Discussion A
第一分科会

Vision and Targets for Traffic Safety
交通安全のビジョンとターゲット

Profile of Moderator and Panelists

Moderator: Dr. Katsutoshi Ohta

Panelist: Dr. Claes Tingvall

Panelist: Dr. Yoichiro Murakami

Panelist: Dr. Hisatake Kato

Abstract of Lecture and Powerpoint Slides

Lecturer: Dr. Claes Tingvall

Katsutoshi Ohta

Address (Office): School of Regional Development Studies, Toyo University 1-1-1 Izumino, Itakuramachi, Oora-gun,Gunma 374-0193, Japan
DATE OF BIRTH: January 19, 1942
NATIONALITY: Japanese
SPECIALISATIONS: Urban Transport Planning, Transport Demand Estimation Urban Planning,
Urban Transport Planning and Policy for Developing Countries
LANGUAGES: Japanese, English
EDUCATION:
College: Department of Civil Engineering, University of Tokyo, 1960-65, B.E. 1965
Graduate School: Department of Civil Engineering, University of Tokyo, 1965-67, M.E. 1967
Graduate School: Graduate School of Arts and Sciences, Harvard University (USA) 1967-71
Ph.D. 1972 (City and Regional Planning)

7. PROFESSIONAL EXPERIENCES
1969-1970 Teaching Fellow, Graduate School of Arts and Sciences, Harvard University, USA
1971-1978 Instructor, Department of Urban Engineering, University of Tokyo
1976-1977 Research Fellow, Transport Studies Unit (St. Antony's College), Oxford University, UK
1978-1991 Associate Professor, Department of Urban Engineering, University of Tokyo
1991-2003.3 Professor, Department of' Urban Engineering, School of Engineering, University of Tokyo
2003 Professor Emeritus, University of Tokyo
2003.4- Professor, School of Regional Development Studies, Toyo University

太田　勝敏

東洋大学国際地域学部（国際地域学科）教授

1942年　生まれ
1965年　東京大学工学部土木工学科卒業
1967年　東京大学工学系大学院修士課程修了
1971年　東京大学工学部助手
1978年　東京大学工学部助教授
1991年　東京大学工学部教授
1995年　東京大学大学院工学系研究科教授

専門は都市交通計画、交通需要予測、交通施設計画等
著書は「交通システム計画」（技術書院）等

Claes Tingvall

Born 1953 in Karlstad, Sweden

Education:

- High School, 3 year
- M.Sc. Uppsala University, 1976. Statistics
- Med School, Karolinska Institute, 1981
- Dr Med Sc Karolinska Institute, 1987

Employment:

- Amanuens, Swedish Traffic Safety Office, 1976-81
- Research officer, Folksam Insurance Group 1983-90
- Head of Folksam Traffic Safety Research 1991-94
- Director of Road Safety, Swedish National Road Administration 1995-98
- Adjunct Professor, Chalmers University of Technology, Dept of Injury Prevention 1991-98
- Professor and Director, Monash University Accident Research Centre, Melbourne, 1998-2000
- Director of Road Safety, Swedish National Road Administration 2001-
- Adjunct Professor, Monash University Accident Research Centre, 2001-

Expert in committees, etc.

1. Member of American Association of Automotive Medicine expert committee for disability scaling 1986-
2. Expert in ISO working group on accident data collection 1989-94
3. Expert in ISO working group on child safety in cars 1989-94
4. Chairman of “European Transport Safety Council” working group on car safety 1994-95
5. Member of the Swedish National Traffic Safety Council 1993-95
6. Member of KFB steering committee for traffic safety 1994-
7. Member of the Board of Directors of AAAM 1994-97
8. Expert in the National Public Health Committee 1997-98.
9. Expert in the Road Safety Inspectorate investigation 1999-2000
10. Chairman of the Australian Crash In-depth Injury Study (ANCIS) 1999-2000.
11. Member of Editorial Advisory Board, Accident Analysis and Prevention, 1999-

クラウス・ティングヴァル

1953年スウェーデン、カールスタード生まれ

学歴

- 高校　3年間
- 1976年、ウプサラ大学で科学修士号（統計学）取得
- 1981年カロリンスカ研究所医学部
- 1987年カロリンスカ研究所で医学博士号取得

職歴

- 1976～1981年　スウェーデン交通安全局助手
- 1983～1990年　フォルクサム保険グループ研究員
- 1991～1994年　フォルクサム交通安全研究長
- 1995～1998年　スウェーデン道路庁道路安全部長
- 1991～1998年　チャルマース工科大学負傷予防学部非常勤教授
- 1998～2000年　メルボルン、モナッシュ大学事故研究センター長・教授
- 2001年～　スウェーデン道路庁道路安全部長
- 2001年～　モナッシュ大学事故研究センター準教授

委員会活動ほか

1. 1986年～　アメリカ自動車医学学会障害評価専門家委員会委員
2. 1989～1994年　ISO事故データ収集作業部会専門委員
3. 1989～1994年　ISO車両内小児安全性作業部会専門委員
4. 1994～1995年　ヨーロッパ交通安全評議会車両安全性作業部会部長
5. 1993～1995年　スウェーデン交通安全評議会委員
6. 1994年～　輸送通信調査委員会（KFB）交通安全運営委員会委員
7. 1994～1997年　AAAM理事
8. 1997～1998年　国立公衆衛生委員会専門委員
9. 1999～2000年　道路安全監査官
10. 1999～2000年　オーストラリア交通事故負傷詳細研究会（ANCIS）会長
11. 1999年～「Accident Analysis and Prevention」誌、編集顧問

Yoichiro Murakami

Graduate School Professor, and Other Distinguished Professor of Science, at International Christian University, Professor Emeritus at University of Tokyo

1936: Born in Tokyo
1962: Graduated from Department of History and Philosophy of Science, College of Arts and Sciences, University of Tokyo
1968: Finished the Doctoral Course of Comparative Literature and Culture, University of Tokyo
1965: Research Associate, at the Department of Physics, Faculty of Science and Technology, Sophia University
1971: Assistant Professor, above
1973: Associate Professor, at Department of History and Philosophy of Science, College of Arts and Sciences, University of Tokyo
1986: Professor, above
1989: Professor, Research Center for Advanced Science and Technology, University of Tokyo
1993: Director, above
1995: Professor, International Christian University
1997: Professor Emeritus, Tokyo University.
2002: Graduate School Professor, International Christian University
Specialty: History of Science, Philosophy of Science, and Sociology of Science and Technology
Publications: *Kindai Kagaku o Koete* <Beyond Modern Science>
(Koudansha Gakujutsu Bunko), etc.

村上　陽一郎

国際基督教大学大学院オスマー記念科学教授

1936年　**生まれ**
1962年　**東京大学教養学部教養学科（科学史・科学哲学分科）卒業**
1968年　**東京大学大学院人文科学研究科比較文学・比較文化専攻博士課程修了**
1965年　**上智大学理工学部助手**
1971年　**上智大学理工学部助教授**
1973年　**東京大学教養学部助教授**
1986年　**東京大学教養学部教授**
1989年　**東京大学先端科学技術研究センター教授**
1993年　**東京大学先端科学技術研究センター長**
1995年　**国際基督教大学教授**
1997年　**東京大学名誉教授**
2002年　**国際基督教大学大学院教授**
専門は科学史、科学哲学、科学技術社会学
著書は「近代科学を超えて」（講談社学術文庫）等

Hisatake Kato

President of Tottori University of Environmental Studies

1937: Year of birth
1963: Graduated from Department of Philosophy, Faculty of Letters at University of Tokyo
1966: Finished his master's degree in philosophy at Graduate School of Humanities and Sociology at Tokyo University
1969: Lecturer of Faculty of General Education at Yamagata University
1970: Assistant Professor for the same faculty at Yamagata University
1972: Assistant Professor for Faculty of Arts and Letters at Tohoku University
1982: Professor of Faculty of Letters at Chiba University
1994: Professor of Faculty of Letters at Kyoto University
1996: Professor for Graduate School of Letters at Kyoto University
2001: Professor Emeritus at Kyoto University

Specialty: Ethics, Philosophy, and History of Thought.
Publications: *Senso Rinri-gaku* <Ethics of War> (Chikuma Shinsho), etc.

加藤　尚武

鳥取環境大学学長

1937年　生まれ
1963年　東京大学文学部哲学科卒業
1966年　東京大学大学院人文科学研究科哲学専攻・修士課程修了
1969年　山形大学教養部講師
1970年　山形大学教養部助教授
1972年　東北大学文学部助教授
1982年　千葉大学文学部教授
1994年　京都大学文学部教授
1996年　京都大学大学院文学研究科教授
2001年　京都大学名誉教授

専門は倫理学、哲学、思想史
著書は「戦争倫理学」（ちくま新書）等

Vision for a safe road transport system

Claes Tingvall
Dr Med Sc, Professor
Director of Traffic Safety, Swedish National Road Administration

ABSTRACT

The road transport system is one of the most hazardous environments for the citizen. The system is in general terms an ill designed man-machine interface that does not absorb normal human behavior in a systematic way. The road transport system is characterized by a large number of subsystems, stakeholders and users that are driven by individual motives not linked together.

A vision has the advantage to be shared by many stakeholders irrespective of motives. While a systematic prioritizing of cost effective solutions normally are done on the societal or organizational level, a vision can open up for an open discussion of how a number of stakeholders can contribute based on their individual motives. A vision also has the advantage to open up for a dialogue on how things can be done in a longer perspective rather than focusing on short or medium term improvements.

A vision for a safe road transport system should be built on human values, responsibility sharing, a scientific approach to system safety and how driving mechanisms for change are generated. The issue of human values deals with ethics and the approach to trade-off between human health and the benefits of the road transport system. This seems to be the most complicated part of a vision, where the road transport system globally value mobility versus health loss.

The driving mechanisms for change has been underestimated in the road safety area. In essence, it should be natural that the main driving force is the citizen's demand and right to stay alive within the road transport system.

MONASH University Accident Research Centre

Vägverket

Vision for a safe road transport system

Claes Tingvall,
Professor, Director of Traffic of Safety, SNRA
and Monash University Accident Research Centre

Co-authors:
Matts-Åke Belin, Roger Johansson, Anders Lie,
SNRA

Why a vision?

- All stakeholders can share a vision irrespective of motives in society
- A vision sets out a future desired situation - not a step by step action with no definition of it's end point

A problem description:

The citizens misuse a well functioning road transport system with large economic losses to the society,

or

The road transport system is a poor man-machine system where the individual citizen is the victim

Human values form a professional perspective

"The responsibility for the safety of the individual will fall on the professional society - with consequences for the value of life and health."

Vision Zero

- ethical platform
- shared responsibility
- scientific approach
- driving forces for change

Vision Zero is in essence:

The responsibility for creating a safe road transport system falls on the professional society - not on the users

The critical issue of Vision Zero is:

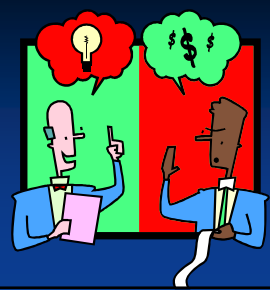
how shall the professional society respond to the responsibility put on it?

"Rule of Ethics"

"Life and health cannot be exchanged for benefits of the road transport system"

"Rule of responsibility"

"We are obliged to do whatever we can to protect human life and health"



Responsibility Chain

1. The providers of the road transport system are ultimately responsible for the safety
2. The road users are responsible for following rules
3. If the road user fails to follow rules, the responsibility for modifying the system accordingly falls on the provider

"Rule of Science"

"We shall only use the best possible methods and base our action on the failing human"

"Rule of Science" -cont.

"The biomechanical tolerance of the human is the limiting factor for the road transport system"

"Rule of Driving Forces"

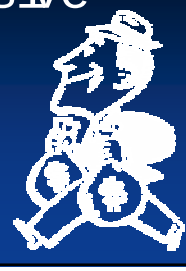
"The citizen's legitimate demand for life and health is the main driving force for change"

In order to get the citizens into the loop, all qualities of products and services should be openly declared

examples NCAP for vehicles
EURO-RAP for infrastructure /speed limit
? for transport services
? for heavy goods transport
etc.

Is Vision Zero expensive?

- yes, to modify or compensate earlier mistakes is expensive
- no, to do things right from the beginning is not expensive



Typical costs - if made right from the beginning

	Current costs in EURO	Costs for highest safety	Increase	Effectiveness
Road	1500	1,515 (barriers)	1%	90%
Vehicle	20,000	20,002 (SBR)	0.01%	20%
Vehicle	20,000	20,020 (alcohol)	0.1%	20%
Vehicle	20,000	20,200 (speed)	1%	20%

Is a high level of safety a threat to a developing society and a rich life?

or

Is lack of safety in fact restricting humans to experience a challenging life?

Summary

- A vision is helpful in guiding a modern society and an open system
- A vision for safety in the road transport system will challenge the professional view on ethics and responsibility
- A vision will turn the citizen into a subject that will put pressure on the professional society
- A vision can reduce costs and divide the responsibilities of the professional society and the citizen in a structured way