i>Gino D'Ovidio, Stefano Ranieri, Francesco Duronio and Carlo Villante</i>            | 129   |
| Assessment of bus speed influencing factors through the exploitation of machine learning techniques.<br><i>Aristomenis Kopsacheilis, Ioannis Politis and Georgios Georgiadis</i>                 | 156   |
| Overview of the bus network characteristics in the Italian medium size urban areas<br><i>Matteo Feliciano, Stefano Gori and Marco Petrelli</i>   | 172   |

| <b>Session 2 – Hall 1 (14.00-16.00)</b>  |  | <b>Chairperson</b>   |
|--|--|----------------------|
| <i>Sustainable Transport Planning and Policies - 1</i>   |  | <i>Olja Čokorilo</i> |
| Strategic planning and development of Air Traffic Management system in Europe: A capacity-based review<br><i>Zvonimir Rezo, Sanja Steiner, Tomislav Mihetec and Olja Čokorilo</i>            |  | 1                    |
| Traffic congestion in Buenos Aires: diagnosis and public policy recommendations for a more sustainable city<br><i>Juan Ignacio Fulponi</i>   |  | 3                    |
| Cross-border critical transportation infrastructure: a multi-level index for resilience assessment<br><i>Fabio Borghetti and Giovanna Marchionni</i>   |  | 17                   |
| A new planning paradigm for urban sustainability<br><i>Adriano Alessandrini, Paolo Delle Site e Francesco Filippi</i>  |  | 44                   |
| The impact of parking pricing on mode choice<br><i>Natasa Vidovic and Jelena Simicevic</i>   |  | 65                   |
| Experimentation of a bonus system for sustainable mobility: the case of the Climate Transition Strategy of the city of Brescia<br><i>Stefania Boglietti, Michela Nota and Michela Tiboni</i> |  | 86                   |
| ACI for motor sport Safety and Sustainability<br><i>Stefania Balestrieri, Marco Antonio Di Giovanni, Luigi Di Matteo, Enrico Pagliari and Lauragrazia Daidone</i>                            |  | 184                  |

| <b>Session 3 – Hall 1 (16.30-18.30)</b>   |  | <b>Chairperson</b>     |
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| <i>Sustainable Transport Planning and Policies -2</i>   |  | <i>Nadia Giuffrida</i> |
| Ligurian Internal Areas and Demand Responsive Transport: an innovative approach to tackle social exclusion and to re-design sustainable accessibility<br><i>Ilaria Delponte and Valentina Costa</i>   |  | 39                     |
| A sentiment analysis approach to investigate tourist satisfaction towards transport systems: the case of Mount Etna<br><i>Juan Pineda-Jaramillo, Martina Fazio, Michela Le Pira, Nadia Giuffrida, Giuseppe Inturri, Francesco Viti and Matteo Ignaccolo</i> |  | 87                     |
| Estimating charging demand by modeling EV drivers' parking patterns and habits<br><i>Piero Macaluso, Angela Carboni, Cristiana Botta, Paolo Lazzeroni, Francesco Deflorio and Maurizio Arnone</i>   |  | 117                    |
| Enhancing the feasibility of airport PPP projects with hybrid funding<br><i>Nevena Vajdic, Goran Mladenovic and Cesar Queiroz</i>   |  | 126                    |
| Performance simulation of hydrogen-electric transit bus run in a mountain environment<br><i>Carlo Villante, Gino D'Ovidio, Stefano Ranieri, Giuseppe Fabri, Antonio Ometto, Maxmilian Di Pasquale and Fabrizio Ciancetta</i>                                |  | 130                    |
| What is the potential of hybrid cordon pricing policy for reducing and shifting car usage in cities?<br><i>Draženko Glavić, Marina Milenković, Miloš Mladenović, Ioannis Politis and Jelica Komarica</i>  |  | 131                    |
| Top-down vs bottom-up in transportation planning: a new perspective merging logical framework approach and public engagement<br><i>Francesco Russo and Corrado Rindone</i>  |  | 176                    |



| <b>Session 4 – Hall 2 (11.00-13.00)</b><br><i>Road geometric design, safety and operating conditions – 1</i>   | <i>Chairperson</i><br><i>Nikiforos Stamatiadis</i> |
|--|--|
| Vehicles lateral acceleration and speed profiles investigation at the entry of interchange ramps as a criterion of geometric road design<br><i>Antonios Trakakis, Konstantinos Apostoleris and Basil Psarianos</i>                       | 2  |
| Context classification: a new approach for improving highway design<br><i>Nikiforos Stamatiadis, Adam Kirk and Laura Wright</i>  | 8  |
| Capacity and emission evaluation of new interchange designs using microsimulation<br><i>Eva Pitlová</i>  | 15   |
| Correlating driving behaviour with safety performance: from the pedals to the heart with a driving simulator<br><i>Diogo Reis, Ricardo Tomás, Margarida Coelho and Eloísa Macedo</i>   | 48   |
| Redesign of existing motorway sections to increase capacity: a pilot evaluation of safety-related impacts, in Israel<br><i>Victoria Gitelman</i>   | 55   |
| Kinematic performance of micro-mobility vehicles during braking: experimental analysis and comparison between e-kick scooters and bikes<br><i>David Vettori, Monica Tiboni, Giulio Maternini, Benedetto Barabino and Roberto Ventura</i> | 88   |
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| The risk-based Italian approach for the development of an integrated Safety Management System for road infrastructures and its relationships with innovative Guidelines on risk management of existing bridges<br><i>Domenico De Bartolomeo, Emanuele Renzi, Galileo Tamasi, Giuseppe Palermo, Fabiana Di Nucci, Vincenzo Porretto and Luca Germanese</i> | 189   |

| <b>Session 6 – Hall 2 (16.30-18.30)</b>   |  | <i>Chairperson</i><br><i>Graham Parkhurst</i> |
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| Perceived importance of facilitators to cycling: the case of a starter cycling city in Italy<br><i>Francesco Piras, Eleonora Sottile and Italo Meloni</i>   |  | 89  |
| The interplay between residential location and cycling choice: the case of two metropolitan areas in Sardinia, Italy<br><i>Francesco Piras, Beatrice Scappini, Italo Meloni and Giovanni Tuveri</i>   |  | 93  |
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| Perspectives for ports development, based on automated container handling technologies<br><i>Domenico Gattuso and Domenica Savia Pellicanò</i>   |  | 77                                      |
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| <b>Session 9 – Hall 3 (16.30-18.30)</b>  |  | <i>Chairperson</i><br><i>Ignacio Villalba Sanchis</i> |
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| <i>Rail systems</i>  |  |   |
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| Track geometry monitoring by an on-board computer-vision-based sensor system<br><i>Nadia Koviani, Luca Rizzetto, Stefano Ricci, Riccardo Licciardello, Matteo Circelli, Dachuan Shi and Sina Shahidzadeh Arabani</i>                                     |  | 57  |
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| The liberalisation of high speed rail services in Spain: Ticket price in the Madrid–Barcelona corridor<br><i>Ignacio Villalba Sanchis, Maria Rosa Arroyo López, Ricardo Insa Franco, Pablo Martínez Fernández and Pablo Salvador Zuriaga</i>             |  | 127   |
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| <b>Special Session 1 – Hall 4 (11.00-13.00)</b><br><i>Innovations in last mile logistics towards inclusivity, resilience and sustainability (1)</i>  | <b>Chairperson</b><br><i>Michela Le Pira</i> |
| Stakeholder engagement towards innovation and decarbonisation of urban freight<br><i>Daniela Paddeu and Graham Parkhurst</i>   | SSTIS_02                                     |
| Selecting locations for urban logistic facilities in Dublin: a geo-oriented participatory approach<br><i>Nadia Giuffrida, Yuri Calleo, Francesco Pilla</i>                                     | SSTIS_03                                     |
| “Who is willing to pay for sustainable last mile innovations?”<br><i>Maximilian Engelhardt</i>   | SSTIS_04                                     |
| Analysis of Service Efficiency of Parcel Locker in Last-mile Delivery: A Case Study in Norway<br><i>Bo Dong, Inger Beate Hovi, Daniel Ruben Pinchasik</i>                                      | SSTIS_05                                     |
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| Residents’ acceptance for night deliveries policy in the city of Thessaloniki, Greece<br><i>Marios Zelidis, Efsthathios Bouhouras, Socrates Basbas, Tiziana Campisi and Stamatia Ftergioti</i> | 111  |

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| <b>Special Session 2 – Hall 4 (14.00-16.00)</b><br><i>Innovations in last mile logistics towards inclusivity, resilience and sustainability (2)</i>   | <b>Chairperson</b><br><i>Rodrigo Tapia</i> |
| Building a vision for urban logistics in Europe: results from LEAD and SENATOR projects<br><i>Nadia Giuffrida, Francesco Pilla, Rodrigo Tapia, Ioanna Kourouniotti, Lori Tavasszy, Sarbast Moslem</i>   | SSTIS_06                                   |
| Achieving sustainable Last Mile Logistics: Stakeholders’ perspective<br><i>Juan Nicolas Gonzalez, Laura Garrido, Jose Manuel Vassallo</i>   | SSTIS_07                                   |
| A literature review of the main factors influencing the e-commerce and last-mile delivery projects during recent pandemics<br><i>Tiziana Campisi, Antonio Russo, Socrates Basbas, Efstathtios Bouhouras and Giovanni Tesoriere</i>                    | SSTIS_08                                   |
| Simulating e-grocery scenarios with customer involvement in the delivery via an agent-based model<br><i>Michela Le Pira Martina Fazio, Carla Nascimento, Edoardo Marcucci, Valerio Gatta, Alessandro Pluchino, Giuseppe Inturri, Matteo Ignaccolo</i> | SSTIS_09                                   |
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## Friday, September 16, 2022

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| <i>Transport Infrastructure strategic management</i>   |     | <i>Vittorio Ranieri</i> |
| Interaction between airport facilities and the surrounding area within the GIS and BIM interoperability<br><i>Alessandro Di Graziano, Eliana Ragusa, Domenico Trifilò, Leonardo M. Triaca, Marco Trombetti and Claudia Arcidiacono</i> | 61  |                         |
| Methods for road infrastructure planning in areas close to hospitals at the regional level<br><i>Vittorio Ranieri, Nicola Berloco, Stefano Coropulis, Giuseppe Garofalo, Paolo Intini and Michele Ottomanelli</i>                      | 69  |                         |
| A methodology for introducing the impact of risk analysis in local railways improvements decisions<br><i>Vincenzo Marchetta, Alessandro Di Graziano and Francesco Contino</i>  | 90  |                         |
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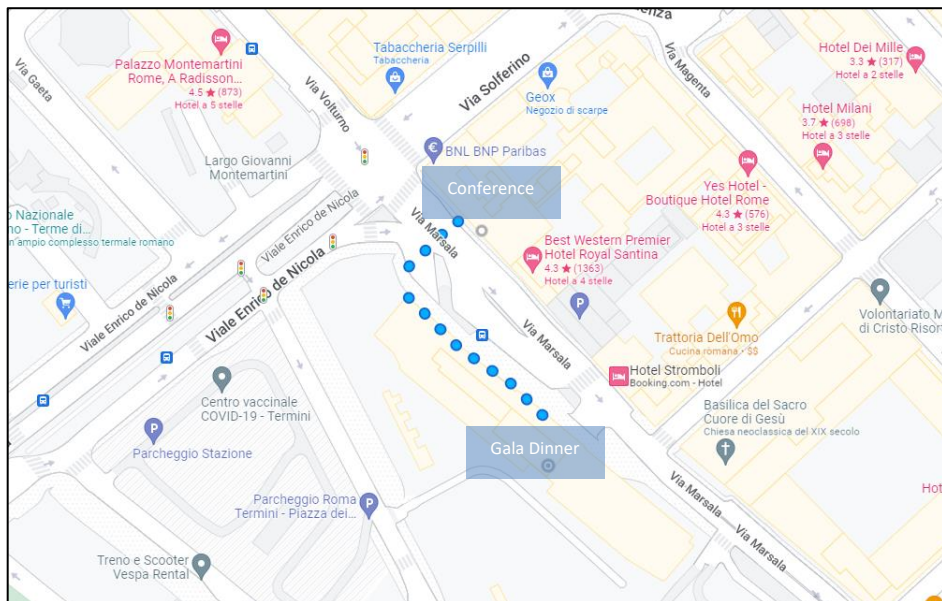
## Gala Dinner

Thursday, September 15, 2022

at “NH Collection Roma Palazzo Cinquecento”



Piazza dei Cinquecento, 90, 00185 Roma



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