13th Japan ITS Promotion Forum

Impact Assessment (Social Impacts)

Hiroaki Miyoshi
Doshisha University

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SIP

Cabinet Office

Activities in the 1st Phase SIP-adus International Cooperation WG

Activities in the 2nd Phase SIP-adus

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Activities in the 1st Phase SIP-adus International Cooperation WG

SIP-adus Workshop 2018

Presentations Related to Socioeconomic Impacts in SIP-adus Workshop 2018

◆ **Spatial Impacts of Automated Driving**

Prof. Bart van Arem,

Delft University of Technology, The Netherlands

http://en.sip-adus.go.jp/evt/workshop2018/file/IA_Bart_van_Arem_November_11.pdf

◆ **Economic Analysis of Automated Driving Systems**

Hiroaki Miyoshi, Doshisha University

http://en.sip-adus.go.jp/evt/workshop2018/file/IA_Hiroaki_Miyoshi_1114.pdf

Main Content of “Economic Analysis of Automated Driving Systems”

- **Automated driving benefits both users and non-users.**
  Automated driving is a safety sharing system.
  Economic incentives are required for diffusion.

- **The automobile industry is the sector with the largest power of dispersion among Japanese industries.**
  Changes in inputs and final demand have a large impact on Japan’s industrial structure.

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Japan-Germany research cooperation and exchange of opinions with research institutes in Germany

Japan-Germany Research Cooperation

- In September 2018, we explained the importance and significance of cooperation in evaluating socioeconomic impact at the joint workshop of experts, etc. from Japan and Germany.

- “Evaluation of socioeconomic impact” was selected as one of the joint research fields at the steering committee in January 2019.

For details of the Japan-Germany cooperation, refer to the press release of the Cabinet Office “Joint Press Release: ‘What does the car want to signal me?’ Joint research of automated driving technologies between Germany and Japan has been enhanced.”

https://www8.cao.go.jp/cstp/english/20190205adus_reserach.pdf

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Exchange of Opinions with Research Institutes in Germany

- **Institute for Technology Assessment and Systems Analysis (ITAS), Karlsruhe Institute of Technology (KIT)**

- **Institute of Transport Research, The German Aerospace Center (DLR)**

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Participation in SIS of ITS World Congress 2018

(SIS89: Discussing the Impact of Automated Driving: A Serious Game)

Content of SIS89

- The impact of automated driving was discussed with participants after short presentations by the speakers.

- Common topics of the short presentations
  Expected impact on one's own country/region in the two diffusion scenarios of automated transport:
  1) Mainly shared mobility,
  2) Mostly by privately owned or leased vehicles

Content of the Short Presentation

Scenario based on sharing

- The final demand for vehicles may decrease.
- A significant impact on national industrial structure.
- The customers of automakers shift from individual consumers to companies.
- People would like to move to areas around city centers to reduce the waiting time of ride-share service. Cities will become compact.
- Probable modal shift from rail to road
- Traffic congestion at merging sections and intersections, etc. may get worse.

Scenario based on ownership

- Big difference of life style between people owing automated cars and the others.
- The opportunity cost of travel is decreased in accordance with the increase of LV4 automated driving available area. People owing automated cars transform their commute time into their working time.
- People owing automated cars move to suburbs thanks to decrease of the opportunity cost of travel time.
- Probable modal shift from rail to road.

Source) These are some parts of Miyoshi's presentation PPTs for SIS89 (Discussing the Impact of Automated Driving: A serious game) of ITS World Congress 2018, coauthored with Associate Professor Koichi Sakai, The University of Tokyo. The expressions were slightly modified.

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Activities in the 2nd Phase SIP-adus

Study of the impact of automated driving on reducing traffic accidents and on others

Research Commissioned from 2nd Phase SIP-adus

Cabinet Office (corporation responsible for management: New Energy and Industrial Technology Development Organization, which commissioned the project)

“Cross-ministerial Strategic Innovation Promotion Program (SIP) 2nd Phase-adus (Expansion of Systems and Services) / Study of the impact of automated driving on reducing traffic accidents and on others.”

Implementers

Mobility Innovation Collaborative Research Organization (UTmobI), The University of Tokyo

Institute for Technology, Enterprise and Competitiveness (ITEC), Doshisha University

(partly re-commissioned to Kagawa University and Tottori University)

Period

December 28, 2018 to March 1, 2021

Main Content of Commissioned Research (in the previous page)

(1) Relevance of automated driving to SDGs

(2) Simulation of automated driving vehicle diffusion

(3) Effect on road transport

i. **Estimation of effectiveness in reducing traffic accidents**
ii. **Estimation of reduction of traffic congestion and reduction of CO_2 emissions**

(4) Effect on traffic services sector

i. **Ensuring mobility for vulnerable road users and in depopulated areas and other locations with poor access to transport**
ii. **Reduction of costs and resolution of driver shortage in logistics and transport services**
iii. **Change in ownership and usage of vehicle, and the structure of consumers' choice**

(5) Effect on industry and society

i. **Effect on whole automobile industry due to change in vehicle ownership structure and other effects**
ii. **Contribution to growth of the total factor productivity of the Japanese economy**

(6) Formation of organization for international cooperation

(7) Convening of Advisory Committee

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Thank you