Webinar Participants
Mechanics of the seminar

- The webinar is being recorded, the URL will be sent out to participants and posted at [www.coe-sufs.org](http://www.coe-sufs.org)
- Participants from the US and Canada can:
  - Use Adobe Connect to receive the audio (PRIMARY method)
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- International participants can:
  - Use Adobe Connect to receive the audio (PRIMARY method)
  - Use Skype or similar to dial 1-888-446-7584, code 1120583
  - Dial 212-372-3742 (caller paid call)
- Submit questions using the Chat feature

The VREF Center of Excellence for Sustainable Urban Freight Systems (CoE-SUFS)
CoE-SUFS

- Funded by the Volvo Research and Educational Foundations (VREF)
- Main Goal: To jumpstart an integrative process, involving cities, private sector, and researchers to develop new freight systems paradigms that:
  - Are sustainable
  - Increase quality of life
  - Foster economic competitiveness and efficiency
  - Enhance environmental justice

New York City, Albany, USA  
Santo Domingo, Dominican Republic  
Barranquilla, Bogotá, Medellín, Colombia  
Sao Paulo, Belo Horizonte, Brazil  
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Singapore, Singapore  
Melbourne, Australia
CoE-SUFS Dissemination Programs

- **Peer-to-Peer (P2P) Exchange** to share global best practice cases and real world examples of sustainable urban freight systems
  - Next P2P (March 31st, 2014):
    - Urban Consolidation Centers: The Dutch Experience

- **The Research Exchange** to share innovative research on urban freight, and related topics
- **Workshops** to bring together public/private sectors and academia, to jointly work to address urban freight issues;
  - **Upcoming**: India and Mexico

Urban Consolidation Centres: Japanese Cases

Eiichi Taniguchi and Ali G. Qureshi
Kyoto University
Contents

1. Introduction
   • Purposes of joint delivery systems
   • History of joint delivery systems
   • Benefits and problems of joint delivery systems

2. Best practices
   • Motomachi, Yokohama (success factors, role of municipalities, transferability)
   • Tokyo Midtown
   • Tokyo sky tree town (Soramachi)

1. Introduction
Purposes of Joint Delivery Systems (JDS)

- Increase **efficiency** of urban goods distribution by consolidating goods of competitive carriers as well as reducing the **negative environmental impacts**, alleviating **congestion**, improving safety and security conditions

History of Joint Delivery Systems

- Joint delivery systems started at **Tenjin, Fukuoka** by support of Ministry of Transport in 1978, and joint delivery company was set up in 1994
- Joint delivery systems for **convenience store chains** in 1970s (only private companies)
- Joint delivery systems (goods exchange systems) for **department stores** at Osaka started in 1990s (only private companies)
History of Joint Delivery Systems

• Area type joint delivery systems started at Shinjuku, Tokyo for high rise buildings in 1992, and at Motomachi, Yokohama for shopping streets in 2004, Otemachi, Marunouchi, and Yurakucho, Tokyo for chilled foods in 2012
• Joint delivery systems started for building complex at Tokyo Midtown in 2007 and Tokyo sky tree town (Soramachi) in 2012

2. Best Practices
JDS: Motomachi, Yokohama Japan, 2004-

<table>
<thead>
<tr>
<th>Type</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of carriers</td>
<td>15 (participating centers)</td>
<td>1 (joint service center)</td>
</tr>
<tr>
<td>Year number of vehicle</td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Type of vehicle</td>
<td>Diesel truck</td>
<td>CNG truck</td>
</tr>
<tr>
<td>Number of participating stores</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Goods of concentration</td>
<td>Directly deliver goods from manufacturers, meets customers</td>
<td></td>
</tr>
</tbody>
</table>

JDS: Motomachi area (Yokohama)
Cooperative Freight Transport in Motomachi

1. Started in 2004
   - Pilot project (1999-2001) with financial support by municipality
   - Preparation for sustainable operation of co-operative freight transport without subsidies (find neutral carrier, urban consolidation center, and parking space)

2. Objectives are reducing CO₂ emissions and congestion as well as keeping good atmosphere of streets
Cooperative Freight Transport in Motomachi

3. No subsidies are given by public authorities just providing parking space on street
4. Around 85% of goods are covered by cooperative freight transport systems
5. Both pickup and delivery are taken by the system
6. Whole area of Motomachi is covered by the system (500 shops as well as 850 individual homes)
7. Neutral carrier takes part in delivering and collecting goods

8. Motomachi Shopping Street Association financially supports the neutral carrier with 2.4 million yen (24,000 USD) per year which was earned in other business
9. Each carrier pays the neutral carrier 150 yen (1.5 USD) per parcel
10. 1,000-1,200 parcels are treated per day
11. Excellent leadership
12. Number of trucks was reduced: 100 (11 companies) to 29 (1 company) for 10 days
Parking area for JDS

Urban consolidation Center for JDS
Success factors

- Good leadership and enthusiasm towards achieving goals
- Collaboration in stakeholders --- Public private partnerships
- Business model to maintain co-operative freight transport systems

Role of Municipality

- Not giving money, but coordinating stakeholders by finding solutions
- Keeping continuously support the project in anyways, preferably not changing personnel during the project
- Preparing some facilities, including dedicated parking space and
- Advising stakeholders on legal issues, including traffic regulation
- Encouraging shop owners and residents to take part in the joint delivery systems
Transferability to other areas

• Possible to transfer the co-operative freight transport systems to other areas

• Required conditions
  • Mind-set of balancing the economic vitality and environment
  • Core organisation (not necessary public sector) for managing joint delivery systems
  • Some amount of goods delivered (over 1,000 parcels per day)
  • Appropriate location of urban consolidation centre nearby the target area
  • Neutral carrier for operating joint delivery systems
  • Blanding the area with joint delivery systems
Tokyo Midtown

District
Plan Area
102,000 m²

Site Area
68,900 m²

Floor Area
563,800 m²

Start Year
2007
Tokyo Midtown

- Residences: 540
- Shops: 136
- Company Offices: 94
- Monthly visitors: 2.5 Million
- Office Staffs: 18,000

Public transportation network:
- Tokyo Metro Hibiya line
- Toei Oedo line
- Tokyo Metro Chiyoda line
Tokyo Midtown

- Huge freight demand was expected
- Logistics planning was considered an integral part of the comprehensive development planning
- A well-known, experienced logistics company “Sagawa Express Co. Ltd.” was engaged from very early stage

Tokyo Midtown - Integrated Logistics System

1. Improved Customer Service
   - streamline logistics, better use of elevators

2. Safety and Security
   - no unauthorized person or luggage

3. CO₂ emission reduction
   - less congestion on public roads

4. Efficient management of loading and unloading bays
   - no illegal parking/waiting on public roads
**Tokyo Midtown - Integrated Logistics System**

- At basement level 3
- 54 berths for loading and unloading
- 26 dedicated freight elevators
- 36 personnel staff
- Cost (carrier) = 50 – 100 JPY/parcel
- Support from the developer (Mitsui Fudosan)

**Tokyo Midtown - Integrated Logistics System**

- Goods are received
- Sorted / consolidated
- Delivered to each customer
- Outwards parcels are collected
- Small storage has been also provided
- Direct deliveries are possible
  - require vehicle/person registration
Project Area = 36,900 m²
Building Area = 31,600 m²
Floor Area = 230,000 m²
Start Year = 2012
Soramachi

44 Million visitors in a year, since start

Number of people visiting each day = 120,000

Well connected to the public transportation network

Tobu Skytree line
Toei Asakusa line
Tokyo Metro Hanzomon line
Soramachi - Integrated Logistics System

1. Improved Customer Service
   - streamline logistics, better use of elevators
2. Safety and Security
   - no unauthorized person or luggage
3. CO₂ emission reduction
   - less congestion on public roads
4. Efficient management of loading and unloading bays
   - no illegal parking/waiting on public roads
Soramachi - Integrated Logistics System

Consolidated, less frequent deliveries
Reduction in CO₂, using CNG, electric trucks
Reduction in waste using reusable containers
Congestion mitigation (less trucks)

Supplier
Maker
Factory

Distribution Center

Transshipement / Storage

Facility
Commercial, Offices, Urban Areas

Increased security with less frequent deliveries
Better management of onsite logistics facilities
Soramachi - Urban Consolidation Center

Operated by Sagawa Express. Co. Ltd.
Support from the developer (T)
Cost (carrier) = 50 – 100 JPY/parcel
720,000 parcel and 200,000 vehicles were handled in 10 months

Soramachi Logistics System (Urban Consolidation Center)

Soramachi - Collection Unit

Operated by Sagawa Express. Co. Ltd.
5000 parcel collected in one month
Temporary Storage capacity = 50 parcel
Conclusion

- Collaboration of all stakeholders, including municipality, carriers, senders, receivers, developers, residents, and NPO
- Setting clear objectives of efficient and environmentally friendly JDS with UCC
- Appropriate leading organisation for coordinating JDS
- Good leadership and continuous efforts on adaptive management of JDS
- Business model for financially supporting JDS

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