



公益財団法人 国際交通安全学会
International Association of Traffic and Safety Sciences

* Translated by the Secretariat

Introduction of IATSS Research Projects in Asia

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Workshop

GIFTS
2019

Introduction



The first IATSS research project to target Asia was a study on the roles and limitations of motorcycles as a means of urban transportation in developing countries, which began in 2002.

This research actively positioned motorcycles, which tend to be viewed in Asia as problematic due to their rapid increase in number, as an effective means of urban transportation, and examined the current state of motorcycle usage, etc.

Following this, multiple projects were implemented within IATSS to determine whether or not it would be possible to apply the results and knowledge obtained in Japan to the increasingly intensifying traffic problems in Asia, particularly in terms of traffic safety.

By making the best use of IATSS's interdisciplinary nature, these projects were implemented not only from an engineering perspective but from every angle, including education, culture, economics, psychology, etc.

The following is a review of the history of research projects that have so far been conducted targeting Asia.

Previous Research Projects: Urban Development, Traffic Systems and Two-wheeled Vehicles

Measures to proliferate ecological traffic systems among developing countries (Project Leader Fumihiko Nakamura)

- Bangkok and Colombo
- Examination of BRT introduction

Research relating to new town traffic planning technology in Japan: From the perspective of transferring technology to new town development in East Asia (Project Leader Kishii)

- Shanghai, Bangkok and Tokyo
- Technology transfer to new town development

Creation of road map to realize low-carbon traffic systems in Asian cities (Project Leader Fukuda)

- Shanghai, Bangkok and Tokyo
- Technology transfer to new town development

Study on ITS introduction in Asia and research on guideline creation (Project Leader Kamijo)

- Manila, Bangkok, etc.
- Asian MaaS

2002

H491 H501 H637

Study on the roles and limitations of motorcycles as a means of urban transportation in developing countries (Project Leader Fukuda)

- Thailand, Vietnam and Cambodia
- Positioning of motorcycles as urban transportation

2006

H745 H854

H743A H852A

2010

H2297

Research on evaluation and estimation methods relating to traffic safety training (Project Leader Sekine)

- Thailand and Japan
- Traffic safety training relating to motorcycles

2014

H2649 H2755

2017

1703 1803

2018

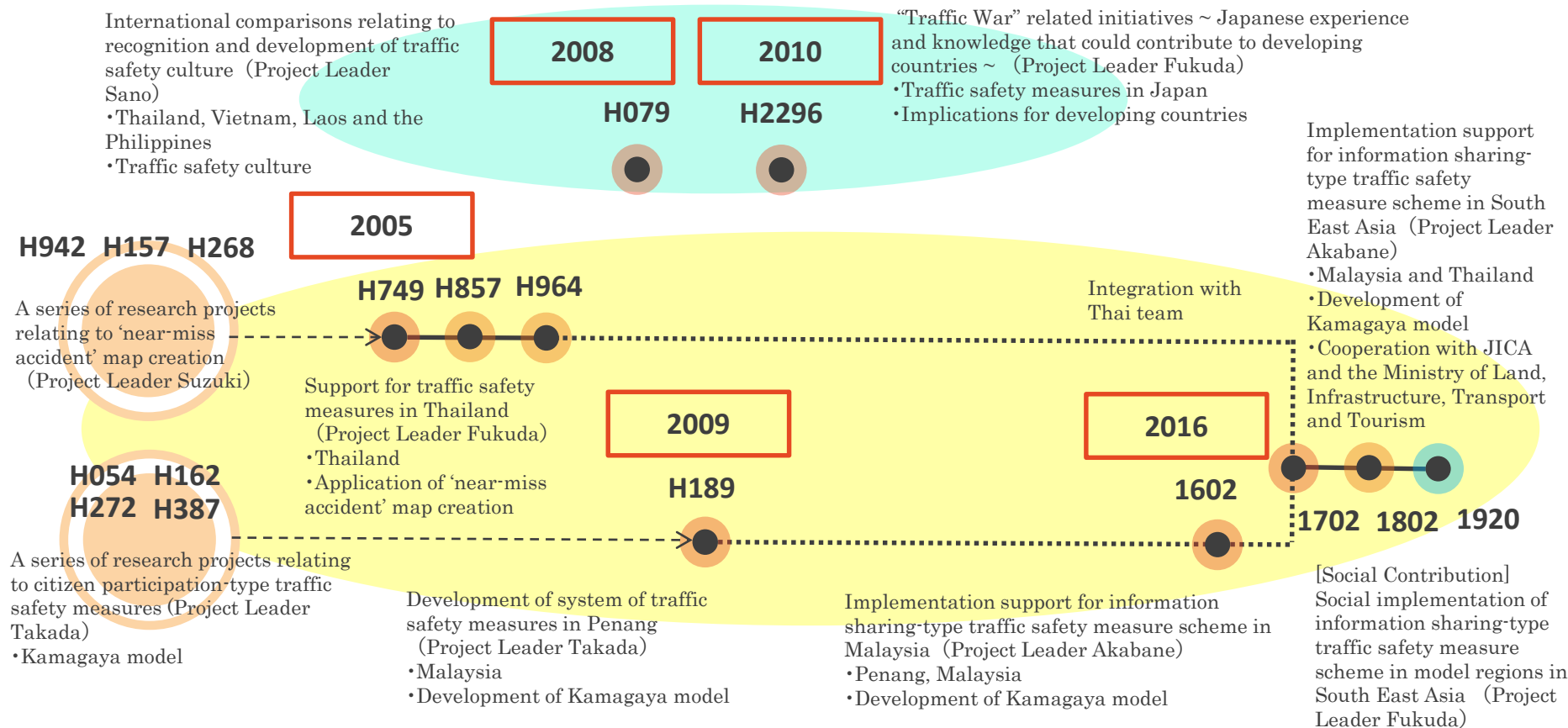
1841 1941

[International Cooperation]

Proposals for sustainable traffic-related urban development in the ASEAN region that leverages two-wheeling vehicle culture and focuses on safety (Project Leader Doi)

- Thailand and Cambodia
- Motorcycles + MaaS

Previous Research Projects: Traffic Safety and 'Near-Miss Accident' Maps



Previous Research Projects: Traffic Safety and Street Design

Construction of cross-sector cooperative model to realize a safe traffic society in Cambodia ~ Formation of “normative consciousness” and promotion of appropriate “driving behaviors” (Project Leader Kitamura) (*1704, project name differs in other years)

- Phnom Penh, Cambodia
- Cooperation with JICA project

[Social Contribution]
Implementation of traffic safety training through a cross-sector cooperative model in Cambodia (Project Leader Kitamura)

2015

1504 1604 1704 1821

2012

[International Cooperation]

H2429 H2540 H2652

2017

[International Cooperation]

1740 1840 1940

Research project relating to community design for the purpose of traffic safety in India (Project Leader Doi)

- Agra, India
- Creation of street design guidelines
- Cooperation with IITD

Advice relating to community-based planning and design in groups of small-scale India cities and social implementation initiatives ~ with an eye toward contributing to sustainable development goals (SDGs) ~ (Project Leader Fukuda)

- Patiala, Bulandshahr and Nainital, India
- Cooperation with IITD
- SDGs

Characteristics of IATSS Research Projects Targeting Asia



Strive to deeply understand the culture and situation of Asian countries.



Based on the outcomes of many IATSS research projects conducted in Japan.



Gain a new perspective and implications for Japan.



Many projects have been conducted based on the community approach.

Case01

1920; Social implementation of information sharing-type traffic safety measure schema in model regions in South East Asia

1602A

Implementation support for information sharing-type traffic safety measure scheme in Malaysia (Project Leader Akabane)

1702B 1802C

Implementation support for information sharing-type traffic safety measure scheme in South East Asia (Project Leader Akabane)

[Social contribution-type project] 1920

Social implementation of information sharing-type traffic safety measure schema in model regions in South East Asia (Project Leader Fukuda)

1702, 1802; Implementation support for information sharing-type traffic safety measure scheme in model regions in South East Asia



Examination of development in Asian countries based on knowledge from multiple IATSS research projects conducted in Japan

Series of research projects relating to 'near-miss accident' map creation (Project Leader Suzuki)

Created a manual booklet and video in 1998. These have spread throughout the country thanks to police departments introducing them as special features during the national traffic safety campaign implemented in autumn of the same year.

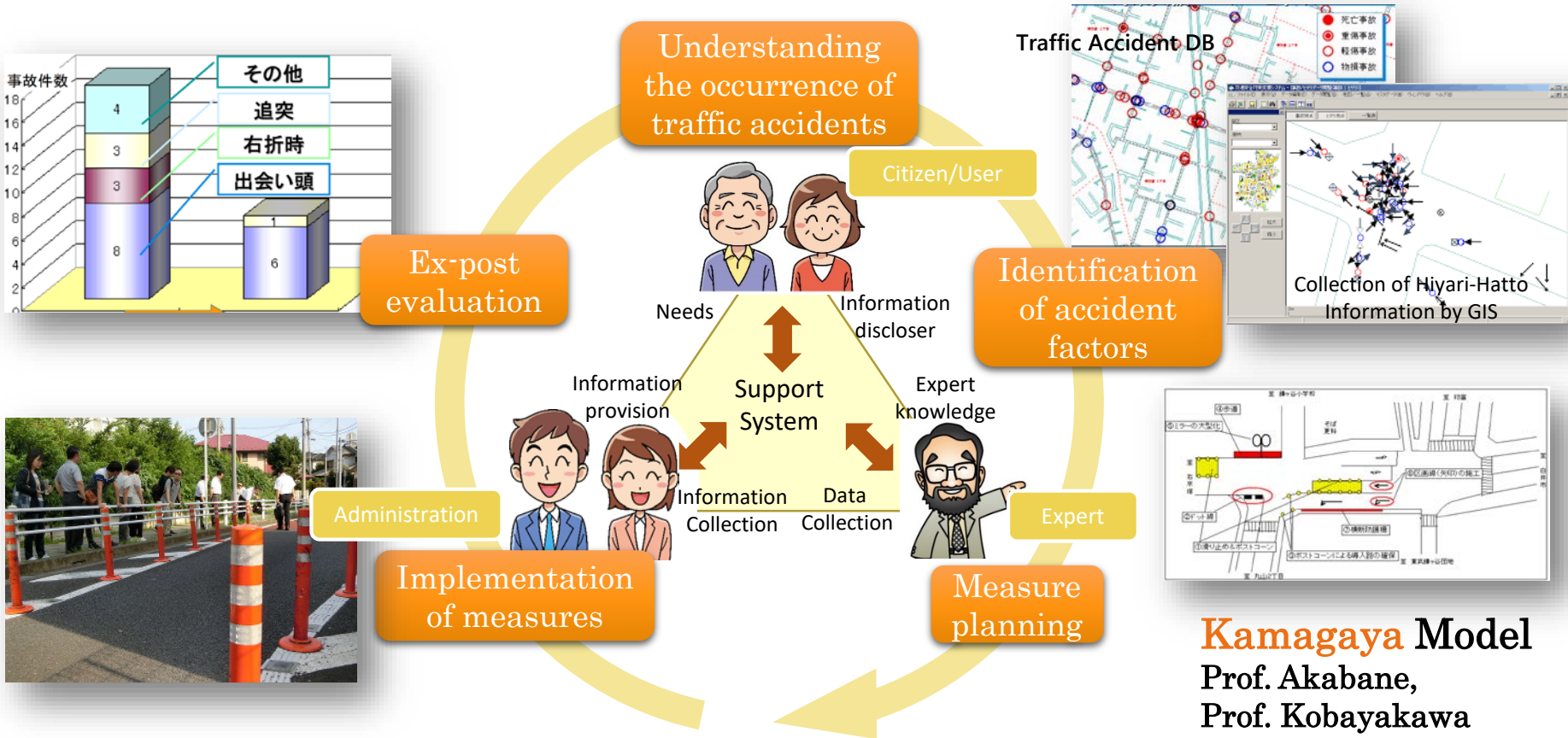


Series of research projects relating to citizen participation-type traffic safety measures (Project Leader Takada)

A traffic safety measure support system was developed, and traffic accidents were greatly reduced through traffic safety measure proposals based on scientific and objective analyses of accidents based on accident and near-miss accident data.



Series of research projects relating to citizen participation-type traffic safety measures (Project Leader Takada)



Kamagaya Model
 Prof. Akabane,
 Prof. Kobayakawa

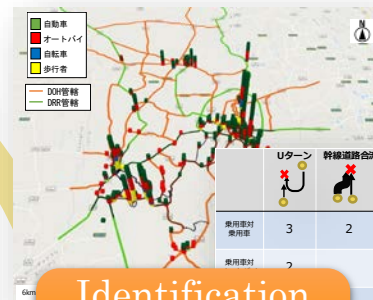
1702, 1802; Implementation support of information sharing-type traffic safety measure scheme in model regions in South East Asia



Examination of the possibility of developing the Kamagaya model in Penang (Malaysia), Suphan Buri and Khon Kaen (Thailand)



Understanding the occurrence of traffic accidents



Identification of accident factors

Ex-post evaluation



Implementation of measures

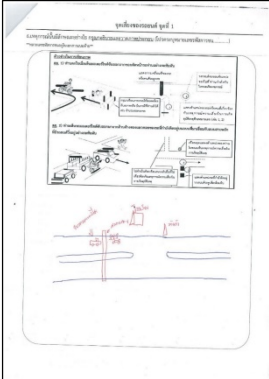


Measure planning

1702, 1802; Implementation support of information sharing-type traffic safety measure scheme in model regions in South East Asia

Hiyari Map in Suphanburi

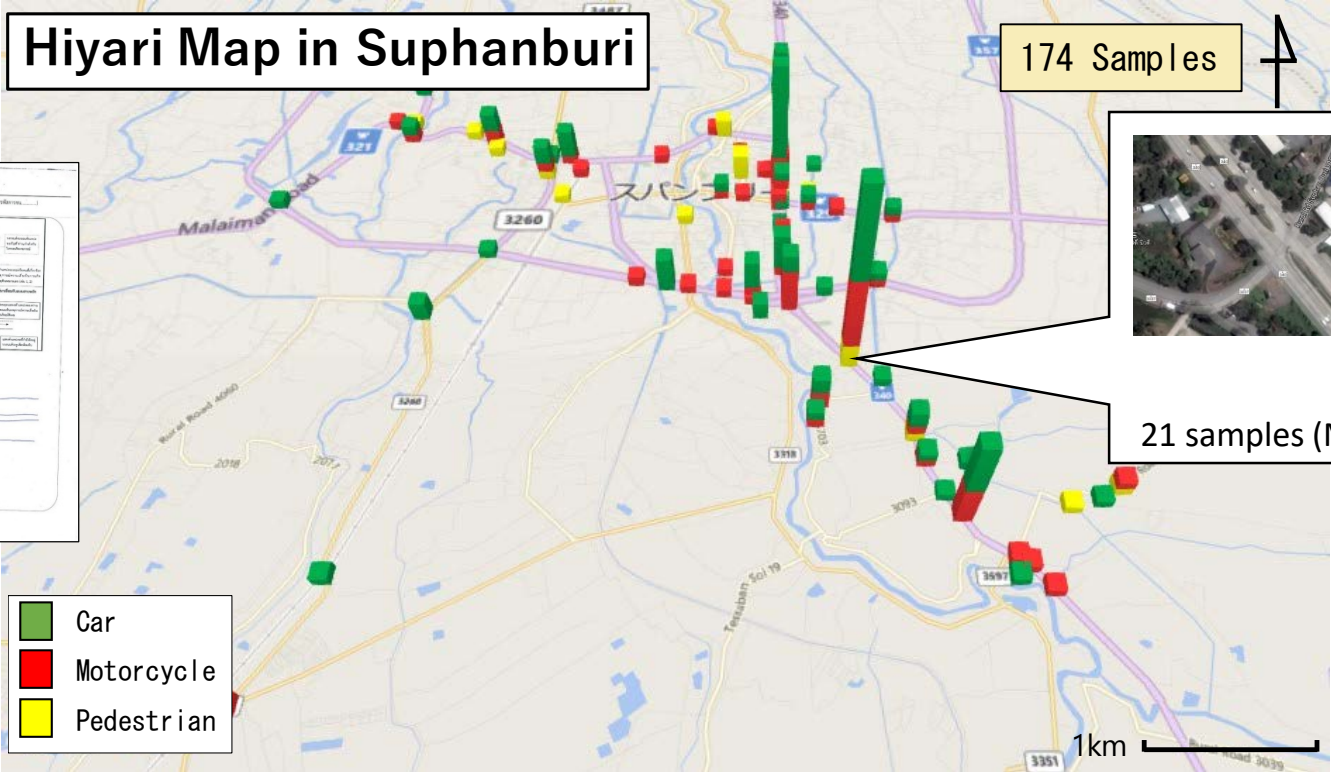
174 Samples



21 samples (Most samples)

- Car
- Motorcycle
- Pedestrian

1km

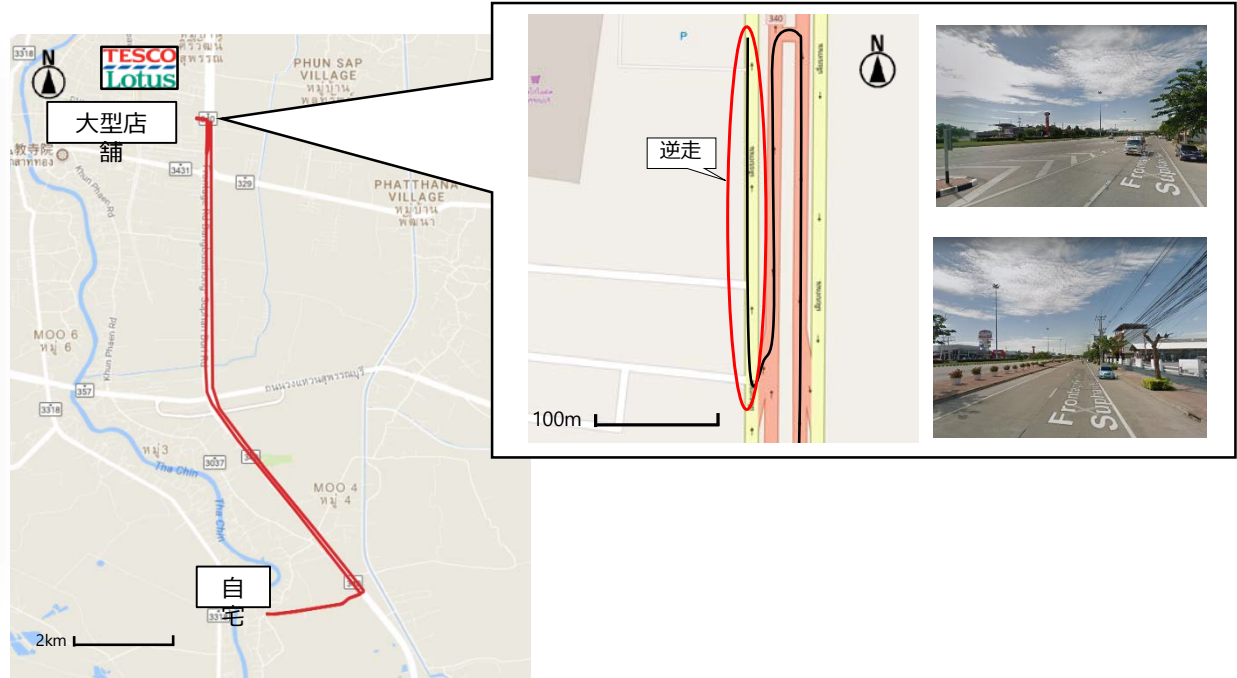


1702, 1802; Implementation support of information sharing-type traffic safety measure scheme in model regions in South East Asia



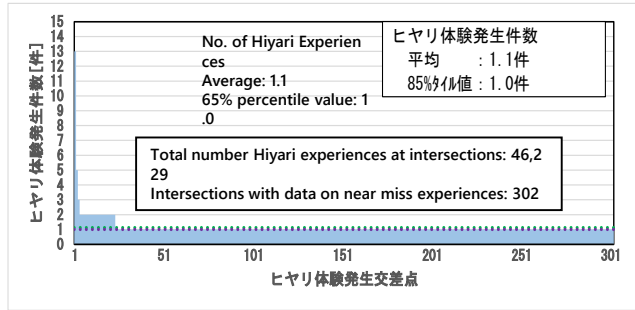
Understand the factors and mechanisms that cause dangerous driving behaviors and ‘near-miss accident’ locations.

For example, instead of simply bring up motorcycles driving against the flow of traffic as a problem, the project clarified the causes of these driving behaviors by assessing daily traffic behaviors.

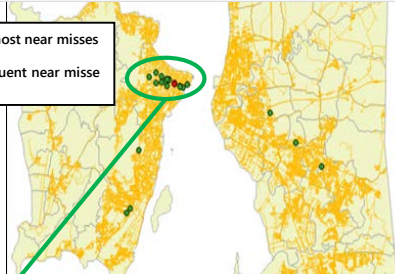


1702, 1802; Implementation support of information sharing-type traffic safety measure scheme in model regions in South East Asia

Collection of 'near-miss accident' data

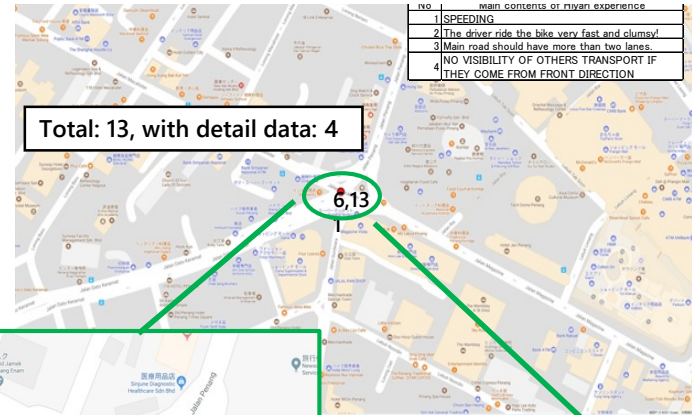


- : Intersection with the most near misses
- : Intersections with frequent near misses



Analysis of 'near-miss accident' data from 2017
 → In cooperative with Penang City and Prefecture
 → Selection of two locations for implementation of measures

Examination of measures and selection of locations for implementation of measures



Hi-yari experience data		
Legend	First party	Second Party
car		
motorcycle		
bicycle		
walk		
Parking car		

Characteristics of Social Contribution Projects 1920

Targeting Malaysia and Thailand



Aim of development in South East Asia (Malaysia and Thailand) based on results obtained through the IATSS project “Series of Research Projects relating to Citizen Participation-type Traffic Safety Measures” (on-going)



Aim of localization and lateral expansion through development of traffic safety measure tools targeting model areas and creation of guidelines (on-going)



Capable of leading to major social contribution in the future through cooperation with the Ministry of Land, Infrastructure, Transport and Tourism and JICA



Capable of constructing a network of personnel aimed at internationalizing IATSS

Case02

Advice relating to community-based planning and design in groups of small-scale India cities and social implementation initiatives ~ with an eye toward contributing to sustainable development goals (SDGs) ~

H2429 H2540 H2652

Research project relating to community design for the purpose of traffic safety in India
(Project Leader Doi)
• Creation of design guidelines in Agra

[International cooperation projects] 1740A 1840B 1940C

Advice relating to community-based planning and design in groups of small-scale India cities and social implementation initiatives ~ with an eye toward contributing to sustainable development goals (SDGs) ~ (Project Leader Fukuda)
• Targeting mid-scale cities; Perspective of SDGs

In Collaboration with Transportation Research and Injury Prevention Programme Indian Institute of Technology Delhi

Implementation system: Project and members

[IATSS Members and Office Staff]

Atsushi Fukuda (Nihon University professor)
Kenji Doi (Osaka University professor)
Shunsuke Kamijo (University of Tokyo associate professor)
Yuuto Kitamura (University of Tokyo associate professor)
Nagayasu Yoshida (Osaka City University associate professor)
Satoru Kobayakawa (Nihon University professor)

Special Researchers

Hiroki Kikuchi (Nihon University assistant)

Office

Sasa, Kawano, Yoshihara, Kaneko, Hasegawa, Hosokawa

[India]

Special Researchers

Geetam Tiwari (Indian Institute of Technology Delhi professor)
Dinesh Mohan (Indian Institute of Technology Delhi visiting professor /
Shiv Nadar University professor emeritus)
Sudipto Mukherjee (Indian Institute of Technology Delhi professor)
Girish Agrawal (Jindal Global University professor)

Patiala

Bulandshahr

Nainital

Purposes of Project

To provide methods of proposing mobility plans that enable sustainable development goals to be met targeting three small-scale cities (populations of 100~500 thousand people)

⇒ Small-scale cities (372 cities; resident population rate: 28%) have developed almost no effective plans.

- ◎ First, specify major traffic problems. ⇒ What is different from large cities? What are the characteristics?
- ◎ Assign priority to the necessary plans through discussion with local interested parties.
- ◎ Hold discussions with interested parties at the regional and prefectural level in order to integrate traffic and safety problems into sustainable development goals. (SDG 3, 7, 9, 11)
- ◎ Create a report on the three cities - Achieve safe traffic in the cities while meeting SDGs

Important Points:

- Suggestions must be made about how to integrate SDGs, which are global indicators, into the regions.
- It must be shown to be a concrete strategic system that does more than simply tie in with sustainable development goals.

Overall Project Structure

- Analyze the results of street traffic safety monitoring and atmospheric monitoring as well as the results of social experiments, and reflect these in street design.
- Systematically indicate how sustainable development goals can be met by suggesting street designs.

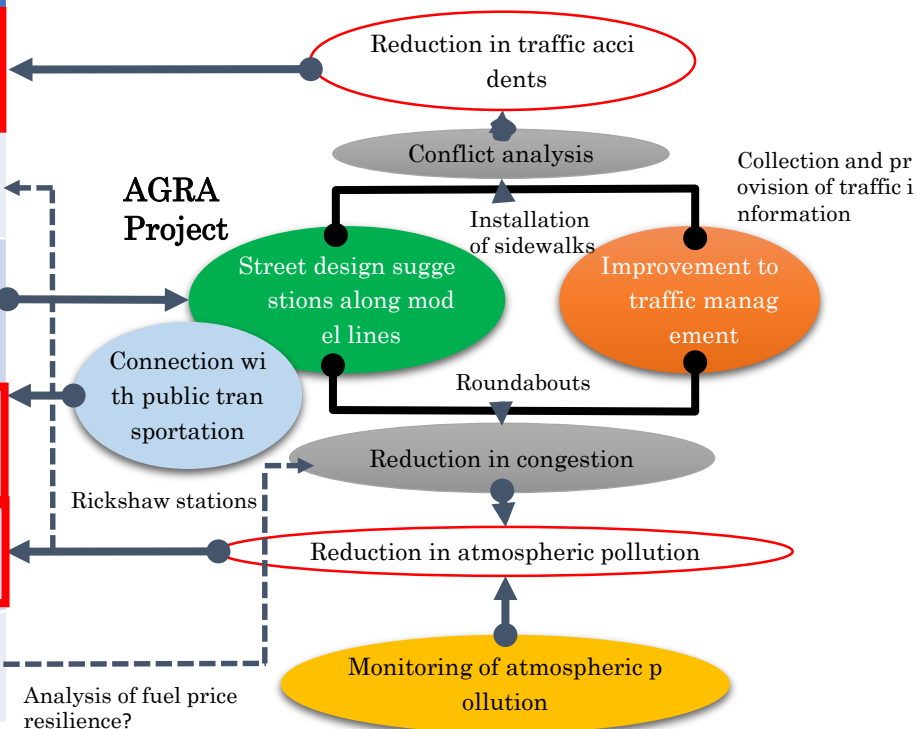
SDG Traffic-related Targets

Target	Contents	Indicator
3.6	To reduce the number of traffic accident observers in the world by half by 2020	Number of traffic accident deaths and injuries
7.3	To double to global improvement rate of energy efficiency by 2030	Improvement rate of fuel costs
9.1	To develop trustworthy, sustainable, resilient infrastructure that is highly capable of contributing to economic development and the human environment	Repair and maintenance rate of traffic facilities
11.2	To provide a safe, low-cost, accessible, sustainable traffic system by 2030	Degree of handicapped accessibility in public transportation
11.6	To reduce per capital negative influence of the environment in cities by 2030	Atmospheric pollution level Noise level
12.c	To streamline inefficient fossil fuel subsidies (while minimizing the negative effects on the weak)	Rate of reduction to fuel consumption amount



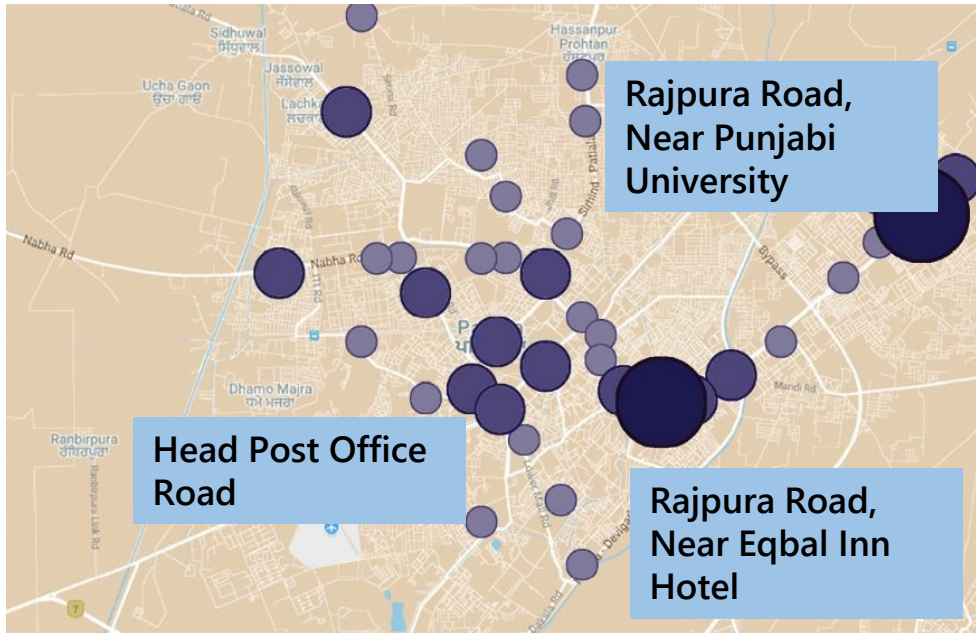
Future estimate (external condition)

Estimate of population and number of workers, estimate of number of car registration, etc.



Extraction of High-frequency Traffic Accident Locations and Analysis of Causes

Two or three locations with a high-frequency of traffic accidents were extracted from data on traffic deaths and accident occurrences collected during the first year. IATSS pointed out the necessity of conducting further analyses in order to specify accident causes.

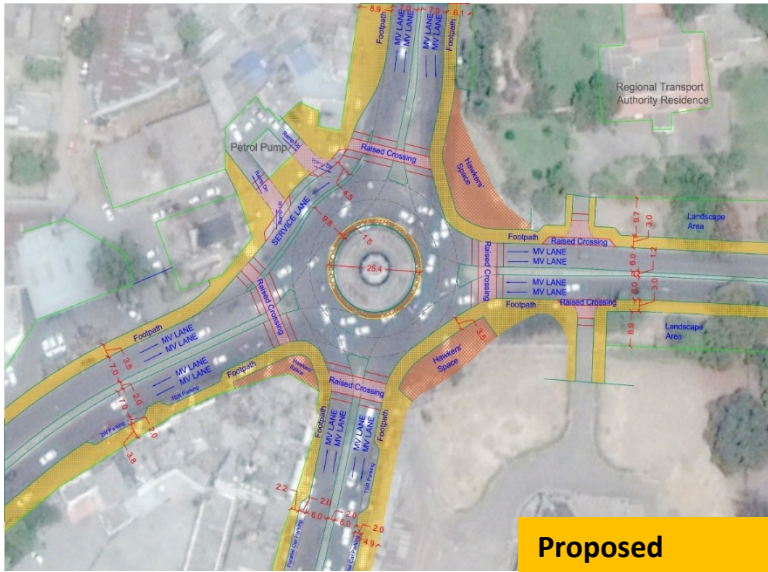


Local police were asked to input details on the state of accidents (Training)

Improving Intersections (Roundabouts)

In addition to conducting a review of the design of the main roundabouts, which cause traffic congestion and accidents and conducting evaluations through micro simulations of traffic, the social experiment was also implemented (using markings and colored cones).

IATSS also gave advice regarding design review methods.



Proposed design

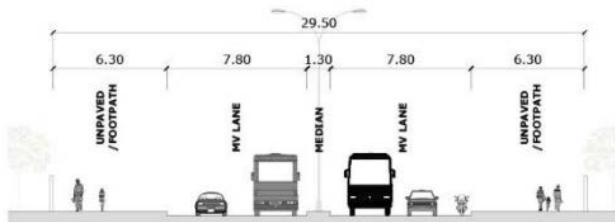


**Fountain Chowk
– 22nd June 2018**

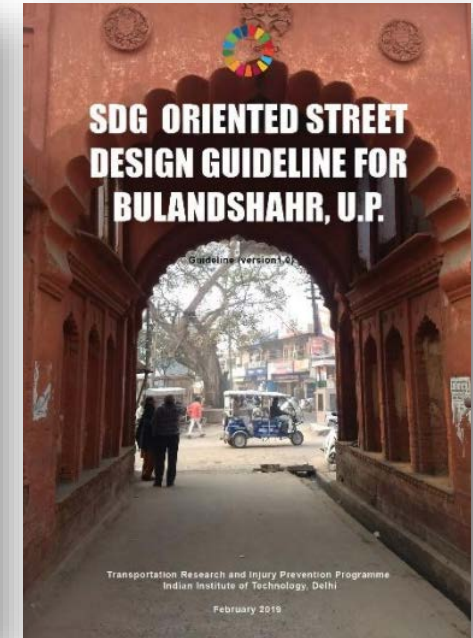
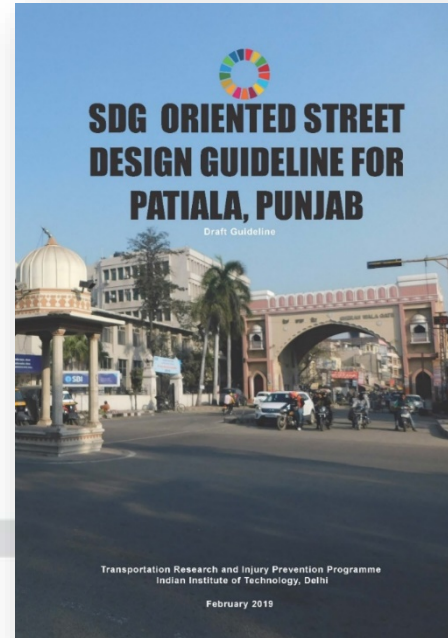
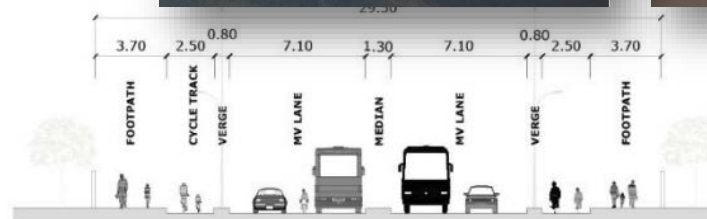
Creation of Street Design Guidelines

- Creation of design guidelines (draft) in Patiala and Bulandshar by visiting the cities' urban planning offices and police departments multiple times and holding discussions.
- Deepened discussions relating to the fundamental approach to street design and the recommended state in India
- Consideration of systematic development toward SDGs

EXISTING SECTION



PROPOSED SECTION





WELCOME TO

ਸਾਡਾ ਪਟਿਆਲਾ 2030

Our PATIALA 2030

ਨਵੰਬਰ 2018 - ਫਰਵਰੀ 2019
November 2018 - February 2019

Organized by
Transportation Research and Injury Programme - TRIPP
IIT Delhi in association with Thapar Institute of Engineering and Technology

Supported by –
Municipal Corporation of Patiala
Patiala Foundation
Open Cities Institute, Community Systems Foundation
UN Habitat
International Association of Traffic Safety and Sciences - IATSS, Japan

Barandari Gardens
(20th November - 30th November 2018)

Omaxe Mall
(1st December - 31st December)

Punjabi University
(1st January to 30th January 2019)

Thapar Institute of Engineering and Technology
(1st February to 1st March 2019)

SUSTAINABLE DEVELOPMENT GOALS (SDGpun)



The Sustainable Development Goals (SDGs) are a bold, universal agreement to end poverty in all its dimensions and craft an equal, just and secure world – for people, planet and prosperity by 2030 - by UNITED NATIONS

The 17 SDGs comprise of 169 targets to be achieved by 2030

The Government of India has played a leadership role in defining the SDGs.

“ਹਰਾ, ਪਾਣੀ, ਧਰਤੀ ਅਤੇ ਅਸਮਾਨ - ਰੱਬ ਨੇ ਇਹ ਘਰ ਅਤੇ ਗੁਰਦੁਆਰਾ ਬਣਾਇਆ ਹੈ. ਰੱਬ ਹਰ ਥਾਂ ਵਿਖਾਧਕ ਹੈ. ਹੇ ਨਾਨਕ! ਦੱਸੋ ਮੈਨੂੰ ਕੀ ਬੁਠ ਗਣਿਆ ਜਾ ਸਕਦਾ ਹੈ?”

- SGJG, p723

ਸੰਧਾਰਨੀਅਤ ਵਿਕਾਸ ਕੀ ਹੈ?

ਵੱਡੇ ਸ਼ਹਿਰਾਂ ਵਿੱਚ ਵੱਧ ਰਹਿਣ ਵਾਲੇ ਲੋਕਾਂ ਦੇ ਆਉਣ ਨਾਲ ਸੜਕਾਂ ਦੀ ਮੰਗ ਵੱਧ ਜਾਂਦੀ ਹੈ, ਜਿਸ ਨਾਲ ਸੜਕਾਂ ਦੀ ਖਰਾਬੀ ਹੋ ਜਾਂਦੀ ਹੈ ਅਤੇ ਸੜਕਾਂ ਦੀ ਸੁਫਲਤਾ ਘੱਟ ਹੋ ਜਾਂਦੀ ਹੈ। ਸੜਕਾਂ ਦੀ ਸੁਫਲਤਾ ਘੱਟ ਹੋਣ ਨਾਲ ਸੜਕਾਂ ਦੀ ਖਰਾਬੀ ਹੋ ਜਾਂਦੀ ਹੈ ਅਤੇ ਸੜਕਾਂ ਦੀ ਸੁਫਲਤਾ ਘੱਟ ਹੋ ਜਾਂਦੀ ਹੈ।



The SDGs place the principles of **“Leave No One Behind”** at the heart of their new agenda, aiming to ensure the inclusion of marginalized, disadvantaged and excluded groups.

This is about first reaching people that are, or are at risk of being left behind in the development process.

It requires nuanced policy analysis using disaggregated data and adequately resourced programmes that are designed to reach vulnerable communities and address the cause of disparity and exclusion.



ਪਟਿਆਲਾ ਦੇ ਸਭ ਤੋਂ ਮਹੱਤਵਪੂਰਨ ਵਸਿਸ਼ਟ



Most Important issues of Patiala

- ROAD SAFETY ਸੜਕ ਸੁਰੱਖਿਆ
- TRAFFIC CONGESTION ਟਰੈਫਿਕ ਭੋਜ
- AIR POLLUTION ਹਵਾ ਪ੍ਰਦੂਸ਼ਣ
- VEHICULAR PARKING ਵਾਹਨ ਪਾਰਕਿੰਗ

ਪਟਿਆਲਾ ਦੇ ਸਭ ਤੋਂ ਮਹੱਤਵਪੂਰਨ ਵਸਿਸ਼ਟ



ਸਹਿਣਸ਼ੀਲ ਅਤੇ ਸੁਰੱਖਿਅਤ ਪਟਿਆਲਾ

Target 3.6
By 2020, halve the number of global deaths and injuries from road accidents

Target 3.9
By 2030, substantially reduce the number of deaths and diseases from hazardous chemicals and air, water and soil pollution and contamination

Target 11.2
By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all

Target 11.6
By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Target 11.7
By 2030, provide universal access to safe, inclusive and accessible green and public spaces

ਸੜਕ ਸੁਰੱਖਿਆ



ROAD SAFETY

Global ranking
4th Worst
17th Best

People say that roads are a symbol of Development. However, this development is taking 53 Lakh lives each year in India.

Worldwide roads are becoming a major threat to living beings and their precious lives. 10% of global deaths due to road accidents are happening in India, which has a share of only 1% vehicles in the world.

In India the roads are designed by keeping Vehicles as priority instead of people and other road users.

8th Leading cause of death in 2016

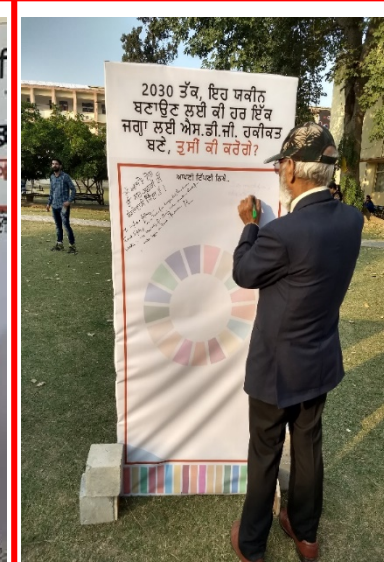
1st ਘੱਟਾ 15 ਮੈਂਟਾਂ
1 ਮੈਂਟਰ 2 ਘੱਟੇ

PATIALA ROADS

62 road deaths per year



ROAD SAFETY



A MOVING Exhibition

Characteristics of International Cooperation Projects

1940C Targeting India



Promotion of research projects based on new perspectives through cooperation between IATSS members and local universities



Feedback on specific suggestions and measures provided to governments and communities through local universities



Construction of a network of personnel aimed at internationalizing IATSS



Deep recognition of the current situation and sharing of substantial problems



Thank you for your attention

Introduction of IATSS Research Projects in Asia