





SIDT **XXVI SEMINARIO SCIENTIFICO**

VILLASIMIUS - June 12-14, 2024

UNIVERSITÀ DEGLI STUDI DI CAGLIARI

The sustainable future of mobility: policies, applications, behavior, innovations

PROGRAM

Wednesday, June 12, 2024

13:30 - 14:30 | Registration

14:30 - 14:45 Welcome speeches

Stefano Carrese - President of SIDT

Francesco Mola – Rector of the University of Cagliari

Gianluca Dessì - Mayor of Villasimius

14:45 – 18:00 Special session "SIDT PhD Award"

SIDT PhD Award		
Room: Begonia + Azalea		
Chairs: Angela Carboni, Roberta Di Pace, Nicola Sacco		
_	Dario Ballarano, Università degli Studi Roma Tre	
_	Maria Cristina Ceccotti, Università di Napoli "Federico II"	
_	Simona De Bartolomeo, Politecnico di Bari	
_	Francesco De Fabiis, Politecnico di Milano	
_	Rosita De Vincentis, Università degli Studi Roma Tre	

Alessio Tesone, Università di Napoli "Federico II" _

18:00 - 19:00 General assembly of SIDT members (Room: Begonia + Azalea)

19:00 – 19:30 Plenary session (Room: Begonia + Azalea): Antonio Musso - CEO of Grendi Group presents "Grendi Group: A story of innovation."

19:30 - 20:30 Welcome Party



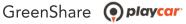
















Thursday, June 13, 2024

08:30 - 09:00 | Registration

09:00 – 10:00 | Parallel sessions

Sustainability	Sustainability in transport (1)	
Room: Begonia	Room: Begonia	
Chair: Bruno Da	Chair: Bruno Dalla Chiara	
09:00 - 09:15	Cooperation and electrification in road freight transport to reduce emissions and	
	increase profits	
	Claudia Caballini, Erika Olivari, Simona Sacone, Mahnam Saeednia	
09:15 – 09:30	Matching demand and supply in motorised mobility: a data-driven proposal for an	
	urban-differentiated driving cycle	
	Simona Gurri, Flavio Cappelli, Bruno Dalla Chiara, Francesco Paolo Deflorio	
09:30 - 09:45	Predicting Vehicle Fuel Consumption and CO2 Emissions through a Hybrid Deep	
	Learning Approach: Analysis of Driver Behavior	
	Sami Shaffiee Haghshenas, Vittorio Astarita, Sina Shaffiee Haghshenas, Giuseppe	
	Guido	
09:45 – 10:00	Sustainable water management to generate savings for bus operators: facts, figures,	
	practice, and future policy implications	
	Matthew Robinson, Maria Vittoria Corazza	

Demand analy	Demand analysis and modeling (1)	
Room: Gardeni	Room: Gardenia	
Chair: Ernesto	Chair: Ernesto Cipriani	
09:00 - 09:15	From Trip Purpose to Space-Time Flexibility: Advancing Dynamic Origin-Destination	
	Matrices Estimation Models Through Crowd-Sourced Data Insights	
	Marisdea Castiglione, Guido Cantelmo, Ernesto Cipriani, and Marialisa Nigro	
09:15-09:30	Investigating the impact of accessibility on internal migration flows: preliminary	
	results for Italy	
	Antonio Basile, Mariano Gallo	
09:30 - 09:45	Applying the Trust Contraction Algorithm for the Solution of Stochastic User	
	Equilibrium	
	Guido Gentile, Mohamed Eldafrawi, Lory Bresciani	
09:45 – 10:00	Exploring the potentiality of Demand Responsive Transport for better healthcare	
	trips: evidence from Sicily	
	Antonio Russo, Tiziana Campisi and Giovanni Tesoriere	













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10:00 – 11:00 | Parallel sessions

Investigating s	afety in transport systems (1)	
Room: Begonia		
Chair: Vittorio A	Chair: Vittorio Astarita	
10:00 – 10:15	Predicting the Level of Road Crash Severity: A Comparative Analysis of Logit Model and Machine Learning Models	
	Sina Shaffiee Haghshenas, Giuseppe Guido, Sami Shaffiee Haghshenas, Vittorio Astarita	
10:15 – 10:30	Investigating e-scooter safety: accident data analysis and perceptions of safety by users and non-users	
	Gabriele D'Orso, Leonardo Minaudo, Marco Migliore	
10:30 – 10:45	State of the art in risk reduction in transportation systems: A bibliometric analysis on the use of artificial Intelligence, internet of things and mobile devices for emergency management	
	Vittorio Astarita, Giuseppe Guido, Sina Shaffiee Haghshenas, Sami Shaffiee Haghshenas and Giulia Martino	
10:45 – 11:00	Joint analysis of traffic and accidents on the road network of Rome Ken Koshy Varghese, Lory Michelle Bresciani Miristice, Ramin Bohlouli, Guido Gentile, Mohamed Eldafrawi	

Maritime trans	Maritime transport and logistics		
Room: Gardeni	Room: Gardenia		
Chair: Massimo	o Di Gangi		
10:00 – 10:15	Port Planning and development in urban contexts: analyzing and quantifying different-stakeholders vision and conflicting interests <i>Stefano de Luca, Chiara Fiori</i>		
10:15 – 10:30	Containers port performance using automatic identification system data Orlando Marco Belcore, Massimo Di Gangi, Antonio Polimeni		
10:30 – 10:45	Scheduling truck drivers for real transportation requests to/from ports Francesco Contu, Massimo Di Francesco, Enrico Gorgone, Mattia Mamusa, Simone Zanda		

11:00 - 11:30 | Coffee break

11:30 - 12:30 | Parallel sessions

Demand analy	Demand analysis and modeling (2)		
Room: Gardeni	Room: Gardenia		
Chair: Andrea F	Chair: Andrea Papola		
11:30 – 11:45	In-Depth Investigation and Modelling on Sharing Mobility Andrea Gemma, Stefano Carrese, Ernesto Cipriani, Livia Mannini		
11:45 – 12:00	Construction of discrete choice models to assess the success of the implementation of a new bikesharing service <i>Nicoletta Granara, Italo Meloni, Francesco Piras</i>		

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12:00 – 12:15	A quantitative approach for a joint study area zoning and o-d flows updating:
	methodological formulation and performance analysis
	Vittorio Marzano, Andrea Papola, Fulvio Simonelli, Fiore Tinessa
12:15 – 12:30	Modeling spatial and social interdependency effects on commuting mode choice
	Daniele Giubergia, Angela Haddad, Francesco Piras, Chandra Bhat, Italo Meloni

Poster session: Innovation, sustainability and safety in transport

- Room: Azalea
- Chair: Antonio Comi

The role of hydrogen in zero-emission mobility for long distances: a method for positioning refill stations in a highway network

Salvatore Micari, Antonio Cartisano, Nicola Briguglio, Giuseppe Napoli

Assessment of the factors affecting the location of electric vehicle charging stations

Aleksandra Colovic, Mario Marinelli, Michele Ottomanelli

Assessing Decarbonization Policies for Freight Transport in the Adriatic-Ionian Region Francesco Guglielmi, Francesco De Fabiis, Pierluigi Coppola

Evaluation of drivers' stress during traffic lane maneuvers on a high-capacity road

Gianfranco Fancello, Simone Podda, Daniel Mark Vitiello, and Patrizia Serra

Experimental Model of Driver Behaviour for a Dynamic On-board Safe Speed Advisory System *Filippo Carrese, Chiara Colombaroni, Gaetano Fusco, Natalia Isaenko, Zahra Lahijanian*

Modeling High-speed Rail (HSR) service integration and timetable optimization

Pietro Mariano, Fulvio Silvestri and Pierluigi Coppola

Real-time Bridge Overload Risk Management using Machine Learning

Roberto Ventura, Giulio Maternini, Benedetto Barabino

Application of reverse logistics models for the optimization of the circular economy in road construction

Francesca Maltinti, Chiara Garau, Massimo Di Francesco, Mauro Coni

The opportunities of vehicle retrofitting in the freight urban distribution with zero-emission commercial hydrogen vehicles. A case study

Giuseppe Napoli, Salvatore Micari, Oleisa Hriekova, Antonio Comi

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12:30 - 13:30 | Parallel sessions

Sustainability in transport (2)

eactainability		
Room: Garden	Room: Gardenia	
Chair: Michele	Chair: Michele Ottomanelli	
12:30 – 12:45	How can sustainable mobility interventions be assessed into the framework of urban	
	projects? An experimental analysis	
	Francesco Piras, Italo Meloni, Nicola Miscali, Benedetta Rubattu	
12:45 – 13:00	The environmental sustainability of transport chains	
	Daniel Mark Vitiello, Gianfranco Fancello, Patrizia Serra	
13:00 – 13:15	Analysis of the willingness to shift to electric vehicles: critical factors and	
	perspectives	
	Antonio Comi, Umberto Crisalli, Olesia Hriekova, Alessandro Palmoni	
13:15 – 13:30	Traffic control measures for the improvement of the private road transport	
	environmental impact	
	Andrea Gemma, Tina Onorato and Ernesto Cipriani	

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Poster session: Mobility and traffic

Room: Azalea

Chair: Eleonora Sottile

Factors Impacting Shared Micro-Mobility in Rome: Spatio-Temporal Analysis via Data Mining with GBFS

Giovanni Tuveri, Eleonora Sottile, Raffaele Loi

An equity indicator for vehicle relocation in shared micromobility systems

Simona De Bartolomeo, Leonardo Caggiani, Michele Ottomanelli

Analyzing the individual factors determining the usage duration of an active GPS tracker app with the Exponentiated Discrete Weibull Distribution Model

Massimiliano Bez, Eleonora Sottile, Tariq Naveed

Virtual reality for assessing cycling propensity in hypothetical physical infrastructure project scenarios

Eleonora Sottile, Lorenzo Matta, Andrea Manunza, Emanuel Muroni

Evaluating merge strategies for efficient traffic management at on-ramps

Mario Marinelli, Nadia Giuffrida, Salvatore Viscio, Mario Binetti, Roberta Di Pace, Franco Filippi, Stefano de Luca

A Hybrid Traffic Flow Model for Large-Scale Applications in the Federated Networks Context Tesone A., Imran W., Storani F., Di Pace R., Pariota L., de Luca S., Bifulco G. N.

Enhancing Policy Evaluation of Road Network Interventions - A Framework for Modeling Uncertainty in Traffic Flow Data

Riccardo Ceccato, Gregorio Gecchele, Armando Caprini, Riccardo Rossi, Massimiliano Gastaldi

Logistics facilities location choice modelling: effects of zoning regulation and constraints

Valentina Rizzello, Francesco Paolo Nanni Costa, Luca Mantecchini, Caterina Malandri

A rapid diagnosis system for the analysis and control of traffic areas

Chiara Colombaroni, Gaetano Fusco, Mohadeseh Pasha, Natalia Isaenko

Activity-based demand models estimated using innovative smart-app tools

Marco Trolese, Pierluigi Coppola

Analysis, characterization and modeling of drivers charging preferences in an urban public network Francesca Bruno, Stefano de Luca, Maria Pia Valentini, Valentina Conti, Natascia Andrenacci

A Comparative Analysis of Econometric and Machine Learning Models for Predicting Fare Evasion Frequency: A Case Study in Cagliari, Italy

Roberto Ventura, Giulio Maternini, Alessandro Olivo, Massimo di Francesco, Benedetto Barabino

Integrated micro and macro simulation of multimodal hubs

Luigi Castagna, Fulvio Silvestri, Pierluigi Coppola

13:30 – 14:30 | Light lunch

15:00 – 16:30 | Parallel sessions

Local Public Transport		
Room: Begonia		
Chair: Francesco Russo		
15:00 – 15:15	Normal or new normal? Impacts of COVID-19 pandemic on the users' public	
	transport perceived quality	
	Ilaria Henke, Armando Cartenì, Laura Eboli, Antonella Falanga, Gabriella Mazzulla	













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15:15 – 15:30	Contract models for public transport services: An application to the case of the
	Province of Foggia
	Marilisa Botte, Francesca Iannicelli, Luca D'Acierno
15:30 – 15:45	A new methodology for the definition of the LAS for the urban public transport
	Stefano Carrese, Andrea Gemma, Marco Petrelli
15:45 – 16:00	Demand-responsive Services for People and Freight: An Analysis of the Best
	Practices
	Samuele Ennas, Mauro Coni, Francesco Contu, Massimo Di Francesco, Chiara
	Garau, Enrico Gorgone, Francesca Maltinti
16:00 – 16:15	Design, implementation and monitoring of a Demand Responsive Transport service
	for student night leisure transfers: The case study of University of Trieste
	Caterina Caramuta, Alessia Grosso, Giovanni Longo, Chiara Ricchetti, Lucia Rotaris
16:15 – 16:30	Evaluation of tourist accessibility through multimodal cycling-public transport in
	the metropolitan area
	Fulvio Morgese, Simona De Bartolomeo, Mario Binetti, Leonardo Caggiani

Traffic data an	d modeling	
Room: Gardeni	Room: Gardenia	
Chair: Roberta	Chair: Roberta Di Pace	
15:00 – 15:15	Data-driven investigation of traffic spatial correlation through functional data analysis	
	Fulvio Simonelli, Fabio Centofanti, Antonio Lepore, Luigi Pariota, Vittorio Marzano, and Biagio Palumbo	
15:15 – 15:30	Large-Scale Microscopic Traffic Demand Generation Modelling: A Literature Review and Application of Potential Approaches Ngoc An Nguyen, Joerg Schweizer, Federico Rupi	
15:30 – 15:45	Variance-Based Sensitivity Analysis for a Dynamic Traffic Model Calibration Natalia Isaenko, Filippo Carrese, Chiara Colombaroni, Gaetano Fusco, Zahra Lahijanian	
15:45 – 16:00	Multi-source methodology for traffic analysis zones definition based on combined floating car and remote sensing data Marisdea Castiglione, Federico Gallo, Martina Pastorino, Gabriele Moser, Marialisa Nigro, and Nicola Sacco	
16:00 – 16:15	Exploiting floating car data for adjusting the charging demand of electric vehicles in cities Lorenzo Sica, Francesco Deflorio, Angela Carboni	
16:15 – 16:30	Quantifying the Impact of Traffic Sensor Settings on Short Period Traffic Count Data Quality	
	Gregorio Gecchele, Riccardo Ceccato, Armando Caprini, Riccardo Rossi, Massimiliano Gastaldi	

16:30 – 17:00 | Coffee break

17:00 – 17:30 | Plenary lecture (Room: Begonia + Azalea): Prof. Elisabetta Cherchi (Newcastle University) - "*Modeling behavior in travel choices: what future research developments*"

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17:30 – 18:30 | Plenary session (Room: Begonia + Azalea): Prof. Ennio Cascetta presents his book "La rivoluzione della mobilità sostenibile parte dalle autostrade - sicure, digitali, decarbonizzate"

Round table with Ennio Cascetta, Bruno Dalla Chiara, Gabriella Mazzulla, Italo Meloni, Stefano Carrese

20:30 | Gala dinner

Friday, June 14, 2024

08:30 - 09:15 | Registration

09:15 - 10:00 | Parallel sessions

MAAS		
Room: Begonia	Room: Begonia	
Chair: Italo Mel	oni	
09:15 - 09:30	Mobility as a Service: insights from three pilot studies across different Italian settings	
	Italo Meloni, Giuseppe Musolino, Francesco Piras, Corrado Rindone, Francesco	
	Russo, Eleonora Sottile, Antonino Vitetta	
09:30 - 09:45	Mobility-as-a-Service (MaaS) for university communities: evidences from two Italian	
	case studies	
	Fulvio Silvestri, Ilaria Delponte, Valentina Costa, Luca Pastorelli and Pierluigi	
	Coppola	
09:45 – 10:00	Exploring factors influencing the adoption of Mobility-as-a-Service (MaaS) in	
	Sardinia	
	Francesco Piras, Ricardo Daziano, Gianfranco Fancello, Eleonora Sottile	

Technical-economic evaluations for transport systems	
Room: Gardenia	
Chair: Federico Rupi	
09:15 – 09:30	Towards the electrification of private and corporate vehicles: technical-economic
	break-even between recharging and refuelling
	Valterio Grilletti, Bruno Dalla Chiara, Ezio Spessa, Michela Pellicelli
09:30 - 09:45	From skepticism to support: exploring the evolution of user acceptability and
	willingness-to-pay for Autonomous Vehicles (AVs) bus services
	Armando Cartenì, Mariarosaria Picone
09:45 – 10:00	Macroscopic economic feasibility analysis of PRT networks based on capacity
	limited demand estimations
	Joerg Schweizer, Giacomo Bernieri, Federico Rupi













10:00 – 11:00 | Parallel sessions

Innovation in transport	
Room: Begonia	
Chair: Mariano Gallo	
10:00 – 10:15	Analysis of the impact of CAVs platoon breakdown in mixed traffic flow
	Xuelian Wu, Maria Nadia Postorino and Luca Mantecchini
10:15 – 10:30	Enhancing CCAM services Deployment: Augmented Co-Simulation Framework
	Andrea Marchetta, Angelo Coppola, Gennaro Nicola Bifulco
10:30 – 10:45	Devising a PKI solution for CCAM deployment on highways
	Andrea Marchetta, Angelo Coppola, Dario Ferrillo, Claudio Miccio, Gennaro Nicola
	Bifulco
10:45 – 11:00	Optimal location of refuelling stations for hydrogen-powered freight vehicles
	Mariano Gallo

Investigating safety and human factors in transport systems	
Room: Gardenia	
Chair: Riccardo Rossi	
10:00 – 10:15	Exploring Driving Fatigue in European professional taxi, bus and truck drivers
	Usami Davide Shingo
10:15 – 10:30	Calibration of stress, fatigue and productivity measures for port crane operators
	Daniel Mark Vitiello, Mattia Porta, Patrizia Serra, Gianfranco Fancello
10:30 – 10:45	Being safe in both simulated and real-world environments? A full immersion Virtual
	Reality training method for young pedestrians
	Andrea Baldassa, Federico Orsini, Massimiliano Gastaldi, Riccardo Rossi
10:45 – 11:00	Incorporating human factors in car-following models: a model credibility
	assessment framework
	Vincenzo Punzo, Davide Iannelli, Andrea Saltelli, Marcello Montanino

11:00 - 11:30 | Coffee break

11:30 - 12:30 | Parallel sessions

Freight transport		
Room: Begonia		
Chair: Angela [Chair: Angela Di Febbraro	
11:30 – 11:45	Managing freight transport in multi-modal networks considering the Physical Internet framework Federico Gallo, Alireza Shahedi, Mahnam Saeednia, Angela Di Febbraro, and Nicola Sacco	
11:45 – 12:00	How much freight is really transported on our roads? A data-driven estimate of freight road transport demand in Italy <i>Vittorio Marzano, Fulvio Simonelli, Francesco Grasso, Daniela Tocchi, Ennio</i> <i>Cascetta</i>	













12:00 - 12:15	A new freight transport incentive to achieve modal shift targets: methodology and application to Italy Fulvio Simonelli, Claudio Sterle, Adriano Masone, Daniela Tocchi, Fiore Tinessa, Andrea Mancuso, Andrea Papola, Vittorio Marzano
12:15 - 12:30	The role of the global chokepoints in reshaping the supply chain: controversial implications of the Red Sea crisis on the Port of Trieste Giuseppe Borruso, Caterina Caramuta, Andrea Gallo, Alessia Grosso, Giovanni Longo

Traffic modelin	Traffic modeling and management	
Room: Gardenia		
Chair: Gaetano	Chair: Gaetano Fusco	
11:30 – 11:45	Dynamic Variable Speed Limit Control on Motorway Networks	
	Saeed Mansouryar, Chiara Colombaroni, Gaetano Fusco, Natalia Isaenko, Kaveh	
	Shojaei	
11:45 – 12:00	Calibration of Hybrid Traffic Flow Model: methods analysis and comparison	
	Facundo Storani, Roberta Di Pace, Shi-Teng Zheng, Rui Jiang	
12:00 – 12:15	Real-time feedback systems for Manage-How-You-Drive insurance schemes:	
	analysis on effectiveness and retention	
	Federico Orsini, Giulia De Ceta, Francesca Freuli, Leandro L. Di Stasi, Mariaelena	
	Tagliabue, Massimiliano Gastaldi, Riccardo Rossi	
12:15 – 12:30	On minimizing the impact on traffic of maintenance work zones in a highway network	
	Mohammad Abbasi, Muhammad Tabish Bilal, Alice Consilvio, Davide Giglio, Paula	
	Lopez Arevalo	

12:30 - 13:15 | Parallel sessions

Rail transport		
Room: Begonia		
Chair: Luca D'A	Chair: Luca D'Acierno	
12:30 – 12:45	Resilience indicators in the case of railway transportation systems: An application to	
	the case of Line 1 of the Naples metro system	
	Luca De Matteis, Marilisa Botte, Rosario Stefanelli, Luca D'Acierno	
12:45 – 13:00	Innovations in on-board and wayside condition monitoring systems to support	
	railway business	
	Riccardo Licciardello, Cristiana Piccioni, Cristiano Marinacci, Sina S. Arabani, Miad	
	Farokhsiar, Stefano Ricci, Anna Maria Gisario, Nicola Roveri	
13:00 – 13:15	Next-generation freight intermodal trains: an effective way to increase rail share and	
	sustainability of inland transportation	
	Claudia Caballini, Simona Gurrì, Erika Olivari, Bruno Dalla Chiara	















Last Mile Logistics	
Room: Gardenia	
Chair: Marino Lupi	
12:30 – 12:45	A new last mile freight transport system based on platoons of automated vehicles and dynamic management of split up locations
	Marino Lupi, Daniele Conte, Alessandro Farina
12:45 – 13:00	Assessment of possible last-mile logistics configurations using drones in the mountain context: A case study in the North-Eastern Italy
	Caterina Caramuta, Alessia Grosso, Giovanni Longo
13:00 – 13:15	Exploring Heuristic Algorithms to Solve the Traveling Salesman Problem for Real- world Applications
	Nicola Ippolito, Guido Gentile, Lory Michelle Bresciani Miristice

13:15 – 14:30 | Light lunch

Thanks to:











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