



WCTRS COVID-19 Taskforce Expert Survey (4月下旬実施)結果からみた 世界の感染現象、緊急対策と新常態のあり方 について

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Content 1

Recognition of TRANSPORT in COVID-19 Pandemic



The COVID-19 Pandemic

- Spread rapidly across the world.
- A huge number of infections and death.
- Biggest challenge to human society since the Spanish Flu in 1918.
- The whole world is connected to each other by much more convenient transport systems and information



Two Faces of Transport under Pandemic

- Causer of Infections
 - Unintentionally contributed to the spread of the virus through international and urban passenger travel
 - Supply-chain disruption undermined economic activities
- An integral part of solutions
 - to mitigate the impacts of COVID-19 through the delivery of humanitarian goods and services
 - to facilitate resilient supply chains for the recovery phase.



1. Causing Infections

- Airlines can transport infected passengers from one side of the world to the other, within half a day.
- Passengers in crowded public transport are more at risk of infection than automobile users.
- There is increasing evidence of health risks to staff providing essential transport services.
- Infections among operational staff and reduction of transport services will lead to the collapse of supply chains and consequently lower the productivity of industries.

2. Low Resilience in Transport



- 5. Reduction of passengers by lockdown and emergency declaration may bankrupt the transport and tourism industries, thus worsening the regional and national economy.
- 6. Lockdowns have increased pressures on the supply chains of vital goods for medical care and for citizens' daily life.
- 7. In developing countries, paratransit and other informal transport services are very popular because of their low fares and flexibility, but both passengers and drivers face high risks of infection because drivers are poorly equipped and operate in close proximity to passengers.



Can Transport be built back better?

- 1. It may be recommended for citizens to temporarily shift from public transit to cars to avoid the risk of infection. However, this may become a permanent change in transport behavior even after COVID-19 has been eradicated?
- 2. Social distancing requires to stay at home and shut-downs of offices, schools, shops, restaurants, tourism places, amusement parks, etc. Can we (citizens, transport operators) build back better?

COVID-19 Taskforce Membership

Chair and Co-Chairs of WCTRS COVID-TF

- Yoshitsugu Hayashi; Junyi Zhang, Lawrence D. Frank
 Advisors
- Tae Oum, President of WCTRS; Werner Rothengatter, Ex-President of WCTRS Members (International Coordinators)
- Greg Marsden, Secretary General of WCTRS; KE Seetha Ram, Dr. Eng., Senior Consulting Specialist, ADBI; Holger Dalkmann, Founder and CEO of Sustain 2030
 Members (Country/Region Coordinators)
- Peter John Forsyth (Monash U); Hitomi Nakanishi (U of Cambera), Australia
- Chikage Miyoshi, Cranfield U, UK; Junko Sugawara, U of Houston, USA
- S. Velmurugan, CSIR CRRI, India; Yacan Wang, Beijing Jiaoton U, China
- Varameth Vichiensan, Kasetsert U, Thailand; Francesca Pagliara, U of Naples, Italy
- Members (Topical Coordinators)
- 33 SIG Chairs

Content 3

Expert Survey: Measures and Actions in Transport and its Surrounding

Residence country of







Type of workplace and professional experience

Education:	69.7%			
university, school,				
college, etc.			<= 5	
Research institute /	19.0%		years,	
think tank		>20 years,	10.570	5-10
Firm	14.4%	38.0%		15.
Governments	11.6%			
NGO / NPO / Intl Org	7.4%			
/ others			10-1	15
		15-20	year	S,
		years.	13.4	.%

16.2%



WCTRS COVID-19 Task Force: Expert Survey

- The WCTRS COVID-19 Task Force, established in April 2020, has implemented a questionnaire survey to experts in fields of transport and logistics, urban and regional planning and so on, since the end of April 2020. The survey aims to investigate the following contents related to the transport and logistics sector.
- Impacts: to investigate the impacts of COVID-19
- **Preparedness**: to investigate what our society had prepared for such a pandemic
- **During-pandemic measures**: to investigate what our society is currently taking measures to fight against this pandemic
- After-pandemic recovery measures: to suggest what our society should do after this pandemic
- Long-term strategies: to explore how to generalize the findings from the above actions to tackle other public health threats





Drones and/or robots have been used to inform people to keep social distances and wear masks, etc.

Military forces were or have been dispatched to take care of emergency medical services.

Monetary compensations have been paid to transport and logistics firms suffering from economic losses.

Protection measures for social distancing have been taken based on information collected by tracing behavior trajectories via mobile phone, security video camera, credit card and/or other high-tech media.

Economic stimulus measures have been taken for recovery of industries.

Monetary compensations have been paid to citizens for income reduction, medical treatment, etc.

Physical distancing measures have been taken in public transport and their stations/stops (e.g., bus passengers use only rear doors to avoid close contact with the driver, bus/rail opens windows during operation).

Physical-distancing-friendly goods delivery has been widely practiced.

Stay-at-home campaign has been propagated across the whole city/town.



Measures taken during the pandemic

14

100.0%





The car dependence will become more obvious due to adverse reactions to crowded public transport during the COVID-19 pandemic

Family bonds will be enhanced significantly

The society will become more isolated due to the progress of online activities and smart technologies (AI, IoT, robotics, etc.)

Online education will be a standard model of education

Online shopping will become the most popular shopping activity

More and more people will choose to live far from the city center

More and more people will out-migrate from populated cities

Working hours will become longer

More and more people will choose a job allowing them to mainly work at home

Online working (working at home, neighboring satellite offices, cafes, etc.) will become popular

Infection risk level of a job will determine job choices

 \blacksquare Others (25)

8 August 202



The expected changes will contribute to improving resilience and sustainability of the transport and logistics sector.

Significant changes will occur, within five years, in transport and logistics policymaking due to lessons from COVID-19.

The intervention of governments to transport/logistics industries will be strengthened after COVID-19.

The cost structure of the transport and logistics sector may be altered dramatically to prepare for future public health threats.

The induced growth of online business and automation will lead to more unemployment.

More and more intra-city business trips for meetings will be replaced by online meetings.

More and more inter-city business trips for meetings will be replaced by online meetings.

Smart technologies (e.g., AI, IoT, robotics) will be the key to detect and sound the alarm on the occurrence of future public health threats

Online services of government, bank, ticket purchase, etc. will become a standard service.





WCTRS COVID-19 Task Force: The first-round expert survey

 Zhang, J., Hayashi, Y. (2020) Impacts of COVID-19 on the transport sector and measures as well as recommendations of policies and future research: Analyses based on a world-wide expert survey. Available at SSRN:

https://papers.ssrn.com/sol3/papers.cfm?abstract_ id=3611806

Content 3

Measures and Actions in Transport and its Surrounding

Recommended Measures & Actions by WCTRS COVID-19 Taskforce (1)

https://www.wctrs-society.com/about-wctrs/wctrs-covid-19-task-force/wctrs-covid-19-appeal/

- To allocate enough resources to allow airlines to immediately reduce flights, which will help prevent the spread of COVID-19 and enable a responsible and safe transition in the recovery process.
- To financially support the deficit facing the transport and logistics industries, which are lifelines for regional economies and citizens' daily life and health.
- To financially support public transport service providers and their employees, as well as service users, by subsidizing services during the transition from lockdown restrictions.

Recommended Measures & Actions by WCTRS COVID-19 Taskforce (2)



https://www.wctrs-society.com/about-wctrs/wctrs-covid-19-task-force/wctrs-covid-19-appeal/

- To prevent increased car dependence due to adverse reactions to public transport services after the pandemic.
- To urgently develop knowledge on how best to communicate with the public about risks and safe use of public transport and movement in crowded places.
- To promote collaboration between public health, transport and supply chain experts to inform policy-makers' decisions about lockdowns.
- To make use of the "new normal" after COVID-19 to encourage changes toward more environmentally sustainable life and work choices after the crisis.

Recommended Measures & Actions by WCTRS COVID-19 Taskforce (3)

https://www.wctrs-society.com/about-wctrs/wctrs-covid-19-task-force/wctrs-covid-19-appeal/

- To share the learning of successes and failures in responding to COVID-19 across countries all over the world.
- To take immediate measures to sanitize public transport vehicles/facilities and maintain safe loading factors for different vehicles at different levels of virus management.
- To provide urgent international aid to compensate operators/drivers of paratransit and other informal transport services in developing countries for their economic losses due to social distancing and other operational restrictions.

Content 4

Mindset in Transport

Normal/Dream in 20th Century are Abnormal/Inconvenient in 21st Century



- 1. Big gaps in economy between metropolises and rural areas
- Living in 5 bedroom big house in a metropolitan suburb and commuting by a big car – American dream during 1939-1960 continued still in 2020
- A massive amount of passengers have been transported by airlines to do business, with huge emissions of CO₂ and pollutants
- 4. Big car was a symbol of economic prosperity and prestige
- 5. Metropolitan Mass dependent life is Non-resilient in emergency
- 6. But rural people wish to enjoy Musical and Opera of New York

New Normal in Work - Life Style for 21st Century

- 1. Equal opportunity for business and income in rural areas with small damage on ecosystem
- 2. Remote working within company— a venture company abolished their office in Manhattan, New York. This has made employees' living in 1 K apartment house migrate to remote even to Tennessee to live in greens with high QOL
- 3. Tele-conference/business meetings with customers require no flight for long distance preserving rich free time
- We don't need 5-seater⁺ big cars in town. Walking, bicycle and small smart vehicles are sufficient for virus free and health
- 5. <u>Reversible Society with down-sized economy</u>
- 6. Transport must serve Sanitized flights to New York.

New Normal in Transport for 21st Century

- <u>Down sized equilibrium</u> of sales and cost to maximize profit in Transport operators
- Peak-cut merits: less per hour demand-intensity with lower cost for Infrastructure → Do not be afraid of downsizing!
- Resilience: Reversible Society, Redundancy of Infrastructure, Contingency Plan
- <u>Transport small</u> [not make unnecessary trips], <u>Benefit large</u>
- Transport not all at peak hours/seasons, but only essential workers and freights
- Clear policy of congestion charge & off-peak hour discount to realize non-congested transport and cities – <u>Company</u> <u>Season Ticket</u>



What does COVID-19 suggest to Human Society? How to live in Anthropocene ?

- Healthier life (QOL, GNH) as outcome of social activity appreciated in 21st century rather than higher prosperity (Income, GDP) as input to the life sought in 20th century
- Less income with less passengers but even less cost to maintain infrastructure by peak-cut (Down-sized Equilibrium) → Higher net income and increased personal time
- Resilient Society
 - Emergency adaptive life-work style
 - Climate Emergency \rightarrow Excessive Extreme Weather
 - <u>Reversible Society</u> \rightarrow Infrastructure with Rooms and Redundant
- Never-coming chance to mindset for human beings
- Anthropocene: see Club of Rome 50th Anniversary Book <u>"Come On!" (Springer, 2018) (日本語版:明石書店</u>)

<<u>https://clubofrome.org/</u>>