



September 04, 2024

Volume 4, Issue 5

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**2023 WCTR Keynote Address**

## Evolution of Aviation Network: Global Airport Connectivity Index since 2006, Impact of COVID-19 and future research



**Prof. Anming Zhang**

**Vancouver International Airport Authority Professor in Air Transportation**

**Professor, Operations and Logistics Division  
University of British Columbia, Vancouver, Canada**

This talk has three parts: First, I briefly talk about a “Global Airport Connectivity Index” (GACI) that Tommy Cheung, Collin Wong and I proposed (Cheung, T.K.Y., C.W.H. Wong and A. Zhang (2020), “The evolution of aviation network: Global airport connectivity index 2006-2016,” *Transportation Research Part E: Transportation and Logistics Review*), which classify airports at the global level (3,400-3,600 airports, depending on the year) over time. The ranking serves two main purposes: 1) tracking the evolution for a given airport; and 2) benchmarking the airport against other airports on connectivity performance. Our exercise combines degree, closeness and eigenvector topological indicators and two new volumetric indicators, to produce an overall ranking for an airport, with the

## Useful Information and links

### 1. Publications by SIG A4- Handbook on High-Speed Rail and Quality of Life and Frontiers in High-Speed Rail Development

Both books are free to download.

For details: [Click Here](#)

### 2. Urban Mobility Research in India transport: Selected proceedings from 13th Research Symposium of 15th Urban Mobility India Conference & Expo 2022

For details: [Click Here](#)

### 3. A new Transport Research and Education Network to help ESCAP member States achieve sustainable transport

For details: [Click Here](#)

component weights being determined by the first principal component or the direction of maximum variance in PCA (principal component analysis). We find faster passenger growth for larger airports that have improved in GACI. While America and North Asia focused on regional hub developments, serving short- to medium-haul routes, West Europe, South East Asia and Middle East focused on developing their major airports into global hubs. Our analysis shows that increasing GACI improves an airport's competitive position and gives rise to increased influence over other airports.

Second, I discuss applications of GACI. For example, by analyzing the changes of GACI for different classes of airports and different regions of airports, we can determine how changes in airport connectivity, owing to the COVID-19 pandemic, affected passenger traffics. It is found, among others, that the biggest impact on connectivity and traffic happened in South East Asia and North East Asia, the impacts on Europe, Middle East, North America, South Pacific Regions were average. The impacts on Africa and South America regions were minimal. The top GACI airport in 2019, dropped by from 3.63 to 2.44, equals to about 120 million annual passengers. By 2022, 9 out of 17 OAG regions' airports in the world recovered their GACIs back to the level of pre-COVID, including South East Asia, Europe, North America and Middle East. Some hub airports in the Africa and Latin America performed even better than pre-pandemic. I also discuss the use of GACI for assessing the opening of new air routes.

Finally, I discuss further issues in this line of research, including: 1) the "drivers" (economic, policy, managerial decisions, etc.) behind the connectivity changes, 2) using the indices to explain aviation and regional development; 3) further developing air cargo logistical performance index; and 4) extending the excise to other transport modes.

*Prof. Anming Zhang, Vancouver International Airport Authority Professor in Air Transportation, Professor, Operations and Logistics Division, University of British Columbia, Vancouver, Canada. President, ATRS.*

## SIGA2 Conference 2025

### The Port and Maritime Sector: Key Developments and Challenges

May 7-9, 2025, University of Antwerp, Belgium

This three-day international conference has a number of specific features which make it into a laboratory for scientific developments useful for practice and policy:

**4. Annual competition for young researchers in the field of Transport Economics with a winning prize of €1,000**

For details: [Click Here](#)  
Abstract submission deadline: **Sept 30, 2024**

**5. Special Issue of International Journal of Production Economics on “Theorizing, Designing, and Implementing Digital Twins in Operations and Supply Chains”**

For details: [Click Here](#)  
Paper submission deadline: **Dec 31, 2024**

**6. Special Issue of Transportation Research Part C: Emerging Technologies on “The economics of platform-based mobility and logistics service”**

For details: [Click Here](#)  
Paper submission deadline: **Oct 30, 2024**

**7. Special Issue of Transportation Research Part C: Transport and Environment on “AI-based Applications to Minimize Greenhouse Gas Emissions due to Road Transport”**

For details: [Click Here](#)

- A mix of disciplines, and academic and, sector and policy contributions
- No paper submission is compulsory, so leaving room for researchers to further develop new ideas up to the conference
- Scientific sessions combined with a port visit and Antwerp culture
- Democratic registration fee of €250.

**Organized by**

- The Special Interest Group A2 Ports and Maritime of the World Conference on Transport Research Society WCTRS
- Department of Transport and Regional Economics, University of Antwerp, Belgium

**Deadlines**

- Abstract submission: 01 October 2024
- Decision concerning abstract: 15 October 2024
- Full paper if willing to be considered for journal publication: 1 April 2025.

Abstract submission Info: [Click here](#)

More details: [Click here](#)

*Prof. Thierry Vanelander, University of Antwerp, Belgium. Chair, SIG A2.*

**Save the Date: International SIG B3 Seminar**

**The Impact of Disruptions on Intermodal Transport Chains and Transport Operations**



**SIG B3 SEMINAR**  
**14 NOVEMBER 2024**

HOW DO DISRUPTIONS  
IN THE RAIL INFRASTRUCTURE  
AFFECT THE ROBUSTNESS  
OF INTERMODAL TRANSPORT  
CHAINS AND TRANSPORT  
OPERATIONS?

[FIND OUT MORE VIA LINKEDIN](#)



Paper submission deadline:

**Nov 30, 2024**

Join **SIG B3** for an **insightful online session** on the robustness of intermodal transport chains and operations amidst disruptions **on 14 November 2024 at 4-5 p.m. CET**. We are thrilled to have **Jürgen Albersmann** (CEO Contargo Trimodal Network; Board of Directors of UIRR) as our keynote speaker. He will share valuable practical insights and participate in a panel discussion with **Gilbert Bal** (Senior Business Manager Supply Chain & Logistics at Port of Rotterdam) and **Eric Shen** (CEO Shen and Associates, LLC, a former senior government official) to discuss international requirements and developments.

The seminar will explore challenges and potential solutions in maintaining robust intermodal transport chains amidst disruptions. This follows the significant debate in Germany going on since 2022, following the Rail Acceleration Commission's proposal of around 70 measures to enhance railway capacity within the next three to five years. Recognizing that Germany is only one piece in the European and Global transport network puzzle, we want to discuss contributions to robust intermodal transport networks, focusing on transport corridors between Germany and the Netherlands as well as Europe and the US.

Don't miss this opportunity to discuss challenges and potential solutions in maintaining robust intermodal transport chains amidst disruptions. **Save the date now and [follow SIG B3 on LinkedIn](#) for updates on the online event.**

We are looking forward to seeing you there!

*Prof. Ralf Elbert, Technical University of Darmstadt, Germany. Chair, SIG B3.*

## WCTRS - TEA Joint Session

31<sup>st</sup> October - 2 November 2024, Fethiye Faculty of  
Business Administration, Fethiye, Turkey

WCTRS society journals





[Transport Policy](#)



[Case Studies in Transport Policy](#)

### WCTRS book series

For details, visit: [link](#)

Find us on

## DAY 1

### Keynote Speeches

1. **Hasan Kazdağlı**. TEA President
2. **Tae Oum**. WCTRS President

### S11- Education and Research in present and for the Future

1. **Yucel Candemir, Dilay Çelebi, Füsun Ülengin**. *Research and Education in a World of Transformation*
2. **Daniel Weiss**. *Enhancing Transport Policy Decision-Making through AI-based Innovation System Analysis*
3. **Werner Rothengatter**. *The identification of critical transport infrastructures*
4. **Y. Hayasi & Junyi Zhang**. *In the aftermath of Covid. More is required. Coping with Global Risk in the Post-Covid Era*

## Day 2

### S12 - Education and Research in present and for the Future

1. **Y. Hayasi & Junyi Zhang**. *In the aftermath of Covid. More is required. Coping with Global Risk in the Post-Covid Era*
2. **Dilay Çelebi, Georgia Ayfantopoulou**. *Prospects for Logistics and Transportation Education in Turkey and Greece*
3. **Tae Oum**. *Air Connectivity Effects on Bilateral Service Export and Import Trade: Focus on OSA Lead and Lag effects*

## Day 3

### S2 – Facing the Future: pros and cons

1. Bekir Bartın, Zeynep Nuhoglu, Kaan Özbay. *A case study aiming to be a Success Study*
2. Werner Rothengatter. *Complexity management inspired by nature for managing existential risk in the economy and in transportation*

### **Panel: The Future of Our Planet: Conventional or Unconventional**

**Moderator:** Werner Rothengatter

**Panelists:** Yücel Candemir / Zeynep Nuhoglu / Daniel Weiss / Füsun Ülengin / Tae Oum / Dilay Çelebi – (Yoshi Hayashi) / Georgia Ayfantopoulou.





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<https://www.wctrs-society.com/>

**E-mail to us at**



**Editorial team of WCTRS  
Research Newsletter**

*Prof. Tae Oum, UPS Foundation Chair in Transportation, Professor Emeritus, Operations and Logistics Division, Sauder School of Business, University of British Columbia, Canada. President, WCTRS.*

## Report on the Fourth Webinar of International Webinar Series on “Sustainable Transport and Livability”

Jointly Organized by Special Interest Group (SIG-F4) of the World Conference on Transport Research Society (WCTRS) and Sustainable Transport and Livability (TSTL), Journal, Taylor & Francis in association with IISc Sustainable Transportation Lab. (IST Lab.), Indian Institute of Science (IISc), Bengaluru.

Nearly 194 participants had registered, and 79 participants joined the fourth webinar from more than 15 countries across the world.

### **About Webinar Series:**

To foster knowledge exchange and propel the discourse on topics related to Sustainable Transport and Livability, a collaborative international webinar series is jointly initiated by the Special Interest Group (SIG-F4) - Livability and Sustainable Transport of World Conference on Transport Research Society (WCTRS) and the Sustainable Transport and Livability (TSTL), Journal, Taylor and Francis, in association with IISc Sustainable Transportation Lab., Indian Institute of Science, Bengaluru.

The proposed series will primarily focus on key themes addressing the linkages between sustainable transport and livability as follows: How sustainable transport interventions affect physical, mental, economic, and social well-being. How sustainable transport interventions can make society and individuals healthier and happier. How sustainable transport interventions affect the quality of life, equity, and social justice. How sustainable transport impacts safety, accessibility, affordability, and environmental quality. How sustainable transport can contribute toward improving disaster resiliency of urban transport systems.

### **About Fourth Webinar of Series “Sustainable Transport and Livability”**

The fourth webinar of the series was successfully conducted on 30<sup>th</sup> August 2024 through an online event.

Title: **Rethinking accessibility in a post pandemic, net zero world**

Abstract: Most measures of accessibility depend on the specific context for which they are used. This paper explores the way measuring accessibility needs to change to meet

### Editor



**Prof. Dr. Ashish Verma,**  
*IISc Sustainable  
Transportation Lab (IST Lab),  
IISc Bangalore, India*  
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### Assistant Editor



**Mr. Aitichya Chandra,**  
*PhD Scholar, IST Lab,  
IISc Bangalore, India*  
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the needs of equity both across communities and across generations. The accessibility of a place needs to reflect the accessibility faced by all individuals at that place. Including equity in investment appraisal raises the problem that implicit lower values of time for certain groups can lower the value of investments making improvements to transport in poorer areas more difficult to justify. The Covid-19 pandemic led to reductions in peak-hour traffic and the decentralisation of residential location as working from home increased. The move towards net-zero affects mode choice and changes infrastructure needs. In the longer term, however, this will require a recalibration of mobility needs and housing needs as the cost of movement rises to meet these new challenges. The paper explores the need to redefine both the economic mass to which access is sought and the deterrence effect of space recognising that this will need to reflect the different circumstances of individuals and households. Accessibility is ultimately a reflection of the general equilibrium of labour, housing and transport markets.

Speaker:



**Prof. Roger Vickerman**  
*University of Kent & Imperial College London, UK*

The recording of the Fourth Webinar of Series “Sustainable Transport and Livability” is now available. You can watch it on YouTube by clicking the link below:

Watch the Webinar: [Click here](#)

The Taylor and Francis’s new Open Access journal ‘Sustainable Transport and Livability (TSTL)’ is edited by Dr. Ashish Verma, Indian Institute of Science Bangalore, India.

Journal page: [Click here](#)

*Prof. Ashish Verma, Indian Institute of Science Bangalore, India, Chair, SIG F4.*

*Prof. Kazuki Nakamura, Meijo University, Japan, Co-Chair, SIG F4.*

## Call for Papers and Abstracts: ICAHETS 2024 & TRF 2024

5th to 6th December 2024  
University of Moratuwa, Sri Lanka



### Call for Full Papers and Abstracts with Extended Deadlines

ICAHETS 2024: The **5th International Conference on Advancements in Highways and Transportation Systems** invites full paper submissions. Engage with industry leaders and researchers to share groundbreaking research and foster knowledge exchange in transportation development.

TRF 2024: Calling all students and emerging researchers! The **17th Transportation Research Forum** provides a platform to present your research findings through abstract submissions. Kick-start your career in transportation studies and join us for a stimulating exchange of ideas.

### Key Details

**Conference Dates:** 5<sup>th</sup> and 6<sup>th</sup> December 2024

**Location:** University of Moratuwa, Sri Lanka.

**Organized by:** Transportation Engineering Division, Department of Civil Engineering, University of Moratuwa.

**Submission Deadline for TRF 2024 (Abstracts):** 27th September 2024

**Submission Deadline for ICAHETS 2024 (Full Papers):** 4th October 2024



Website: <https://uom.lk/civil/transportation/conferences>

**Conference main themes:**

- Economic, social and environmental issues of transportation development
- Transportation safety
- Impacts of land/sea/air transport operations
- Control of transport-related air pollution, noise, vibration etc.
- Transportation and land use development
- Policy and management related issues
- Impacts of freight transportation
- Surveying and Geomatics applications in transport and highways
- Traffic management
- Demand management in road transport
- Public transport and para-transit
- Pavement design
- Road construction & maintenance
- Pavement management
- Road construction materials
- Highway geometric design

Don't miss this opportunity to contribute to these prestigious conferences!

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## International Perspectives on Public Transport Responses to COVID-19

The new publication in WCTRS/Elsevier Book Series, *International Perspectives on Public Transport Responses to COVID-19*, edited **Takeru Shibayama** and **Guenter Emberger** (SIG G2), is now published. *International Perspectives on Public Transport Responses to COVID-19* examines the pandemic response of transport policymakers around the world and analyzes what can be learned to prepare for the next epidemic—or any other critical event that threatens transportation services. It combines theoretical analysis with a compendium of country-focused case studies to provide scientific evidence and decision-making support for the actions that each transportation official must make going forward.

This book begins with Part 1, a thematic and comparative section on response and recovery efforts. It provides insights into topics such as mitigation strategies and preparedness of the public transport sector to epidemics prior to COVID-19; responses during the COVID-19 pandemic and recovery from it; public transport services in urban and rural areas during the pandemic; and social (or physical)

distancing and any other protective on-board measures. Part 2 then offers a set of international case studies, wherein various authors from different countries review their governments' and operators' responses. Each chapter is guided by a set of common research questions based on disaster mitigation theory. Part 3 then focuses on learnings and comparative analysis from the COVID-19 pandemic for future epidemic mitigation strategies in the public transport sector.



Governments, public transport authorities and operators, as well as students and researchers will learn what has and has not worked well during the COVID-19 pandemic. These insights will help them to mitigate, prepare, respond, and recover from unexpected disruptive events like pandemics in the future. For details and purchase: [Click here](#)

*Dr. Takeru Shibayama, TU Wien, Vienna. Co-Chair, SIG G2.*

# Electric Vehicle Conference 2025

## 14 - 16 May 2025, Stuttgart, Germany

2025  
Electric Vehicle  
Conference  
Stuttgart, 14 - 16 May



We are pleased to announce the [Electric Vehicle Conference 2025](#), organized by the German Aerospace Center (DLR), which will be held from 14-16 May 2025 in Stuttgart, Germany.

We invite submissions of [abstracts](#) for consideration in this prestigious event.

### Key Details:

- **Conference Dates:** May 14-16, 2025
- **Location:** Stuttgart, Germany
- **Organised by:** DLR
- **Abstract Submission Deadline:** November 15, 2024 (Extended Abstract)
- **Website:** <https://evc2025.welcome-manager.de/>

### Main Themes:

1. **Engineering and Technology**
  - a. Battery Technology and Energy Storage
  - b. Power Electronics and Electric Drivetrains
  - c. Vehicle and aircraft Design and Manufacturing
  - d. Autonomous and Connected EVs
  - e. Charging Infrastructure and Grid Integration
  - f. Electric aviation technologies
2. **Environmental and Sustainability Studies**
  - a. Lifecycle Assessment of EVs
  - b. Renewable Energy Integration
  - c. Urban Planning and Infrastructure Development
3. **Economics and Policy**
  - a. Market Dynamics and Consumer Behavior
  - b. Policy and Regulation
  - c. Economic Impact
  - d. Public and Private Sector Collaboration

4. **Social Sciences and Humanities**
  - a. Social Impact of EVs and Electric Aircraft
  - b. Ethical Considerations
  - c. Cultural Studies
5. **Computer Science and Data Analytics**
  - a. AI and Machine Learning in EVs and Electric Aircraft
  - b. Big Data and IoT
6. **Health and Safety**
  - a. Safety Standards and Crash Testing
  - b. Public Health Implications
7. **Legal and Ethical Issues**
  - a. Intellectual Property and Patents
  - b. Liability and Insurance

We particularly encourage submissions from students as well as scholars of any seniority from least developed countries as defined by the UN, with reduced fees applicable for these participants. More information, including the keynote speakers, will soon be announced on the official conference website.

Authors of accepted abstracts can opt to submit full manuscripts for publication in an Scopus indexed journal. We are still under negotiations with publishers for a Special Issue. We look forward to receiving your submissions and welcoming you to Stuttgart for a fruitful and inspiring conference.

*Prof. Patrick Jochem, Karlsruhe Institute of Technology, Germany.  
Chair, SIG F2.*

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## 2024 Global Sustainability Supply Chain Student Competition

Dear WCTRS Members,

We are excited to invite you to participate in the **2024 Global Sustainability Supply Chain Student Competition**. This prestigious competition brings together the world's brightest students to develop actionable, sustainable solutions to real-world global supply chain challenges. The event integrates educational resources empowering and celebrating young minds worldwide in taking action towards the UN Sustainable Development Goals.

Open to all current full and part-time postgraduate and undergraduate students from degree-granting institutions globally. The competition fosters cross-cultural learning through an optional Paired-Teams program, matching students from different regions to collaborate and compete together.

In our inaugural 2023 edition, **71 student teams from 32 universities on 4 continents** developed innovative solutions to complex supply chain cases. Their solutions were evaluated by representatives from the case companies and esteemed judges from notable institutions, including the UN Group of Friends of Sustainable Transport, UN Global Compact Principles for Responsible Management Education Foundation, The World Bank Group, International Federation of Freight Forwarders Associations, etc.

**Participants will receive a Certificate of Participation, and winning teams are invited to Geneva, Switzerland, to receive their awards and meet with UN representatives.**



**Here's what past participants had to say:**

**Prof. Martin Dresner** from the University of Maryland: *“Addressing supply chain sustainability is one of the foremost issues faced by companies globally. Industry leaders seek ways to reduce carbon footprints, minimize waste, and conserve water,*



*among other sustainable goals. The Global Sustainability Supply Chain Student Competition fosters new ideas and solutions to these critical challenges.”*

**Prof. Prakash Mirchandani** from the University of Pittsburgh: *“I talked to the team, and based on their comments and my own experience with other case competitions, I think the Global Sustainability Supply Chain Student Competition was run really well. Congratulations!”*

**Dr. Charles Kunaka** from the World Bank Group: *“I found it quite innovative and stimulating to see the creativity and innovative solutions that the students came up with.”*

**Ms. Luisa Murphy** from UNPRME: *“Congratulations on this impressive initiative and competition! Its global nature, SDG and supply chain focus, and hands-on work by students to solve these challenges align perfectly with our mission at PRME. Thank you for your support, collaboration, and dedication. I am truly grateful for the opportunity to have worked with you all.”*

The Global Sustainability Supply Chain Student Competition is organized by the **Global Supply Chain Classroom (GSCC)**, **International Center for Transport Diplomacy (ICTD)**, and the **Federation of Freight Forwarders Associations (FIATA)**. It is endorsed by the **United Nations Group of Friends of Sustainable Transport** and recognized as a key educational initiative supporting **UN World Sustainable Transport Day**. Please see the attached brochure for more information.

Registration is **open until September 29th**. To learn more about the competition, please visit [www.supplychainsdg.org](http://www.supplychainsdg.org) - the official site for the UN-Sponsored: Global Sustainability Supply Chain Student Competition or contact **Mr. Chung Tam** (organization committee member and president of GSCC) at [ctam@gscclass.com](mailto:ctam@gscclass.com)

Thank you for your support.

*Prof. Martin Dresner, University of Maryland, USA. Chair, SIG A1.*

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## Membership of the WCTRS

The World Conference on Transport Research Society (WCTRS) provides a forum for the interchange of ideas among transport researchers, managers, policymakers, and educators from all over the world from a multi-modal, multidisciplinary, and multi-sectoral perspective.

Every three years, the Society holds the World Conference, where leading transport professionals from all countries and areas convene to learn from one another. WCTRS Montréal was held from 17th-21st July 2023.

In addition to our [Special Interest Groups](#), which facilitate research activities and the exchange of ideas in 42 topic areas, the WCTRS has a number of Task Forces that conduct research into emerging issues in transport and aim to bridge gaps between research and policy-making.

All academics, practitioners, students and interested individuals are invited to apply to become an individual member of the WCTRS. You can apply to join at any time by completing [this online form](#) or returning the completed application form (see the link below) to the [WCTRS Secretary](#).

The benefits of membership include:

- Access to a truly international network of transport academics and practitioners, which is the only such worldwide network, with over 1000 experts interested in transport research from over 80 countries.
- A wide variety of Special Interest Groups (SIGs), each dedicated to a specific academic topic, from mode-specific policy and modelling to solutions for climate change and disaster resilience. The full list can be found on the SIGs webpage.
- A free online subscription to the Society's two Journals: Transport Policy and Case Studies on Transport Policy.
- Online access to the proceedings of past conferences.
- Liaison with some 30 partner journals, which publish the best conference papers.
- Outreach to international organizations such as the International Transport Forum, World Bank and UNFCCC conferences.
- WCTRS Young Initiatives, including the WCTRS-Y Conference, grants awarded to young researchers, and dedicated newsletters and job information.
- Opportunities to contribute to the planning of a future World Conference through participation in Special Interest Groups and other Society activities.

More details: [Click here](#)

## WCTRS RESEARCH NEWSLETTER

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