



The 22nd COTA International Conference of Transportation Professionals

第22届COTA国际交通科技年会

# Conference Guide 会议手册

Changsha, China

July 8th - 11th, 2022

智能·绿色·互联互通

Intelligent, Green and Connected Transportation

智能·绿色·互联互通

Intelligent, Green and Connected Transportation



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## 1. Welcome Remarks 《 《 《

It is our great pleasure to welcome you all to the 22nd COTA International Conference of Transportation Professionals (CICTP 2022) in Changsha, China. The CICTP 2022 is jointly organized by Chinese Overseas Transportation Association (COTA) and Central South University (CSU). The CICTP series, formerly ICCTP (International Conference of Chinese Transportation Professionals), is established by COTA and sponsored by American Society of Civil Engineers (ASCE) and Transportation Research Board (TRB) of the US National Academies.

We are pleased to announce that CICTP 2022 received a large number of high-quality technical contributions: among the nearly 600 submissions, a total of 297 full papers were accepted for publication in the proceedings. These published papers went through a very rigorous technical review and English editing process for quality assurance. Centering around the theme “Intelligent, Green and Connected Transportation”, the CICTP 2022 proceedings papers address a wide range of topics. We hope the research and studies gathered in this conference will contribute to solving future needs of a multimodal transportation system, and help to advance transportation sustainability, energy independence, economic vitality, and quality of life. The CICTP 2022 will issue several awards, including Best Papers, Outstanding Area Editors, and Outstanding English Editing Chairs, to recognize the authors, reviewers and editors’ contributions and their dedication to the conference and/or transportation research and practice in general. The authors of some selected papers will also be invited to submit to recognized journal special issues, e.g., Accident Analysis & Prevention, Transportation Safety & Environment.

The CICTP 2022, the most prestigious transportation conference in China, is organized in a hybrid manner consisting of both in-person and online components, due to the COVID-19 pandemic. It has attracted more than 800 participants domestically and internationally from countries and regions all over the world. Nearly

thirty conference sessions such as plenary, spotlight, COTA contributed, and technical sessions, as well as special forums are organized online this year. The CICTP 2022 Executive and Organizing Committee has invited about 20 internationally recognized, prestigious experts and scholars to deliver talks in keynote and plenary sessions. These invitees will share their insights, thoughts, visions and experiences on a variety of current practices and state-of-the-art research topics. Other special forums will be focused on issues that are of great interest to the audience of various backgrounds, including Forum on Transport Infrastructure Investment, Dean Forum for Transportation Schools, Forum on Transportation Youth Scholars, etc. The best-paper awards and other professional awards will be granted to the authors of excellent papers or institutes/enterprises which have made outstanding contributions to the development of transportation systems in China.

On behalf of the CICTP 2022 organizing council, we would like to express our sincere gratitude to all authors and conference participants for their great contributions. We are grateful to all paper reviewers and English editors for their excellent efforts. Special thanks go to Central South University, the members of COTA and its Board of Directors for their generous support and offering their invaluable time and expertise. Finally, we also wish to thank all conference committee members, sponsors, invited speakers, session chairs, and staff members for their hard work and great efforts that make the CICTP 2022 a great success!

## 2. Conference Guide 《 《 《

### (1) CICTP2022 Conference Chairs



**Dr. Xiaokun Wang**

Associate Professor, COTA Immediate Past President, Rensselaer Polytechnic Institute, USA



**Dr. Hongqi Tian**

Professor, Academician of the Chinese Academy of Engineering, President, Central South University, China

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COTA President,  
Traffic Management  
Section Director,  
Texas Department of  
Transportation, USA



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Associate Professor,  
COTA Vice President,  
George Mason  
University, USA



**Dr. Zhijun He**  
Party Secretary of the  
CPC Committee of the  
School of Traffic and  
Transportation  
Engineering, Central  
South University, China



**Dr. Guangjun Gao**  
Professor, Dean,  
School of Traffic and  
Transportation  
Engineering, Central  
South University,  
China



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Associate Professor,  
University of Texas at Austin,  
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**Dr. Wei Fan**  
Professor, University of North  
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**Dr. Helai Huang**  
Professor, Dean, School of  
International Education,  
Central South University,  
China



**Dr. Xiaodong Song**  
Deputy Secretary of the CPC Committee of the  
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Dr. Hui Liu, Professor, Central South University, China  
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Dr. Pu Wang, Professor, Central South University, China  
Dr. Jin Qin, Professor, Central South University, China  
Dr. Wenliang Zhou, Associate Professor, Central South University, China  
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### 3. Organizers 《 《 《

#### (1) Chinese Overseas Transportation Association (COTA)



Established in January 1996, COTA (formerly NACOTA or North America Chinese Overseas Transportation Association) is a non-profit professional organization registered in Maryland, USA. The main missions of COTA are to strengthen connections between overseas transportation professionals worldwide and their counterparts in China, promote transportation development in China by providing knowledge and expertise through its members, enhance networking and collaboration among its members and serve as an information and knowledge-sharing platform on transportation development for all transportation professionals. COTA has approximately 1000 members and friends in North America and other parts of the world.

The CICTP series, formerly ICCTP (International Conference of Chinese Transportation Professionals), is a high-profile international conference that COTA organizes in China every summer. It is the premier gathering for Chinese transportation professionals worldwide and for those who are interested in contributing to or gaining a deeper understanding of the transportation development in China and other countries. CICTP has become the most influential academic conference in China. The Transportation Research Board (TRB) of the U.S. National Academies and American Society of Civil Engineers (ASCE) Transportation & Development Institute (T&DI) are long-term cosponsors of CICTP series.



## (2) Central South University (CSU)



Central South University (CSU) is situated in Changsha, a famous historical and cultural city in Hunan, China, and covers an area of 2,760,000 m<sup>2</sup>, with its campuses distributed on the east and west of Xiangjiang River. Backed by the majestic Yuelu Mountain and facing the grand Xiangjiang River, CSU has pleasing scenery and is ideal for study and research.

As a top university directly under the Ministry of Education (MOE) of the People's Republic of China, CSU is one of the first universities admitted into “Project 211” (the Chinese government's endeavor aimed at strengthening about 100 institutions of higher education and key disciplinary areas), “Project 985” (the Chinese government's effort to found world-class universities), and “Plan 2011” (the Chinese government's another initiative to improve universities' innovation forces). In September 2017, CSU was enlisted as one of the A-Level "Double First Rate" universities by the State Council. Currently, the Secretary of the CPC Committee of CSU is Yi Hong and the President is Tian Hongqi.

CSU was established in April 2000 by merging the former Hunan Medical University (HMU), the former Changsha Railway University (CRU) and the former Central South University of Technology (CSUT). The predecessor of CSUT was Central South Institute of Mining and Metallurgy founded in 1952 and that of CRU was Central South College of Civil Engineering and Architecture founded in 1953; their main disciplines originate in Mining & Metallurgy and Civil Engineering, two disciplines of Hunan Industrial College established in 1903. The predecessor of HMU was Xiangya Medical College founded in 1914 as one of China's earliest colleges offering western medicine courses.

Based on its over one hundred years of experience in operation as an education institution, CSU actively responds to the reform of China's higher education, advocates “Learning by Doing and Learning for Using” and pursues “Virtue, Truth, Perfection, Inclusiveness”. Sticking to its own operation characteristics and orienting at major demands of the country, CSU has made great progress in its overall strength through teamwork, innovation and commitment to excellence.

CSU has completed disciplinary systems for Non-ferrous Metals, Medicine, Rail Transit, etc., covering Philosophy, Economics, Law, Education, Literature, Science, Engineering, Medicine, Management and Art, and Military Science was embraced. At present, it has 6

national key primary disciplines, 12 national key secondary disciplines, 1 national key discipline (in development) and 61 national key clinical specialties, and sets up 31 schools and institutes with 104 undergraduate majors, 35 primary disciplines authorized for the doctoral degree, 46 primary disciplines authorized for the master's degree, 2 doctoral degree categories, 23 master's degree categories and 32 post-doctoral research centers. ESIs (Essential Science Indicators) of 15 disciplines including Materials Science, Engineering, Clinical Medicine, Chemistry, Pharmacology and Toxicology, Biology and Biochemistry, Neuroscience and Behavior, Mathematics, Computer Science, Molecular Biology and Genetics, and Social Sciences, Immunology, Psychiatry and psychology, Geoscience and Environmental science and ecology are among the top 1% in the world and the ESI of materials science is among the top 1% in the world. Besides, CSU possesses three large Grade-A Class-Three comprehensive hospitals, i.e., Xiangya Hospital, the Second Xiangya Hospital and the Third Xiangya Hospital, and also has Xiangya Stomatological Hospital and the Affiliated Cancer Hospital, Haikou Hospital and Zhuzhou Hospital of Xiangya School of Medicine.

CSU insists in strengthening by talent cultivation, so it has created has a strong faculty including 2 academicians of Chinese Academy of Sciences, 14 academicians of Chinese Academy of Engineering, 17 talents from the national "plan for ten thousand people" , 19 chief scientists of "Program 973" (National Basic Research Program) (2 for the youth project), 52 distinguished and chair professors of "Chang Jiang Scholars Programme", 7 national famous teachers, over 1,500 professors and personnel with corresponding senior professional titles and 473 experts who enjoy the special government allowance.

CSU values moral education and high-quality cultivation, so it has been bettering its talent training model. It has over 55,000 full-time students, including over 34,000 undergraduates, over 20,000 graduate students and nearly 1,647 overseas degree students. The university has 57 national excellent courses, 8 national teaching teams and 8 national experimental teaching demonstration centers. Since it took the lead to set up the innovation-oriented experimental class for advanced engineering talents, it became a pilot university implementing MOE's education and training program for excellence engineers, excellent physicians and excellent legal talents. CSU is one of China's first pilot universities offering eight-year medical education (Doctor of Medicine) and China's first university offering

master's programs involving command-skill integration for military officers in active service. In addition, CSU is included into China's first model universities experienced in graduate employment and is one of the 10 most popular universities among China's top 100 enterprises.

Orienting at the major demands of the country, the university drives collaborative innovation and serves the development of the national economy and the modernization of national defense. It has 22 national-level innovation platforms, including 2 national key laboratories, 5 national engineering research centers, 2 national engineering technology research centers, 6 national engineering laboratories, 1 key national defense science and technology laboratory, 1 national engineering and innovation capacity building platform and 3 national clinical medical research centers. Furthermore, it has led the construction of 2 national "Collaborative Innovation Centers 2011". Since 2000, the university has won 91 national Three Major Awards for Science and Technology (Award for Natural Sciences, Award for Technological Invention and Award for Scientific and Technological Progress), including 14 first prizes (special prizes) of national science and technology, and 9 projects have been selected into the "Top Ten Progresses in Science and Technology made by Chinese Colleges and Universities".

CSU is an open university. It has established long-term cooperation with more than 200 universities and research institutes in over 30 countries and regions, such as the United States, the United Kingdom, Australia, Canada, Japan, France, Germany and Russia, and has been extensively engaged in industry-university-research cooperation with a large number of multinational enterprises. Overseas students from more than 100 countries and regions study here.

Shouldering the historical responsibility on China's high-level university construction, CSU will accelerate its comprehensive reform and connotative development to grow up into an internationally well-known research university with its own characteristic and make greater contributions to the great rejuvenation of the Chinese nation.



### (3) School of Traffic and Transportation Engineering

#### 交通运输工程学院

School Of Traffic & Transportation Engineering

The School of Traffic and Transportation Engineering was founded in 2002 by combining traffic and transportation, rolling stock engineering, railway engineering machinery, and the Institute of High-Speed Train of Changsha Railway University during the department restructuring of Central South University. It aims to create a world-renowned and domestic first-class discipline in the field of Traffic and Transportation. The School of Traffic and Transportation Engineering has 3 departments, 1 research institute, 1 laboratory, and 11 research centers. At present, there are 122 faculty members, including 42 professors, 45 associate professors, and 43 doctoral supervisors. And there are more than 10 high-level talents including the Academician of the Chinese Academy of Engineering, leading talents in the scientific and technological innovation of the National "Ten Thousand Talents Plan". Awarded as an "Advanced School for National Professional Talents" and a "National Model School for Party Building", the School of Traffic and Transportation Engineering currently has an innovation team formed by Yangtze River scholars awarded by the Ministry of Education in "Key Technology in Rail Transit Safety", an innovation team formed by the Ministry of Science and Technology that focuses on promoting scientific and technological talents, and a teaching team for "Cultivation of Innovative Talents in Rail Transit".

As a national key discipline, the School of Traffic and Transportation Engineering is listed in China's Double First-Class Initiative, ranking 48th in 2021 according to the Global Ranking of Academic Subjects. The School has a post-doctoral research center and a first-level discipline authorized to offer doctoral and master's degree programs in Traffic and Transportation Engineering, as well as 6 secondary level doctor (master's) degrees authorized for the disciplines of Traffic & Transportation Planning and Management, Transport Vehicle Application Engineering, Traffic Information Engineering and Control, Logistics Engineering, Transportation Equipment and Information Engineering, and Urban Rail Transport Engineering.

Listed in Institutions of Higher Learning Innovation Ability Enhancement (2011 Program), the School of Traffic and Transportation Engineering is equipped with a series of leading discipline platforms, including the National & Local Joint Engineering Research Center of Safety Technology for Rail Vehicle, Joint International Research Laboratory of Key Technology for Rail Traffic Safety, Key Laboratory of Traffic Safety on Track of Ministry

of Education, Smart Transportation Key Laboratory of Hunan Province, Rail Data Research and Application Key Laboratory of Hunan Province, Vehicle Collision Safety and Protection Technology Engineering Laboratory of Hunan Province, National Railway Popular Science Education Base, 985 Project Innovation Platform for Rail Transit Safety, and an Innovation and Intelligence Base for Rail Transit Train Safety Discipline.

The School of Traffic and Transportation Engineering has four majors for undergraduate study, including Traffic and Transportation, Traffic Equipment and Control Engineering, Logistics Engineering, and Railway Signal and Control. Meanwhile, it sets up an "Excellence Plan" experimental class for high-level engineering talents in Traffic and Transportation, Traffic Equipment and Control Engineering, and the Sino-Australia "2+2" joint training class in Traffic and Transportation. It is the only School that can provide majors in Traffic and Transportation (rail transit), Transportation Equipment and Control Engineering among Universities of 985 Projects in China. With emphasis on moral education, the School of Traffic and Transportation Engineering values the cultivation of students' comprehensive quality and integrates ideological, political, innovative, and entrepreneurship education into the learning process. It strengthens domestic and international cooperation and exchange, and cultivates international talents. There are 2,350 students at present, including 1,566 undergraduates, 445 master's students, 235 doctoral students, and 104 international students. The employment rate of graduates has been maintained at over 98%. Over the past 60 years, more than 10,000 professionals have contributed to the field of rail transit in China.

The School of Traffic and Transportation Engineering has an independently designed and world's largest "Experimental Equipment for Train Aerodynamic Performance and Impact Simulation" exclusive in China. In recent years, the School has undertaken a series of major projects at national and provincial levels, such as the National Support Program, National 973 Project, National 863 Major Project, 985 Science and Technology Innovation Platform Construction Project, Major Projects of National Natural Science Foundation of China, etc. It has 2 State Science and Technology Progress Special Awards, 1 State Science and Technology Progress First-Class Award, 2 State Science and Technology Progress Second-Class Awards, 1 State Science and Technology Progress Innovation Team Award, 1 State Technological Invention Second-Class Award, 2 China Patent Gold Awards, 2 National

Teaching Achievement Second-Class Awards; 58 research awards at provincial and ministerial level, 8 teaching awards at provincial and ministerial level, more than 60 monographs and teaching materials published, and over 130 European, Japanese, Russian, and domestic invention patents granted.

Adhering to the national strategy of strengthening the country through transportation, the Belt and Road Initiative, and the Three Highs and Four News strategy of Hunan Province, the School of Traffic and Transportation Engineering is assisting China to innovate in the field of rail transit and to be a strong force and a think tank leading the rail transit industry.

## 4. Co-organizers 《 《 《

### (1) Hunan Society of Transportation Engineering (HSTE)



Hunan Society of Transportation Engineering, abbreviated as HSTE, was founded in 1984. HSTE is a 5A academic social organization dedicated to the scientific development of traffic safety and traffic engineering of Hunan province. The Superior department in charge is Hunan Association for Science and Technology, and the registration agency is the Department of Civil Affairs of Hunan Province. The chairman of the 9th Council of HSTE is Mr. Guo Zixing, former vice director of Hunan Provincial Department of Commerce. The secretary-general is Mr. He Xiangquan, former political commissar of the Accident Prevention and Treatment Division of the Hunan Provincial Public Security Department. Mr. Li Yiheng and Li An are honorary chairmen of the 9th Council. Professor Zheng Jianlong from Chinese Academy of Engineering, Professor Cai Guo from Hunan Police Academy, and Professor Li Shuo from Hunan University serve as the consultants of the 9th Council.

Hunan Society of Transportation Engineering has 91 member units, including the Transport infrastructure construction, design and management departments, public security and traffic police departments, university and research institutions, agricultural tractor supervisor, property insurance, production enterprises, and so on. HSTE is a cross-industrial and cross-sectional comprehensive academic organization. HSTE has a secretariat office, the academic working committee, the technical advisory working committee, the science dissemination working committee, the profession training working committee and the Intelligent and Connected Vehicles professional committee. In addition, HSTE has some affiliate organizations, which include the Youth scientists and technicians committee, scientific and technical advisory expert database, science communication expert team and Tong-tu civilized traffic volunteer team.

Over the years, HSTE always adheres to the principles of service first, responsibility primacy, reputation uppermost and non-profit. HSTE focused on serving road traffic planning, construction, and management in Hunan province, grasped the opportunity of community reforming and government functions transferring, effectively carried out academic exchanges, technical consultation, professional training and science popularization activities. HSTE has been awarded many times by the superior administration departments



and praised by the clients. For many years, HSTE has been awarded the honor of "Ten, Hundred and Thousand" model social organizations in Hunan Province, excellent activities and excellent organization of the National Science Popularization Day by the Chinese Association for Science and Technology.

## (2) Beijing Traffic Engineering Association (BTEA)



Founded in 1980, Beijing Traffic Engineering Association (BTEA) is one of the oldest academic societies. It is a registered nongovernmental body composed by companies and professionals in traffic management, traffic engineering and relevant fields, under the supervision of Beijing Municipal Commission of Transport. BTEA has become an outstanding and professional association of high profile, big influence and high degree of authority in the area of urban transportation with many years of development and owns a large number of researchers, technologists, and experts in the field of urban transportation engineering.

BTEA currently undertakes the daily services of transportation planning, traffic management, impact assessment, safety assessment, feasibility study, technical consultancy and evaluation and traffic data analyses. Also, it provides opportunities of exchange and training programs such as in-service educations, academic exchanges, publicity and follow of standards, technical visits in order to foster professional abilities of professionals in transportation industry, as well as coordinating efforts with member institutions to carry out daily work, serving member institutions and its members.

## 5. Program at a Glance ‹ ‹ ‹

Time	Friday, July 8, 2022	Saturday, July 9, 2022
Morning	Opening Ceremony 8:30-9:50	Forum on Transport Infrastructure Investment 9:00-11:00
	Photographing and Coffee/Tea Break 9:50-10:00	Track I- Session IV Cooperative Operation and Management of Connected and Automated Traffic 9:00-11:20
	Keynote Speech 10:00-12:00	Track I- Session VI Green Transportation Energy and Eco-driving Management 9:00-11:30
		Track I- Session VIII Public Transportation Operation Management and Control 9:00-11:00
		Track II - Session I COVID-19 Impacts on Urban Transportation 9:00-11:20
		Track III – Session I Intelligent Transportation Infrastructures 9:00-11:30
		Track III – Session II Sustainable Pavement Materials 9:00-12:00
		Track IV- Session I Transportation Emission, Environment and Sustainability 9:00-12:00
		Track V- Session III-1 Big Data Mining and Analysis in Transportation 8:00-11:40
		Track VI- Session II Driving Behavior and Human Factors 9:00-11:20

		Track VIII - Session III Subway Operation and Management 9:00-11:55
		Online Posters Show 9:00-12:00
Afternoon	Meeting with EICs: Strategies for Publishing High-quality Transport Environment and Policy Related Papers 13:30-15:00	Forum for "111" Plan for Rail Transit Train Safety 14:00-17:00
	Forum for International Students 14:00-17:20	Track I- Session V Advanced Traffic Signal Control and Cooperative Intersections 14:00-17:00
	Dean Forum for Transportation Schools 15:00-16:30	Track III - Session III Advanced Highway Maintenance and Preservation 14:00-17:00
	ATS (Autonomous Transportation System) Forum 14:30-16:50	Track IV- Session II Smart Mobility, Multimodal Transportation Integration and Logistics 14:00-16:30
	Track I- Session I Intelligent Connected Vehicles (ICV) and V2X 14:00-16:40	Track V- Session I-2 Sustainable and Safety Transportation System 14:00-17:00
	Track V- Session I-1 Sustainable and Safety Transportation System 14:00-17:55	Track VIII - Session II Railway Transport Organization and Management 14:00-16:00
	Track V- Session IV Travel Demand Management 14:00-17:50	Track VIII - Session VII Vehicle Aerodynamics 14:00-17:00
	Track VI- Session I Travel Behavior and Activities 14:00-16:20	Online Posters Show 14:00-17:00
	Track VIII - Session I Rail Transit Data Analysis and Application 14:00-16:10	
	Online Posters Show 14:00-17:00	



Time	Sunday, July 10, 2022	Monday, July 11, 2022
Morning	Forum on Transportation Youth Scholars 9:00-11:20	Track V- Session III-2 Big Data Mining and Analysis in Transportation 9:00-11:40
	Track I- Session II Transportation Optimization with V2X Applications 9:00-11:30	Track VII - Session III Shared Mobility 9:00-11:00
	Track I- Session VII Traffic Flow Theory and Network Modeling 8:30-12:00	Track VIII - Session VIII Railway Communication and Train Operation Control 9:00-10:40
	Track III – Session V Road Geometric Design and Safety Control 9:00-12:00	Online Posters Show 9:00-12:00
	Track IV- Session III Transportation and Regional Sustainable Development 9:00-12:00	
	Track V- Session II Advanced Technologies and Methods in Modeling Transportation System 9:00-12:10	
	Track VI- Session III Traffic Safety and Emergency Responses 9:00-11:20	
	Track VII- Session I Green Logistics and Supply Chain Management 9:00-11:30	
	Track VIII - Session IV Railway Infrastructure Construction and Maintenance 9:00-11:55	
	Track VIII - Session V Intelligent Detection and Maintenance of Railway Equipment 9:00-10:30	
	Online Posters Show 9:00-12:00	

Afternoon	Track I- Session III Informatics and Advanced Control Technology for Connected and Automated Vehicles 14:00-16:20	Closing Ceremony 14:00-15:00
	Track III – Session IV Transportation Asset Management 14:00-16:30	
	Track VI- Session IV Transportation Psychology 14:00-16:40	
	Track VII- Session II Sustainable Public Transit 14:00-16:30	
	Track VIII - Session VI Railway Passive Collision Safety 14:00-16:05	
	Online Posters Show 14:00-17:00	

## 6. Program 《 《 《

### Friday, July 8, 2022

- **Opening Ceremony 8:30-10:00**

**Friday, July 8, 2022**

Moderator: Representative of School of Traffic and Transportation Engineering, Central South University, China

Zoom Meeting: 868 3052 0827 (Password: 220708)

Time	Program
8:30-8:40	Promotional Film of Central South University
8:40-9:00	Opening Remarks Representative of Central South University Representative of Department of Education of Hunan Province, China
9:00-9:10	Dr. Xiaokun Wang, Conference Chair of CICTP2022, COTA Immediate Past President, Rensselaer Polytechnic Institute
9:10-9:20	Mr. Neil Pedersen, Executive Director of the Transportation Research Board
9:20-9:30	Dr. David A. Noyce, President of ASCE T&DI; Professor, University of Wisconsin-Madison
9:30-9:40	Representative of School of Traffic and Transportation Engineering, Central South University
9:40-9:50	Presentation of the COTA Lifetime Achievement Award
9:50-10:00	Photographing and Coffee/Tea Break

- **Keynote Speech 10:00-12:00**

**Friday, July 8, 2022**

Moderator: Dr. Shanjiang Zhu, Associate Professor, COTA Vice President, George Mason University, USA

Zoom Meeting: 868 3052 0827 (Password: 220708)

Time	Program
10:00-10:30	Dr. Kumares C. Sinha, Edgar B. and Hedwig M. Olson Distinguished Professor of Civil Engineering, US National Academy of Engineering Member, Purdue University
10:30-11:00	Mr. Jun Wang, Vice President of China Railway Rolling Stock Corporation, Senior Engineer, The National Outstanding Mid-aged Experts
11:00-11:30	Dr. Fred Mannering, Professor of Civil and Environmental Engineering at University of South Florida, Editor in Chief of AMAR
11:30-12:00	Dr. Junyi Zhang, Professor at Hiroshima University; Foreign fellow, The Engineering Academy of Japan

● **Track Session**

Track I: Advanced Transportation Information and Control Engineering	Chair: Liang Zheng, Central South University
Track II: Impact of COVID-19 on Travel Behavior and Transportation Systems	Chair: Xuekai Cen, Central South University
Track III: Transportation Infrastructure Engineering	Chair: Jinjun Tang, Central South University
Track IV: Vehicle Operation Engineering and Management	Chair: Chuanyao Li, Central South University
Track V: Transportation Planning and Policy	Chair: Maosheng Li, Central South University
Track VI: Transportation Behavior and Safety	Chair: Ye Li, Central South University
Track VII: Sustainable Transportation Systems and Modern Logistics	Chair: Xuekai Cen, Central South University
Track VIII: Rail Transportation	Chair: Guangming Xu, Central South University

## Meeting with Editors-in-Chief: Strategies for Publishing High-quality Transport Environment and Policy Related Papers

Chair: Yang Liu, National University of Singapore

July 8, 13:30-15:00 Beijing Time

Tencent Meeting: 287-800-678

Time	Program
13:30-14:30	<p>A Panel on Strategies for Publishing High-quality Transport Environment and Policy Related Papers</p> <p>Panelists:</p> <p><i>Zhichun Li, Associate Editor of Transport Policy, Huazhong University of Science and Technology</i></p> <p><i>Donggen Wang, EIC of Travel Behaviour and Society, Hong Kong Baptist University</i></p> <p><i>Ying-en Ge, Associate Editor of Transportation Research Part D: Transport and Environment Chang'an University</i></p> <p><i>Lvxiang Deng, Associate Editor of Transportation Safety and Environment, Central South University</i></p>
14:30-15:00	Q&A



## Forum for International Students

Chair: Zhichun Li, Huazhong University of Science and Technology

July 8, 14:00-17:20 Beijing Time

Tencent Meeting: 524-335-998

Time	Program
14:00-14:30	Boosting sustainable development of belt and road through implementing big compliance management system and fulfilling corporate social responsibility obligations <i>Qinghua Wang, China Railway International Group Co., Ltd, Beijing</i>
14:30-14:50	China-pakistan economic corridor project in pakistan and its promotion for local economic <i>Muhammad Sohail; Aqsa Talpur, Central South University</i>
14:50-15:10	Integrated optimization of line planning, timetabling and rolling stock allocating for urban railway lines <i>Mehdi Oldache, Central South University</i>
15:10-15:20	Tea Break
15:20-15:40	Effect of safety leadership on construction worker safety behavioural compliance: parallel mediation model of safety participation and knowledge sharing <i>Muhammad Kashif Zaheer, Central South University</i>
15:40-16:00	Risk analysis of rail infrastructure based on Multi-Criteria Decision-Making (MCDM) approach <i>Dung D Fom, Central South University</i>
16:00-16:20	Multimodal integration of Nigerian trade market into the BRI considering political risk and security threats <i>Idris Ahmad, Central South University</i>
16:20-16:40	Modeling the effects of China-Europe Railway Express on China-Europe Multi-modal Freight Network <i>Xu Gong, Huazhong University of Science and Technology</i>
16:40-17:00	Gasoline and electric vehicle ownership rationing: Lottery vs. first-come-first-serve scheme <i>Wenjing Liu, Huazhong University of Science and Technology</i>
17:00-17:20	The effect of inter-carriage gap and end wall geometry on the aerodynamic performance of a high-speed train <i>Abdulmalik Adamu, Central South University</i>

## Dean Forum for Transportation Schools

Chair: Weiya Chen, Central South University

July 8, 15:00-16:30 Beijing Time

Tencent Meeting: 676-410-518

Time	Program
15:00-15:15	Lei Nie, Dean, School of Traffic and Transportation, Beijing Jiaotong University
15:15-15:30	Shichun Yang, Dean, School of Transportation Science and Engineering, Beihang University
15:30-15:45	Jun Chen, Dean, School of Transportation, Southeast University
15:45-16:00	Di Zhang, Dean, School of Transportation and Logistics Engineering, Wuhan University of Technology
16:00-16:15	Mingjun Ji, Dean, College of Transportation Engineering, Dalian Maritime University
16:15-16:30	Guangjun Gao, Dean, School of Traffic and Transportation Engineering, Central South University

## ATS (Autonomous Transportation System) Forum (Jointly Supported by COTA and NKRDPC (2020YFB1600400))

Chair: Xuekai Cen, Central South University

July 8, 14:30-17:10 Beijing Time

Tencent Meeting: 586-229-5750

Time	Program
14:30-14:50	The development of intelligent transportation system under new technologies <i>Jizhen Guan, China Intelligent Transportation Systems Association</i>
14:50-15:10	A brief introduction on autonomous transportation system <i>Ming Cai, Sun Yat-sen University</i>
15:10-15:30	A framework to elicit user needs of autonomous transportation system based on activity theory <i>Lai Zheng, Harbin Institute of Technology</i>
15:30-15:50	Functional domains clustering of autonomous transportation system based on latent dirichlet allocation <i>Xuekai Cen, Central South University</i>
15:50-16:10	Mapping relationship discovery of multi-dimensional architectures in autonomous transportation system <i>Jinjun Tang, Central South University</i>
16:10-16:30	A hierarchical architecture for autonomous transportation system: a case study on a traffic scenario using edge computing equipment <i>Ping Wang, Chang'an University</i>
16:30-16:50	A method for simulation of ATS based on system dynamics modelling <i>Zhenwu Chen, Shenzhen Urban Transportation Planning Center CO., LTD</i>

## Track I —Session I

### Intelligent Connected Vehicles (ICV) and V2X

Chair: Quan Yuan, Tsinghua University

July 8, 14:00-16:40 Beijing Time

Co-Chair: Nengchao Lyu, Wuhan University of Technology

Tencent Meeting: 641-180-964

Time	Program
14:00-14:20	Test-platform and effect evaluation of Cooperative Vehicle Infrastructure System Head Up Display (CVIS-HUD) <i>Xiaohua Zhao, Beijing University of Technology</i>
14:20-14:40	Human-vehicle emotion interaction towards smart mobility <i>Quan Yuan, Tsinghua University</i>
14:40-15:00	Unsafe driver behavior recognition and interference for intelligent cockpit of autonomous vehicles <i>Guofa Li, Shenzhen University</i>
15:00-15:20	Motion planning and control of connected and automated vehicles <i>Duanfeng Chu, Wuhan University of Technology</i>
15:20-15:40	Research on the improvement method of driver's take-over ability in human-machine codriving vehicle <i>Zhongxiang Feng, Hefei University of Technology</i>
15:40-16:00	Research on highway traffic video recognition using computer vision for ICV <i>Jian Wan, China Design Group, Southeast University</i>
16:00-16:20	Intelligent emergency response system for large-scaled road network with information perception, deduction and fusion method <i>Ping Wang, Chang'an University</i>
16:20-16:40	Cooperative-driving control for mixed fleets at wireless charging sections for lane changing behaviour <i>Jianghui Wen, Wuhan University of Technology</i>

## Track V- Session I-1

### Sustainable and Safety Transportation System

Chair: Zaining Li, Central South University

July 8, 14:00-17:55 Beijing Time

Co-Chair: Fengxiang Guo, Kunming University of Science  
and Technology

Tencent Meeting: 843-170-614

Time	Program
14:00-14:25	The effectiveness testing of a risk early warning system at intersections without signal control <i>Fengxiang Guo, Kunming University of Science and Technology</i>
14:25-14:50	The impacts of incentive on seat yielding behavior on the bus <i>Dong Zhang, Dalian University of Technology</i>
14:50-15:15	Crash risk prediction and active cooperative management for vehicle groups <i>Ling Wang, Tongji University</i>
15:15-15:40	Effectiveness of a helmet promotion campaign, China <i>Peishan Ning, Central South University</i>
15:40-15:50	Tea Break
15:50-16:15	Adoption and perceived risk of automated vehicles <i>Mao Suyi, Politecnico di Torino/Central South University</i>
16:15-16:40	UCF SST City-Sim drone trajectory open dataset <i>Ou Zheng, University of Central Florida</i>
16:40-17:05	Local level policy tool for the sustainable development of transport policies in remote environments of developing countries <i>Aftab Hussain Talpur, Mehran University of Engineering and Technology</i>
17:05-17:30	Nexus of transportation planning and sustainable urban development <i>Hamid Arshad, University of Management and Technology</i>
17:30-17:55	Tunnel safety research based on comprehensive crash data and driving behavior analyses <i>Amjad Pervez, Central South University</i>



## Track V – Session IV Travel Demand Management

Chair: Lin Cheng, Southeast University

July 8, 14:00-17:50 Beijing Time

Tencent Meeting: 782-458-920

Time	Program
14:00-14:30	Barzilai-Borwein step size: a faster step size scheme for solving traffic equilibrium problem <i>Muqing Du, Hohai University</i>
14:30-15:00	General stochastic ridesharing user equilibrium problems and solution methods <i>Jie Ma, Southeast University</i>
15:00-15:30	Deep learning approach for ride-hailing demand prediction considering imbalance problems and sparse uncertainty <i>Kai Liu, Dalian University of Technology</i>
15:30-16:00	Vehicle routing in mobility-on-demand systems via a batch reinforcement learning approach <i>Xinlian Yu, Southeast University</i>
16:00-16:10	Tea Break
16:10-16:40	Urban transportation demand excavating based on multi-source data <i>Xiaoyong Tang, Chongqing transportation planning and Research Institute</i>
16:40-17:10	The whole day path planning problem incorporating mode chains modeling in the era of mobility as a service <i>Dawei Li, Southeast University</i>
17:10-17:30	An optimization of intercity high-speed railway operation plan <i>Yun Yang, Southwest Jiaotong University</i>
17:30-17:50	The last train timetable synchronization of rail transit with the maximum OD accessibility <i>Shuang Zhang, Chang'an university</i>

## Track VI – Session I Travel Behavior and Activities

Chair: Dawei Li, Southeast University

July 8, 14:00-16:20 Beijing Time

Tencent Meeting: 323-927-626

Time	Program
14:00-14:20	Kansei engineering for new energy vehicle exterior design: an internet big data mining approach <i>Xinjun Lai, Guangdong University of Technology</i>
14:20-14:40	Integrated scenarios and strategies for transport decarbonization toward carbon neutrality <i>Runsen Zhang, Hiroshima University</i>
14:40-15:00	Travel demand, and activity restriction in China: a national assessment <i>Zhao Zhang, Beihang University</i>
15:00-15:20	Exploring children walking behaviour in constrained environment <i>Xiaomeng Shi, Southeast University</i>
15:20-15:40	Exploring the spatial and temporal evolution patterns of customized bus demand <i>Jiangbo Wang, Dalian University of Technology</i>
15:40-16:00	Modeling activity-travel behavior under a dynamic discrete choice framework with unobserved heterogeneity <i>Dawei Li, Southeast University</i>
16:00-16:20	Equilibrium model of travel mode choice behavior based on rational inattention theory <i>Shumin Sun, Beijing University of Civil Engineering and Architecture</i>

## Track VIII- Session I

### Rail Transit Data Analysis and Application

Chair: Pu Wang, Central South University

July 8, 14:00-16:10 Beijing Time

Tencent Meeting: 997-743-248

Time	Program
14:00~14:30	Exploring the academic frontier and key problems of flexible train formation via virtual coupling <i>Dongxiu Ou, Tongji University</i>
14:30~15:00	Big data based forecasting methods for operation safety status of some rail transit equipment <i>Hui Liu, Central South University</i>
15:00-15:10	Tea Break
15:10-15:40	Energy saving optimization method for high-speed railway train timetable <i>Yuzhao Zhang, Lanzhou Jiaotong University</i>
15:40~16:10	Analysis of subsidizing-operating strategies for market players of China railway express considering the impact of subsidy withdrawal: a study based on evolutionary game theory <i>Fenling Feng, Central South University</i>

**Saturday, July 9, 2022**

### Forum on Transport Infrastructure Investment

Chair: Jason Wang, Senior Transport Specialist, Appalachian Regional Commission, USA

July 9, 9:00-11:00 Beijing Time

(July 8, 21:00-23:00 US EDT)

Zoom Meeting: 852 0494 0668 (Password: 220709)

Time	Program
9:00-9:10	Opening Remarks: Jianming Ma, COTA President, Ph.D., P.E., PMP®, M.ASCE, Traffic Management Section Director, Texas Department of Transportation Representative of School of Traffic and Transportation Engineering
9:10-9:25	World Bank
9:25-9:40	Chen Chen, Country Director, Sri Lanka Resident Mission, Asian Development Bank

9:40-9:55	Andres Pizarro, Sector Leader - Transport Infrastructure Investment Department Region 1, Asian Infrastructure Investment Bank
9:55-10:10	Ron Boéna, Former ITS Transit Division Chief and the International Research Program Officer, US Department of Transportation,
10:10-10:25	Helai Huang, Dean, School of International Education, Central South University
10:25-11:00	Q & A

## Track I—Session IV

### Cooperative Operation and Management of Connected and Automated Traffic

Chair: Siyuan Gong, Chang'an University

July 9, 9:00-11:20 Beijing Time

Tencent Meeting: 311-609-422

Time	Program
9:00-9:20	Distributed connected automated vehicles control under real-time aggregated macroscopic car following behavior estimation based on deep reinforcement learning <i>Yang Zhou, University of Wisconsin Madison</i>
9:20-9:40	Significance of low-level control to string stability under adaptive cruise control: algorithms, theory and experiments <i>Hao Zhou, Georgia Institute of Technology</i>
9:40-10:00	Lighthill-Whitham-Richards model for traffic flow mixed with cooperative adaptive cruise control vehicles <i>Yanyan Qin, Chongqing Jiaotong University</i>
10:00-10:20	Incentive-based decentralized routing for connected and autonomous vehicles using information propagation <i>Jian Wang, Southeast University</i>
10:20-10:40	Understanding charging dynamics and charging station preference of fully-electrified taxi services <i>Yuntao Guo, Tongji University</i>
10:40-11:00	Construction and field tests of a connected vehicle-based car-following guidance system <i>Siyuan Gong, Chang'an University</i>
11:00-11:20	Effects of collision warnings and displays on driving behaviors under connected vehicle environments <i>Wenjing Zhao, Hong Kong Polytechnic University</i>



## Track I—Session VI

### Green Transportation Energy and Eco-driving Management

Chair: Zhibin Chen, New York University Shanghai

July 9, 9:00-11:30 Beijing Time

Co-chair: Zhengtian Xu, George Washington University

Tencent Meeting: 237-454-187

Time	Program
9:00-9:25	Robust charging strategies for electric bus fleets under energy consumption uncertainty <i>Kai Liu, Dalian University of Technology</i>
9:25-9:50	Data-driven simulation-based planning for electric airport shuttle systems: a real-world case study <i>Zhaocai Liu, National Renewable Energy Laboratory</i>
09:50-10:15	The management of cooperative multi-party truck platooning: the behavioral stability and beyond <i>Xiaotong Sun, Hong Kong University of Science and Technology</i>
10:15-10:40	Optimal charging scheduling and management for a fast-charging battery electric bus system <i>Yi He, Beijing University of Technology</i>
10:40-11:05	Empirical analysis of electric vehicles' charging patterns: case study from Shanghai <i>Zhibin Chen, New York University Shanghai</i>
11:05-11:30	Optimal en-route charging station locations in highway networks for electric vehicles <i>Chi Xie, Tongji University</i>

## Track I—Session VIII

### Public transportation operation management and control

Chair: Ning Zhu, Tianjin University

July 9, 9:00-11:00 Beijing Time

Co-chairs: Zhaocai Liu, National Renewable Energy Laboratory Tencent Meeting: 829-773-304

Time	Program
9:00-9:20	Battery electric bus infrastructure planning under demand uncertainty <i>Kun An, Tongji University</i>
9:20-9:40	Infrastructure enabled eco-approach for transit system <i>Xin Li, Dalian Maritime University</i>
9:40-10:00	HVAC operation planning for electric bus trips based on chance-constrained programming <i>Yiming Bie, Jilin University</i>
10:00-10:20	An integrated multi-objective optimization for dynamic airport shuttle bus location, route design and departure frequency setting problem <i>Ming Wei, Civil Aviation University of China</i>
10:20-10:40	A branch-cut-and-price algorithm for a dial-a-ride problem with minimum disease-transmission risk <i>Xinwu Qian, The University of Alabama</i>
10:40-11:00	Coordinating ride-sourcing and public transport services with a reinforcement learning approach <i>Siyuan Feng, Hong Kong University of Science and Technology</i>

## Track II - Session I

### COVID-19 Impacts on Urban Transportation

Chair: Zheng Zhu, Zhejiang University

July 9, 9:00-11:20 Beijing Time

Tencent Meeting: 942-605-4168

Time	Program
9:00-9:20	Performance analysis of road closure measures during a pandemic-based on cases of COVID-19 prevention in China <i>Songbo Zhang, Harbin Institute of Technology</i>
9:20-9:40	Optimization model of bus route in abnormal periods targeted at minimizing the negative benefit of bus service <i>Telan Wu, Soochow University</i>
9:40-10:00	Influence of COVID-19 pandemic on private car purchasing intention:

	preliminary results from a Chinese case study <i>Xiaofeng Pan, Wuhan University of Technology</i>
10:00-10:20	Tourist congestion perception of tourist flow during the COVID-19 pandemic <i>Yan Han, Beijing University of Technology</i>
10:20-10:40	Impact analysis of COVID-19 on travel behavior and mode preferences of Hong Kong residents <i>Shouguo Peng, The Hong Kong Polytechnic University</i>
10:40-11:00	Investigation of respiratory infectious diseases in indoor public places: a microscopic model perspective <i>Yao Xiao, Sun Yat-sen University</i>
11:00-11:20	One year with COVID-19: The impact on air transportation throughout 2020 <i>Xiaoqian Sun, Beihang University</i>

### Track III – Session I

#### Intelligent Transportation Infrastructures

Chair: Yajie Zou, Tongji University

July 9, 9:00-11:30 Beijing Time

Tencent Meeting: 282-346-471

Time	Program
9:00-9:30	Analysis of Spatiotemporal Impact of Traffic Accidents on Freeway <i>Weibin Zhang, Nanjing University of Science and Technology</i>
9:30-10:00	Understanding interactive behaviors among human drivers toward socially-compatible autonomous driving <i>Wenshuo Wang, McGill University</i>
10:00-10:30	Application of artificial intelligence in travel behavior research <i>Xiaoqiang Kong, Texas A&amp;M Transportation Institute</i>
10:30-11:00	Stochastic capacity analysis for a distributed connected automated vehicle virtual car-following control strategy <i>Tianyi Chen, University of Wisconsin Madison</i>
11:00-11:30	A novel game-based coordinated control method for mixed network through VMS <i>Hang Yang, Ningbo University</i>

## Track III – Session II

### Sustainable Pavement Materials

Chair: Chenjie Gong, Central South University

July 9, 9:00-12:00 Beijing Time

Tencent Meeting: 494-588-893

Time	Program
9:00-9:30	Numerical analysis on the structure design of precast cement concrete pavement slabs <i>Xuhao Wang, Chang 'an university</i>
9:30-10:00	Mesoscale exploration on evolutionary behavior of void distribution and connectivity of asphalt mixture under load <i>Jinzhou Liu, Southeast University</i>
10:00-10:30	Utilization of iron ore tailing as an alternative mineral filler in asphalt mastics <i>Ziyao Wei, Southeast University</i>
10:30-11:00	Performance distribution characteristics and preventive maintenance effect of expressway pavement in Beijing <i>Xi Zhang, Beijing University of Technology</i>
11:00-11:30	Safety analysis of the three-axle heavy-duty vehicle under the excitation of 3D pavement roughness <i>Dawei Wang, Harbin Institute of Technology</i>
11:30-12:00	Performance evaluation of asphalt modified by waste oil pre-expansion and microwave activated crumb rubber <i>Qi Liu, Southeast University</i>

## Track IV – Session I

### Transportation Emission, Environment and Sustainability

Chair: Tieqiao Tang, Beihang University

July 9, 9:00-12:00 Beijing Time

Tencent Meeting: 611-774-104

Time	Program
9:00-9:30	Towards green and sustainable aviation through efficient and emission-wise flight trajectory planning <i>K.H. Ng, The Hong Kong Polytechnic University</i>
9:30-10:00	A proactive eco-driving model for connected and automated vehicle platoons on rural-urban corridors <i>Shaowei Yu, Chang 'an University</i>



10:00-10:30	An eco-driving strategy for electric vehicle based on the powertrain <i>Peng Liao, Ocean University of China</i>
10:30-11:00	Research on the recall warning model of defective automobile based on multiple linear regression <i>Chao Wang, Jinlin University</i>
11:00-11:30	What drives public willingness to participate in low-carbon commuting? A study on the carbon generalized system of preferences in Beijing, China <i>Siyang Chen, Beijing Jiaotong University</i>
11:30-12:00	Investigation of wake flow of a simplified heavy vehicle with different aspect ratios <i>Fan Wang, Central South University</i>

### Track V- Session III-1

## Big Data Mining and Analysis in Transportation

Chair: Zhiyong Cui, Beihang University

July 9, 8:00-11:40 Beijing Time

Tencent Meeting: 525-890-705

Time	Program
8:00-8:30	Modeling naturalistic driving environment for autonomous vehicle testing <i>Shuo Feng, University of Michigan Transportation Research Institute</i>
8:30-9:00	Machine learning based spatiotemporal analysis for traffic data <i>Yuankai Wu, Sichuan University</i>
9:00-9:30	Simulation, optimization and reinforcement learning for shared mobility on-demand <i>Jintao Ke, the University of Hong Kong</i>
9:30-10:00	Large-scale pavement performance evaluation using crowdsourced data <i>Chenglong Liu, Tongji University</i>
10:00-10:10	Tea Break
10:10-10:40	Estimating and mitigating the effects of curbside pick-ups and drop-offs on traffic congestion: a causal inference approach <i>Wei Ma, The Hong Kong Polytechnic University</i>
10:40-11:10	Application of artificial intelligence in urban intelligent logistics <i>Lixia Wu, AI director of consumer &amp; distribution logistics of Cainiao AI Department, Cainiao Supply Chain Management Co., Ltd</i>
11:10-11:40	How AI technology helps to implement green intelligent transportation application <i>Haifeng Guo, Director of ITS Department, SenseTime Co., Ltd</i>

## Track VI – Session II

### Driving Behavior and Human Factors

Chair: Xiaohua Zhao, Beijing University of Technology

July 9, 9:00-11:20 Beijing Time

Tencent Meeting: 566-920-332

Time	Program
9:00-9:20	Safety evaluation of the smart cockpit service using driving simulator <i>Xuesong Wang, Tongji University</i>
9:20-9:40	How the time-budget influences the takeover performance for different scenarios and mental workloads <i>Weina Qu, Institute of Psychology, Chinese Academy of Sciences</i>
9:40-10:00	Research on improving children's road hazard perception based on two-way learning within the family <i>Zhongxiang Feng, Hefei University of Technology</i>
10:00-10:20	Human-machine interaction and control optimization of Human-machine shared driving switching <i>Nengchao Lyu, Wuhan University of Technology</i>
10:20-10:40	Research on take-over performance of autonomous vehicles under typical urban road driving scenarios <i>Jiangfeng Wang, Beijing Jiaotong University</i>
10:40-11:00	Research on driver's technology acceptance of cooperative collaborative vehicle infrastructure system based on extended TAM <i>Jia Li, Beijing University of Technology</i>
11:00-11:20	Evaluating gaze behavior of drivers in a mixed autonomous driving traffic flow based on spatial-temporal analysis and causal reasoning <i>Tao Liu, Tongji University</i>

## Track VIII- Session III

### Subway Operation and Management

Chair: Jungang Shi, East China Jiaotong University

July 9, 9:00-11:55 Beijing Time

Tencent Meeting: 873-908-509

Time	Program
9:00-9:25	Quantifying the advantages in travel cost and time of rail transit over taxi <i>Yanshuo Sun, Florida State University</i>
9:25-9:50	Integrated optimization of train timetable, rolling stock assignment and short-turning strategy for a metro line <i>Yuan Gao, Beijing Institute of Technology</i>
9:50-10:15	Validating rail transit assignment models in temporal dimension <i>Wei Zhu, Tongji University</i>

10:15-10:40	A branch-and-price approach for the real-time rolling stock and timetable rescheduling in urban rail transit systems <i>Jiateng Yin, Beijing Jiaotong University</i>
10:40-11:05	A column generation-based approach for integrated vehicle and crew scheduling on a single metro line with the fully automatic operation system by partial supervision <i>Hanchuan Pan, Shanghai University of Engineering Science</i>
11:05-11:30	Joint optimization of train timetabling and rolling stock circulation planning: A novel flexible train composition mode <i>Jianguo Qi, Beijing Jiaotong University</i>
11:30-11:55	Joint optimization of carriage arrangement and flow control in a metro-based underground logistics system <i>Zhen Di, East China Jiaotong University</i>

### Forum for "111" Plan for Rail Transit Train Safety

Chair: Said Ahzi, University of Strasbourg

July 9, 14:00-17:00 Beijing Time

Chair: Dongsheng Li, Clemson University

Tencent Meeting ID: 490-300-540

Time	Program
14:00-14:20	Dynamic behavior of Elium Acrylic based laminate composite <i>R.Matadi-Boumbimba, University of Lorraine</i>
14:20-14:40	Application of macrotecture map in microstructure representation of gradient structured components <i>Dongsheng Li, Clemson University</i>
14:40-15:00	Dynamic behavior of polymers and polymer composites <i>Said Ahzi, University of Strasbourg</i>
15:00-15:20	Application of symbolic computation in structural dynamics research <i>J. Ranjan Banerjee, University of London</i>
15:20-15:40	How long-term are the changes caused by covid to transport and our universities? <i>Roderick A Smith, Imperial College London</i>
15:40-16:00	Living labs and digital twins for hyperconnected city delivery: recent innovation projects in Europe <i>Lori Tavasszy, Delft University of Technology</i>
16:00-17:00	Discussion for "111" Plan for Rail Transit Train Safety

## Track I—Session V

### Advanced Traffic Signal Control and Cooperative Intersections (Jointly Supported by COTA and NKRDP (2018YFB1600500))

Chair: Lihui Zhang, Zhejiang University

July 9, 14:00-17:00 Beijing Time

Tencent Meeting: 238-859-910

Time	Program
14:00-14:20	Coordinated control method of variable guide lane at signalized intersection under the mixed traffic environment of intelligent connected vehicles <i>Chuan Ding, Beihang University</i>
14:20-14:40	Internal boundary control in connected and automated transportation systems <i>Xufeng Jin, Zhejiang University</i>
14:40-15:00	Research on intelligent vehicle operation control strategy at signalized intersection under new mixed traffic environment <i>Wenjuan E, Soochow University</i>
15:00-15:20	High time-resolution queue profile estimation at signalized intersections based on extended Kalman filtering <i>Simon Hu, Zhejiang University</i>
15:20-15:40	Three-dimensional traffic state perception technology and application in intersections for connected vehicles <i>Pangwei Wang, North China University of Technology</i>
15:40-16:00	Eco-driving of connected and automated vehicles in mixed and power-heterogeneous traffic flow <i>Yonghui Hu, Zhejiang University</i>
16:00-16:20	Point cloud data registration and traffic target detection based on multiple roadside LiDAR's in urban traffic environments <i>Jianying Zheng, Soochow University</i>
16:20-16:40	Cooperative control of vehicle trajectories and traffic signals along arterials with mixed-autonomy traffic <i>Lihui Zhang, Zhejiang University</i>
16:40-17:00	Shared-phase-dedicated-lane based intersection control with mixed traffic of human-driven vehicles and connected and automated vehicles <i>Chunhui Yu, Tongji University</i>



### Track III – Session III

## Advanced Highway Maintenance and Preservation

Chair: Wenhui Zhang, Northeast Forestry University

July 9, 14:00-17:00 Beijing Time

Tencent Meeting: 480-939-0634

Time	Program
14:00-14:30	Highway alignment optimization design based on truck roadside accident risk evaluation <i>Guozhu Cheng, Northeast Forestry University</i>
14:30-15:00	Research on key technology of photovoltaic sunshade design at the entrance and exit of expressway tunnel <i>Ying Yan, Chang'an University</i>
15:00-15:30	Technologies and materials for crack maintenance of asphalt pavement: from field investigation to laboratory evaluation <i>Liping Cao, Harbin Institute of Technology</i>
15:30-16:00	Study on operating speed characteristics in expressway work zone <i>Biao Wu, Heilongjiang Institute of Technology</i>
16:00-16:30	Research on the evaluation of routine maintenance quotas of expressways based on the entropy Weight-TOPSIS method <i>Xing Wang, Beijing University of Technology</i>
16:30-17:00	Optimization design of intersection traffic organization: A case study in Zhenjiang <i>Jiangying Zhou, Nanjing University of Aeronautics and Astronautics</i>

### Track IV – Session II

## Smart Mobility, Multimodal Transportation Integration and Logistics

Chair: Lingling Xiao, Beijing Jiaotong University

July 9 14:00-16:30 Beijing Time

Tencent Meeting: 454-594-563

Time	Program
14:00-14:30	A review of Human-Machine Interface and Interaction modes in the intelligent vehicle cockpit <i>Jiankai Tang, Tsinghua University</i>
14:30-15:00	Comparison of various mathematical models for vehicle routing problem with simultaneous pickups and deliveries with time window <i>Linwei He, Chang'an University</i>
15:00-15:30	Bi-level optimization model in transportation evacuation network based on rational inattention

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*Chuanlin Zhao, Beijing University of Civil Engineering and Architecture*

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15:30-16:00 Research on the diffusion of policy innovation in China's autonomous vehicles industry: EHA based on cox proportional hazard model  
*Fei Zhou, Beijing Jiaotong University*

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16:00-16:30 The analysis of peak travel behavior under incentive with uncertainty  
*Chengxi Zhou, Central University of Finance and Economics*

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16:30-17:00 An exact solution method for truck-assisted drone routing problem  
*Shuang Wang, Beihang University*

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## Track V- Session I-2

### Sustainable and Safety Transportation System

Chair: Jia Yao, Dalian University of Technology

July 9, 14:00-17:00 Beijing Time

Tencent Meeting: 889-732-685

Time	Program
14:00-14:20	Research on cross section design of Human-oriented Street for High-quality Urban Renewal <i>Deshi Di, Guangzhou Urban Planning &amp; Design Survey Research Institute</i>
14:20-14:40	Satisfaction of public transport service quality and improvement strategies based on Importance-Performance Matrix <i>Yan Han, Beijing University of Technology</i>
14:40-15:00	Identifying the bottlenecks of urban metro and analyzing the passenger source <i>Sirui LV, Central South University</i>
15:00-15:20	Understanding and estimating the diversion of passenger flow from existing lines to new lines in an expanding urban metro <i>Kaipeng Wang, Central South University</i>
15:20-15:40	Development mechanisms of Station-City-People Integration in high-speed railway hub area: Research framework and prospects <i>Yang Li, Huazhong University of Science and Technology</i>
15:40-16:00	Design of double auction mechanism based on temporal and spatial attributes of shared parking space <i>Yan Han, Beijing University of Technology</i>
16:00-16:20	Concentration vs diversification competition for two-sided ridesourcing platforms <i>Yanyan Ding, Hong Kong University Of Science and Technology</i>
16:20-16:40	A systematic analysis of effects of airport expansion considering airline and passenger responses <i>Fangni Zhang, University of Hong Kong</i>
16:40-17:00	Impact of connected and autonomous vehicle technology on market penetration and routing behavior <i>Tingting Xie, National university of singapore</i>

## Track VIII- Session II

### Railway Transport Organization and Management

Chair: Shuguang Zhan, Hefei University of Technology

July 9, 14:00-16:00 Beijing Time

Tencent Meeting: 329-238-703

Time	Program
14:00~14:15	A passenger-oriented transit planning model with operating cost and capacity constraints <i>Jiemin Xie, Sun Yat-sen University</i>
14:15~14:30	Optimization models for urban rail transit systems with subsidy schemes <i>Qing Wang, Nanjing University of Posts and Telecommunications</i>
14:30~14:45	On the way to the demand driven timetabling for commuter railways <i>Dewei Li, Beijing Jiaotong University</i>
14:45~15:00	Improving the utilization of regenerative energy and shaving power peaks by railway timetable adjustment <i>Pengling Wang, Tongji University</i>
15:00~15:15	Integrated model for timetabling and circulation planning on an urban rail transit line a coupled network-based flow formulation <i>Pan Shang, Beijing Jiaotong University</i>
15:15~15:30	Context-aware train delay propagations <i>Ping Huang, ETH Zurich</i>
15:30~15:45	Resource-directive train rescheduling with cross-layer problem decomposition <i>Shuguang Zhan, Hefei University of Technology</i>
15:45~16:00	Overbooking strategy analysis of high-speed train based on stochastic programming <i>Jing Xu, Central South University</i>

## Track VIII- Session VII

### Vehicle Aerodynamics

Chair: Jie Zhang, Central South University

July 9, 14:00-17:00 Beijing Time

Tencent Meeting: 845-525-208

Time	Program
14:00-14:30	The effects of free stream turbulence on biostability of the Ahmed body wake <i>David Burton, Monash University</i>
14:30-15:00	Theoretical and numerical studies on aerodynamic behaviors of evacuated tube trains <i>Tian Li, Southwest Jiaotong University</i>
15:00-15:30	Experimental and numerical study on the aerodynamic performance in geothermal railway tunnels and a self-satisfying mitigation method <i>Tiantian Wang, Central South University</i>

15:30-16:00	Control of afterbody vortices using sweeping jets <i>Shan Zhong, The University of Manchester</i>
16:00-16:30	Research on aerodynamic drag reduction for Chinese higher speed EMU <i>Hongkang Liu, Central South University</i>
16:30-17:00	Control of bistable flows behind a simplified notchback vehicle <i>Kan He, Central South University</i>

**Sunday, July 10, 2022**

### Forum on Transportation Youth Scholars

Chair: Liang Zheng, Central South University

July10, 9:00-11:20 Beijing Time

Co-chair: Ning Zhu, Tianjin University

Tencent Meeting: 282-771-913

Time	Program
9:00-9:20	Modeling the effects of airline and high-speed rail cooperation on multi-airport systems: The implications on congestion, competition and social welfare <i>Zhichun Li, Huazhong University of Science and Technology</i>
9:20-9:40	Passenger mobility analysis based on car-hailing platform data and artificial intelligence algorithms <i>Feng Xiao, Southwestern University of Finance and Economics</i>
9:40-10:00	Beautifying traffic: new ways of constructing and refining time-space diagrams <i>Zhengbing He, Beijing University of Technology</i>
10:00-10:20	A network sensor location problem for link flow observability and estimation <i>Ning Zhu, Tianjin University</i>
10:20-10:40	Intelligent vehicle-platooning transit system: principles, technologies and system operations <i>Chi Xie, Tongji University</i>
10:40-11:00	Optimizing on-demand ride-sourcing services: game theory and agent-based modeling <i>Xiqun (Michael) Chen, Zhejiang University</i>
11:00-11:20	Real-time optimization to automatic train regulation and passenger flow control in high-frequency urban rail transit network <i>Shukai Li, Beijing Jiaotong University</i>



## Track I—Session II

### Transportation Optimization with V2X Applications

Chair: Jian Zhang, Southeast University

July 10, 9:00-11:30 Beijing Time

Co-chair: Li Li, Tsinghua University

Tencent Meeting: 953-123-142

Time	Program
9:00-9:30	Multiscale urban traffic control with connected and automated vehicles <i>Xuegang (Jeff) Ban, University of Washington</i>
9:30-10:00	Freeway internal boundary and ramp flow control in the lane-free paradigm of connected and automated vehicles <i>Yibing Wang, Zhejiang University</i>
10:00-10:30	A theoretical analysis for cooperative driving at idealized non-signalized intersections <i>Li Li, Tsinghua University</i>
10:30-10:50	Research on vehicle-intersection coordination traffic mechanism and model during an intelligent and connected environment <i>Peiqun Lin, South China University of Technology</i>
10:50-11:10	Impacts of information flow topology on traffic dynamics of CAV-MV heterogeneous flow <i>Hao Wang, Southeast University</i>
11:10-11:30	Eco-driving of connected and automated vehicles: a reinforcement learning approach <i>Jian Zhang, Southeast University</i>

## Track I—Session VII

### Traffic Flow Theory and Network Modeling

Chair: Junfang Tian, Tianjin University

July 10, 8:30-12:00 Beijing Time

Co-chair: Xiaopeng Li, University of South Florida

Tencent Meeting: 347-978-832

Time	Program
8:30-9:00	Traffic flow as a simple fluid: towards a scaling theory of urban congestion <i>Jorge Laval, Georgia Institute of Technology</i>
9:00-9:30	Automated vehicle-involved traffic flow studies: assumptions, models, speculations, and perspectives <i>Li Li, Tsinghua University</i>
9:30-10:00	Multiclass traffic flow dynamics: an endogenous model <i>Kai Yuan, Hefei University of Technology</i>

10:00-10:30	Order assignment in a ride-sourcing market with a third-party integrator <i>Yue Bao, Beijing Jiaotong University</i>
10:30-11:00	Does ‘coordination magic’ exist in transportation systems? Some laboratory experiments <i>Xiao Han, Beijing Jiaotong University</i>
11:00-11:30	Impact analysis of actual traveling performance on bus passenger's perception and satisfaction <i>Ning Jia, Tianjin University</i>
11:30-12:00	Analyzing the effect of the heterogeneous value of time and comfort in a bi-modal transportation network with different bus lane setting policy <i>Jia Yao, Dalian University of Technology</i>

### Track III – Session V

#### Road Geometric Design and Safety Control

Chair: Xiaofei Wang, South China University of Technology    July 10, 9:00-12:00 Beijing Time  
Tencent Meeting: 442-132-578

Time	Program
9:00-9:30	Alternative Intersection Designs for Improving Safety: State-of-the-art Practices <i>Zaining Li, Central South University</i>
9:30-10:00	Developing a more reliable aerial photography based method for acquiring freeway traffic data <i>Chi Zhang, Chang'an University</i>
10:00-10:30	Vehicle type classification for mountainous freeway based on ETC data <i>Jin Xu, Chongqing Jiaotong University</i>
10:30-11:00	Exclusive phase design of signalized intersection based on risk analysis <i>Guozhu Cheng, Northeast Forestry University</i>
11:00-11:30	Estimating mountainous freeway crash rate: application of a spatial model with three-dimensional (3D) <i>Jie Wang, Changsha University of Science and Technology</i>
11:30-12:00	Risk analysis and active traffic control under expressway reconstruction and expansion conditions <i>Chengcheng Wang, Shandong Provincial Communication Planning and Design Institute</i>

## Track IV- Session III

### Transportation and Regional Sustainable Development

Chair: Dr. Tianliang Liu, Beihang University

July 10, 9:00-12:00 Beijing Time

Tencent Meeting: 580-449-224

Time	Program
9:00-9:30	Transit-oriented development and floor area ratio regulation in a transportation corridor: formulation and a case study <i>Deping Yu, Huazhong University of Science and Technology</i>
9:30-10:00	Congestion tolling with agglomeration externalities in intercity commuting <i>Tingting Miao, Beihang University</i>
10:00-10:30	Balancing the GHG emissions and operational costs for a mixed fleet of electric buses and diesel buses <i>Shuai Shao, Dalian Maritime University</i>
10:30-11:00	The economics of free employee parking <i>Yao Deng, Huazhong University of Science and Technology</i>
11:00-11:30	Can day-to-day dynamic model be solved analytically? New insights on portraying equilibrium and accommodating autonomous vehicles <i>Pengbo Li, Fuzhou University</i>
11:30-12:00	Managing a bi-modal bottleneck system with manned and autonomous vehicles: equilibrium analysis, congestion tolling and capacity expansion <i>Suping Wu, Huazhong University of Science and Technology</i>

## Track V- Session II

### Advanced Technologies and Methods in Modeling Transportation System

Chair: Guohua Wu, Central South University

July 10, 9:00-12:10 Beijing Time

Tencent Meeting: 252-900-387

Time	Program
9:00-9:30	Machine learning techniques for data-driven modeling of intelligent vehicles and transportation systems <i>Xin Xu, National University of Defense Technology</i>
9:30-10:00	Edge computing for cooperative vehicle infrastructure system <i>Daxin Tian, Beihang University</i>
10:00-10:30	Data driven vehicle routing methods and applications <i>Xiang Li, Beijing University of Chemical Technology</i>
10:30-10:40	Tea Break

10:40-11:10	Micro-scale searching algorithms for solving two-echelon vehicle routing problems <i>Han Huang, South China University of Technology</i>
11:10-11:40	Learning to solve vehicle routing problems <i>Zhiguang Cao, Agency for Science, Technology and Research</i>
11:40-12:10	Modeling and control technology for high maneuvering autonomous flight of fixed-wing UAV <i>Huangchao Yu, National University of Defense Technology</i>

### Track VI – Session III

## Traffic Safety and Emergency Responses

Chair: Yanyong Guo, Southeast University

July 10, 9:00-11:20 Beijing Time

Tencent Meeting: 585-201-264

Time	Program
9:00-9:20	International comparative analyses of road traffic safety statistics and safety modeling <i>Xuesong Wang, Tongji University</i>
9:20-9:40	A two-layer fatigue level prediction model considering the individual driving behavior differences <i>Hui Zhang, Wuhan University of Technology</i>
9:40-10:00	Assessing fitness-to-drive among older drivers <i>Yongjun Shen, Southeast University</i>
10:00-10:20	Dynamic responses of road users in safety-critical scenarios <i>Bingbing Nie, Tsinghua University</i>
10:20-10:40	Analysis of driving stability factors of heavy-duty truck drivers under naturalistic driving conditions <i>Yongfeng Ma, Southeast University</i>
10:40-11:00	Data-driven injury severity prediction by integrating clustering analysis and deep neural network model <i>Xuecai Xu, Huazhong University of Science and Technology</i>
11:00-11:20	Rear-end collision risk assessment in adverse weather conditions driving conditions <i>Jingchang Chen, Chang'an University</i>
11:20-11:40	Revealing the impact of mainstream disruptions on on-ramp merging behavior – A virtual reality (VR) approach using work zone case studies <i>Zheng Xu, Monash University</i>



## Track VII– Session I Green Logistics and Supply Chain Management

Chair: Dezhi Zhang, Central South University

July 10, 9:00-11:30 Beijing Time

Tencent Meeting: 371-743-375

Time	Program
9:00-9:30	An exact method for the split-demand one-commodity pickup and delivery problem <i>Zhixing Luo, Nanjing University</i>
9:30-10:00	Joint Optimization of transfer location and capacity for a capacitated multimodal transport network with elastic demand: bilevel modelling and paradoxes <i>Jiao Ye, Shenzhen University</i>
10:00-10:30	Intra-City crowdsourcing logistics research based on tripartite evolutionary game <i>Fan Liu, Chang'an University</i>
10:30-11:00	Development of a new town planning method using an integrated land use-transport model <i>Yiming Dong, Wuhan University of Technology</i>

## Track VIII- Session IV Railway Infrastructure Construction and Maintenance

Chair: Jiaqi Chen, Central South University

July 10, 9:00-11:55 Beijing Time

Tencent Meeting: 311-813-179

Time	Program
9:00-9:05	Session Welcome
9:05-9:25	An experimental study of mud pumping in rail embankments <i>Daichao Sheng, University of Technology Sydney</i>
9:30-9:50	Hazard assessment of slope disasters along railway in the active fault area <i>Yingbin Zhang, Southwest Jiaotong University</i>
9:55-10:15	Modelling of train-track-substructure dynamic interaction <i>Lei Xu, Central South University</i>
10:20-10:40	Railway alignment optimization in complex mountains <i>Wei Li, Central South University</i>
10:45-11:05	Characterization of model uncertainty for necessary face pressures of tunneling in frictional soils

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*Qiuqing Pan, Central South University*

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11:10-11:30	Digital-Twins model-based rail transit infrastructure maintenance and management <i>Shi Qiu, Central South University</i>
11:35-11:55	Mechanical behavior and seismic response of high-steep slope supporting by combined retaining structure <i>Yuliang Lin, Central South University</i>

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### **Track VIII- Session V**

## **Intelligent Detection and Maintenance of Railway Equipment**

Chair: Shuzeng Zhang, Central South University

July 10, 9:00-10:30 Beijing Time

Tencent Meeting: 488-710-547

Time	Program
9:00-9:15	Load identification and fatigue evaluation via wind-induced attitude decoupling of railway catenary <i>Wei Zhou, Central South University</i>
9:15-9:30	Monitoring concrete curing using the non-Linear ultrasonic SPC-I technique <i>Hamad Alnuaimi, University of Arizona</i>
9:30-9:45	Fault diagnosis and life prediction of key components inf traction converter system <i>Xun Wu, Central South University</i>
9:45-10:00	Review on the nondestructive detection method for EMU in China <i>Xinyu Du, CRRC Changchun Railway Vehicles Co. Ltd</i>
10:00-10:15	Research on ultrasonic ghost echos in high-speed rail inspection vehicle: simulation and analysis of wave propagation <i>Weiwei Chen, Central South University</i>
10:15-10:30	Review on ultrasonic nondestructive test method for in-service rail: difficulty and method <i>Shuzeng Zhang, Central South University</i>

**Track I—Session III**  
**Informatics and Advanced Control Technology for Connected and Automated Vehicles (Jointly Supported by COTA and NKRDPC (2018YFB1600500))**

Chair: Simon Hu, Zhejiang University

July 10, 14:00-16:20 Beijing Time

Co-chair: Yongfu Li, Chongqing University of Posts and Telecommunications

Tencent Meeting: 598-714-746

Time	Program
14:00-14:20	Collision avoidance of automated vehicles in emergency conditions <i>Daofei Li, Zhejiang University</i>
14:20-14:40	Integrated power and thermal management for connected and automated hybrid electric vehicles <i>Xun Gong, Jilin University</i>
14:40-15:00	Autonomous intersection control considering automated pedestrian shuttle <i>Wei Wu, Changsha University of Science and Technology</i>
15:00-15:20	Variable time headway policy based platoon control for heterogeneous connected vehicles with external disturbances <i>Yongfu Li; Yongxin Zhu, Chongqing University of Posts and Telecommunications</i>
15:20-15:40	Discovering Correlation between External and Internal Technologies of Autonomous Transportation System with Natural Language Processing <i>Ke Huang, Sun Yat-sen University</i>
15:40-16:00	A Virtual Method for Optimizing Deployment of Roadside Monitoring Lidars at As-built Road Intersections <i>Yang Ma, Southeast University; Hefei University of Technology</i>
16:00-16:20	Development of a Dynamic Calibration Method of Traffic Simulation Parameters based on Bayes Theorem and Real-time Traffic Flow Data <i>Yiming Zhang, Wuhan University of Technology</i>

## Track III – Session IV

### Transportation Asset Management

Chair: Xinqiang Chen, Shanghai Maritime University

July 10, 14:00-16:30 Beijing Time

Tencent Meeting: 469-167-128

Time	Program
14:00-14:30	Multi-Source sensing data enhancement for maritime surveillance <i>Wen Liu, Wuhan University of Technology</i>
14:30-15:00	Modeling toward freeway real-time crash risk with limited data <i>Yang Yang, Beihang University</i>
15:00-15:30	Arctic oil spilling event risk Analysis via an improved fuzzy comprehensive evaluation model <i>Shu-hao Liu, Shanghai Maritime University</i>
15:30-16:00	Vehicle start-up time analyzing start-up time headway distribution exploitation at intersections <i>Qiang Luo, Guangzhou University</i>
16:00-16:30	Traffic flow forecasting method based on deep learning model optimization <i>Yanguo Huang, Jiangxi University of Science and Technology</i>

## Track VI – Session IV

### Transportation Psychology

Chair: Zhongxiang Feng, Hefei University of Technology

July 10 14:00-16:40 Beijing Time

Tencent Meeting: 154-563-035

Time	Program
14:00-14:20	The cognitive-behaviour mechanism of road rage and related intervention <i>Yan Ge, Institute of Psychology, CAS</i>
14:20-14:40	Public misconception about automated vehicles <i>Peng Liu, Zhejiang University</i>
14:40-15:00	The Measurement of drivers' right-of-way attitude and optimization directions for V2V right-of-way negotiation interface <i>Jinfei Ma, Liaoning Normal University</i>
15:00-15:20	A comprehensive review on human acceptance of autonomous vehicles: research status and prospect <i>Liang Ma, Tsinghua University</i>
15:20-15:40	Novel auditory icon designs for in-vehicle auditory alerts icons <i>Zhen Yang, Zhejiang Sci-Tech University</i>
15:40-16:00	The impact of implicit and explicit communication strategies in autonomous vehicles on pedestrian decision making and perceived safety <i>Xiangling Zhuang, Shaanxi Normal University</i>
16:00-16:20	Decision-making process of pedestrian risky crossing behavior: trade-offs analysis based on panel mixed regret-based model



*Dianchen Zhu, Hefei University of Technology*

16:20-16:40 Evaluating effects of urgent takeover requests on driver stress through galvanic skin responses analysis  
*Weiru Yin, Tongji University"*

## Track VII- Session II Sustainable Public Transit

Chair: Lu Li, Sichuan University

July 10, 14:00-16:30 Beijing Time

Tencent Meeting: 693-291-020

Time	Program
14:00-14:30	Capacity estimations for bus stops near signalized intersections <i>Minyu Shen, Southwestern University of Finance and Economics</i>
14:30-15:00	Rail services for elderly passengers: travel patterns and policy implications <i>Jiemin Xie, Sun Yat-sen University</i>
15:00-15:30	The vulnerability evaluation of metro stations <i>Shuyang Zhang, Wuhan University of Technology</i>
15:30-16:00	Relieving the congestion around a school via active perception of public transportation flow technology <i>Bo Li, Guangdong University of Technology</i>
16:00-16:30	Operation plan optimization model for integrated customized and conventional bus service based on cost analysis <i>Xi Lu, China Academy of Transportation Science</i>

## Track VIII- Session VI Railway Passive Collision Safety

Chair: Dr. Wei Zhou, Central South University

July 10, 14:00-16:05 Beijing Time

Tencent Meeting: 102-128-078

Time	Program
14:00-14:25	Study on the mechanism of occupant injury and protection during train collision <i>Yong Peng, Central South University</i>
14:25-14:50	Carbon fiber materials and machine learning <i>Andrea Codolini, University of Cambridge</i>
14:50-15:15	Influence of wheelset rotational motion on train collision response and wheelset lift mechanism <i>Tao Zhu, Southwest Jiaotong University</i>
15:15-15:40	Human head impact injury and its safety protection <i>Shunfeng Li, The University of Manchester</i>
15:40-16:05	Dynamic analysis of train anti-overturning device under lateral force <i>Tianyu Zhuo, Central South University</i>

**Monday, July 11, 2022**

**Track V- Session III-2**  
**Big Data Mining and Analysis in Transportation**

Chair: Zhiyong Cui, Beihang University

July 11, 9:00-11:40 Beijing Time

Tencent Meeting: 694-646-779

Time	Program
9:00-9:20	Evolution analysis of European union airline network based on complex network theory <i>Yun Jiang, Nanjing University of Aeronautics and Astronautics</i>
9:20-9:40	Pricing strategy for a ride-sourcing service under travel time variability <i>Gege Jiang, Sun Yat-sen University</i>
9:40-10:00	Predicting the mobility of individual subway passenger in large crowding events <i>Bao Guo, Central South University</i>
10:00-10:20	Identification and prediction of urban travel hotspots with a potential-based approach: a case study for New York city <i>Hu Yang, Central South University</i>
10:20-10:40	Development of land use forecast model based on GWR driven by multimodal transportation system at traffic analysis zone level <i>Zhi Ren, Wuhan University of Technology</i>
10:40-11:00	A continuum model for traffic flow with consideration of mixed autonomous and human vehicles <i>Chengyuan Wu, Tsinghua University</i>
11:00-11:20	Research on the application of the management method of checklist in traffic demand forecasting <i>Xinjie Zhang, Inner Mongolia University of Science and Technology</i>
11:20-11:40	Two-sided deep reinforcement learning for dynamic mobility-on-demand management with mixed-autonomy <i>Jiaohong Xie, National University of Singapore</i>

## Track VII- Session III Shared Mobility

Chair: Gege Jiang, Sun Yat-sen University

July 11, 9:00-11:00 Beijing Time

Tencent Meeting: 321-229-633

Time	Program
9:00-9:20	A PSR-based analysis by interval-valued intuitionistic fuzzy AHP and FCE integrated methods for urban mobility assessment <i>Xi Lu, China Academy of Transportation Science</i>
9:20-9:40	Dynamic equilibrium analyses in a ride-sourcing market under travel time uncertainty <i>Zheng Liang, Hong Kong University of Science and Technology</i>
9:40-10:00	On the cooperation and competition between shared mobility and public transport <i>Sisi Jian, Hong Kong University of Science and Technology</i>
10:00-10:20	Government regulations for ride-sourcing services as substitute or complement to public transit <i>Xiaoran Qin, Hong Kong University of Science and Technology</i>
10:20-10:40	An approximate dynamic programming approach for vehicle rebalancing in mobility on-demand systems <i>Yunping Huang, Sun Yat-sen University</i>
10:40-11:00	A general matching model for on-demand mobility services <i>Jintao Ke, University of Hong Kong</i>

## Track VIII- Session VIII

### Railway Communication and Train Operation Control

Chair: Wei Li, Central South University

July 11 9:00-10:40 Beijing Time

Tencent Meeting: 851-383-032

Time	Program
9:00-9:25	System-level control and stability of series-parallel power converters for railway application <i>Xiaochao Hou, Tsinghua University</i>
9:25-9:50	Development and technical evolution of RSTT (railway radiocommunication systems between train and trackside) <i>Songxu Wang, National Railway Administration Equipment Technology Center, Central South University</i>
9:50-10:15	Study on key technologies and applications of LLC DC/DC converters <i>Xia Peng, Central South University</i>
10:15-10:40	Adaptive actuator failure compensation for control of high-speed trains <i>Chang Tan, East China Jiaotong University</i>

## The 22nd COTA International Conference of Transportation Professionals

### Closing Ceremony • Agenda

Time: 14:00-15:00 (Beijing Time), July 11, 2022.

Zoom meeting: 881 4043 6053 (Password: 220711)

Moderator: Representative of School of Traffic and Transportation Engineering, Central South University

Time	Program
14:00-14:20	<b>Closing Remarks</b> Representative of Central South University
14:20-14:40	<b>Best Paper Award &amp; Best Area Editor Award</b> Representative of COTA
14:40-15:00	<b>Passing of CICTP Flag</b> Representative of COTA Representative of Central South University Representative of Beijing University of Technology
<b>Simultaneous interpretation is offered</b>	



## 7. Poster sessions 《 《 《

### Track I: Advanced Transportation Information and Control Engineering

Paper ID	Paper Title
12	Application and Development of Artificial Intelligence in the Field of Traffic Control
23	Competitive Location and Size Problem for the New-Coming Operator in One-Way Carsharing Systems
30	Carpool Passengers Selected Model in the Automatic Vehicles Setting
66	Research on A Spatio-Temporal Calibration Method for Transport Monitoring Data Based on V2I Communication System
76	Resource Scheduling Optimization under Multi-Access Edge Computing Architecture
87	A Comparative Analysis on Electric Bus Energy Consumption Prediction
92	An Effective Abnormal Behavior Detection Approach for In-Vehicle Networks Using Feature Selection and Classification Algorithm
109	A Federated Architecture for Personal Mobility Service in Autonomous Transportation System
111	Analysis of Service Components and Cooperation Relationship in Service Architecture of Platoon in Autonomous Transportation System
131	Air Traffic Flow Forecasting Using Multi-Feature Elman Neural Network
132	A Complex Multidimensional Task Allocation Method for Vehicular Crowdsensing Based on the Collaborative of Nodes
134	Smartphone High-precision Positioning Based Vehicle Driving Warning System
136	An Ontology-Based Knowledge Evolution Mechanism to Support the Adaptive Design of Autonomous Transportation System
143	Regional Bus Timetable Optimization Based on Node Importance
156	Research on the Construction Method of Functional Architecture of Autonomous Transportation System
159	Automatic Traffic Safety Alert System for Pedestrians
171	Traffic Prediction Model of Fuel Consumption and Carbon Emissions with Integration of Machine Learning and Federated
173	Semantic Assisted Loop Closure Detection for Automated Driving

174	Moving Object Detection Based on 3D Scene Flow for Autonomous Vehicles
176	An Improved Adaptive Monte Carlo Localization (AMCL) for Automated Mobile Robot (AMR)
177	Heterogeneous Traffic Flow Fundamental Diagram in Connected and Automated Environment
181	Research on A Cooperative On-ramp Control Method Based on VDN Algorithm
186	Short-term Traffic Prediction Architecture with Balanced Domain Adaption
226	Research on Generational Evolution of Autonomous Transportation System in Autonomous Driving Scenario
231	Multi-Objective Signal Timing Optimization Method for Reverse Variable Lane Intersections
235	Urban Traffic Dynamic OD Prediction Based on Multi-Source Data
240	Research on Signal Timing Optimization Model Considering Stopping Emission Based on VISSIM Simulation
244	Functional Architecture Construction in the Road Emergency Scene of Autonomous Transportation System Based on Text Clustering
246	Spatio-Temporal Motion Planning for Autonomous Vehicle in Dynamic Urban Environment
248	Precise Reconstruction of Shockwaves at Signalized Intersections by Fusing Multiple Data Sources
255	A Spatiotemporal Weighted K-Nearest Neighbor Model for Short-Term Space Mean Speed Prediction
264	A Vehicle-pedestrian Two-Way Collision Alert System Under Coordinated Vehicle Infrastructure Environment
280	Application of Data Fusion Based on Clustering-Neural Network for ETC Gantry Flow Capacity Correction
285	Prioritization of Information Interaction Types in Cooperative Vehicle-Infrastructure Systems on Highways Based on Analytic Network Process
287	Research on Generation Definition Method of Autonomous Transportation System Based on Key Traffic Components
293	Research on Theoretical Model and Construction Method of the Physical Object for Autonomous Transportation System
301	An Evolutionary Model Based on Petri Network for the Transportation System
303	Spatial Heterogeneity Analysis of Network Traffic State Based on Grid
314	Intersection Cooperative Control Strategy of Autonomous Vehicles Platoon
317	Deep Recurrent Q Network for Urban Traffic Signal Control

318	Real-Time Traffic State Prediction and Congestion Mechanism Analysis for Expressways
320	Method for Obtaining OD Matrix of Expressway Network Based on Cellphone Data
329	Deep Reinforcement Learning for Bus Scheduling Considering Complex Passenger Flow
337	Multi-Modal Transport Logic Architecture Analysis Based on Autonomous Transportation System
340	Analysis and Evaluation of the Logical Architecture for Autonomous and Safe Driving in Road Transport
353	Study on a New Mobility Pattern Based on Autonomous Road Transportation System
362	Efficient Calibration of Traffic Simulators in Stochastic Environment: A Surrogate-Based Optimization Algorithm with Dynamic Adaption of Perturbation Search of All Dimensions
376	The Architecture of Mobility as A Service in Autonomous Transportation Systems
379	A Multi-Layer Hierarchical Model Predictive Control for Traffic Signal Optimization in Large-Scale Road Networks
380	Enhancing Model-Based Traffic Signal Control with Data-Driven Adaptive Optimization
385	Simulation and Optimization of Signal Coordinated Control Strategies for Urban Close Intersection Group
392	Safety Clearance of Connected and Automated Vehicles: Using the Potential Field Theory
444	Synthetic Integration of Ramp Meter with Local Signal for Mitigating Freeway Congestion in Multi-Detector Strategy and CV Data Environment
445	ANN-Bayes-Based Travel Time Prediction Method for Signalized Corridors
457	A YOLO-X Deep Learning Approach to Detect Traffic Targets from UAV Video with On-Board Vehicle Data Validation
468	Traffic Control in A Mine Tunnel: A Scheduled Approach in A Connected and Automated Vehicle Environment
474	A Merging Control Method for Connected and Automated Vehicles Based on State Transition Algorithm
507	Cooperative Control Strategy of Freeway Off-Ramp and Vicinity of Urban Traffic Signal Light for Mixed traffic in Cyber-Physical System
508	A Novel Identification Method of Vehicle Inbound Freeway Service Area Using RFID Data
509	Research on the Setting Conditions of CAV's Reserved Lane in Mixed Traffic

510	A Platoon-Based Hierarchical Cooperative Vehicle Merging Strategy: Considering High-Level Traffic Management
511	Toward Cooperative Vehicle Infrastructure System: A Speed Guidance-Based Car-Following Method for Signalized Intersections
517	The Characteristics of Network Traffic and Dynamic Evolution on Different Grades of Roads
518	Research on Intelligent Traffic Control Strategy of Highway Tunnels: Take Shenzhong Link as An Example
531	Prediction Model of High-Speed Railway's Passenger Flow Seat Structure Based on Improved LSTM
532	Identifying Traffic Flow Patterns of Urban Roads from Geographical Context Information
533	Research on Optimizing Method for Fast Alarm Disposal of Traffic Police
538	Mapping Relationship Design of Multi-Dimensional Architecture in the Autonomous Driving System
541	A Game Theory-Based Approach for Modeling Freeway On-Ramp Merging and Yielding Behavior in An Autonomous Environment
543	Visual-Angle Attention Predictor: A Multi-agent Trajectory Predictor Based on Variational Auto-Encoder
545	Thermal Infrared Technology-Based Traffic Target Detection in Inclement Weather
551	Graphical Optimization Method for Bidirectional Corridor Progression Orient to Ring-and-Barrier Structure
559	Research on the Visual Representation of Autonomous Complex Transportation System Architecture
566	Car-Following Safety Analysis of Heterogeneous Flow at Intersections
595	Performance Analysis for Mixed RF/VLC-Based Cognitive Electric Vehicle Networks with Imperfect CSI
614	Research on the Dynamic Managed Lane of Expressway under the Environment of Vehicle-Road Cooperation



## Track II: Impact of COVID-19 on Travel Behavior and Transportation Systems

Paper ID	Paper Title
288	Transportation System Operating Characteristics Analysis of Beijing during the COVID-19
302	Impact of COVID-19 on Spatiotemporal Factors Affecting Ridesplitting Demand
332	Finding Reasonable Paths Considering Drivers' Subjective Preference and Randomness of Signal Lights
439	Recommendations for Urban Transport Services under COVID-19 Based on Commuting Travel Analysis
524	Spatiotemporal Heterogeneity of Metro Ridership under Major Pandemic Conditions

### Track III: Transportation Infrastructure Engineering

Paper ID	Paper Title
70	Optimization of Multi-Step Detector Location for Improving the Service Effectiveness of Transit Signal Priority
82	Length of Collecting and Distributing Lane of Alfalfa Leaf Interchange Study
90	Performance Evaluation Model of Urban Road Asphalt Pavement Based on Attribute Hierarchical Model and Entropy Weight Method
121	Research on National Corrective Maintenance Period of Asphalt Pavement Based on Mass Historical Data
130	Application Study of BIM Technology in Swivel Construction of Continuous Beam Bridge
121	Research on National Corrective Maintenance Period of Asphalt Pavement Based on Mass Historical Data
152	Study on the Passenger Flow Simulation of Grouping Behavior
193	Estimate of Poverty Reduction Effects by the Transport Infrastructure and Industry Development Based on System Dynamics
199	Evaluating and Predicting Road Network Resilience Using Traffic Speed and Log Data
218	A Study on the Characteristics of Vehicle Tracks in the Nighttime Construction Zone of Freeway Expansions
348	Tensile Properties of the Basalt Fiber/Vinyl Ester Resin Composites under Extreme Thermal Cycling Conditions
394	Experimental Study on Deformation and Fatigue Performance of Noise Reduction Expansion Joint for Highway Bridge
404	Ramp Metering Strategy for Expressway Based on Congestion Risk Prediction
425	Review of Noise Reduction of the Highway Bridge Expansion Joints
469	Micro-Path Planning for Lane-changing Return of Autonomous Vehicles
477	Study on the Stress Transfer Principle of Closed Cavity Thin-Walled Components in Assembled Underground Structures
486	Study on Shear Sharing Principle of Closed Cavity Thin-walled Components in Assembled Underground Structures
494	Study on Shear Lag Effect of Closed Cavity Thin-Walled Components in Assembled Underground Structures
506	Research on the Adsorption Mechanism of Corn Stalk Fiber to Asphalt Based on Molecular Dynamics
512	Study on the Impact of Curb Parking on Traffic Capacity

522	Evaluation of Vehicle Operation Status and Analysis of Influencing Factors at the Entrance and Exit of Urban Underground Road
525	Study on Deformation Regularity and Control Measure of Existing Metro Tunnels Caused by Viaduct Construction
526	Study on the Effect of Induced Joint on Stress and Deformation during Concrete Pouring in Subway Stations
563	Performance Evaluation of SMA Mixture Reinforced by Basalt Fiber and Composite Fiber
567	Optimal Planning of Parking Facilities in the Era of Automated Vehicles
596	Multi-Objective Optimization Method for Network-Level Decision Making of Road Maintenance and Rehabilitation

## Track IV: Vehicle Operation Engineering and Management

Paper ID	Paper Title
67	Vision-based Single Object Tracking Algorithms for Intelligent Driving: A Review
72	Research on Prediction Method of Potential Defect Risk of Motor Vehicle Based on Bert Model
196	Research on the Impact of Passenger's Human- Machine Interaction Expectation on the Trust of Automated Vehicles
206	Research on the Contribution of New Mobility to Traffic Congestion Mitigation in China
272	Analysis of Willingness to Ride Together in Autonomous Driving Mode
284	Analysis of Health Status of Battery in Electric Bus Based on Operational Big Data
463	Study on the Effect of Pit Construction on the Deformation of Maglev Structure
513	Impacts of Driver Characteristics on Fuel Consumption Based on Naturalistic Driving Experiment
562	Research on Time Headway Distribution Models at Roundabouts
575	Research on Construction Method of Vehicle Driving Cycle in Urban Congested Road Section under Bad Weather



## Track V: Transportation Planning and Policy

Paper ID	Paper Title
15	Analysis of Network Traffic Capacity Based on Travelers Considering Travel Behavior Choice
25	Research on the Road Network Layout Planning Method of Urban Tourism Complexes Based on Complex Networks
28	Study on Expansion Width and Space Planning of Non-Motor Vehicle Left Turn at Intersections
29	Research on the Design Method of Microcirculation Buses along the Metro
47	Research on Passenger Flow Characteristics and Operation Scheme Optimization of Qingdao Metro Line 3
53	Predicting Passenger Volumes of Metro Stations Based on Random Forest Regression
61	Research on the Day-to-day Evolution of Saturation Time of P&R Facilities under the Condition of Insufficient Parking Spaces
62	Research on the Maximum Number of Gathering Passengers in High-speed Railway Station Considering the Uncertainty of Passengers Travel Time
71	"Research on Demand Forecasting of Multimodal Transport Hubs Based on Network Transportation Cost Analysis "
80	Satisfaction Analysis of Bike-sharing as A Feeder Mode to the Metro in Nanjing
95	The Status Quo, Challenges and Policy Recommendation of Bus and Trolleybus Accessible Transport Standards in China
96	On-road Vehicle Number Estimation: A New Approach
99	Sampling Expansion for passenger OD Matrix of Urban Agglomeration based on Mobile Phone Data
123	Allocation Optimization for One-Way Electric Carsharing System with Uncertain Demand
125	Analyzing the Influencing Factors and Distribution Characteristics of Rail Transit Passenger Flow
138	Environment-Oriented Study on Signal Control Optimization of Urban Road Network
148	Evaluation for Parking Demand of Urban Complex on Parking-Space Level
150	Spatial Features Analysis and Layout Evaluation of Parking Facilities Attached to Large Complexes

154	The Application of XGBoost and SHAP to Examine Factors in Bike Sharing-related Demand
155	Research on Campus Sharing Bike Price Decision Considering Subsidy
164	Analysis of the Influence of Built Environment on Peak Hour Travel Demand of Youth Group Based on Cell Phone Signaling Data: A Case Study of Shanghai
169	An Assessment of Driverless-Oriented Road Network Vulnerability under Disruptions
180	Calibration of Route Choice Preferences and Dynamic Traffic Assignment Model in China using Automated Vehicle Identification Data
184	Quantitative Analysis of Latent Variable and Its Integration with Freight Mode Choice Behavior Model
198	Electric Vehicle Routing with Soft Time Windows
205	Metro Travel Pattern Identification: Cluster Analysis based on Daily OD Matrix
225	Research on Opening Sequence of Service Area during Expressway Reconstruction and Expansion
230	Analysis of Job-Housing Distribution and Job-Housing Balance in Kunming
236	Vehicle Travel Path Matching Algorithm based on License Plate Recognition Data
263	Characteristics Analysis of Mixed Traffic Flow around Bus Stop under Cooperative Vehicle Infrastructure Environment
265	Truck Routing and Platooning Problem Considering Time-Varying Traffic Conditions
279	Analysis on the State and Economy of Adding Fuel Boiler on Battery Electric Buses in Cold Areas
322	Low-Carbon Multimodal Transportation Route Optimization based on Uncertain Demand and Schedule Limitation
331	Queue Length Estimation at Signalized Intersection based on Vehicle Trajectories
366	Study on Density Conditions for Setting Intermittent Bus Lanes
381	Optimization Model of Dockless Bike-Sharing Delivery in Subway Station based on GPS Deviation Correction
384	"Study on the Relationship Model of Satisfaction Impact of Urban Non-motorized Transportation Facilities"
410	Study on Comprehensive Evaluation and Diagnosis for People-satisfied Transport Development Level: Taking Jinan City as An Example

415	Exploring the Impacts of the Built Environment on Urban Freight Generation: A Case Study of Light Freight Vehicles in Shanghai
487	Studying on Urban Traffic Status Analysis with ARIMA Approaches and Congestion Model
493	The Mechanism and Exploration of Trip Distribution Model
501	The Relevant Characteristics of Comprehensive Transportation Network and Tourism Flow Network Structure: An Empirical Study of Yunnan
503	Short-Term Demand Forecasting Analysis Based on Public Bicycle IC Card Data
504	Research on Signal Control Strategy of Public Transport Priority Intersection based on Pre-signal
505	Evaluating the Road Network Capacity of Shanghai with the Macroscopic Fundamental Diagram
514	Enhancing the Discrete Choice Model of Residential Location with Big Data and Representation Learning
515	Phase Optimization Based Green Wave Coordination Control Method for Trunk Lines
537	Research on the Method of Income Distribution Based on Mobility as a Service
539	A Practical Application of the Strategies of Parking Duration Limit and Pricing
547	Analysis and Research on the Punctuality Characteristics of Urban Bus Operation
560	Research on Passenger Flow Conversion Capacity of Integrated Transit Hub based on Zipper Theory
565	Urban Night Bus Departure Time Interval Planning Method based on Taxi GPS Trajectory Data
573	Method of Estimating the Number of Traffic Police Patrols and Standbys
574	Modeling the Joint Network Equilibrium with Private and Shared Autonomous Vehicles
579	The Influence of Built Environment on the Parking Behavior on the Road in the Urban Central District
592	Investigating the Factors of Urban Commuters Activity Pattern Choice from the Perspective of Time Structure—A Case Study of Kunming, China
593	Homogeneity, Heterogeneity and Transformation of Travel Patterns—Case Studies in Chinese Cities

## Track VI: Transportation Behavior and Safety

Paper ID	Paper Title
6	Analyzing Effect of Interface Friction and Rubber Material on Skid Resistance Based on High Resolution Pavement Surface Model
14	Dynamic Risk Assessment and Visualization for Road Transportation of Dangerous Goods
16	The Research on the Model for Mixed Traffic Flow Conflict in Urban Greenway
18	Analyzing the Impact of the Individual Ideal and Tolerable Commute Time on Commuting Satisfaction
26	Study on Pedestrian and Motor Vehicle Interaction Model in Unsignalized Road Sections
27	The Impact of Motor Vehicle Emergency Evasion and No Lights Crosswalks on Traffic Flow
35	Congestion Analysis of the Toll Station Based on GPS Data
41	Exploring Travel Behavior of Urban Residents Based on Big Survey Data
52	Marginal Effects for Random Parameters Logit Models: A Case Study of Crash Severity Analysis
56	Activity-Travel Demand Modeling Based on Multi-Agent Simulation
57	Research on Spatial Differentiation Characteristics of Residents' Commuting Satisfaction Based on Ordered Logit Model
65	A Study of the Behavior and Influencing Factors of E-bikes Occupying Vehicle Lanes in County-level Cities of China
101	Assessing the Effectiveness of Phased Evacuation Strategies under Slow and Fast Fire Scenarios with a Real Case Study in Paradise, California
103	Analysis of Travel Mode Choice Behavior Based on Rational Inattention Theory
107	SEM-Based Analysis of Traffic Congestion Causes on Urban Expressways
116	Exploring HAZMAT Truck Risk Factors with Driver Monitoring Systems Data Using Random Parameter Ordered Probit Mode
120	Research on Vehicle Operation Characteristics in Intersections Entrance Marking Vacuum Zone of a Mountainous City
122	Study on the Influence Factors on the Severity of Heavy Goods Vehicle Traffic Accidents
135	Research on the Choice Behavior of Intercity Travel Mode for Middle and Long Distance Based on SEM-Logit Model



146	Situation Analysis of Traffic Accidents for Elderly Drivers in China
166	Optimal Allocation of Shared Parking Spaces Considering Parking Choice Behavior under Parking Uncertainty
201	Extraction of Popular Tourist Routes from GPS Data
215	Research on Comprehensive Capacity of Urban Expressway Toll Station
237	Revisit Traffic Volume and Traffic Conflict: A safety Evaluation on 3-Arm and 4-Arm Intersections in Hong Kong
239	Analysis of Factors Influencing Road Traffic Accidents Severity Based on Bayesian Networks
261	Applying an XGBoost and SHAP for Congestion Analysis of Expressway Exit Based on Aggressive Driving Behavior
267	How Accurately Do Drivers Perceive the Hazardous Degrees of Driving under Different Adverse Weather Conditions on Mountainous Highways: Exploring the Influence of Driver Age, Gender, Crash Experience and Injuries
277	Exploration of the Public's Willingness to Participate the Crowd-Sourcing Services: A Case Study of Hong Kong
282	The Influence Mechanism of the Tolerance Threshold of Commuting Time for Car Users Based on the Structural Equation Model
296	Parking Choice Intention Analysis of Autonomous Driving Travel
298	Research on Traffic Signs of Three-Dimensional Composite Expressway Based on Driving Behavior
316	Evaluation of the Training Effect of the Driving Simulator + VR on Driving School Trainees
321	Driving Safety Evaluation and Early Warning of Mountain Highway Based on Vehicle-Pavement Coupling Model
358	An Improved Lane-changing Model for Connected Automated Vehicles under Cyberattacks
359	Research on Discriminant Model of Driver's Perception of Risk Based on Hazardous Scenarios
367	Research on Optimal Design Method of Three-Dimensional Composite Expressway Information Giving Based on Subjective Questionnaires
411	Analyzing and Modeling of the Influence of the Lateral Vehicle on the Speed of the Moving Vehicle
422	Big Data Correlation Analysis of Road Traffic Accidents
424	Analyzing Preferences of Travelers for Using Community Buses as a Feeder Mode to the Metro
440	A Method for Determining Reasonable Workload of Regional Bus Dispatcher Based on Individual Experience Survey

446	Rationalizing Safety Impacts under Connected Vehicle Operation: Case Study of Forward Collision Warning System
447	Exploring Road Rage-provoking Situations on Mountainous and Non-mountainous Highways in China
461	Research on Carpool Model of Large Passenger Stations Considering the Demands of Passengers and Passengers
482	Truck Brake Hub Temperature Rising Model Based Slope Design for Long Longitudinal Downgrade Section in Expressways
519	A Cooperative Lane-changing Approach Considering the Motion Similarity Between Vehicles
523	Improved FVD Model for Signalized Intersection Vehicle Lane-Changing
528	Taxi Trajectory Clustering Based on Network Clustering Method
534	Effect Analysis of Different Ice-Melting Materials on Highway Pavement Based on Reduction Principles
540	Research on Characteristics and Vulnerability of Rail Transit Network Based on Passenger Effective Path
542	The Impact of Aggregated Census Tract-Based Attributes on the Zone-Level Mode Choice Difference Between Ride Sourcing and Taxi Services: A Case Study in New York City
548	Trajectory Characteristic Analysis for Abnormal Lane-Changing Behaviors Near Congested Expressway Merge Bottleneck
550	The Impact of Motor Vehicles on Non-Motor Vehicles at Access Connected to Urban Road Segment
561	Car-following Model Comparisons in Free Flow Scenarios Based on Empirical Data
572	Intersection Collision Risk Quantification Research: Under Obtained the Traffic Participants' Motion State
580	Tunnel Lighting Design Improvement Strategy Based on Questionnaire Survey
582	Risk Assessment Approach of In-Vehicle Network Information Security

## Track VII: Sustainable Transportation Systems and Modern Logistics

Paper ID	Paper Title
64	Research on Express Delivery Vehicle Routing Problem Without Distribution Station Considering Three-Dimensional Container Loading Constrains
108	EU's Transport Policy in the Field of Climate Change and Analysis of Prospects for China-EU Cooperation
119	A Gravity Model for Beijing Metro Station Catchments in the Context of Sustainability
137	Optimization of Municipal Solid Waste Collection and Transportation Plan Based on Waste Classification
170	4PL Cross-Border E-Commerce Logistics Benefit Allocation Strategy Based on Shapely Value
183	Evaluation of Barrier-Free Facilities in Metro Stations Based on AFC Data: A Case Study in Shenzhen, China
210	Analysis of urban distribution capacity System based on Vensim
212	Research on Cooperative Operation of Coal Logistics and Transshipment Ports under Uncertain Environment
232	Non-linear Effects of the Road Infrastructure on Rural Poverty Incidence in China
252	Research on CO2 Emission Reduction Contribution of New Mobility in China - A Case Analysis of Beijing City
258	Facility Configuration Pattern of Road-Railway Intermodal Transport Center in Land Port Logistics Hub
260	A Method for Multi-objective Facility Layout Problem of Land Port Logistics Hub Considering the Impact of Traffic Organization
297	Vulnerability Analysis of Urban Expressway Based on Macroscopic Fundamental Diagram
336	The Study and Application of Combination Forecasting Model for Third Party Logistics Demand Based on Multi-Factor Fusion
341	Research on the Design of an Express Bus Line in a Metro Service Bottleneck Section: A Case Study of Nanjing, China
360	Carbon Emission Reduction Effect Evaluation of Constructing Transit Metropolis
382	Research on Customized Bus Demand Identification and Route Layout
406	The Collaborative Scheduling Optimization of External Truck at Container Terminals Based on Mixed Integer Programming Under Appointments System

442	Prediction of Green Development of Urban Freight Transportation Based on "Carbon Peak" And "Carbon Neutral" Goals
495	Branch-and-Price Approach for Two-dimensional Loading Constrained Vehicle Routing Problem with Simultaneous Pickup and Delivery
549	A Walking Environment Assessment Based on Multisource Data — A Case Study of Ping'an Street in Beijing
577	Investigating the Usage of Dockless Bike Sharing in Beijing Central Business District
578	Study on Foaming Characteristics and Technical Properties of Aspha-min Zeolite Foaming Asphalt Mortar
594	Express Delivery Vehicle Routing Scheduling with Simultaneous Pickup and Delivery Oriented to Dynamic Customer Demand



## Track VIII: Rail Transportation

Paper ID	Paper Title
58	Establishment of the Metro Passenger Credit System Based on Behavioral Science
85	Short-Term Inbound Passenger Flow Forecast of Urban Rail Transit Based on LightGBM
104	A Shared Bicycle-on-Transit Perspective on Rail Transit Station Accessibility and Ridership
113	Sidings and Operation Organization of Modern Tram in Turpan
182	Receiving Route Allocation Problem at Railway Station for Virtually Coupling Operations
189	Real-Time Adjustment Optimal Method for Arrival-departure Track in High-speed Railway Stations under Emergency Conditions
219	Simulation Analysis of Leading Factor Affecting Allowable Load of Evenly Distributed Overlong Cargo Weight with One Overhanging End
224	Study on Vertical Transmission Characteristics of Bogie Frame Load and Wheel Rail Force
228	Research on the Influence of Wheel Set Elastic Mode on Wheel Rail Contact Geometric Parameters and Wear Index
351	Study on the Motion Attitude of the Commercial Car Loaded in Railway Special Vehicle During Impact
364	Research on Railway Freight Loading and Securing Safety State Monitoring Based on Internet of Things
387	Application of the Freight Service Index: A Case Study in Henan Province
388	Does the Urban Rail Transit Line Type Affect the Operational Efficiency: A Study Based on the DEA-Tobit Method
414	A Study of the Pressure Waves Induced by Two 600km/H High-Speed Maglev Trains Intersecting in A Tunnel
428	Adaptability Analysis of Interconnection and Interoperability between City Regional Railway and National Railway in Wenzhou
429	A Multi-standard Rail Transit Connection Optimization Problem: A Case in Wenzhou, China
497	Urban Rail Transit Passenger Flow Forecasting – XGBoost