

# Efforts for Social Experiments and Urban Transport Policy in Japan

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- II Social Experiments for the Comprehensive Urban Transport Development  
(Kamakura City, Kanagawa)  
(Kashiwa City, Chiba)

*Appendix: Other Social Experiments in Japan*

- To be conducted in the limited areas for a limited time period in the consideration of introducing new transport measures
- The most convincing way; real-life experience
- To study if the measures are effective to solve local/social problems
- To be modified in answer to the opinions from citizens after the experiments

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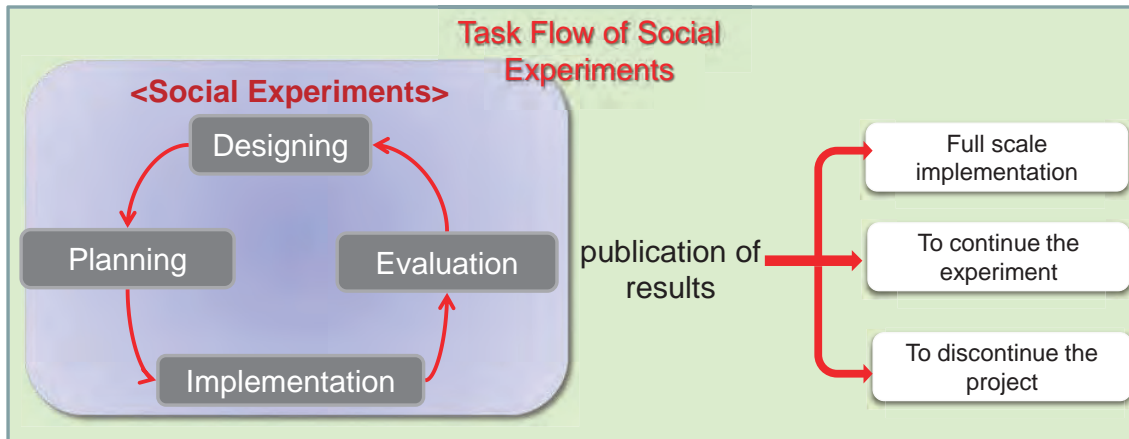
- To make known the new measures through social experiments to citizens
- To study efficacy and problems of the measures through social experiments
- To provide citizens chances to voice their opinions about the measures



To raise awareness of related parties, and to facilitate consensus-building among government, citizens and other related people.

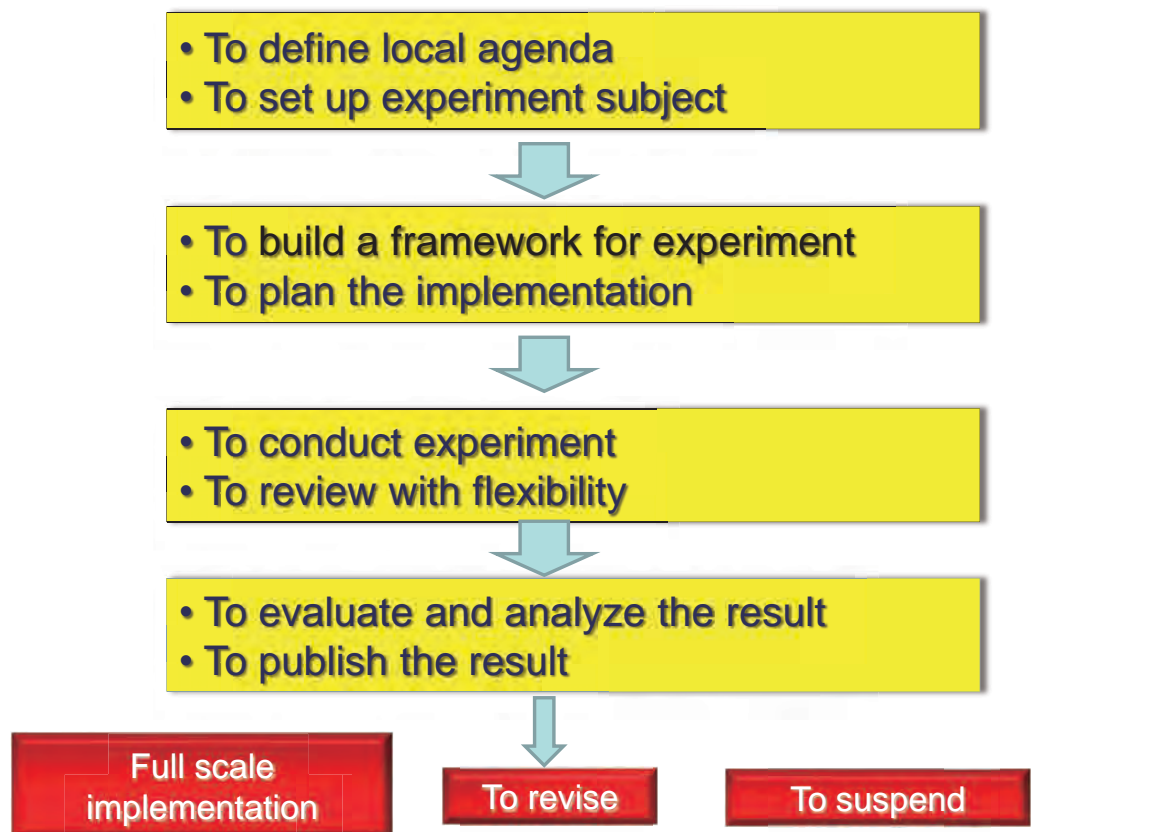
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# What is Social Experiments?



Social experiment is conducted to evaluate the measure which could have a significant social impact, in the limited areas for a limited time period with citizens, in order to introduce and implement new transport smoothly. This allows citizens and related people to decide whether the measure should be introduced or not.

# Task Flow of Social Experiments



# Past social experiments which led to the full scale implementation of projects

## Transit Mall (Okinawa City in 2002 - 2003)

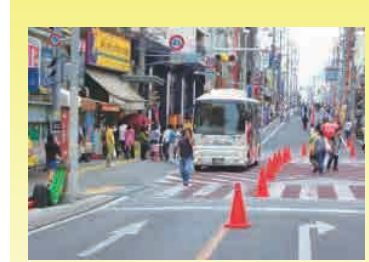
before



Social Experiment



Social experiment



Full implementation of transit mall in 2007

## Freight handling space in the build-up area (Sapporo City in 2003 - 2004)

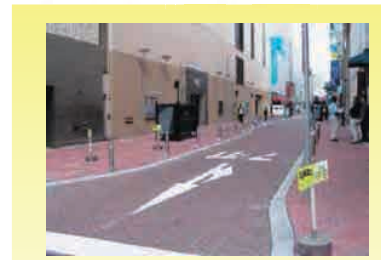
before



Social Experiment



Social experiment

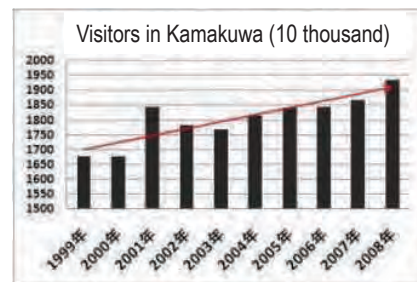


Full implementation freight handling space in 2007

## Case1: Kamakura City, Kanagawa

### City profile of Kamakura City

- Population: 170,000, Area: 40 km<sup>2</sup>
- Annual Visitors: 19,500,000 (FY 2010)



### Steps to social experiment

- Massive traffic jam especially on weekend occurred because of its nature of tourist site.
- Policy measures were implemented due to a special attention to its shortage of open space and well-preserved town scenery.
- TDM such as P&R was implemented utilizing existing traffic facilities.



Traffic jam on Kanazawa St.



Traffic jam on Coastal road



Cars passing through a residential area

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### Social Experiments in Kamakura City

#### **1<sup>st</sup> Social Experiment**

“Park and Rail Ride at Shichirigahama” (Nov. 1996)

#### **2<sup>nd</sup> Social Experiment**

“Transit System for Public Transport” (May and Jun. 1998)

#### **3<sup>rd</sup> Social Experiment**

“Smoother Transport in Kamakura” (Nov. 1999)

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### Objectives of Social Experiment

1. To promote safe and comfortable urban development by restraining cars and using public transports,
2. To promote urban development for coexistence of civil life and tourism, by regenerating transit mall and living environment,
3. To develop Kamakura City as a tourist attraction with full of energy and actions.

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### **1<sup>st</sup> Social Experiment**

#### **“Park and Rail Ride at Shichirigahama” (Nov. 1996)**

#### Overall

1. Tourists are requested to park their cars in a parking lot at 4km away from the city center.
2. They take trains to get to the city center.
3. This project managed to reduce the amount of cars into the tourist sites.

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## Case1: Kamakura City, Kanagawa

### 1st Social Experiment

“Park and Rail Ride at Shichirigahama” (Nov. 1996)

#### Objectives

1. To study a possibility for citizens to shift from using private cars to public transport.
2. To collect basic data regarding the modal shift from private cars to public transport.
3. To make a series of efforts known and to promote better understanding about transport planning in Kamakura City, in order to increase the social momentum.



Info. board on the street, next to the train st.



Interview Survey at the parking

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## Case1: Kamakura City, Kanagawa

### 1st Social Experiment

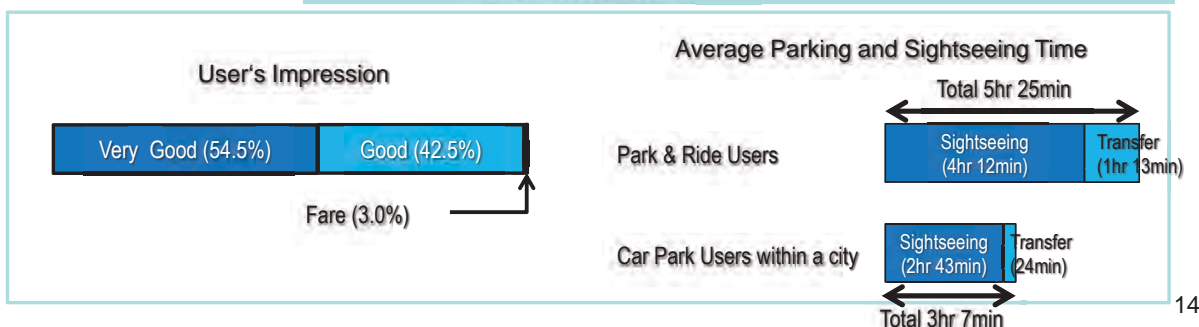
“Park and Rail Ride at Shichirigahama” (Nov. 1996)

#### Results

2-day Experiment -> A survey was conducted with users. 97% answered either “very nice” or “nice”.

From this experiment

**Effect:** tourist stayed 1.5 times as long.  
**Request:** business hours of the parking should be extended.



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## 2<sup>nd</sup> Social Experiment

“Park and Rail Ride” May 23<sup>rd</sup> – July 7<sup>th</sup> in 1998

### Overall

A special bus ticket which allows tourists to ride freely five different bus lines in the City for one day was issued, to enhance access to tourist sites spread around in the City. The ticket was valid in the specific areas in the city, with special discount for stores and entrance fees to the temples and shrines.

### Objectives

1. To promote modal shift from private cars to public transport.
2. To gain support from citizens and visitors for new types of urban development with foot traffic and public transport.
3. To make people widely know about no. 2.



Exclusive bus lane



Low-floor bus



handouts

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## Results

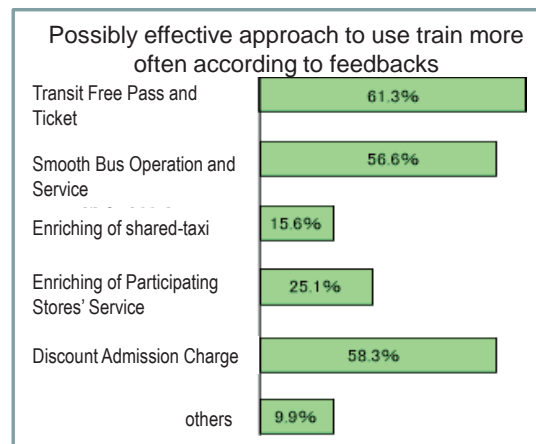
A total of 3,795 people used the ticket. A survey was conducted with the ticket users and the parking users, many of whom approved for local area transportation planning.

The analysis of the survey showed that train use to visit the City would be increased, and modal shift from private cars to public transport would be occurred, if the ticket project was fully implemented.

Therefore, we could say that the 2<sup>nd</sup> social experiment also made the achievement as expected.

frequency of visit (per year)		
	currently	when fully implemented
By train	2.94	4.82
By car	7.14	7.38

Means of transportation when fully implemented		
	Those who usually use train	Those who would use train more often
By train	4.0%	70.9%
By car	71.9%	53.4%



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### The 3<sup>rd</sup> Experiment

#### Smoother Public Transport in Kamakura Area, in Nov. 1999

##### Overall / Objectives

To confirm the systems in order to make the past two social experiments full scale implementation.

To collect basic data on new policy measures such as Park and Bus Ride, transit mall, share-ride cab, and vehicle guidance by info-service.



Info. board showing parking



parking



P&R



Banner in Kamakura St.



Ticket sample



Share-ride cab

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### Result

#### Park and Rail Ride in Shichirigahama

Though fewer people use the system compared to the experiment implemented in 1996, a survey conducted with the users showed that the system was highly evaluated. It also showed that over 90% of users either “highly likely would use” or “would use” the system if it is fully implemented.

#### Special ticket system in Kamakura City

Approximately 1.2 times as many people, compared to the experiment in 1998, used the system.

A survey showed that the 77% of the users marked the system as “very good” or “good”, and 19% as “fair” or “poor”.

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### Park and Bus Ride

The system was mostly highly evaluated since there were no major traffic jam, and also the shuttle buses were operated accordingly to users arrival.

### Share-ride cab

The 68% of the users evaluated the system as “very convenient”, 43% as “should be operated in more routes”, and 1% as “not very convenient” respectively.

### Vehicle guidance

The efficacy of the system was not fully evaluated since there was not much traffic on Route 134.

### Developments after Experiments

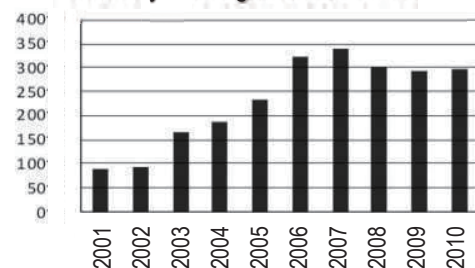
Five measures were fully implemented in 2001

- Park and Bus Ride in Shichirigahama
- Special bus ticket
- Park and Bus Ride in Yuigahama
- Painted mini-bus
- Exclusive bus lane in Wakamiya-Oji

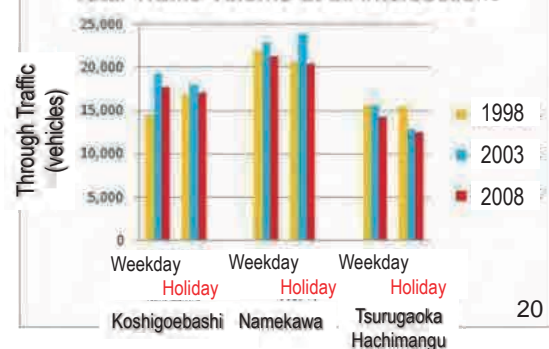


Low-floor buses were introduced to the Park and Bus Ride system

Monthly-Averaged Users of P&R



Total Traffic Volume at all intersections



Before



Government implements the projects systematically as comprehensive programs.



Plan

Citizens and business owners are concerned about decrease in customers due to change in traffic flow.

Do

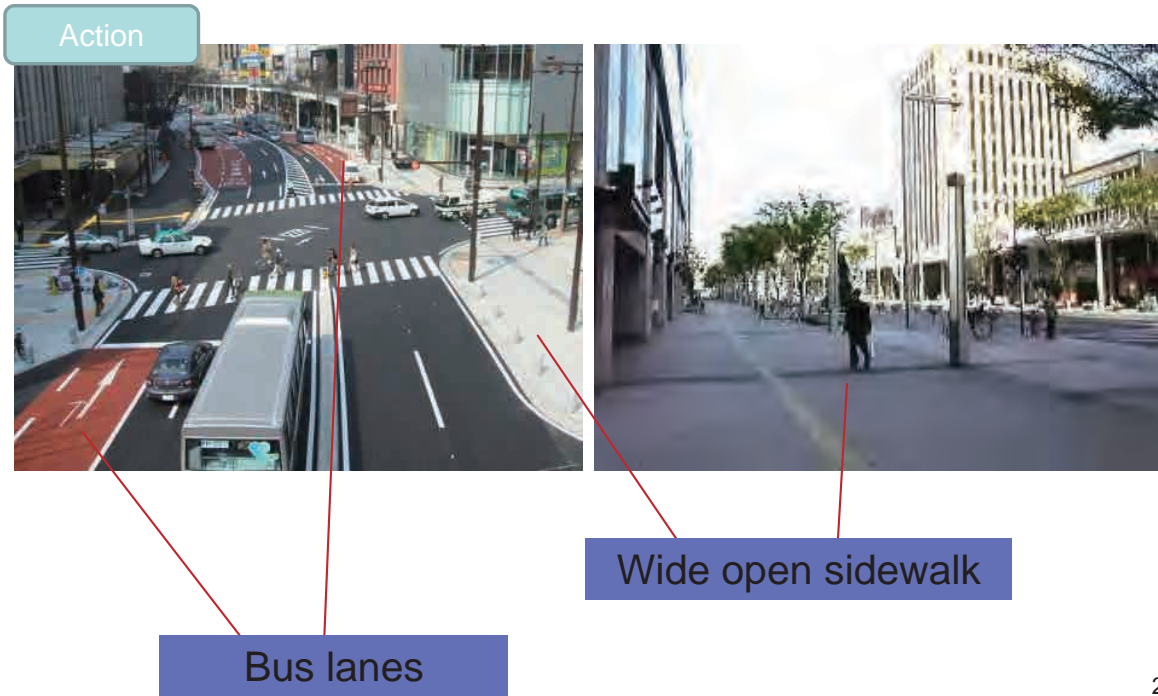


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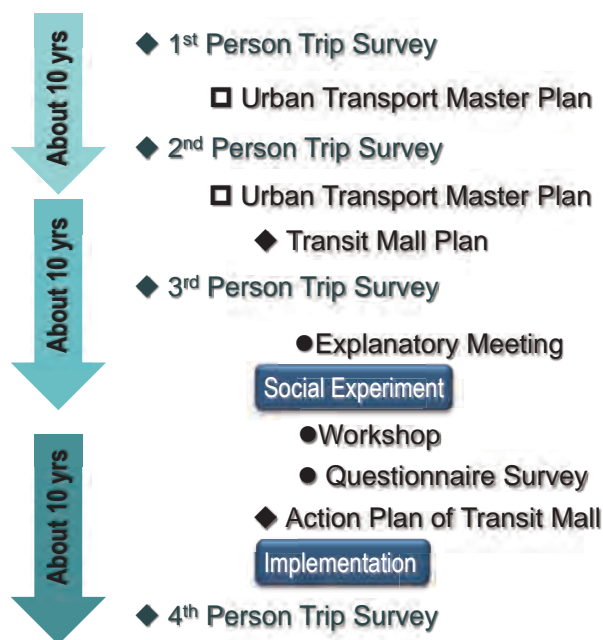
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- Meetings with local citizens and related people in order to implement the social experiments.
- Workshops to study the results of the social experiments
- Planning several projects based on the workshops
- Questionnaire survey to local citizens and related people
- Workshops to discuss/examine questionnaire survey
- Finalize the draft final plan and implement

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## Schedule of Project Implementation



Government implement effective measures by conducting surveys and social experiments, and building consensus with locals, in order to realize the sustainable development of the city.

## Sustainable effect of the measures by citizens participation



Transit mall is promoted by vehicle-free street project carried out with citizen events.



Business owners in the area volunteer to clean the streets.



Citizen volunteer members take a good care of flowerpots.

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## Case2: Kashiwa City, Chiba



Kashiwa City is located in the northwestern Chiba Pref., approx. 30km from central Tokyo. It's one of the major urban cities in the metropolitan area with a populations of 400,000 and an area of 115 km<sup>2</sup>.

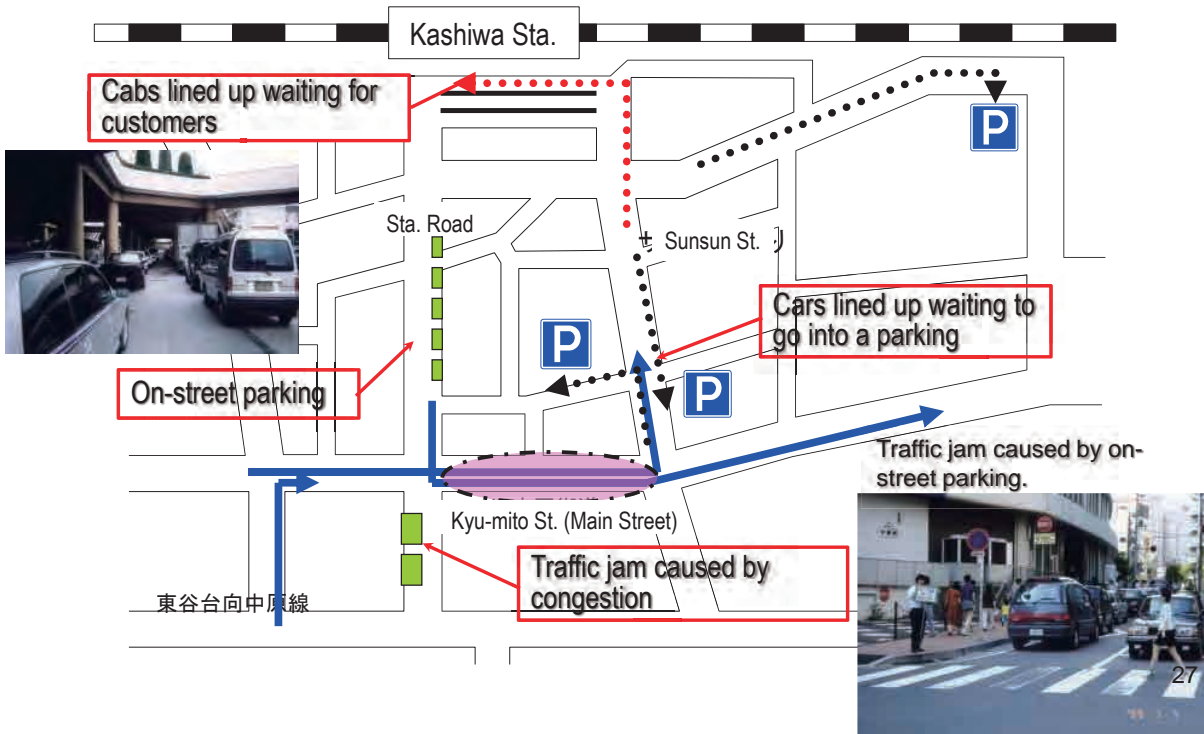


Eastern Area of Kashiwa Station

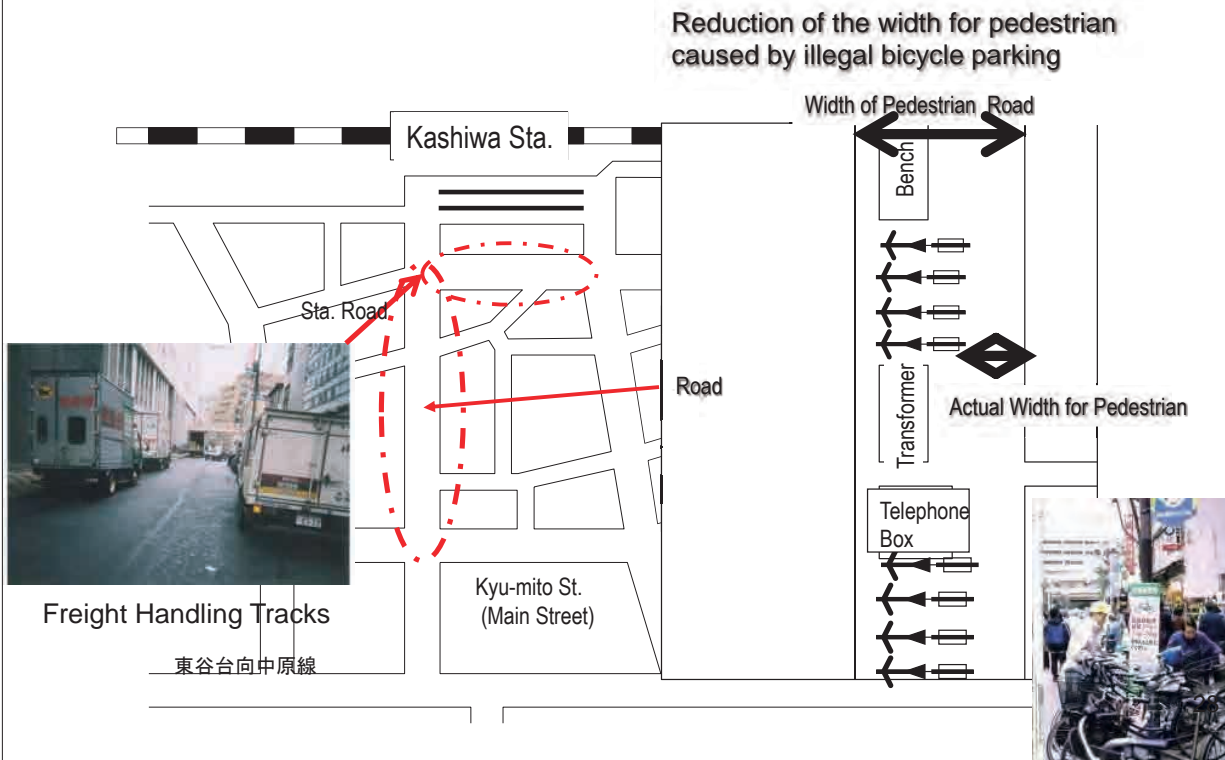


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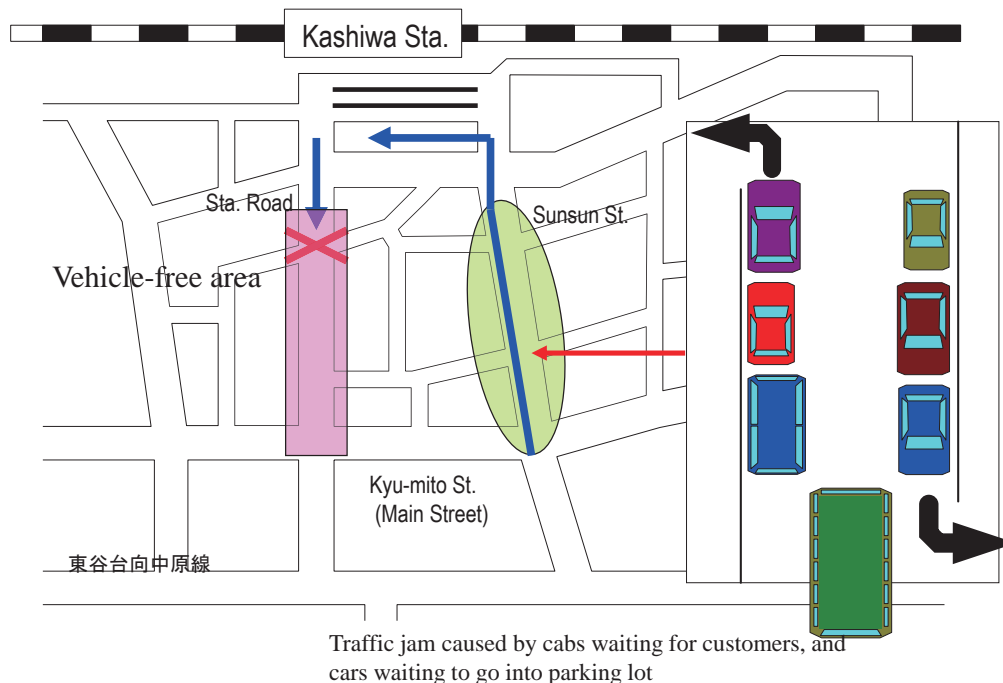
1st Problem: Traffic Congestion



2nd Problem: Pedestrian space



### 3<sup>rd</sup> problem; Access to the station



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### Overall

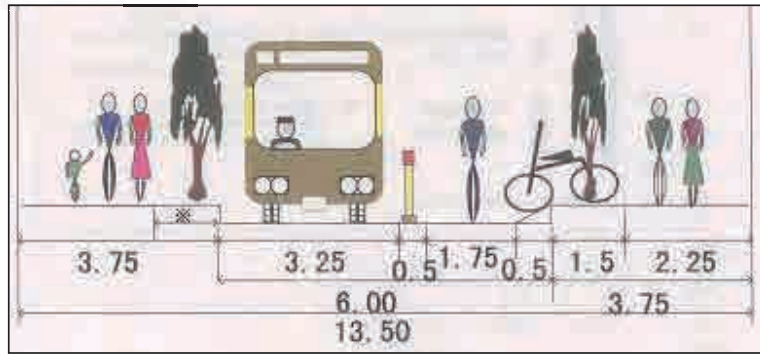
- Objectives:
  - to facilitate traffic on the east side of the St.,
  - to plan environmental measures
  - to examine efficacy, problems and impact on environment of the experiment,
- Operators : Kashiwa City, Traffic Facilitation Research Committee for the east side of Kashiwa Sta.
- Cooperators: Kashiwa City, Police station, Transport operators, and citizens
- Period : March 1<sup>st</sup> – 7<sup>th</sup> in 2000
- Projects: Transit mall, parking information, shared freight handling space, Park & Ride, taxi pool, etc.,

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## Case2: Kashiwa City, Chiba

### Transit Mall

To expand sidewalk, and designate parking space for bicycles going on a shopping



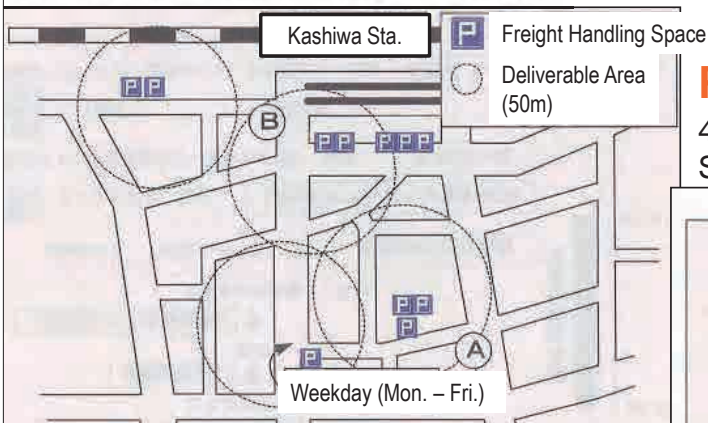
### Parking Information

To guide cars to available parking lots



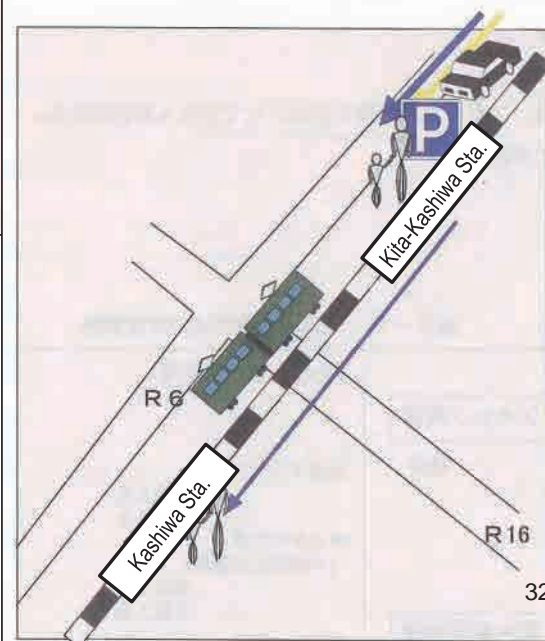
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## Case2: Kashiwa City, Chiba



### Park & Ride

4 hrs free parking at Kita-Kashiwa Station was allocated for Park & Ride



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### Shared Freight Handling Space

Two Shared-Freight Handling Space were allocated along the street.



### Taxi Pool Facilitation

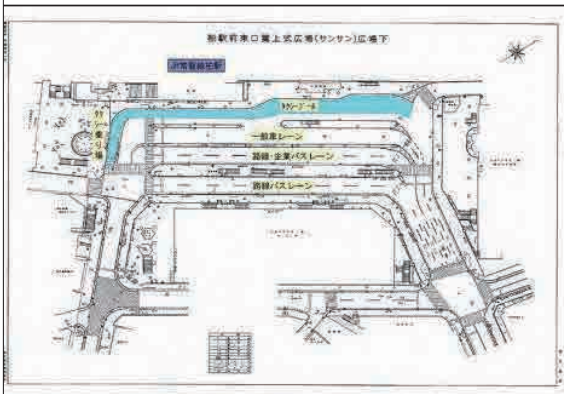
- Objective:**
1. To recover the road capacity owing to reduce a long cue of waiting taxi
  2. To reduce the effect on the environment owing to stop

**Outline:** To reduce the waiting taxis responsible for traffic congestion by using remote control

**Duration:** AM 10:00 ~ PM 6:00

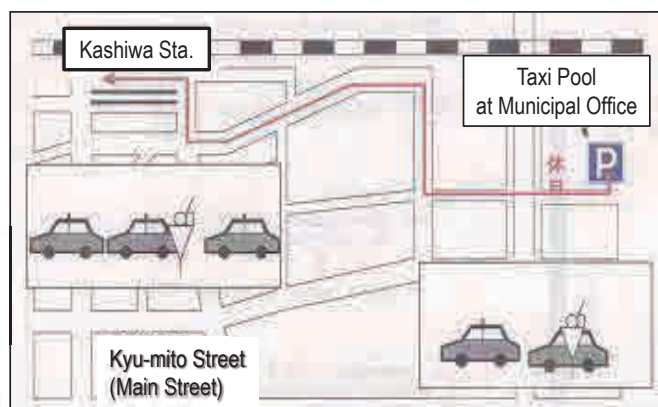
Kashiwa Station Square

Long cue of waiting taxis



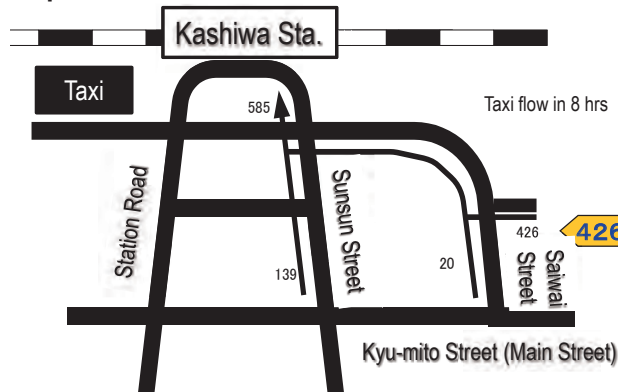
### Implementation Method

1. Parking space of municipal office was used as the tentative taxi pool.
2. Guide staff was allocated at the tentative taxi pool and the Taxi Stand of Kashiwa station.
3. Guide staff at the Taxi Stand informed the situation of Taxi Stand to Guide Staff at the tentative taxi pool.
4. Taxi was delivered depending on space of the Taxi Stand.



## Case2: Kashiwa City, Chiba

### Experiment Result



Reduction  
426 taxis/8hrs

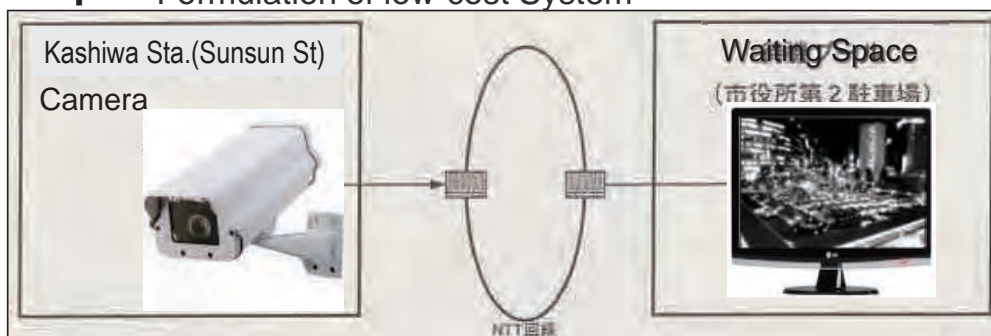


Average Waiting Time  
7min. 46 sec.



Idling Stop: around 60 hrs

### Next Step Formulation of low-cost System



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## Other Social Experiments in Japan

- Mall Introduction for town revitalization at Naoetsu (Joetsu City, Niigata)
- Walking Course in World Heritage, Kohyasan (Kohya Town, Wakayama)
- Human Friendly town development to meet past and future (Shiwa Town, Iwate)
- Town Development focusing Pedestrian Safety (Kamagaya City, Chiba)
- Transit Mall on International Street (Naha City, Okinawa)
- Wide-Area TDM by Package Approach with participation of Enterprises (Osaka City & Higashi Osaka City, Osaka)
- Demand Bus System & Door-to-door Bus Operation by IT (Toyota City, Aichi)
- Safe Environment for Bicycle by Road Space Readjustment (Setagaya Wd. Tokyo)
- Bicycle Lane Experiment in the Center of Green City (Sendai, Miyagi)
- Social Experiment for a Bicycle-Running Community Development through PPP in Itabashi and Toshima Wards (Itabashi Wd. and Toshima Wd., Tokyo)

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- Three Trials to Promote “Eco-Takamatsu Starting with Bicycles”  
(Takamatsu City, Kagawa)
- Social Experiment for Logistic Community Development in  
Hiroshima (Hiroshima City, Hiroshima)
- Shibuya Smart Parking Social Experiment 2002 – Locally Integrated IT Car  
Navigation Experiment (Shibuya Wd., Tokyo)
- Combined Experiment of Terminal Logistic Measures and Parking  
Management in Shibuya District (Shibuya Wd., Tokyo)
- Advanced Social Experiment on Provision of Parking Information, etc. in the  
IT Society (Nagoya City, Aichi)
- Experiment on Verification of TDM by Enhancing the Transportation Access around  
Niigata Stadium (Niigata Pref., etc.)
- Experiment on Verification of TDM in Kawanishi City and Inagawa Town  
(Kawanishi City and Inagawa Town, Hyogo)
- Experiment on Verification of TDM by Utilizing 100-yen Bus in Yokohama MM21  
Area (Yokohama City, Kanagawa)

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## Background

- The Project Area has lost vitality in the motorized Society.
- A significant reduction of Passengers of Naoetsu Railway Station is envisaged by opening of “Hokuriku Shinkansen (Bullet Train)”
- The project Road is a busy main street but with insufficient width to secure safety of pedestrians and bicycle passengers.

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### Project

Enforcement of one-way system and installation of bicycle lane and parking space in order to secure safety of pedestrians and cyclists, as well as to create event spaces for town revitalization.



### Background

- Kohya is a model town of revitalization by tourism, attracting many tourists due to designation as a World Heritage.
- The central area has lost energy and then population, mainly because of policies trying to cope with motorization.
- Housing stocks in the town center have been sprawling, mainly by the young generation.

## Project

Social experiment tries to introduce a transit mall and a shuttle bus service together with fringe parking and restriction of car use, with the purpose of revitalization and creation of event spaces.



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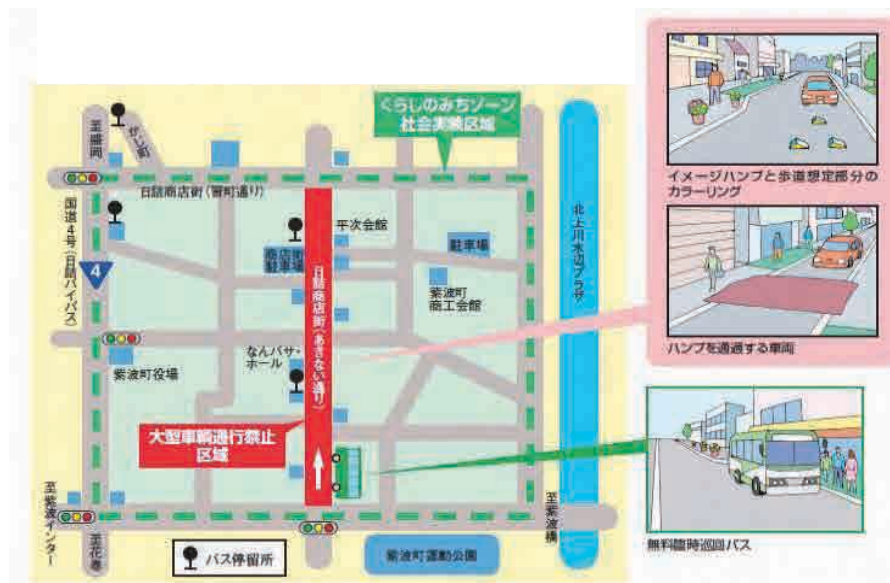
## Background

- The project area has been developing roads pedestrians but for vehicles and then spaces for pedestrians are insufficient.
- Pedestrians cannot walk safely, without enough waling spaces.

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### Project

The central shopping street is narrow with no pedestrian spaces and it is planned to reduce carriageway width and install pedestrian walks, restricting large vehicles except buses and installation of humps to control running speed.



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### Background

- The project area has been developing roads pedestrians but for vehicles and then spaces for pedestrians are insufficient.
- Especially during rush hours, mixed traffic of cars, bicycles and pedestrians are forced to move in dangerous situations.
- Consequently, traffic accidents are prone in the area.

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### Project

In the accident prone area, two different shaped humps and a narrowed section were installed to secure residents' safety.



### Background

- The mid-town area has been losing a centering force due to the progress of motorization, moving of houses and shops to the suburbs.
- The project area is suffering from chronic traffic congestion.
- Planning a full mall and a transit mall in the end, some new transport measures are needed to connect the area with a monorail service recently to open.

## Project

To test a possibility of permanent implementation of transit mall, a social experiment is planned to enforce a whole day mall in a busy street with congestion.



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## Background

- On the road connecting the two areas, more than 55% of vehicle traffic are for business purpose.
- By converting such traffic with business purposes to public transport, Mitigation of traffic congestion and environmental improvement are planned.

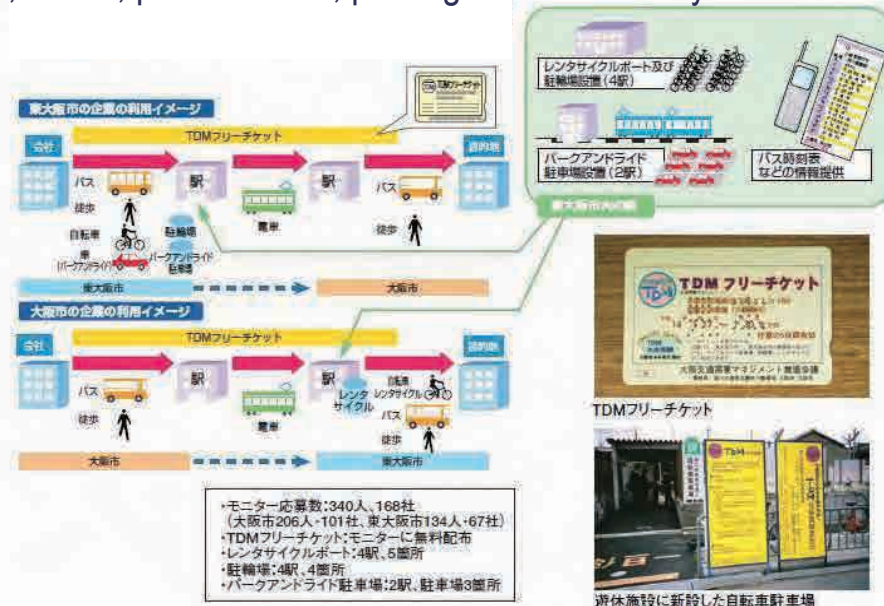
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## Wide-Area TDM by Package Approach with participation of Enterprises (Osaka City & Higashi Osaka City, Osaka)

### Project

To encourage the business trip makers to use public transport instead of using a private car, It is planned to issue a “TDM” ticket available for railways, buses, park and ride, parking of cars and bicycles and rent-a-cycle.



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## Demand Bus System & Door-to-door Bus Operation by IT (Toyota City, Aichi)

### Background

- No public transport areas has been expanding in the city and the “transport poor” such as the aged and non-car users feeling inconvenience are rapidly increasing.
- A new bus service was introduced but people feel that its service level is not enough high and want to know their time to wait for bus arrival.

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## Project

Bus stops of “City Center Bus” are installed at the front gate of large public facilities, hospitals and shops and a simplified demand-bus system is introduced at bus stops to meet passengers’ needs.



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## Background

- Frequent accidents occur involving pedestrians and cyclists.
- Most roads in the area are too narrow to newly install spaces for cyclists.
- Safer environment is needed for pedestrians and cyclists by utilizing existing road spaces.

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**Project**

By making an efficient use of narrow road spaces, a cycle lane is installed and one-way traffic of bicycles is encouraged.

**実験対象区間**  
補助 154号線  
(L=約650m)

**実験対象区間**  
補助 209号線  
(L=約600m)

**狭小歩道における自転車走行レーンの設置状況**

**車道における自転車走行レーンの設置状況**

**補助154号線**

**【実験1】**  
狭小歩道における自転車走行レーンの設置(自転車の一方通行化)  
実施時期: H19年10月上旬から4週間  
調査項目: 歩行者・自転車の歩動特性、危険歩動、歩行者・自転車・自動車の時間別方向別特微別交通量、停車帯利用実態等

**補助209号線**

**【実験1】**  
狭小歩道における自転車走行レーンの設置(自転車の一方通行化)  
実施時期: H19年10月上旬から4週間  
調査項目: 歩行者・自転車の歩動特性、危険歩動、歩行者・自転車・自動車の時間別方向別特微別交通量、停車帯利用実態等

**【実験2】**  
道路空間の再構築に伴う自転車走行レーンの設置  
実施時期: H19年11月中旬の7日間  
調査項目: 歩行者・自転車の歩動特性、危険歩動、歩行者・自転車・自動車の時間別方向別特微別交通量、荷捌き時の通行特性等

**Background**

- People are becoming conscious of convenience of bicycles in the urban area and bicycles are expected to play more important role.
- On the other hand, accidents of bicycles have been increasing.
- Abandoned bicycles are increasing without stop and causes environmental problems and hindrance of urban functions.
- A clear vision should be established on bicycles in urban area, taking opportunity of subway opening.

**Project**

On the overcrowded sidewalks with pedestrians, pavement markings to separate bicycles and pedestrians were experimented, and bicycle lanes were installed on the small streets in the bicycle peak hours.



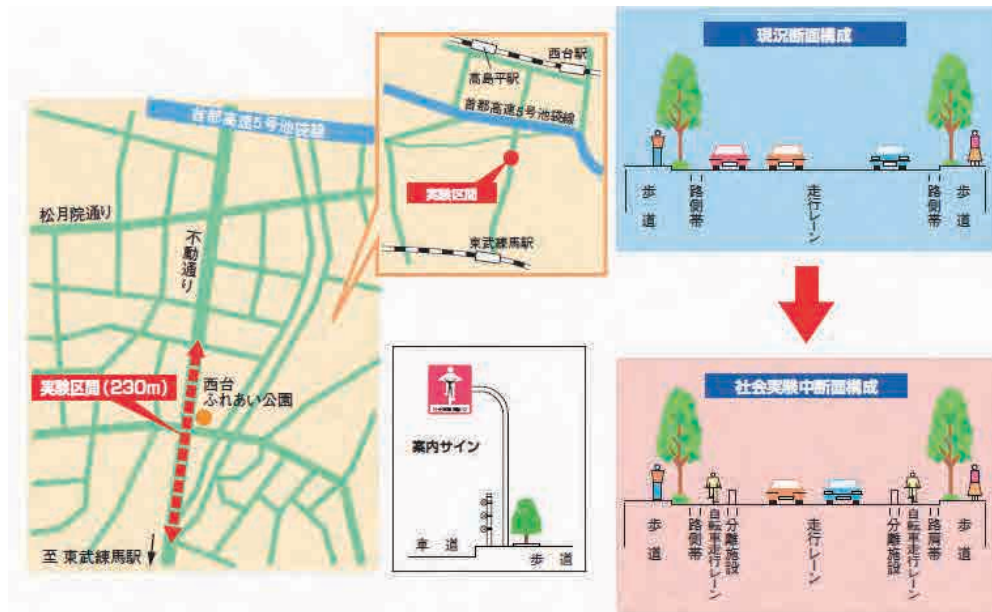
**Background**

- This area is closely connected with the sub-center through the railway and road network, and many bicycles are conveniently utilized.
- While the bicycle running environment is being improved, construction is still insufficient and illegally parked bicycles are becoming an object of public concern.
- It aims to develop an overall bicycle-running community through PPP (Public-Private-Partnership).

## Social Experiment for a Bicycle-Running Community Development through PPP in Itabashi and Toshima Wards (Itabashi Wd. and Toshima Wd., Tokyo)

### Project

In each ward, bicycle lanes were created by reducing 3 car lanes to 2 lanes on the roadway, or by separating bicycles and pedestrians with white markings on the pavement.



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## Three Trials to Promote “Eco-Takamatsu Starting with Bicycles” (Takamatsu City, Kagawa)

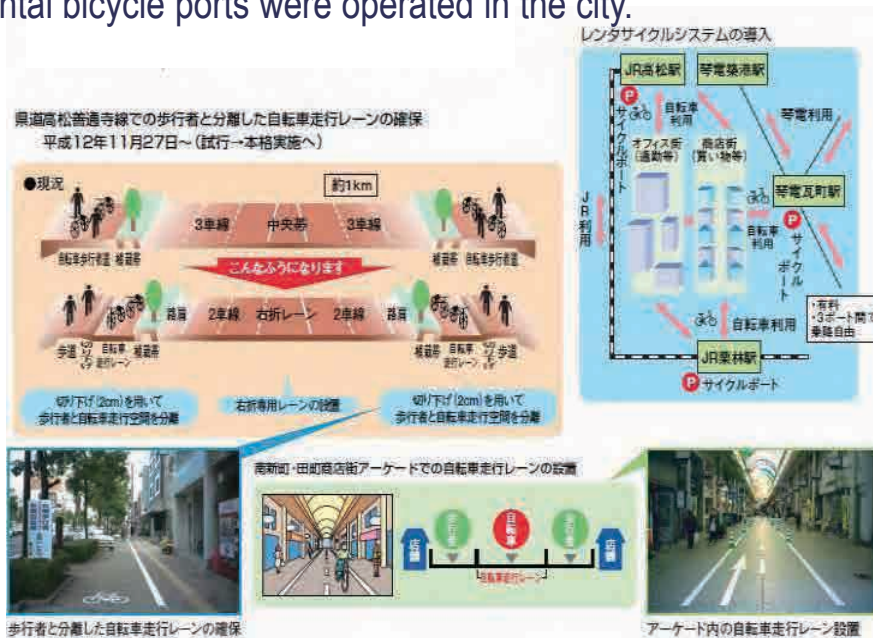
### Background

- This city has an environment with a great utility of bicycles, and the bicycle ownership ratio is much higher than the national average.
- It is ranked as the worst in the number of bicycle accidents; hence, it is necessary to secure safe and comfortable space for pedestrians and bicycles and to enforce the bicycle running rules as well as to enhance the manners.

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### Project

Bicycle lanes were created by reducing the number of car lanes on the arterial road, bicycle running lanes were marked in the shopping arcade, and three rental bicycle ports were operated in the city.



### Background

- Due to the partial amendment of the Road Traffic Act, the control over on-street parking has been tightened.
- Though some measures are taken for efficient goods distribution partially in the central area, they are not sufficient yet.
- To cope with this situation, a “social experiment” was made to study the countermeasures on the initiative of the relevant agencies.

## Project

In the target area, reduction of goods distributing trucks was tried by providing common goods disposal facilities on/off the streets, and its effect was examined.



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## Background

- In the conventional parking information/guidance system, necessary information may not have been provided for users.
- By registering users' information beforehand, users were guided to the most appropriate parking area through the car navigation function, aiming at reduction of on-street congestion and realization of smoother road traffic.

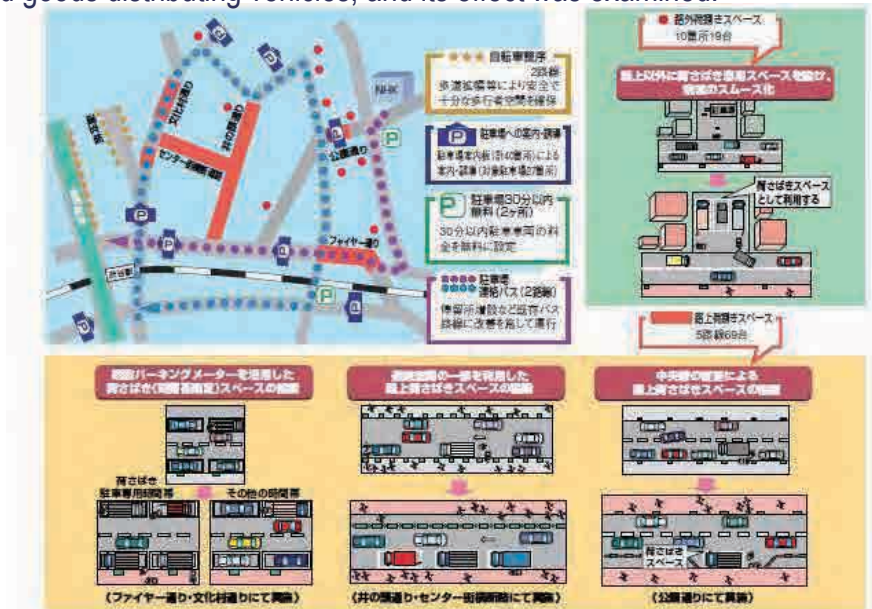
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**Project**

Suspension of metered parking, provision of on/off-street common goods disposal facilities by utilizing the existing parking facilities, guidance of parking vehicles to the parking area, and short-term free parking measures were implemented in order to remove illegally parked vehicles and goods distributing vehicles, and its effect was examined.



**Background**

- Precise parking guidance is important to reduce traffic congestion, and parking guidance through car navigation is currently being realized.
- Detailed parking information is difficult to be utilized efficiently because it is managed separately by the car navigation providers, etc.
- Automatic provision system of parking information which is suitable to each user's preference will be realized through car navigation with communication function, etc.

## Advanced Social Experiment on Provision of Parking Information, etc. in the IT Society (Nagoya City, Aichi)



### Project

Effects of guidance to the most appropriate parking facilities through car navigation with communication function in order to reduce on-street parking vehicles and queues waiting to enter parking facilities in the central area, as well as provision of parking availability information for the handicapped and the reservation system were examined.



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## Experiment on Verification of TDM by Enhancing the Transportation Access around Niigata Stadium (Niigata Pref., etc.)



### Background

When games were held right after completion of the stadium, the shuttle bus transportation did not function well and traffic congestion around the stadium occurred. So, it became necessary to develop a smooth transportation system for the spectators of the game.

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### Project

When games were held at Niigata Stadium, smooth traffic around the stadium was attempted by implementing park & ride, operation of one-coin shuttle buses, information sharing system among the relevant agencies.



### Background

- Traffic congestion and environmental deterioration are feared due to increasing commuting vehicles from the rapidly growing new town to the center.
- It is forecasted that the future road extension will increase the traffic from the new town to the center.

## Experiment on Verification of TDM in Kawanishi City and Inagawa Town (Kawanishi City and Inagawa Town, Hyogo)

### Project

Traffic congestion alleviation by extending the public transport vehicle priority system and by expanding the VICS, etc. and environmental improvement by introducing DPF and low-sulfur diesel for the buses were implemented.



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## Experiment on Verification of TDM by Utilizing 100-yen Bus in Yokohama MM21 Area (Yokohama City, Kanagawa)

### Background

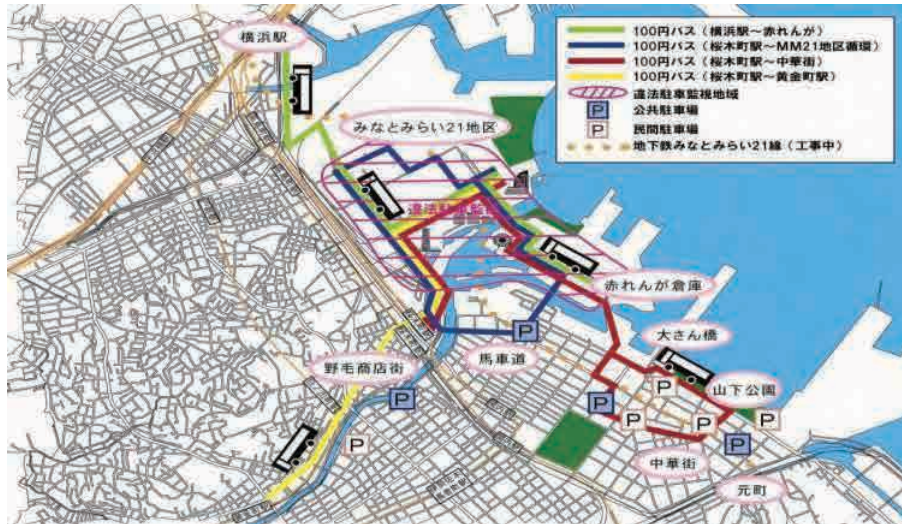
- Vehicles concentrating on the holiday tourism places are chronically causing traffic congestion, also hampering other traffic going to/from the city center.
- On holidays, vehicles are coming from outside, while around 20% are vehicles traveling within the city center.

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## Experiment on Verification of TDM by Utilizing 100-yen Bus in Yokohama MM21 Area (Yokohama City, Kanagawa)

### Project

Alleviation of traffic congestion and enhancement of punctuality and speed by introducing PTPS, and reduction of illegal on-street parking and stopping vehicles and wandering vehicles were implemented.



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