

# **Regional Strategic Transportation Planning System in the Osaka/Kobe/Kyoto Metropolitan Area in Japan**

by

**Yasuo Tatsumi**

B.E., Civil Engineering  
University of Kyoto, Kyoto, Japan(1988)

M.E., Civil Engineering  
University of Kyoto, Kyoto, Japan(1990)

Submitted to the Department of Civil and Environmental Engineering  
in Partial Fulfillment of the Requirements for the Degree of

Master of Science  
in Civil and Environmental Engineering.

at the  
Massachusetts Institute of Technology  
May, 1998

©1998 Yasuo Tatsumi. All right reserved.

The author hereby grants to MIT permission to reproduce and to distribute  
publicly paper and electronic copies of this thesis document in whole or in part.

Signature of the author

\_\_\_\_\_  
Department of Civil and Environmental Engineering  
May 19, 1998

Certified by

\_\_\_\_\_  
Joseph M. Sussman  
JR East Professor  
Professor of Civil and Environmental Engineering  
Thesis Advisor

Accepted by

\_\_\_\_\_  
Joseph M. Sussman  
Chairman, Departmental Committee on Graduate Studies

JUN 02 1998

ARCHIVES



# **Regional Strategic Transportation Planning System in the Osaka/Kobe/Kyoto Metropolitan Area in Japan**

by

**Yasuo Tatsumi**

Submitted to the Department of Civil and Environmental Engineering in Partial Fulfillment of the Requirements for the Degree of Master of Science in Civil and Environmental Engineering.

## **Abstract**

Recognizing the importance of regions as units in the global economy and of regional strategic transportation planning to serve such regions, this thesis addresses the need to establish regional transportation planning mechanisms. Because the current governmental three-tier hierarchy – national (Federal), prefectural (state), and local -- can not manage regional transportation planning strategically, the thesis considers how to implement the planning with special attentions to organizational form.

As a framework of the analysis, ten requirements that such a planning system should include are addressed. This thesis focuses on a special district type of mechanism including Metropolitan Planning Organizations (MPOs) in the United States as the form of the regional planning mechanism.

This thesis conducts a case study of the Osaka/Kobe/Kyoto metropolitan area to understand the actual regional transportation planning by examining various planning organizations in the region. The case study concludes that, in the Osaka/Kobe/Kyoto metropolitan area, there are no formal and legal regional transportation planning mechanisms that can consider the regional transportation planning comprehensively, intermodally, and strategically.

Finally, this thesis makes recommendations to the metropolitan are to establish a new special district type of organization for regional strategic transportation planning. The MPOs are compared with Japanese regional transportation planning system to offer lessens for the recommendations. The recommendation expects the proposed planning organization will be able to decide its regional transportation planning by including various stakeholders, to integrate transportation planning with other planning issues, and to deal with all transportation modes intermodally with strong regional initiative and authority. The final part shows changes made by the new mechanism, reviews the advantages and disadvantages of the proposal, and makes clear the difficulties in implementing it. This thesis also proposes strategies for the recommendation to be implemented practically.

Thesis Advisor: Dr. Joseph M. Sussman

Title : JR East Professor

Professor of Civil and Environmental Engineering



## **Acknowledgments**

For the completion of this thesis, many people supported me.

I wish to express my deepest appreciation to Professor Joseph M. Sussman, who gave me the essential guidance and constructive suggestions on my work. He invited me to participate in a research project and inspired me to develop my thesis. Without his help and kindness, no part of this thesis could have been accomplished.

Colleagues at the ReS/SITE group, a MIT research project, also provided assistance and suggestions through weekly discussions.

Finally, I am greatly indebted to my family who supported and encouraged me to carry out my research.

.

## Table of Contents

Table of Contents .....	7
List of Figures .....	11
List of Tables .....	12
Preface .....	13
Chapter 1: Introduction .....	15
Chapter 2: Regional Strategic Transportation Planning -Requirements and Approaches - .....	21
2-1 The Needs for Regional Strategic Transportation Planning Systems .....	21
2-2 Requirements for Regional Strategic Transportation Planning .....	23
2-2-1 Functional Requirements .....	26
2-2-2 Administrative Requirements .....	28
2-3 Approaches to Regional Strategic Transportation Planning .....	31
2-3-1 Overview of Approaches to Regional Governance .....	32
2-3-2 Metropolitan Planning Organizations in the United States .....	34
2-3-2-1 Metropolitan Planning Processes under ISTEA .....	35
2-3-2-2 MPO's Experiences after ISTEA .....	39
2-4 Summary .....	43
Chapter 3: Background of Regional Strategic Transportation Planning in Japan .....	45
3-1 Fundamental Structure of Transportation Development in Japan .....	45
3-1-1 Players in Transportation Development .....	45
3-1-2 Characteristics of Transportation Development in Japan .....	47
3-1-3 Transportation Development Planning .....	50
3-1-3-1 Highway Development .....	52
3-1-3-2 Railroad Development .....	55

3-1-3-3 Port Development and Port & Harbor Planning .....	58
3-1-3-4 City Planning .....	59
3-1-3-5 Linkage Between Transportation Planning and Other Planning Issues .....	61
3-1-4 Trend of Administrative Reform and Decentralization .....	62
3-1-4-1 Administration Reform .....	62
3-1-4-2 Decentralization .....	63
3-2 Regional Strategic Transportation Planning in Japan .....	64
3-2-1 Metropolitan Areas in Japan .....	64
3-2-2 Fundamental Planning Mechanisms for Regional Strategic Transportation Planning .....	66
3-2-2-1 Prefectural Government .....	66
3-2-2-2 Government Ordinance Designated City .....	67
3-2-2-3 District Branch of National Government and District Law .....	68
3-3 Summary .....	69

Chapter 4: Case study : Regional Strategic Transportation Planning in the Osaka/Kobe/Kyoto Metropolitan Area in Japan .....	71
4-1 Introduction to the Osaka/Kobe/Kyoto Metropolitan Area .....	71
4-1-1 Reasons to Select the Osaka/Kobe/Kyoto Metropolitan Area as A Site for A Case Study .....	71
4-1-2 The Osaka/Kobe/Kyoto Metropolitan Area .....	72
4-1-2-1 Outline of the Osaka/Kobe/Kyoto Metropolitan Area .....	72
4-1-2-2 Transportation in the Osaka/Kobe/Kyoto Metropolitan Area .....	74
4-2 Mechanisms of Regional Strategic Transportation Planning in the Osaka/Kobe/Kyoto Metropolitan Area .....	77
4-3 Regional Strategic Transportation Planning System as a Single System .....	82
4-3-1 Relations of Elements and Structure .....	82
4-3-2 Functional Capacity and Administrative Ability of the Regional Planning System -Analysis through the Ten Planning Requirements- .....	89
4-3-3 Conclusion of the Case Study .....	96
4-4 Summary .....	96



Chapter 5: Recommendation to the Osaka/Kobe/Kyoto Metropolitan Area .....	99
5-1 Fundamental Direction of Recommendation .....	99
5-2 Lessons from MPOs in the United States	
- Contrast of Osaka/Kobe/Kyoto's Advisory Regional Planning Committees with the MPOs in the United States- .....	101
5-2-1 Analysis through Ten Requirements .....	102
5-2-2 Lessons from the Contrast with MPO .....	107
5-3 Recommendations- Establishing a New Organization- .....	108
5-3-1 Principles for Establishing a New Organization .....	108
5-3-1-1 A Guideline for the Establishment .....	108
5-3-1-2 Feasible Reform .....	109
5-3-1-3 Accordance with Other Ongoing Reforms .....	109
5-3-2 A Proposal	
-A New Organization for the Regional Strategic Transportation Planning for the Osaka/Kobe/Kyoto Metropolitan Area- .....	111
5-3-2-1 Organization .....	111
5-3-2-2 Scope .....	113
5-3-2-3 Authority .....	115
5-3-2-4 Decision-Making Process .....	118
5-4 Evaluation .....	118
5-4-1 Examples of Changes with the New Regional Planning Organization -Hypothetical Planning Cases- .....	119
5-4-1-1 Background of the Hypothetical Expressway Planning .....	119
5-4-1-2 Three Hypothetical Plans and Influences of the New Planning Mechanism on the Plans .....	120
5-4-2 Advantages and the Disadvantages of the Proposed Mechanism .....	126
5-5 Implementation -How to Make Change Happen- .....	129
5-5-1 Difficulty in Implementation .....	129
5-5-2 Strategies to Make Changes Happen .....	130
5-6 Summary .....	135

Chapter 6: Conclusion .....	137
6-1 Review of Contributions of This Research .....	137
6-2 Further Research .....	139
 Bibliography .....	 143
 Appendix	
Appendix A	Advantages and Disadvantages of Mechanisms for Various Regional Governance .....
	147
Appendix B	Case Study Mechanisms of Regional Strategic Transportation Planning in the Osaka/Kobe/Kyoto Metropolitan Area .....
	151

## **List of Figures**

Figure 1-1	Progression of Topics .....	18
Figure 3-1	Structure of Infrastructure Development Planning .....	51
Figure 3-2	Responsibility Sharing for Highway Development .....	53
Figure 3-3	Process for Highway Development .....	54
Figure 3-4	Responsibility Sharing for Railroad Development .....	56
Figure 3-5	Process for Railroad Development .....	57
Figure 3-6	Responsibility Sharing for Port and Harbor Development .....	58
Figure 3-7	Process for Port and Harbor Development .....	59
Figure 3-8	Responsibility Sharing for City Planning and Development of City Planning Facilities .....	60
Figure 3-9	Districts in Japan .....	65
Figure 4-1	The Kinki District and the Osaka/Kobe/Kyoto Metropolitan Area, "Kansai Region" .....	73
Figure 4-2	Traffic Demand of the Region .....	75
Figure 4-3	Traffic Flow in the Osaka/Kobe/Kyoto Metropolitan Area .....	76
Figure 4-4	Relation Among Planning Agencies .....	84
Figure 4-5	Contrast of Various Planning Mechanisms .....	87
Figure 5-1	Target of Recommendation .....	100
Figure 5-2	Responsibility Sharing .....	114
Figure 5-3	Hypothetical Map I .....	122
Figure 5-4	Hypothetical Map II .....	123
Figure 5-5	Hypothetical Map III .....	125
Figure 5-6	Difference of Status of Regional Planning Organization in the Governmental Hierarchy .....	127

## List of Tables

Table 2-1	Requirements for Regional Strategic Transportation Planning Systems .....	25
Table 2-2	16 Metropolitan Planning Factors in MPO .....	37
Table 3-1	Fiscal Structure of Regional and Local Governments in Japan and the United States .....	48
Table 3-2	Planning Area and Its Division in Charge .....	49
Table 3-3	Population in Big Metropolitan Areas .....	66
Table 3-4	Government Ordinance Designated Cities in Japan .....	68
Table 4-1	Population and Area in the Osaka/Kobe/Kyoto Metropolitan Area .....	74
Table 4-2	Change of Traffic Demand .....	75
Table 4-3	Transportation Mode Selection .....	76
Table 4-4	Evaluation of Regional Planning Mechanisms under the Ten Requirements .....	86
Table 4-5	Advantages and Disadvantages of Planning Mechanisms .....	85
Table 5-1	Constitution of the Organization and Their Roles .....	112
Table 5-2	Transfer of Authority from the National Government to the Regional Planning Organization .....	118
Table 5-3	Contrast of the Proposed Mechanism with the Current Regional Transportation Planning Mechanism in Osaka/Kobe/Kyoto and the MPO Mechanism in the United States.....	128

## Preface

The research for this thesis was done within the framework of an MIT research project called ReS/SITE: Regional Strategies for Sustainable Intermodal Transportation Enterprise. This project aspires to developing a new framework for regional strategic transportation planning. It has identified various shortcomings in that process through analysis of current planning efforts, and has worked to establish a new process to overcome those weaknesses. It builds broadly on the concepts of *scenarios* and *regional architectures* as fundamental to this new generation of regional strategic transportation plans.

In this framework, this thesis examined organizational issues to manage the regional strategic transportation planning. It focused on who should be in charge of the regional strategic transportation planning and how the planning was conducted. Though regional planning organizations that can make such plans successfully are needed, there are few truly regional transportation planning organizations. This thesis provided the scheme of ReS/SITE with an organizational approach to implementation of the regional strategic transportation planning.



# Chapter 1

## Introduction

This thesis considers systems for regional strategic transportation planning in the Osaka/Kobe/Kyoto metropolitan area in Japan. In addressing transportation planning in metropolitan areas, there are several challenges. One of the most important challenges is regional approaches to transportation planning. Many urban issues need “regional” strategic transportation planning not only in Japan but also in the United States. First, in the past decades, metropolitan areas have been spreading far beyond the borders of the central cities of the areas. Second, some other urban issues, such as environmental protection and land-use control, with which transportation should be coordinated, need to be resolved regionally, too. Moreover, as regions are becoming important economic units for pursuing strategic advantages in the global economy, transportation supporting economic developments also has to be considered regionally and strategically.

Regional strategic transportation planning brings other challenges. When planning transportation regionally, planners have to examine many modes of transportation together, and coordinate regional interests with local interests. Regional strategic transportation planning also should consider transportation operation and take account of technological changes and public-private partnerships at the planning level.

However, current transportation planning has not treated these challenges effectively. New regional strategic transportation planning systems that can deal with these challenges are needed. This thesis will discuss the regional strategic transportation planning systems that can meet these challenges effectively. In this thesis, how that planning should work will be examined. It will focus on what types of organizations are appropriate for such transportation planning because organization form and internetworks are very important elements in the planning systems.

Main questions in this thesis are who should perform regional strategic transportation planning and what process should be used.

Another question of this thesis will be what regional strategic transportation planning should include. Planning elements, such as intermodalism and technology scanning, that have “not been handled adequately”<sup>1</sup> in the traditional transportation planning so far will be examined as a part of the “requirements” of those transportation planning systems.

This thesis takes the form of a case study because application of a planning system to the real world is extremely important. Furthermore, regional strategic transportation planning systems depend heavily on the situation of the region in which transportation planning is being applied. Therefore, it is essential to consider such a system by developing a case study of an actual region. Moreover, practical lessons obtained from a case study will be helpful in identifying problems in considering appropriate generic regional strategic transportation planning systems.

This thesis will first set requirements for the regional strategic transportation planning system as a framework of the case study; second, it will analyze the system in a metropolitan area by applying the framework; and finally, the thesis will make some recommendations for the planning systems of the area.

This thesis will be a case study of the Osaka/Kobe/Kyoto metropolitan area in Japan. Though challenges to regional strategic transportation planning systems are common in almost all industrialized countries, the situation is particularly serious in Japan. Unlike state governments in the United States, regional governments in Japan do not have enough capacity to consider transportation planning from the regional perspective. In addition, Japan’s regional planning systems are expected to change rapidly because decentralization of governmental authority and administrative reform of the government are being carried out at the national level. New measures for regional strategic transportation planning are needed for major regions in Japan. The Osaka/Kobe/Kyoto metropolitan area is suitable for this case study because the area has made various efforts at regional strategic transportation planning for a long time despite its very fragmented governmental structure.

There are six chapters in this thesis.

---

<sup>1</sup> Sussman, et al., *Regional Strategic Plans: Developing the Competitive Region, Year 1 Report*, 1997



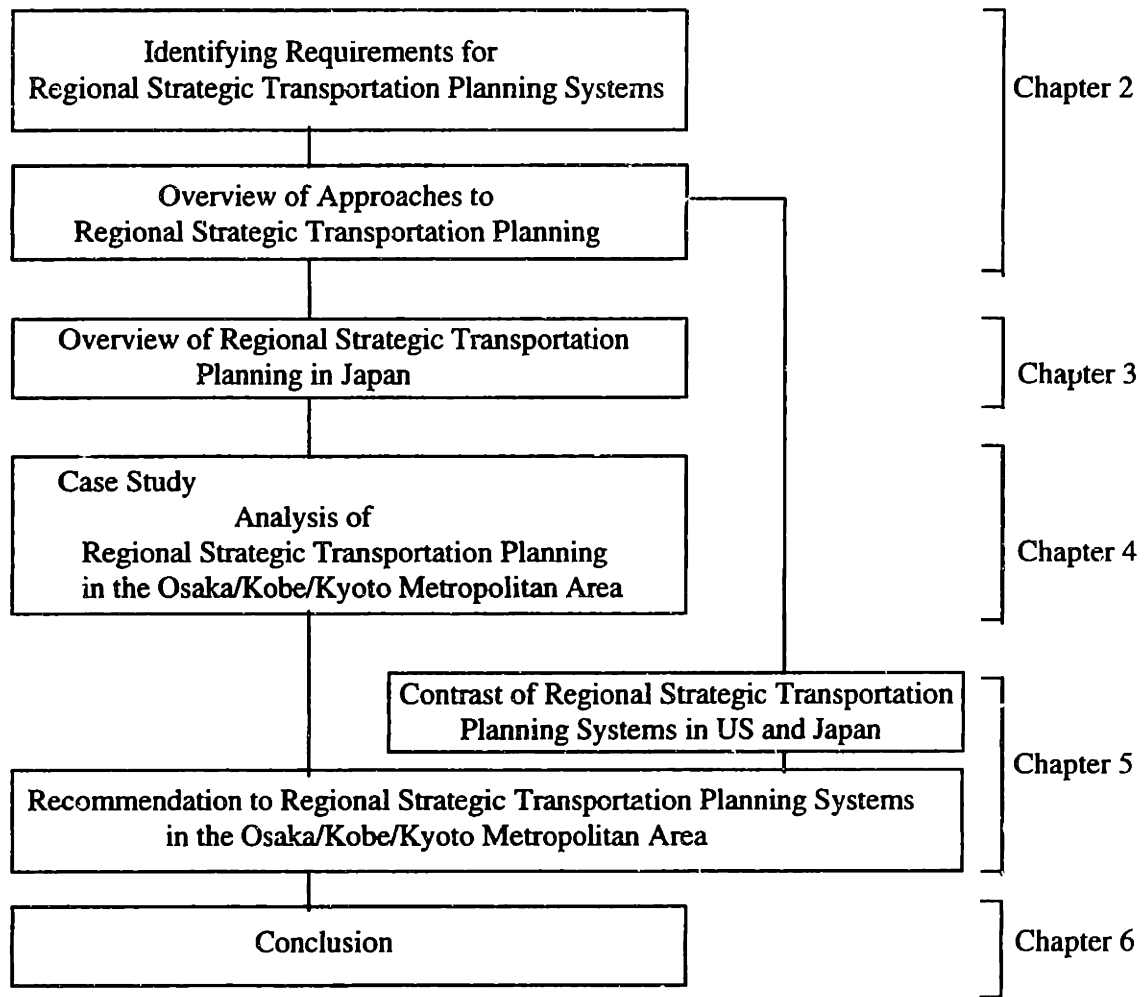
**Chapter 1** is an introduction that specifies the aim, background, and contents of the thesis.

**Chapter 2** will consider regional strategic transportation planning systems in general. First, it will discuss requirements for regional strategic transportation planning systems. This chapter is aimed at identifying what regional strategic transportation planning should be before looking at the actual regional planning efforts in a case study. Integrated planning, intermodalism, consideration of freight and operational issues, technological scanning, and so on will be discussed as the requirements of the planning. In addition to these functional requirements, administrative requirements will be examined, including a large planning area, local considerations, ability to resolve conflicts among various regional interests, public-private partnership, and the financial and legal power needed to administer the planning. These requirements, which are functional and administrative, will be used as a framework to implement a case study in the Osaka/Kobe/Kyoto metropolitan area that will be discussed in Chapter 4.

Chapter 2 will continue by introducing a variety of regional approaches for planning with special attention to a “special district” such as Metropolitan Planning Organizations (MPOs) in the United States. There are many approaches to regional issues, for example, intergovernmental agreement, annexation, consolidation, and metropolitan governments. An approach to regional strategic transportation planning has to be considered in the framework of these many alternatives. Many studies have pointed out that a special district is one of the feasible approaches. Therefore, after introducing various regional approaches, this thesis will focus on the special district. To look at the practices of special districts established for regional transportation planning, this chapter will introduce a system of Metropolitan Planning Organizations (MPOs) that was strengthened by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 as one of the most effective special districts in carrying out regional transportation planning in the United States. Their concepts, practices, and problems will be addressed. These practices will also be contrasted with regional transportation planning efforts in Japan in Chapter 5.

The purpose of **Chapter 3** is to review regional transportation planning systems in

**Figure 1-1  
Progression of Topics**



Japan. Before reviewing the regional planning systems, the fundamental structure of transportation system development in Japan will be introduced because it is considerably different from the United States. Types of planning institutions and operators for highways, railroads and port facilities, inter-agency relations, and processes of transportation development will be examined. Recent administrative reform efforts in Japan will be introduced, too. These reforms are considered to have significant impact not only on transportation planning but also on the whole administrative system in Japan. Decentralization of administrative powers from the national government to regional and local governments and the administrative reform, including reorganization of ministries of the

national government, are introduced as some of the most important issues. Then, regional planning systems in Japan will be looked at. This part will introduce generally various types of regional planning organizations, including regional governments that are called "Prefectural Governments", special cities that have special powers to treat regional issues, regional branch offices of the national ministries, and three advisory regional planning committees.

**Chapter 4** is a case study of regional strategic transportation planning systems in the Osaka/Kobe/Kyoto metropolitan area in Japan. After introducing general characteristics of the area and the reasons why this thesis selected this metropolitan area as the site of the case study, this chapter will look at systems for regional strategic transportation planning in the region in detail. First, regional governments (Osaka, Hyogo, Kyoto, Wakayama, Nara, and Shiga Prefectural Governments), governments of special cities (Osaka, Kobe and Kyoto City Governments), and regional branch offices of the national ministries (the Kinki District Construction Bureau of the Ministry of Construction and the Kinki Transport Bureau and the Third Construction Bureau of the Ministry of Transport) will be introduced. Then, a regional highway agency, the Hanshin Expressway Public Corporation, will be considered. This corporation is responsible for constructing and maintaining expressway networks in the Osaka/Kobe/Kyoto metropolitan area. Moreover, private planning organizations, the Kansai Economic Federation and the Osaka Chamber of Commerce and Industry, will also be introduced as an example of private regional planning agency. These planning organizations consist of many leading companies in this metropolitan area and have had considerable influence on economic developments and regional transportation planning. Finally, regional planning committees, which are the equivalent of special districts for planning in the United States, will be discussed. These committees, the Kinki District Highway Committee, the Transport Policy Council, and the Osaka/Kobe/Kyoto Metropolitan Planning Committee are very important players in regional transportation planning in the Osaka/Kobe/Kyoto metropolitan area. Led by the national ministries, these committees play important roles in highway planning, railway planning, and general transportation planning respectively.

In this part, planning products, functions and decision-making processes of these planning organizations, and the relations among the organizations will be analyzed. These

planning organizations and the planning systems that consist of these planning agencies will be analyzed from the view of the requirements identified in Chapter 2.

**Chapter 5** contains recommendations for the regional strategic transportation planning systems in the Osaka/Kobe/Kyoto metropolitan area. To develop these lessons for the recommendations, this thesis contrasts the system of Metropolitan Planning Organizations in the United States with planning systems in the Osaka/Kobe/Kyoto region. The contrast also will be done by using the same framework as discussed in Chapter 2.

Recommendation for the Osaka/Kobe/Kyoto metropolitan area will be prepared through analysis of current regional transportation planning systems in the metropolitan area in Chapter 4 and the contrast of the systems in the United States and Japan in Chapter 5. Re-organizations of the fragmented regional planning organizations in this metropolitan area and the devolution of planning authorities from the national ministries to regional and local planning agencies will be considered. Moreover, strategies for implementation will be addressed.

**Chapter 6** presents the conclusion of this thesis and suggests further research.

This thesis hopes to provide transportation planners, business leaders who are interested in transportation development, government agencies related to planning, and many other public and private stakeholders with practical suggestions concerning regional strategic transportation planning.

# **Chapter 2**

## **Regional Strategic Transportation Planning**

### **- Requirements and Approaches -**

Chapter 2 considers regional strategic transportation planning systems from two points of view. The first half of this chapter identifies what regional strategic transportation planning should be. It discusses several requirements that the regional strategic transportation planning system has to satisfy to deal with many challenges described in Chapter 1.

The second half of Chapter 2 examines regional approaches to strategic transportation planning. There are many approaches to regional issues, such as intergovernmental agreement, annexation, consolidation, and metropolitan government. To examine the effectiveness and feasibility of these approaches, this chapter will take an overview of such approaches in the United States. Then, it will focus on a special district called Metropolitan Planning Organizations (MPOs) and introduce the planning practices of MPOs.

### **2-1 The Needs for Regional Strategic Transportation Planning Systems**

There are many issues that motivate “regional” strategic transportation planning. Though these issues are related to each other, they can be categorized into three types.

#### **-Sprawl of Land Use**

Metropolitan areas have been spreading far beyond the borders of the central cities of the areas for a long time. In 1950, almost 70 percent of the population of the US metropolitan areas lived in central cities, but by 1990, over 60 percent of the population lived in suburbs.<sup>1</sup> Houses, jobs, shopping, and entertainment are scattered and many people are moving to metropolitan areas beyond governmental jurisdictions. As the

---

<sup>1</sup> Rusk, *Cities Without Suburbs*, 1993

sprawl of land-use proceeds, needed transportation facilities also have been extended beyond the limits of cities and towns.

Regarding the relation between land-use and transportation, there are two points of view. First, the traditional view is that transportation infrastructure should be developed to respond to the transport demand of passengers and freight that is caused by particular land-use patterns. In this sense, transportation planning should be regional because land-use patterns are spreading regionally. The second idea about the relation is that transportation has a decisive impact on land-use patterns. The development of the Interstate Highways in the 1960's affected the land-use pattern in the United States significantly. On the other hand, transportation planning is also considered an effective measure to control sprawl through combination with land-use policy such as transit-oriented development. It is essential to plan transportation regionally because regional approaches are necessary to manage sprawl even though local governments have been in charge of land-use regulation. To implement regional land-use management, transportation planning should be considered regionally.

### **-Environmental Issues**

Environmental issues have recently become one of the most important factors determining our quality of life. Many cities and suburbs are suffering from air pollution. For example, some 96 mostly urban areas in the United States violate the National Ambient Air Quality Standards (NAAQS) for ozone and 41 violate the standard for carbon monoxide (CO).<sup>2</sup> One of the biggest contributors to air pollution is transportation. To solve the problem of air pollution, many tasks should be undertaken by transportation planning, such as promoting demand shifts from automobiles to other transportation modes.

Environmental issues are regional by nature. It is easy for those problems to spill over beyond the borders of municipalities and sometimes even the jurisdictions of states. Therefore, transportation planning that can contribute to improve the environment should be regional.

---

<sup>2</sup> Krupnick, *Vehicle Emissions, Urban Smog, and Clean Air Policy*, 1992

## **-Economic Development**

A change of patterns of economic development also increases needs for regional strategic transportation planning. Traditionally, transportation has contributed to economic development significantly by carrying people and goods efficiently. As the economy become global, “regions” are becoming a very important factor for economic developments of nations. Regions, not nations, are increasingly identified as operative economies that spill over political jurisdictions.<sup>3</sup> In the global economy in the future, national opportunities will be led by world class metropolitan centers within nations and countries will be only as strong as the localities they contain.<sup>4</sup> As regions are becoming important economic units for pursuing strategic advantages, transportation serving economic development also has to be considered regionally.

Regions are asked to act as a unit of the national system. Transportation is one of the most important elements of the regions. However, it is not easy to do transportation planning regionally, comprehensively, and strategically because current planning organizations do not act at a regional scale.

## **2-2 Requirements for Regional Strategic Transportation Planning**

Regional strategic transportation planning has to be comprehensive and strategic to respond to the regional needs described above. Strategic management, of which strategic planning is viewed as one part, is the process of articulating a future vision of accomplishment for an organization and then planning, directing, and controlling the organization’s entire range of activities to work toward the desired state or position.<sup>5</sup> In her case study of strategic transportation planning processes, Yang identified the following objectives to be commonly mentioned goals of strategic transportation plan: enhance mobility and accessibility for people and freight; promote economic growth;

---

<sup>3</sup> Krugman, *Geography and Trade*, 1991

<sup>4</sup> Kanter *World Class*, 1995

<sup>5</sup> Yang, *Designing A Transportation Network for Mendoza, Argentina: A Strategic Approach*, 1997

improve environmental quality; strengthen integration and cooperation among various modes of transport; maintain an efficient transportation system and improve levels of service; keep stable financial sources for transportation; improve safety; advance technology development; and educate transportation professionals.<sup>6</sup>

In regional strategic transportation planning, planners have to examine many modes of transportation together, such as, cars, trucks, public transportation, and ships. The planning systems need to balance regional interests with local interests and sometimes have to solve conflicts among many localities in the region. Moreover, the systems are asked to treat other challenges that transportation agencies have been facing recently. As construction of transportation facilities has proceeded considerably in some advanced regions, operation of those facilities, rather than capital planning, has become one of the main issues. Planners need to take account of technological developments, too, because state-of-the-art technologies can have a huge impact on transportation systems. Another important challenge for transportation planning is that public-private partnership is essential at the planning level because the private sector has become involved in transportation issues significantly as users and operators of transportation facilities, investors in transportation projects and stakeholders in regional interests.

However, current transportation planning cannot be said to treat these challenges effectively. Usually, transportation planning has been done only for each state and each local government. It often lacks considerations of freight needs and operation of transportation facilities, too. Planners have tended to take only transportation issues into account without considering other related issues, including economic development and environmental protection. Participation of the private sector in transportation planning has not been enough to put their views into the planning process. New regional transportation planning systems that can deal with these challenges are needed.

This chapter considers what the regional transportation planning systems should be. In other words, it will focus on two issues: first, who should do regional strategic transportation planning and how, and second, what regional strategic transportation planning has to deal with. The needed planning system must be able to respond to such

---

<sup>6</sup> Ibid., 5



challenges as above. To make the planning system clear, this thesis will consider requirements that the system has to satisfy.

Two types of requirements are examined: functional and administrative requirements. Those requirements considered are shown in Table 2-1.

**Table 2-1**  
**Requirements for Regional Strategic Transportation Planning Systems**

<p>Functional Requirement</p> <ul style="list-style-type: none"><li>-Integrated Planning</li><li>-Freight Consideration</li><li>-Intermodalism</li><li>-Technology Scanning</li><li>-Focus on Operation</li></ul> <p>Administrative Requirement</p> <ul style="list-style-type: none"><li>-Large Planning Area</li><li>-Local Consideration</li><li>-Coordination among Local and Regional Interests</li><li>-Public-Private Partnership</li><li>-Legal and Financial Authority</li></ul>
---

Functional requirements correspond to the functions that the regional strategic transportation planning should have. These requirements are what regional transportation planning should deal with. Some planning elements, such as congestion and safety, have been considered in current transportation planning, but some have not been treated effectively. As functional requirements, this thesis will focus on planning elements that the current planning systems do not deal with well but that new regional transportation planning systems have to include. Therefore, these requirements do not include such planning elements that traditional transportation planning does effectively.

Administrative requirements correspond to who should do the regional transportation planning and how. One of the most serious problems in regional strategic transportation planning is that it is difficult for the current transportation planning organizations to consider the transportation planning regionally and to respond to the many challenges described above. Therefore, this thesis will pay special attention to this issue. In the following section, explanations for each requirement are described.

## **2-2-1 Functional Requirements**

### **-Integrated Planning**

Transportation is related to many important factors of societies, such as land-use patterns, environmental issues, and economic development. In planning transportation, planners should take these factors into account. However, traditional transportation planning tends to concentrate on transportation issues only. It often focuses on how transportation facilities can respond to traffic demand, how congestion can be mitigated, and what facilities should be constructed to respond to the demand.

This traditional transportation planning can contribute to metropolitan areas less and less because the relation between transportation and other related factors is becoming more complicated. Many years ago, transportation was expected to serve land-use that continues to expand. However, now transportation planners have to consider transportation as one of the measures of controlling sprawl and land-use growth. So far, transportation has responded to expansion of traffic demand caused by economic developments, but today metropolitan areas have to improve and strengthen transportation to invite global corporations into their areas. As the environment has continued to be affected by transportation, it may be near its limits. For societies to sustain themselves in the future, transportation needs to balance environment preservation and its development. All these issues require regional strategic transportation planning to be integrated with such planning factors.

### **-Freight Consideration**

In spite of its importance, freight has not been given much attention in transportation planning. Conventional transportation planning has been likely to discuss passengers issues predominantly. However, a considerable part of traffic in metropolitan areas is freight, and, at the same time, freight has significant impact on the environment due to a great deal of emission from trucks that are its main carriers. Moreover, efficient flows of goods in and among metropolitan areas are key factors for economic

development. For these reasons, freight consideration is very important in regional strategic transportation planning.

Coordination between freight and passenger issues should be examined in planning, too. Because freight and passengers use the same transportation infrastructure in many cases, and because they affect each other,<sup>7</sup> plans that coordinate both flows can make transportation systems more efficient. To respond to those needs, regional strategic transportation planning systems should include freight consideration from the planning stage.

### **-Intermodalism**

Transportation planning is likely to be considered separately for each transportation mode such as cars, public transportation, and ships. This seems to be because each mode has different financing and procurement systems and different types of operators and users. However, passengers and freight move on various modes on their trips. Helping this traffic interchange between modes more easily can contribute to efficiency of transportation systems. To shift traffic demand from a mode to more appropriate modes, in terms of congestion mitigation and environmental preservation, is also an important planning challenge. Regional strategic transportation planning has to consider intermodalism and multimodalism from the very early stage of its planning.

### **-Technology Scanning**

As well as many other fields in the current society, development of technology affects transportation significantly. This has had a long history. When a new mode of transportation emerged, new infrastructure was provided and new types of transportation services started to be offered. Today's state-of-the-art technology also can improve current transportation systems. For example, Intelligent Transportation Systems (ITS) are expected to change transportation systems in important ways. Electrical vehicles will reduce emission from cars and trucks. Regional transportation systems need to respond

---

<sup>7</sup> Sussman et al., *Regional Strategic Plans: Developing the Competitive Region*, Year 1 Report 1997

to new technology adequately. To prepare for these changes and to take advantages of these technologies, technology scanning is very important.

Technology scanning is “the term used to describe a process by which an organization conducts a review of technology and technological needs to identify emerging technologies and new developments that are likely to affect the success and competitiveness of that organization.”<sup>8</sup>

Regional strategic transportation planning should include the technology scanning as a part of its planning process.

### **-Focus on Operation**

The focus of transportation planning has long been on constructing new infrastructure. As a considerable number of facilities have been constructed, operations of these facilities are becoming important planning elements. More effective operations might make transportation efficient without constructing new systems. State-of-the-art technology is opening the way to new types of operations of transportation infrastructure. To respond to this need, it is necessary to take operational considerations into account at the planning stage. By combining capital investments and improvements in operation of existing systems, regional transportation systems can be strengthened.

## **2-2-2 Administrative Requirements**

### **-Large Planning Areas**

In many countries, multi-tiers of governments are involved in transportation planning. In the United State and Japan, three tiers of governments: national, regional and local, share the responsibility for transportation development. Each government has its jurisdiction and makes transportation plans for the jurisdiction.

However, regional transportation often extents beyond local limits, and sometimes, borders of regional governments. For instance, almost all metropolitan areas

---

<sup>8</sup> Ibid.,7

in the United States extend beyond local jurisdictions and, in the New York metropolitan area, the area extends over the borders of three states. In Japan, too, major metropolitan areas extend beyond the borders of regional governments. For effective regional transportation planning, planning areas for transportation should contain the entire metropolitan area regardless of jurisdictions of governments.

#### **-Local Consideration**

Though regional perspectives are essential to planning, regional strategic transportation planning has to take local issues into account. Many planning tasks such as land-use regulation and economic developments, with which transportation planning needs to be coordinated, are local issues. Regional transportation planning must not sacrifice local interests just because it will benefit regions, though some transportation development, such as highways development, has damaged local communities. To respond to these needs, regional strategic transportation planning system should reflect local interests.

#### **-Coordination among Local and Regional Interests**

In regional transportation planning, both local interests and regional interests should be taken into account. However, in the real world, there are often conflicts between them. NIMBY (Not In My Back Yard) and LULUs (Locally Undesired Land Use) phenomena are typical conflicts between local and regional interests. There might be also conflicts of interests among localities in a region. Localities compete with each other to pursue their desirable developments. Regional strategic transportation planning must be able to coordinate these conflicts and balance those interests.

#### **-Public-Private Partnership**

Transportation planning has been conducted mainly by the public sector for a long time. Public planning organizations have planned transportation projects and implemented them and then users, almost all of which are private, have benefited from

the transportation services. However, the role of the private sector has become important in various ways.

First, due to the financial difficulties in the public sector, the private sector is expected to share responsibility for developing transportation systems that have been provided by the public sector traditionally.

Some industrialized countries, including Europe, Japan, and the United States, have experienced some public-private partnerships in transportation development, such as railroads, and in some cases, highways. "The most common partnership is project-specific, in which an arrangement is made for achieving the tactical and operational goals of a single projects. A more progressive role for the private sector is as that of a strategic planner in the planning process."<sup>9</sup>

In addition, when public planning organizations consider the transportation plan related to economic developments, partnership with the private sector is essential because the primary players in economic developments are private. To pursue private investments in a region, too, the public sector of the region has to strategically tailor its transportation plans to the needs of the private investors. In planning freight in intermodal ways, it is important to get the private users involved from the planning stage. Freight planning needs to take the users' response to planning into account because freight facilities offer services to specific private users.

The private sector has many roles in regional strategic transportation planning as users of the transportation systems, investors and operators of transportation systems, and stakeholders of regional interests.

#### **- Legal and Financial Authority**

Since regional strategic transportation planning needs to deal with various challenges, many stakeholders have to join in the planning. That there are many stakeholders in the planning process can contribute to collecting needed information and human resources, but it also causes difficulties in coordinating them. For effective coordination, cooperation, and collaboration, strong leadership is required and planning

---

<sup>9</sup> Ibid., 7

systems must help to assure it. Furthermore, plans have to be implemented. To make plans and to carry them out, regional strategic transportation planning systems have to have strong legal and financial authority.

One of the most helpful tools to resolve conflicts among stakeholders is legal authority in the planning systems. Of course, it is very important for stakeholders to talk with each other, and to look for ways to coordinate their interests. However, if the planning systems have no legal authority, there is a possibility that long discussions will not produce any answers. Moreover, it is meaningless if decisions that have once been made are not complied with by other stakeholders.

Financial authority is also important. In many cases, it is financial issues that cause conflicts among stakeholders in planning and that impede the progress of plans. If the planning systems have financial authority, it can give stakeholders incentives to reach agreement. For the planning systems to lead the planning process, to coordinate many interests, and to implement plans, financial and legal authority is essential.

This thesis has identified ten requirements for regional strategic transportation planning systems. These requirements will be used as a framework for analysis of regional strategic transportation planning systems of the Osaka/Kobe/Kyoto metropolitan area in the case study in chapter 4. Moreover, chapter 5 will contrast regional strategic transportation planning systems in the United States with those in Osaka/Kobe/Kyoto by using this framework.

## **2-3 Approaches to Regional Strategic Transportation Planning**

After looking at what the regional strategic transportation planning systems should be, this chapter considers in what forms of regional approaches the regional strategic transportation planning can be done effectively and feasibly. Even if the requirements that the planning systems should satisfy become clear, if practical planning measures in a real world are not found, regional strategic transportation planning will not function well.

There are many approaches to address regional challenges, such as intergovernmental agreement, annexation and consolidation of municipalities, metropolitan government, and special districts. On the other hand, there are many tasks that should be managed in a regional manner; for example, air quality control, water supply and transportation planning. The most appropriate approach depends on those tasks. Because some regional tasks have close relations to each other and they have to be dealt with together, appropriate approaches to regional challenges should be decided not only for a single task but also in consideration of combination of several tasks. The geographical area to be covered, political feasibility, and impact on the existing governmental structure also vary in each approach.

To consider an appropriate approach to regional strategic transportation planning, this thesis will examine alternative approaches in the United States and then focus on an approach that seems to be suitable for regional strategic transportation planning. Though the case study in this thesis is in Japan, there are many things common to regional approaches in the United States and Japan, and the U.S. efforts to address regional challenges are very diverse. It is also useful to survey the U.S. approaches to contrast the mechanisms in both countries later in this thesis.

### **2-3-1 Overview of Approaches to Regional Governance**

Regional mechanisms in the United States are not new. They have evolved over decades. In the 1960's, the prevailing vision of regional governance was a single metropolitan government consolidating and replacing all local governments. By the 1970's, the prevailing vision was multi-tier, with a hierarchy of regional, county and municipal governments, and by the 1980's, it was a combination of neighborhood (such as empowered neighborhood councils) and regional mechanisms (such as single purpose districts and authorities, empowered/federated urban counties, regional planning councils, and service districts).<sup>10</sup>

---

<sup>10</sup> Dodge, *Regional Excellence*, 1996



To consider an appropriate approach to regional strategic transportation planning, this thesis will examine regional approaches in four categories: intergovernmental agreement/contract, special district/authority, annexation/consolidation, and metropolitan government. All of these four categories include various types of mechanisms to treat regional challenges; problem-solving mechanisms and service-delivery mechanisms, public mechanisms and private mechanisms. However, they have different characteristics in terms of both impact on the existing governmental structure, which affects political feasibility of implementation of actions, and effectiveness of resolution of regional challenges.

Intergovernmental agreement/contract are arrangements under which a governmental unit conducts an activity jointly or cooperatively with one or more other governmental units, or by contracting for its performance with another governmental unit. Voluntary metropolitan councils are included in this category.

In the category of special district/authority, a limited purpose metropolitan special district is an independent unit of government organized to perform one or a few urban functions throughout a metropolitan area. The Massachusetts Bay Transportation Authority (for public transportation) and the Port Authority of New York and New Jersey (for port development) are examples. The multi-purpose district has developed mainly as a way of capitalizing on the strength of the limited purpose approach and overcoming its weaknesses. A metropolitan multi-purpose special district is a special authority set up to perform a number of services in a metropolitan area.

Annexation and consolidation are the two general ways by which municipal boundaries are adjusted. Annexation is the absorption of territory by a city, usually by a central city. Consolidation is the joining together of two or more units of government of approximately equal stature to form a new unit of government. City-county consolidation and urban county are included in this category.

Metropolitan government is a separately chartered, general purpose unit of government that conducts or at least guides all major regional decision-making, its interrelationships with county and municipal government, and problem solving and

service delivery. Though repeatedly proposed, it never has been implemented in the United States<sup>11</sup> due to the political difficulties of establishing it.

A report by the Advisory Commission on Intergovernmental Relations (ACIR) examined strength and weakness of each mechanism. (For detailed information, see **Appendix A : Advantages and Disadvantages of Mechanisms for Regional Governance.**) As a result of the examination of various types of regional approaches, the report suggests that metropolitan special districts, especially metropolitan multi-purpose special districts, are ones of the most promising approaches to address regional challenges, including regional strategic transportation planning. This approach has a reasonable degree of political feasibility and comprehensiveness of its tasks. It preserves local controls over local matters while preparing the needed governmental unit for regional issues. This approach is also flexible in arranging many regional tasks in implementing agencies.

This thesis will focus on the approach of the special district as a mechanism for regional strategic transportation planning. In the remaining part of this chapter, practices of regional strategic transportation planning that has been conducted by special districts will be examined, and the case study in Chapter 4 also introduces regional planning efforts by the special district type of planning organizations in Japan.

### **2-3-2 Metropolitan Planning Organizations in the United States**

One of the most important special district types of approaches for regional strategic transportation planning in the United States is the Metropolitan Planning Organization (MPO). MPOs have a long history, but recently they have become major actors in regional transportation planning since they were strengthened in a federal law, the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. This thesis focuses on the efforts for regional strategic transportation planning at MPOs. They also will be contrasted with the same types of regional approaches in Japan in chapter 5.

For over three decades, the federal government has sought to address regional transportation challenges by requiring establishment of metropolitan planning

---

<sup>11</sup> Ibid.,10

mechanisms. However, some MPO-like organizations have existed since the 1950's to prepare special urban transportation studies under the auspices of the state highway agencies in some major areas such as Chicago, Detroit, New York, and Philadelphia.<sup>12</sup> The Housing Act of 1954, for the first time, gave federal grants for councils of governments and other metropolitan planning agencies to promote cooperation in analyzing and addressing regional problems; that was extended in 1965.<sup>13</sup> This provision gave impetus to the formation of such organizations as councils of governments, and encouraged local governments to cooperate in addressing problems in a regional context.<sup>14</sup> Then, in 1966, the Demonstration Cities and Metropolitan Development Act, and 1968 follow-up legislation, required all application for federal aid for the planning and construction of housing, roads, and other facilities to be submitted to an area-wide planning agencies for review and comment to insure they were consistent with area-wide plans and were coordinated with other federal-aid projects. These legislative requirements were a significant step towards comprehensive regional planning.<sup>15</sup>

The ISTEA strengthened the metropolitan planning process, enhanced the role of local elected officials, required stakeholder involvement, and encouraged movement away from modal parochialism toward integrated, modally mixed strategies for greater system efficiency, mobility and access.<sup>16</sup>

### **2-3-2-1 Metropolitan Planning Processes under ISTEA**

All urbanized areas with populations of 50,000 or greater are required to have MPOs. The boundaries of planning areas are established by agreement between the Governor and the MPO so that the boundaries encompass the current urbanized area plus the area that will be urbanized during a 20 year forecast period.<sup>17</sup>

---

<sup>12</sup> Association of Metropolitan Planning Organization, *About MPOs*

<sup>13</sup> The North Jersey Transportation Planning Authority Inc., *History of MPOs*

<sup>14</sup> Ibid., 12

<sup>15</sup> Ibid., 13

<sup>16</sup> Ibid., 12

<sup>17</sup> United State Department of Transportation, *Urban Transportation Planning in the United States*

MPOs can decide composition of their board members. In most cases, city and/or county agencies, state departments of transportation, transit operators, or other MPOs serving the same region are included in the board as voting members. Some MPOs such as those in the San Francisco and the Cleveland metropolitan areas, however, consider state agencies as non-voting members. Some MPOs such as the ones in the Chicago metropolitan area include some federal agencies, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) of the US Department of Transportation (USDOT), as voting members.<sup>18</sup>

In accordance with the provision of the ISTEA, the planning process of MPOs produces the Transportation Plan and the Transportation Improvement Program (TIP). The ISTEA also requires MPOs to take six major elements of transportation planning into account such as;<sup>19</sup>

**-Public involvement process;**

**-16 specific planning factors** (See Table 2-2) to ensure that the transportation planning process reflects a variety of issues such as land-use planning, energy conservation, and environmental management;

**-Major investment studies** to address significant transportation problems in a region that might involve the use of federal funds;

**-Six management systems** (pavement, bridge, public transit facilities, intermodal, congestion, and safety management systems) to ensure that transportation infrastructure is effectively managed, maintained and efficiently operated;

These systems focus on asset management to track asset conditions concerning the operational, maintenance, safety, repair, and replacement needs and ensure efficient performance of the transportation systems. The actions, strategies and needs identified by the management systems should be reflected in the Transportation Plan and TIP. (The five management systems other than

---

<sup>18</sup> United States Department of Transportation, *Enhanced Planning Review of the Chicago Metropolitan Area*

<sup>19</sup> United State Department of Transportation, *A Guide to Metropolitan Transportation Planning Under ISTEA*

**Table 2-2**  
**16 Metropolitan Planning Factors in MPO**

<p><b>Mobility and Access for People and Goods</b></p> <ul style="list-style-type: none"><li>-Effects of all transportation projects, whether Federal-aid funded or not;</li><li>-International border crossings and the promotion of access to critical areas and activities;</li><li>-Road connectivity from inside to</li><li>-outside metropolitan areas;</li><li>-Enhancement of efficient freight movement; and,</li><li>-Expansion and enhancement of transit services and use.</li><li>-Tourism and recreation (This factor was added in amendment.)</li></ul> <p><b>System Performance and Preservation</b></p> <ul style="list-style-type: none"><li>-Congestion relief and prevention</li><li>-Preservation and efficient use of existing transportation facilities</li><li>-Transportation needs identified through the implementation of management systems;</li><li>-Preservation of right -of-way; and,</li><li>-The use of life-cycle costs in the design and engineering of bridges.</li></ul> <p><b>Environment and Quality of Life</b></p> <ul style="list-style-type: none"><li>-Overall social, economic, energy, and environmental effects of transportation decisions;</li><li>-Consistency of planning with energy conservation measures;</li><li>-Relationship between transportation and short- and long-term land use planning;</li><li>-Programming of expenditures on transportation enhancement activities; and,</li><li>-Capital investments that increase transit system security.</li></ul>
--

(Source: United State Department of Transportation, *A Guide to Metropolitan Transportation Planning Under ISTEA*)

congestion management system were made voluntary in 1995.)

- Financial plans** for implementing the Transportation Plan and TIP; and
- Conformity of the Transportation Plan and TIP to the State Implementation Plan (SIP)** that is pursuant to the standards of the Clean Air Act Amendments (CAAA).

The next four planning elements need detailed descriptions because they are among the most notable elements in the MPO process.

### **-Transportation Plans**

In considering the major elements of transportation planning, MPOs have to develop a Transportation Plan that covers a 20-year period and identifies facilities including major roadways, transit, and intermodal facilities. The plan needs to include both short- and long-term actions that develop and maintain transportation systems. MPOs' planning process is conducted in cooperation with the state and such transportation providers as public transit operators.<sup>20</sup>

### **-Transportation Improvement Programs (TIP)**

The TIP is a short-term program that covers at least 3 years, and includes the list of priority projects that should be implemented in each of the 3 years. Projects included in the TIP must be consistent with an MPO's Transportation Plan. The TIP must be approved by the MPO and the Governor.<sup>21</sup> In large urbanized area over 200,000 in population, all projects, except those on the National Highway System and some other programs, are selected by MPOs, in consultation with the state, from the list of projects in the TIP in accordance with the priorities established in the TIP.<sup>22</sup>

### **-Conformity of Transportation Planning to Air Quality Regulation**

TIP's linkage with the transportation conformity requirements of CAAA is one of the most important accomplishments of ISTEA. The integration of transportation planning and air quality planning is required in areas that fail to meet the National Ambient Air Quality Standards (NAAQS). In such areas, transportation plans and programs which are financed with federal aid are required to conform with the State Implementation Plan (SIP), the statewide planning document which demonstrates how the state will attain the NAAQS. Prioritization of projects in the TIP is also required to complement the CAAA's priorities. MPOs must consider these conformity requirements in the Transportation Plan and TIP. The FHWA and the FTA must also review the Plan

---

<sup>20</sup> Ibid., 19

<sup>21</sup> Ibid., 19

<sup>22</sup> Ibid., 17

and TIP and make a conformity determination in order for the projects contained in the Plan and TIP to be eligible for federal funding or approval.<sup>23</sup>

### **-Financial Planning and Constraints**

One of the most challenging requirements of ISTEA is financial constraints. The Transportation Plan and TIP development process must include financial planning. This requirement is to encourage good financial planning and to prevent Transportation Plans and TIPs from becoming "wish-lists" of projects with no realistic chance of implementation and also to ensure that the plans and programs pay attention to maintenance and operation of the existing system to save funds. In this requirement, the total estimated costs of projects included in the Transportation Plan and the TIP can not exceed estimated revenue. These plans can include only projects for which funds can reasonably be expected to be available during the planning period. A financial plan is developed by the MPOs in cooperation with the state and transit operators. This requirement strengthens MPOs' ability to take initiatives in various planning agencies. However, the financial constraint requirement is very challenging because it forces policy makers to make choices among alternatives transportation investments and policies.

### **2-3-2-2 MPO's Experiences after ISTEA**

As seven years have passed since ISTEA was enacted in 1991, evaluation of MPO's experiences in regional transportation planning might be possible to some extent. To examine these experiences, two reports have been prepared by the US Advisory Commission on Intergovernmental Relations (ACIR) at the request of the Federal Highway Administration (FHWA). The first report, *MPO Capacity* of 1995, addressed the question of how well equipped the MPOs were for purposes of meeting the very ambitious new national goals set forth in the law.

The conclusion was that almost all MPOs were responding very positively to the new ISTEA planning requirements and were making progress toward meeting them.

---

<sup>23</sup> Ibid., 19

However, many MPOs think that ISTEA's goals are complex as well as ambitious. MPOs are asking for many types of additional help with intergovernmental coordination, technical planning issues, constraining and financing the transportation plan and investment program (TIP), enhancing public involvement, creating new processes and criteria for prioritizing transportation projects, and using improved nonfinancial implementation tools. The report recommended a more complete, affordable, and proactive capacity-building program for MPOs.

The second report by the ACIR in 1996, *Planning Process*, is part of the FHWA's goal of completing an overall national assessment of the metropolitan planning process and its implementation under ISTEA. It concentrates on contemporary planning concepts and how ISTEA compares to the best available planning practices. The conclusion is that the planning framework in ISTEA is responsive to current planning advances such as outcome performance, strategic planning, collaborative planning, growing diversity of planning tools, and growing diversity of implementation tools, and should be retained. Spurred by ISTEA, MPOs are leading many of the advances in planning. The federal review of MPO planning process, Enhanced Planning Reviews (EPR), on which this report is based, commended many MPOs for their good practices, especially in the fields of public involvement, intergovernmental coordination, performance-based congestion management, regional visioning, inclusiveness of their policy board and committee structures, new computer models and information management system, and air quality planning. Despite these advances, the report suggests that opportunities to simplify the details of ISTEA planning requirements exist. The ACIR proposes simplifying the ISTEA planning requirements into five core elements defined in performance terms. These elements encompass all of the sixteen factors and six management systems, but would not necessarily require every one to be addressed everywhere. They are:

- Establishing and managing a level playing field for effective multimodal, intergovernmental decision-making,
- Developing, adopting, and updating a long-range multimodal transportation performance plan,
- Developing and continuously pursuing an appropriate analytical program to evaluate transportation alternatives,
- Developing and systematically pursuing a multi-faceted implementation program, and



-Developing and pursuing an inclusive and proactive public involvement program.”

About the planning process flaws, a work paper prepared by Christopher Conklin concluded that diagnosis of a MIT research, Res/SITE (Regional Strategies for Sustainable Intermodal Transportation Enterprise), is generally in line with those identified in the EPR. Through extensive research involving many different large scale domestic and international planning efforts, the Res/SITE report identified major flaws with most planning efforts, including intermodalism, technology scanning, freight consideration, private sector involvement, integrated economic consideration, national information infrastructure, master plan perspective/strategic focus, and human resources.<sup>24</sup>

Another report examines the MPO's experiences from a different point of view. The report of the US General Accounting Office (GAO), *MPO's Effort to Meet Federal Planning Requirements*, concludes that MPOs have found three of ISTEA's planning requirements particularly challenging to meet: requiring greater involvement by citizens, limiting short- and long-term transportation plans to reasonable revenue projections (the financial constraint requirement), and selecting transportation projects.

All MPOs interviewed by the GAO noted that their efforts to meet ISTEA's public involvement requirements had resulted in plans and programs that were more reflective of the public's transportation needs than previously, and hence provided broader and stronger public support. In response to this requirement, MPOs increased funding to effectively involve the general public.

ISTEA's financial constraint requirements is one of the most significant challenges. In some areas, financially constraining the transportation improvement program meant abandoning 50 percent or more of the proposed projects. Moreover, it is politically difficult for MPOs to delete projects even if they had scant prospects for implementation, and is very unpopular with the projects' sponsors such as local governments. Because the MPOs were not traditionally strong decision-making bodies, their capacity to identify projects was in doubt at the outset of ISTEA. According to

---

<sup>24</sup> Conklin, *Enhanced Planning Review*, A Working Paper, 1998

GAO's report, the planning and programming decisions were often deferred to the state or to transit operators since the MPOs generally did not have the authority to play a decision-making role. To make the transition, the MPOs are expected to develop a consensus-building relationship with the local communities, the transit operators, and the states. GAO's interviews showed that a cooperative and constructive relationship with the state was especially critical, but in some cases, the efforts of the MPOs and the local officials to assume greater authority encountered resistance from the states.

The state officials that GAO interviewed generally supported ISTEA's planning requirements, but their support was conditional. For example, many of those state officials supported the financial constraint requirements as long as the federal regulation allowed some over-programming beyond financial restrictions. Other officials supported the elimination of the requirements placed on the long-term plans due to the difficulty in determining reliable revenue projections over the 20 year duration of the plan.

States also have different concerns about metropolitan planning process. Some concerns of states were presented in the *Conference on Institutional Aspects of Metropolitan Transportation Planning*, which was held at Williamsburg, VA. in 1995 to discuss how MPOs should work. One of them is the ability of MPOs to focus on a regional perspective. According to the report of the conference, states think that it is difficult for MPOs to have regional viewpoint on an issue that may hurt their own city or county because the boards of MPOs are still comprised primarily of locally elected officials.

The extent to which MPOs can lead the planning process depends on regions. For example, MPOs in the Twin Cities, MN and Portland, OR. clearly play roles as consensus builders and successfully coordinate planning processes. It seems to be because both of these MPOs have broad powers under state statutes that predate ISTEA, and have a history of regional leadership.<sup>25</sup> The Metropolitan Transportation Commission, the MPO in San Francisco bay area, has unique characteristic in regional planning process. The MPO is authorized under state law to be the designated recipient of a major percentage of

---

<sup>25</sup> United State Department of Transportation, *The FTA-FHWA MPO Reviews*

the federal and state transit and highway funds available to the area.<sup>26</sup> This provides a unique opportunity for the MPO to lead the regional transportation planning process. However, in many areas, MPOs receive a prioritized and financially constrained list of projects for the TIP from implementing and other participating agencies, including the state, and transit operators. This is not inconsistent with the intention of ISTEA.

## **2-4 Summary**

Recognizing the importance of regions as economic units in the global society and also as units of transportation planning, this chapter has addressed the need of regional strategic transportation planning and has identified requirements for such practical and effective planning. This requirements will be used as a framework of analysis throughout this thesis. Then, as a suitable form of the regional strategic transportation planning, a special district type of approach was introduced among various regional governance mechanisms. The last part of this chapter has reviewed a system of Metropolitan Planning Organizations (MPOs) in the United States and its problems as an example of planning practices by the special district type for planning.

In the following two chapters, this thesis will examine regional transportation planning systems in Japan, especially in the Osaka/Kobe/Kyoto metropolitan area, and then the results of the case study will be contrasted with these findings about MPO efforts looked at in this chapter.

---

<sup>26</sup> United States Department of Transportation, *Enhanced Planning Review of the San Francisco Bay Metropolitan Area*



## **Chapter 3**

# **Background of Regional Strategic Transportation Planning in Japan**

For background in regional strategic transportation planning in Japan, Chapter 3 reviews the fundamental structure of transportation development and current circumstances in planning. Since they are very different from those in the United States, understanding these fundamental differences is necessary to analyze the case study and to make recommendations to a metropolitan area in Japan in a later part of this thesis.

### **3-1 Fundamental Structure of Transportation Development in Japan**

In this section, the transportation development planning processes are discussed generally after an introduction to major players in transportation development in Japan and characteristics of the Japanese transportation development systems. Finally, this section looks at Japanese administrative reforms that may affect transportation development significantly.

#### **3-1-1 Players in Transportation Development**

To understand fundamental structure of transportation development in Japan, it would be helpful to start by introducing three main players in the area: the national government, regional and local governments, and the private sector.

##### **-The National Government**

The Japanese national government has played a decisive role in transportation development. The fiscal, legal, political, and administrative power of the national government are tremendous. This system has contributed to the development of Japan considerably.

Recently, however, the power of the national government has been shifting to the other two players gradually in order to create a structure in which the national government still has significant, but not exclusive authority.

There are several ministries that are related to transportation development: the Ministry of Construction (MOC), the Ministry of Transport (MOT), the National Land Agency (NLA), and the National Police Agency. Among them, the MOC and the MOT are the most important agencies for transportation development planning. The Ministry of Posts and Telecommunications and the Ministry of International Trade and Industry also are involved in particular transportation areas such as Intelligent Transportation Systems. These national ministries stipulate national policies on transportation development, approve plans submitted by regional and local governments and the private sector, provide financial support for projects, and regulate their operations. For example, at various stages in planning for transportation development in Japan, regional and local governments have to get approval for their plans to have legal status. Moreover, in many cases, it is very difficult for such regional and local governments and the private companies to implement their transportation development without financial support from the national ministries. The MOC also plans and implements some arterial highway developments.

The national public corporations are other important players. They are established by the national government to implement particular public projects including inter-regional highways and urban expressways.

### **-Prefectural and Local Governments**

Japan has a three-tier governmental structure like the United States; the national, regional, and local governments. As of 1993, there was 47 regional governments and 3236 local governments that consist of city, town and village governments.<sup>1</sup> These governments have directly-elected officials and councils.

Prefectural governments are Japanese regional governments and equivalent to state government in the United States. Local governments in Japan are not creations of the regional

---

<sup>1</sup> Japan Society of Civil Engineers, *System for Infrastructure Development: Japan's Experience*, 1995

governments but are controlled by the national government. They have legal status equal to regional governments though they are affected by various regulations and approval of many local activities by the regional governments. Local governments range in scale from small villages whose populations are a few hundred to big cities whose populations are more than one million. Like the national government, some prefectural and local governments have their own agencies that implement and operate particular projects such as highways and subways.

### **-The Private Sector**

The private sector has contributed to transportation development of railroad especially. The national railroad agency had existed until 1987, but after the privatization of the agency, almost all railroads are constructed and operated by the private sector while other transportation developments, such as highways and port facilities, have been carried out mainly by the public sector.

Development of the railroad by the private sector needs various approvals by the public sector, including licensees to begin railroad services. Moreover, the public sector, especially the national government, has power to control the private transportation companies through subsidies and regulations. In general, the private sector does not get strongly involved in transportation development planning other than railroad planning.

## **3-1-2 Characteristics of Transportation Development in Japan**

### **-National Leadership**

The most important characteristic of transportation development in Japan is that the national government has the primary authority and power. Not only for transportation development but also for any other administrative issues, the national government had strong leadership until recently. The national intention to control all factors in the country is derived from a process of industrialization that started in the 1860's. At that time, every resource of the country, including infrastructure, social safety system, governmental systems, human and financial resources, was not enough to achieve industrialization. For the national government,

it was important to make the most use of very limited resources. To do so, it adopted a very centralized governance style to control the entire nation. This style is still alive though it currently is under drastic changes to a more decentralized style.

This intention to control planning process was reflected in infrastructure development policy. The policy is that infrastructure development should be planned in the framework of the national economic development plan and the national land development plan. Moreover, the policy requires that infrastructure development should be implemented according to the objectives and scale decided by the national governments from the long-term perspective. Therefore, almost all plans of major transportation infrastructure development are made, or at least approved, at the national level.

Intergovernmental relations are also affected by this powerful national initiative. Japanese national government has much stronger power over regional and local governments than the federal government in the United States. As Table 3-1 shows, prefectural and local governments' expenditure are more than 40 percent of general governmental expenditure, but their revenues are only 35 percent of total governmental revenue in Japan. The gap between these two numbers is bridged by subsidies from the national government to regional and local governments. Subsidies are about 40 percent of regional and local revenue in Japan while it is

**Table 3-1**  
**Fiscal Structure of Regional and Local Governments in Japan and the United States**  
(%)

	(Regional and Local Expenditure) / (General Governmental Expenditure)	(Regional and Local Revenue) / (Total Governmental Revenue)	(Subsidy) / (Regional and Local Revenue)
<b>Japan</b>			
1970	<b>45.7</b>	<b>33.5</b>	<b>40.8</b>
1980	<b>46.4</b>	<b>36.2</b>	<b>43.7</b>
1990	<b>40.3</b>	<b>35.8</b>	<b>38.0</b>
<b>The United States</b>			
1970	<b>40.7</b>	<b>40.1</b>	<b>14.5</b>
1980	<b>42.3</b>	<b>40.1</b>	<b>20.2</b>
1990	<b>41.7</b>	<b>45.1</b>	<b>18.3</b>

(Source: Shigemori, *Decentralization*, 1996)



less than 20 percent in the United States. Though regional and local governments in Japan are large in scale of expenditure, they are controlled strongly by the national government through subsidies. Moreover, the national government has authority over approval and regulation about various activities by prefectural and local governments and the private sector.

Though decentralization of administrative authority from the national government to prefectural and local governments, deregulation and privatization of the public infrastructure development are occurring in recent days, the national government still has considerable power over other players.

### **-Transportation Mode-Oriented Bureaucracy**

Another major characteristic of transportation development in Japan is the bureaucracy concerning transportation modes. The national government gets involved in detailed planning of transportation developments in order to control them. As a result, each planning division of the national government tends not to be able to look at multimodal planning and their planning capacities are likely to be limited to a single mode of transportation. The organization of the national government is divided according to transportation modes, and each mode of transportation is dealt with by separate divisions of the national government. Transportation issues including highway development, railroad development, port and harbor development, city planning, and traffic control, are treated by five bureaus of three ministries as shown in Table 3-2.

In addition to the bureaucracy concerning modes, there is also another bureaucracy about development areas; port and harbor areas, and other areas. The Ministry of Transport

**Table 3-2**  
**Planning Area and Its Division in Charge**

Planning Area	Ministry in Charge	Division in Charge
Highway	Ministry of Construction	Road Bureau
Railroad	Ministry of Transport	Railroad Bureau
Port and Harbor	Ministry of Transport	Port and Harbor Bureau
City Planning	Ministry of Construction	City Bureau
Traffic Control	National Police Agency	Transportation Bureau

(MOT) is in charge of development of port and harbor areas as well as port and harbor facilities developments. For example, the MOT has authority over planning highways, which are usually under control of the Ministry of Construction (MOC), when they are developed in port and harbor areas. Furthermore, information does not flow smoothly among the ministries. It is said in Japan that each bureau acts “as if it exists not for the nation but for its bureau”.

### **-Planning for Each Mode**

For that reason, each bureau makes plans only for the transportation mode of which it is in charge. From the long-term planning to project implementation, all levels of development activities are conducted by each mode. There are no multi-modal plans at the national level. On the other hand, regional and local governments have comprehensive plans that include all types of transportation modes as well as related urban issues such as economic development, environmental protection, and land-use regulation. However, as the national government has decisive power in transportation development in Japan, comprehensiveness at the regional and local level cannot contribute to intermodal transportation development.

### **3-1-3 Transportation Development Planning**

There are many layers in transportation development planning in Japan. At the highest level, the national economic plan and the national land plan provide the direction of transportation policy and development. The national economic plan presents the direction of the national economic development from a long-term perspective, and the national land plan is the highest plan for land-use and development projects of the nation. According to these directions, transportation planning is done for each transportation mode.

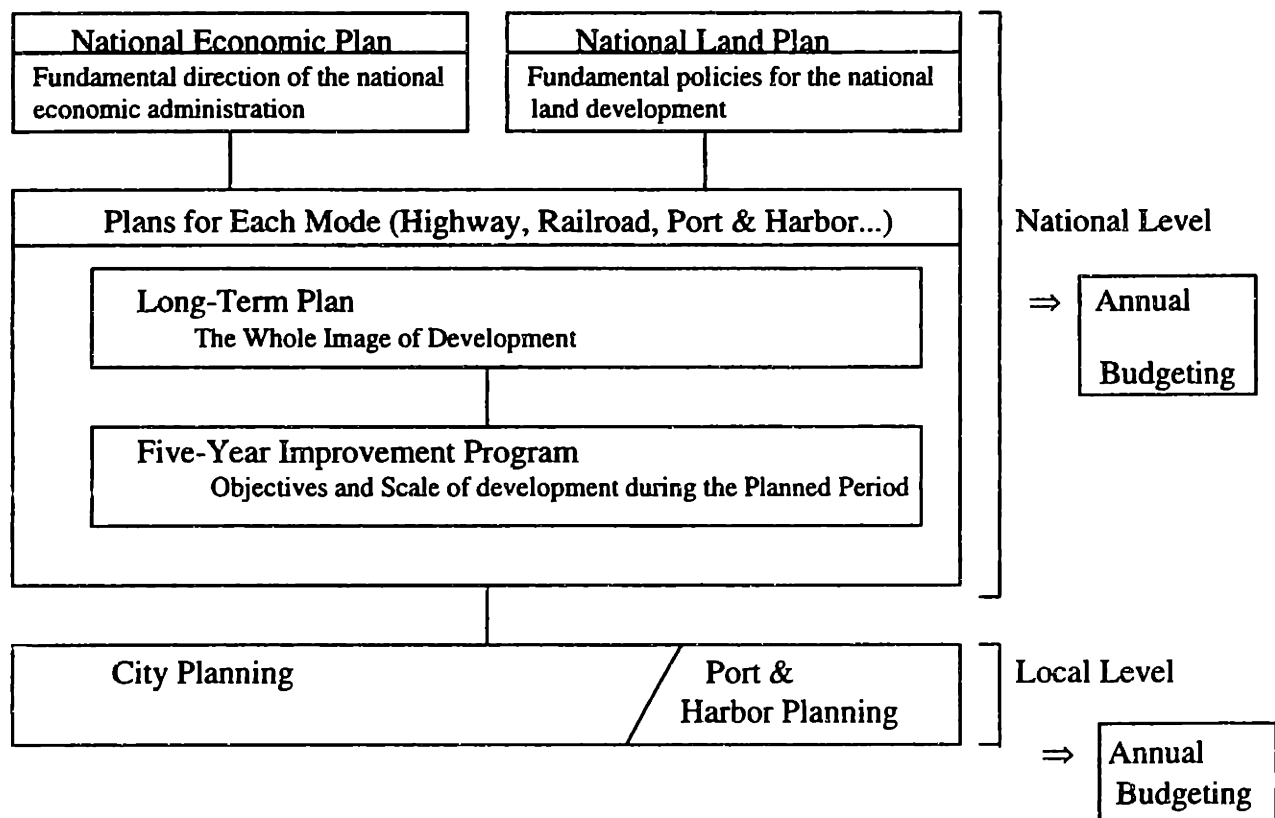
The national ministries related to transportation development have very long 10-20 year plans for each transportation mode. These plans present the whole image of developments that should be carried out over a very long term. Projects that should be

implemented in the near future are selected from these long-term plans and included in the national level so-called five-year improvement programs though the detail of procedure depends on transportation modes.<sup>2</sup>

In the five-year programs for each transportation mode, the national government sets objectives and scale of transportation developments in the five years to coordinate projects with other projects of the same mode and to ensure the needed resources during the planned period from the long-term perspective.

There are other plans that are made from prefectural and local point of view. Prefectural and local governments have authority to do city planning, which is a comprehensive planning for each prefectural and local areas. It includes planning of many modes of transportation and

**Figure 3-1**  
**Structure of Infrastructure Development Planning**



(Source: Economic Planning Agency)

<sup>2</sup> Ibid., 1

urban development, and land-use regulations, but it treats planning in the jurisdiction of prefectural and local governments only.

Port and harbor planning is also decided by the port authority that is usually one of the departments of prefectural and local governments. It deals with development policy of port and harbor areas, and development of port and related facilities.

The budgeting process is very different from the planning process. Inclusion of projects in plans described above does not guarantee that the needed funds for the project are obtained. Therefore, after these planning processes, a fiscal budget for each project will be decided separately.

In sum, there are two types of planning related to regional transportation planning in Japan: transportation mode-oriented planning, such as five-year improvement program, and area-oriented planning such as city planning.

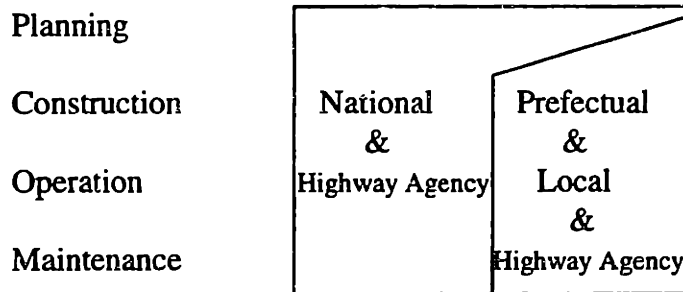
The following part of this section reviews four types of transportation development planning in Japan. Three are transportation mode-oriented planning: planning for highway, railroad, and port. Another is city planning.

Transportation development planning depends heavily on the type of transportation mode. Planning for each mode has a different process, and allocates its responsibility among planning agencies differently.

### **3-1-3-1 Highway Development**

Highways have been developed exclusively by the public sector in Japan with exceptions such as Trans-Tokyo Bay Highway. Highways are categorized into four types in the Road Law: National Expressway, National Highway, Prefectural Highway, and Local Highway. The Ministry of Construction (MOC) is in charge of planning, construction, operation and maintenance of National Expressway and National Highway. Prefectural governments and local governments also are responsible for planning, construction, operation and maintenance of Prefectural and Local Highway respectively.

**Figure 3-2**  
**Responsibility Sharing for Highway Development**



The National Expressway, which is an equivalent of the Interstate Highway in the United States, are constructed through two steps of planning: Basic Plan and Construction Plan. The MOC formulates both plans with the national perspective according to legal procedures. The Basic Plan decides the whole network that should be constructed from a very long-term perspective. Expressways that should be constructed in the near future are selected from the Basic Plan and are included in the Construction Plan. The Japan Highway Public Corporation (JHPC), a national highway agency established by the MOC to construct, to operate and to maintain national expressways, constructs these selected expressways after getting a Construction Order by the MOC.<sup>3</sup> Planning for these expressways is done without any regional perspectives though those expressways have huge impact on regional transportation systems.

Other important highways that affect regional transportation are urban expressways. Large metropolitan areas have urban expressways in their central areas as well as the National Expressways that usually pass around the centers of the metropolitan area. Since urban expressways are categorized as Prefectural or Local Highway by Law, prefectural or local governments are in charge of formulating the plans in city planning in a legal procedure.<sup>4</sup>

However, in many cases, the plans for urban expressways are not decided as systematically as the National Expressways. The problems are that there are no planning agencies to plan urban expressways from the regional point of view. It is difficult for

<sup>3</sup> Japan Highway Public Corporation, *Web Site*

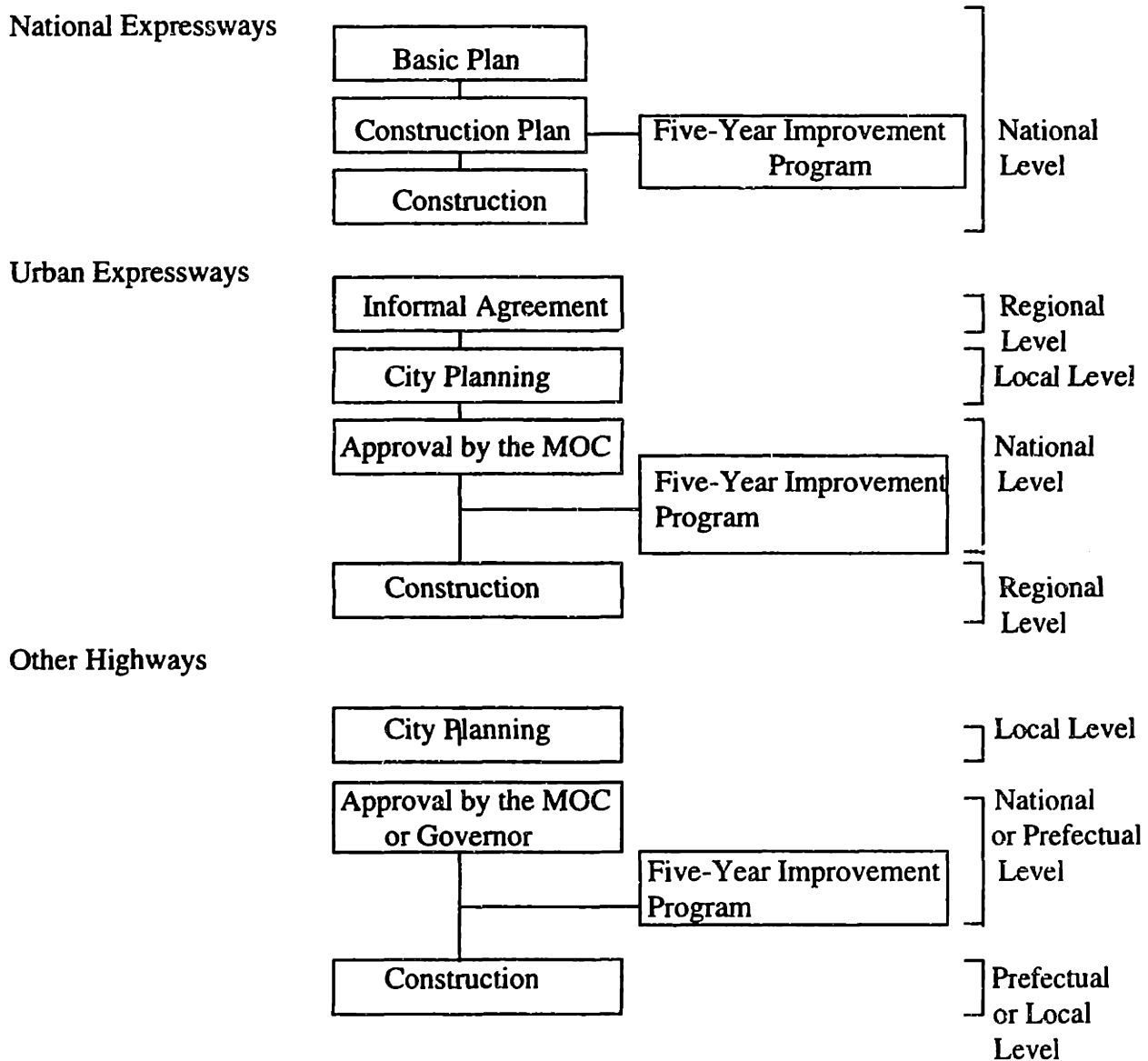
<sup>4</sup> Hanshin Expressway Public Corporation, *The Work of the Hanshin Expressway Public Corporation, 1995*

prefectural and local governments to have clear perspectives for urban expressways because urban expressways, by nature, extend beyond the jurisdictions of prefecture and local governments.

In the biggest metropolitan areas in Japan: the Tokyo metropolitan area and the Osaka metropolitan area, the national urban expressway agencies, the Metropolitan Expressway Public Corporation and the Hanshin Expressway Public Corporation, respectively have the

**Figure 3-3**

**Process for Highway Development**



responsibilities for the urban expressway developments in the areas from construction to maintenance. They can cover the whole metropolitan area in their jurisdictions, but they do not have authority to decide plans without consultation with the MOC and prefectural and local governments. For those reasons, the long-term plans of urban expressways are usually formulated in a form of an informal agreement among related agencies at an advisory regional planning committee. Plans for many other highways, such as Prefectural Highways and Local Highways, are formulated in city planning of prefectures or municipalities in consultation with the MOC or prefectural governments respectively.

At the same time, highways to be constructed in the near future have to be included in the five-year improvement program that is made every five years by the MOC. This program contains objectives and scale of highway development that will be carried out in five years. This national program consists of prefectural and local five-year improvement programs, and the programs for the national expressway agencies.

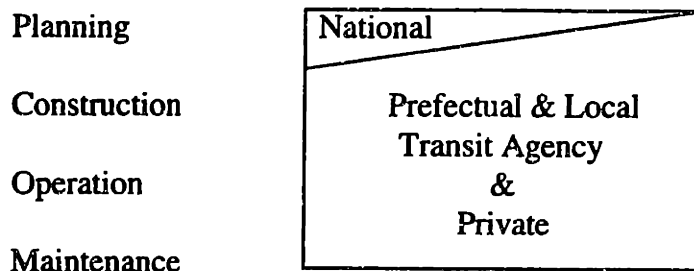
For prefectural and local governments and highway agencies to construct major highways, they have to obtain approval concerning the plans from the higher level of government. Moreover, in many cases, prefectural and local governments need subsidies from the MOC.

### **3-1-3-2 Railroad Development**

Unlike in highway development, the private sector has played the primary role in railroad development in Japan. Especially since the Japan National Railways (JNR), which was a national railway agency, was privatized in 1987, the private sector has been in charge of planning and its implementation for almost all railroad development. Another essential player is prefectural and local transit agencies that are established by prefectural or local governments to construct, operate, and maintain public transportation systems in their jurisdictions. Subway systems in big cities and bus systems are usually under responsibility of such agencies of big cities.

However, both the private railroad companies, and prefectural and local transit agencies are under national control through various approvals and subsidies. First, to begin railroad

**Figure 3-4**  
**Responsibility Sharing for Railroad Development**



business, the operators need to get approval of the Ministry of Transport (MOT). Second, since railroad projects are very costly, the operators have to negotiate with the MOT to get subsidies in many cases.

The MOT also gets involved in two types of long-term planning for railroads to coordinate projects with related urban projects, and to allocate limited financial resources such as subsidies from the national point of view. First, plans for Shinkansen Railroad, a high-speed trunk railroad system in Japan, are formulated by the MOT in the same way as planning of the National Expressway by the MOC.<sup>5</sup> The remaining tasks including construction, operation, and maintenance of the railroad are conducted by the Japan Railway Companies, which were created by privatization of the JNR.

Second, in big metropolitan areas, the MOT is involved in long-term regional planning for railroads. In the three largest metropolitan areas, the Tokyo, the Osaka, and the Nagoya metropolitan areas, an advisory planning council under the initiative of the MOT formulates long-term regional railroad plans with consultation with prefectural and local governments and private operators. The planning covers all the metropolitan areas as planning areas. Inclusion of railroad development projects into this plan is essential for railroad operators to get the needed approval and subsidies though it does not guarantee the approvals and subsidies. Some railroad projects need to be included in city planning by prefectural or local governments, too.

---

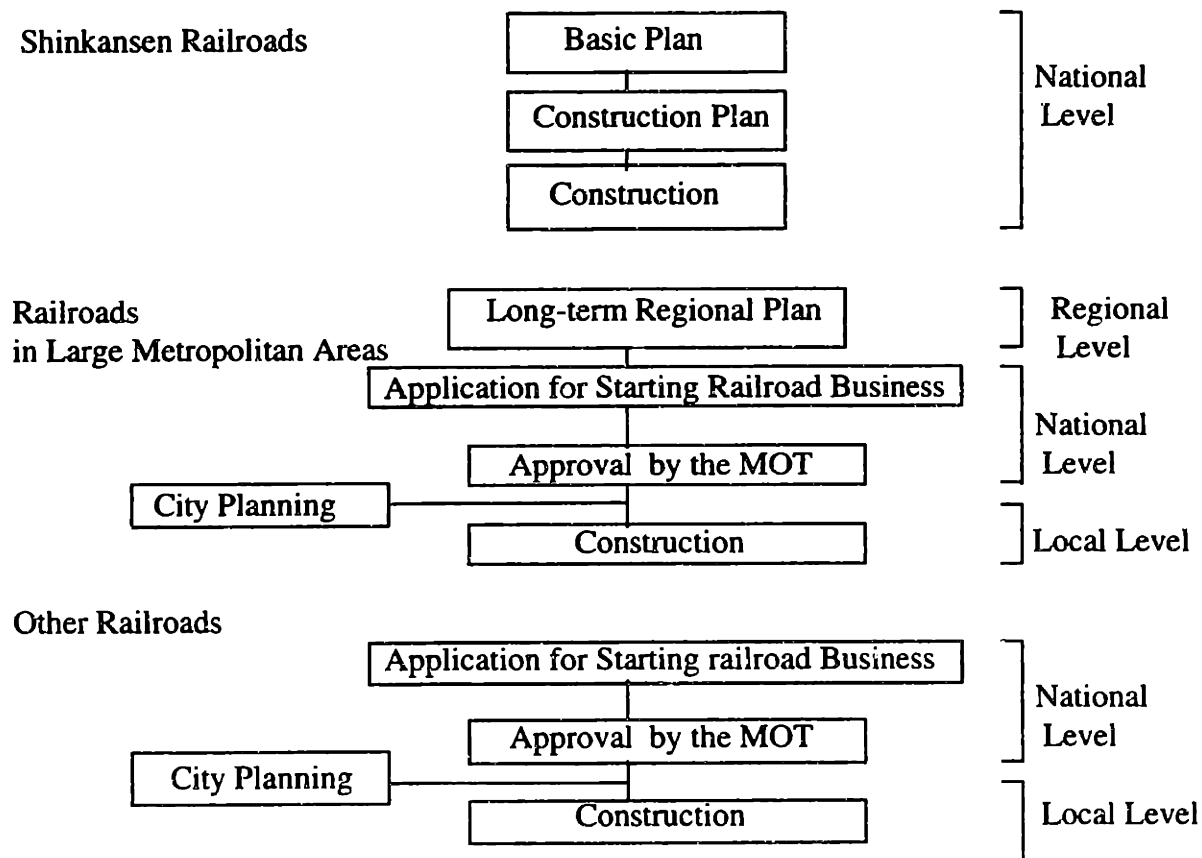
<sup>5</sup> Ibid., 1



Unlike planning of urban expressways, this long-term regional railroad planning is very systematic because a single planning body discusses the regional plan with regional perspectives. Since this planning system is one of the best in the Japanese regional strategic transportation planning systems, it will be analyzed in detail in chapter 4.

For railroad projects in other metropolitan areas, the operators negotiate with the MOT to obtain approval for the railroad business and, if needed, subsidies.

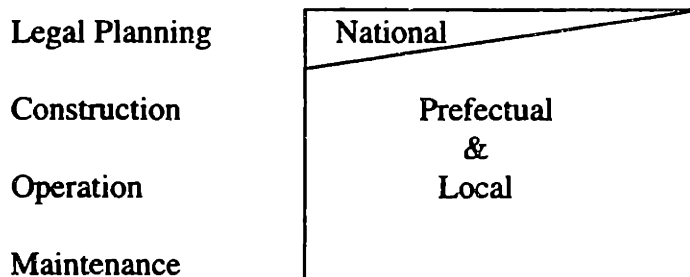
**Figure 3-5**  
**Process for Railroad Development**



### 3-1-3-3 Port Development and Port & Harbor Planning

Every port in Japan is constructed, operated, and maintained by a port authority established by prefectural or local government that includes the port in its jurisdiction. The development system of port and harbor adopts a more decentralized system than the highway development system. Port terminal public corporations in large ports can also construct port terminals and rent them to private enterprises. In many cases, they are established mainly by the port authorities in cooperation with shipping companies.

**Figure 3-6**  
**Responsibility Sharing for Port and Harbor Development**

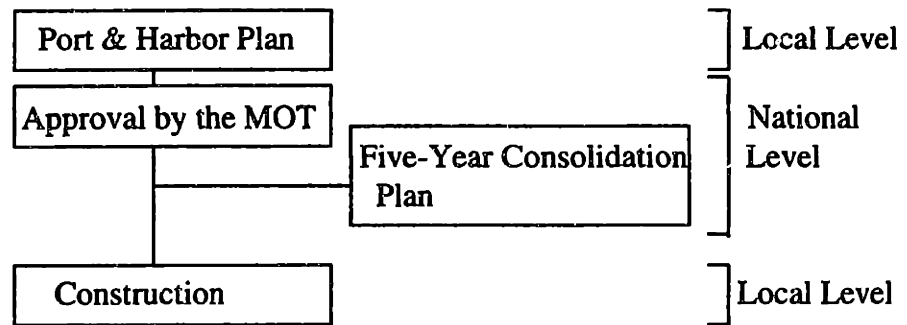


By law, major port authorities must have a Port and Harbor Plan. This plan stipulates development policy of the port and the surrounding areas, and location and scale of port facility development from the 10-15 year perspective.<sup>6</sup> The MOT is involved in port and harbor developments by giving approval for the Port and Harbor Plan and subsidies to port authorities. The MOT also has a long-term plan and legal Five-Year Consolidation Plan to guide port and harbor development in the country. The long-term plan shows vision and policy concerning port and harbor development. The Five-Year Consolidation Plan stipulates the objectives and development scale that should be implemented in the planned five years. To make the plan, the MOT collects development plans of all ports and coordinates the draft plan with the national economic plan and the national land plan. The inclusion of a project in this plan does not guarantee the needed fund for the project.

<sup>6</sup> Ibid., 1

**Figure 3-7**

**Process for Port and Harbor Development**



**3-1-3-4 City Planning**

City planning, which is subject to the national City Planning Law, is intended to promote healthy development and orderly improvement in a city by encouraging appropriate land-use, improvement of urban facilities and implementation of suitable urban development projects. The law outlines the scope of city planning, the legal procedure required, the restrictions that apply, city planning projects and other requirements.<sup>7</sup> Various transportation developments such as highway and railroad, whether private or public, can be designated as city planning facilities in this planning process and the planning can stipulate both land-use regulation and transportation infrastructure planning in its planning structure.

City planning are formulated by the municipalities individually, but planning that applies beyond the city limits and that requires regional coordination is formulated by the governors of prefectures. Deliberation of the Local City Planning Council, which is a prefectural council, and approval of the MOC or Governor are needed for city planning.

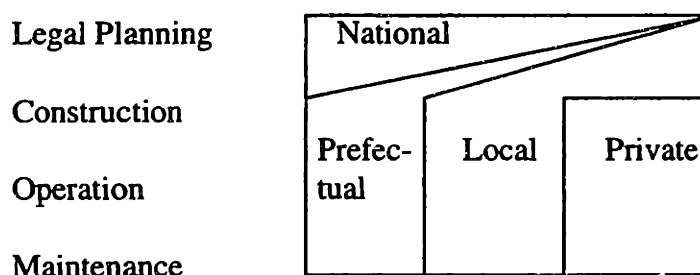
The relation between city planning and transportation development is complex. There are two ways to implement transportation projects. First, some laws have provisions concerning implementation of transportation project. Under these laws, an implementing agency can carry out projects even if their plans are not included in city planning. For example, large transportation projects such as the National Expressway, the Shinkansen

<sup>7</sup> Kyoto University Team, *Mobility Observatory in Seven Cities of the World's Most Industrialized Countries*

Railroad, and inter-city railroads do not need city planning for their implementation. Second, some transportation projects and development projects can be implemented as city planning projects. To do so, these projects have to be included in city planning. Subways and urban expressways need to be decided at the city planning level. Some urban railroad projects have to be included in city planning to obtain approval of the national government even if they are private projects.

**Figure 3-8**

**Responsibility Sharing for City Planning and Development of City Planning Facilities**



The relation between planning of the Port and Harbor Plan and the city planning is one of the most prominent examples of bureaucracy in transportation development policy in Japan. Prefectural and big local governments are in charge of both types of planning, but two national ministries, the MOC and the MOT, get involved in these planning. City planning is in the MOC's jurisdiction and the Port and Harbor Planning is under control by the MOT. Since a port exists in a jurisdiction of a prefectural or local government that does city planning, city planning can cover both the port area and other inland areas in terms of land-use regulation. However, city planning does not always include transportation facilities in the port area.

Almost all transportation projects by prefectural and local governments need subsidies from the national government. Transportation facilities in port areas are subsidized by the MOT and other inland transportation facilities can get subsidies only from the MOC. Therefore, it makes no sense for prefectural and local governments to include projects in port areas into city planning, in terms of financing. This bureaucracy at the national level tends to

impede comprehensive planning at prefectural and local level. Due to this planning system, transportation systems, in many cases, are not coordinated with port facilities very well. This has negative implication for freight movement in and out of the port.

### **3-1-3-5 Linkage Between Transportation Planning and Other Planning Issues**

Development of transportation infrastructure has close relationships with various urban issues such as land-use, economic development, and environmental protection. Planning for transportation infrastructure development should consider these related issues, too. However, the development system of transportation facilities in Japan tends not to consider the linkage.

At the local level, the linkage between land-use regulation and transportation planning is well ensured in city planning even in the current planning system in Japan. In this structure, prefectural and local governments can coordinate transportation planning with land-use to some extent. However, strong national involvement in transportation development tends to impede such coordinating efforts. In the current transportation development system, planning of some transportation facilities including the National Expressway does not need to be included in city planning necessarily. It is because the planning policy of the National Expressway puts a priority on the unity of the expressway network rather than coordination with land-use.

Relation between transportation and the environment, especially air pollution, has not been considered in the Japanese development system very much. The two major measures for preserving the environment are systems of environmental assessment of development activities, and regulation of emission gas from automobiles. Some local environmental management plans describe the need to decrease the number of automobiles by promoting the use of the public transportation and the need to make traffic more smooth by managing highway networks. However, those plans do not include implementation measures for such policies. Moreover, there are no systematic legal linkages between environmental regulation and transportation development planning both at the national level, and prefectural and local level.

In summary, the current transportation planning system in Japan does not carefully coordinate transportation planning with other related problems. Though these issues are regional and local in many cases, transportation planning is strongly controlled by the national government. The gap between problems and responsibility to solve them is one of the primary causes of fragmented planning in Japan.

### **3-1-4 Trend of Administrative Reform and Decentralization**

Reforms that might affect transportation development, intergovernmental relations, and the private-public relations are progressing in Japan. They are administrative reform of the national government and decentralization of some authority from the national government to prefectural and local governments. Recognizing that the administrative and fiscal systems in Japan which had led to industrialization and rapid economic growth since World War II were facing new challenges, the Japanese government is changing these systems dramatically to revitalize the nation.

#### **3-1-4-1 Administration Reform**

The administration reform is aiming at reinforcing Cabinet functions and at restructuring the national ministries and agencies in order to realize a streamlined, efficient and transparent government and to enhance the government's policy-drafting and execution capabilities.<sup>8</sup> In this reform, re-organization of national ministries and agencies is expected to affect transportation development significantly.

Reorganized under large functional areas and giving priority to the planning and drafting policies, the national government shall be organized into one Office and twelve Ministries. For a long period, two ministries and an agency have had responsibilities for transportation development in Japan. Railroad, maritime transportation and port development, and aviation regulation and airport development have been treated by the

---

<sup>8</sup> Administrative Reform Council, *Final Report*, 1997

Ministry of Transport (MOT). The Ministry of Construction (MOC) has been in charge of highway, housing and river development. The National Land Agency (NLA) has dealt with national development plan. In this reform, these two ministries and the agency are combined into a ministry, Ministry of National Land and Transport (MNLT). The newly established ministry shall control all transportation development areas except traffic control that remains in the jurisdiction of the National Police Agency (NPA).

Having received the final report of the Administration Reform Council in December 1997, the government is taking action to present a legislative bill to carry out the reform.

### **3-1-4-2 Decentralization**

With the passage of the Decentralization Promotion Law of 1995, the decentralization movement in Japan has moved from the debate stage to the implementation stage.<sup>9</sup> Receiving Recommendation Reports by the Committee for the Promotion of Decentralization in 1997, the Japanese government is putting a comprehensive plan for decentralization and submitting it for legislation.

The centralized Japanese governmental system contributed to modernization of the country, but problems caused by overconcentration of power, money, people, and information on the central authority has been recognized recently by many people in Japan. Overemphasis on national-wide uniformity and fairness is likely to ignore local conditions and diversity.<sup>10</sup> Decentralization is expected to respond to these challenges.

This reform recommended that the intergovernmental relation be reformed and various authorities to implement administrative activities be shifted to prefectural and local governments from the national government. At the same time, local authorities are encouraged to merge to enhance their capabilities to take responsibilities that would be transferred to them.

---

<sup>9</sup> Ministry of Home Affairs, *Web Site*

<sup>10</sup> *Ibid.*, 9

Thought the two reforms are not finished yet, they have great potential to improve the quality of regional strategic transportation planning in Japan. One of the biggest problems concerning regional strategic transportation planning is inappropriate governmental structure at all level of government. These reforms are expected to improve bureaucracy at the national government, capacity of local governments to do regional planning, and fiscal structure to carry out plans that they would make.

## **3-2 Regional Strategic Transportation Planning in Japan**

This section reviews regional strategic transportation planning in Japan briefly. It will include metropolitan areas and the roles of major mechanisms in regional strategic transportation planning in Japan.

### **3-2-1 Metropolitan Areas in Japan**

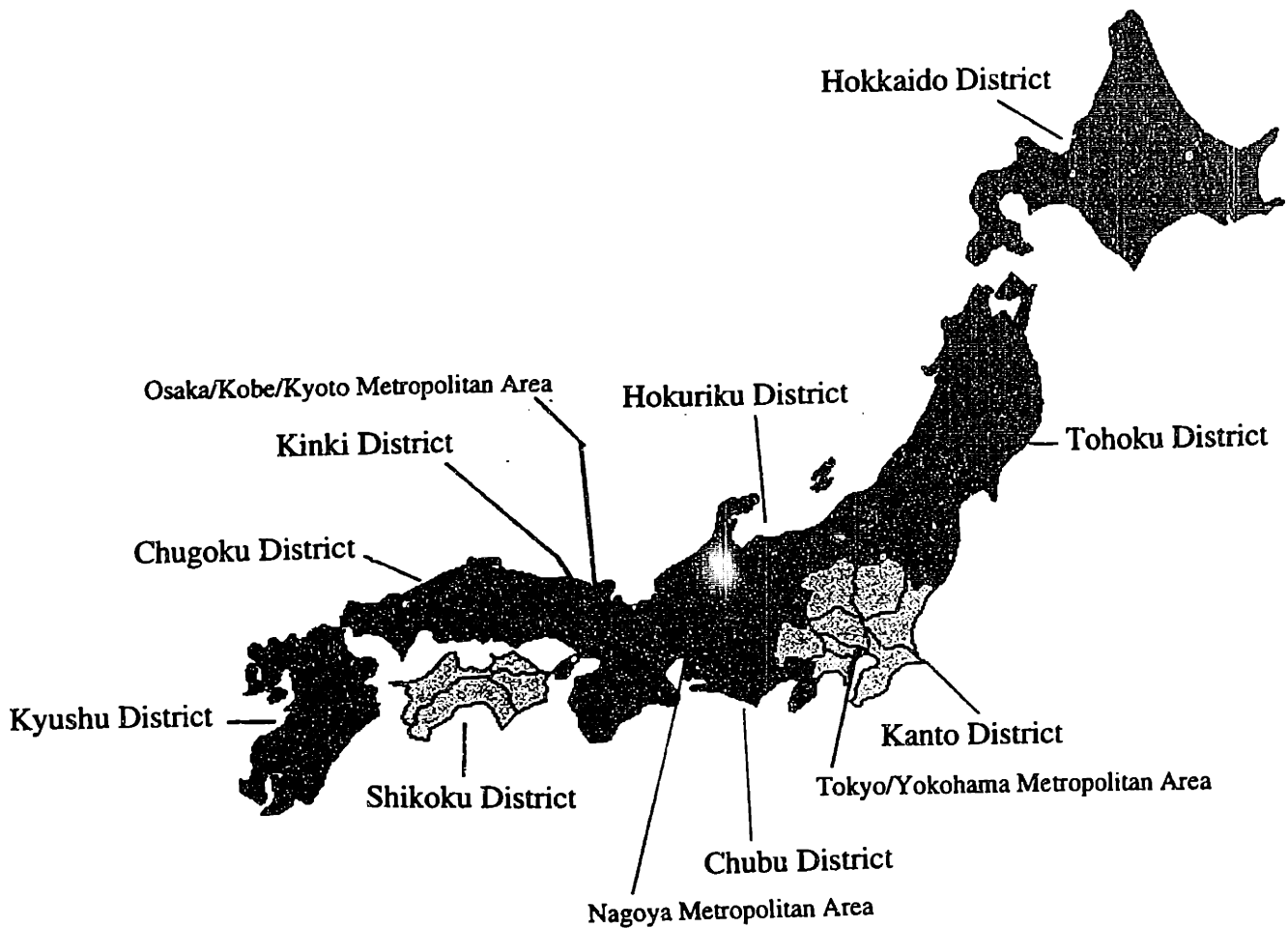
Because the constitution of metropolitan areas affects planning mechanisms significantly, it would be helpful to look at the state of metropolitan areas in Japan before examining its regional strategic transportation planning.

In Japan, there are ten administrative districts that consist of several prefectures. Two districts, Hokkaido, and Okinawa, are each constituted by only one prefecture: Hokkaido Prefecture and Okinawa Prefecture respectively; however, other districts include four to eight prefectures. These districts function as regional units for the national administration. Some national ministries have district branches for each district. However, they do not correspond to actual metropolitan areas.

Concerning actual metropolitan areas, there are two types of metropolitan areas. First, many small metropolitan areas stretch out with the biggest city in prefectures as their centers. These metropolitan areas never extend beyond the border of the prefecture. The second type is seen in three metropolitan areas; the Tokyo / Yokohama, Osaka / Kobe / Kyoto, and Nagoya metropolitan areas. These metropolitan areas include several prefectures and big cities. This



**Figure 3-9**  
**Districts in Japan**



type of metropolitan areas have great impact on Japanese economy and society because about 50 percent of the entire population in the country lives in these three metropolitan areas. Moreover, transportation planning in these metropolitan areas is very problematic since there are many prefectural and big city governments and coordination among them is hard.

The administrative districts are too large even compared to these big metropolitan areas and the difference between the administrative regional units and actual metropolitan area is one of the reasons why regional planning is not effective in Japan even though there exist district branch offices of the national government for regional coordination.

**Table 3-3**

**Population in Big Metropolitan Areas**

(Unit ; thousand persons)

Region	Population
Tokyo / Yokohama Metropolitan Area	31,797 (25.7)
Osaka / Kobe / Kyoto Metropolitan Area	16,900 (13.7)
Nagoya Metropolitan Area	8,483 ( 6.9)
Others	66,589 (53.9)
All Japan	123,612 (100)

(Source: Mobility Observatory in Seven Cities of the World's Most Industrialized Countries)

**3-2-2 Fundamental Planning Mechanisms for Regional Strategic Transportation Planning**

The following three mechanisms play fundamental roles in regional strategic transportation planning in the framework of the transportation development system that was looked at in the previous section. They are prefectural government, Government Ordinance Designated City, and the district branch of national government and district laws.

**3-2-2-1 Prefectural Governments**

Prefectural governments have the primary responsibility for regional transportation planning. They are expected to carry out regional administration that local governments can not deal with due to their small scales. For example, in city planning, the governors of prefectures have authority to approve local city planning in order to coordinate plans from a regional point of view, and do prefectural city planning for some regional transportation facilities.

As general purpose governments, they can deal with various administrative areas such as economic development, environmental preservation as well as transportation development. However, they are not as powerful as state governments in the United States. Prefectural governments are under stronger control of the national government than states are in the United States. Local governments in Japan, especially governments of the central cities in

metropolitan areas, are generally larger than their American counterparts. Furthermore, in the biggest three metropolitan areas, prefecture governments can not treat regional tasks in the metropolitan areas successfully because even their jurisdictions are not large enough to include the whole metropolitan area. Prefectural governments have potential as regional authorities but, they need more power in terms of their jurisdiction and legislative ability.

### **3-2-2-2 Government Ordinance Designated City**

There is another important player in regional strategic transportation planning, Government Ordinance Designated Cities. It had long been argued that a special system should be provided for large cities that have complex and varied administrative and regional responsibilities due to the greater weight of population and industry. This led to an amendment to the Local Autonomy Law in 1956 and special provisions for large cities. They included the relocation of prefectural responsibilities to large cities. These cities are called Government Ordinance Designated Cities. Large cities that have population of about one million or more and advanced administrative capacities can be designated as Government Ordinance Designated Cities by the national government upon their requests. As of 1998, there are 12 Designated Cities in Japan.

These cities have special powers in the areas of : 1) Assignment of responsibility, 2) Administrative supervision, and 3) Finance.<sup>11</sup> First, administrative responsibilities closely related to the lives of residents such as, social welfare, environments and public health, city planning, and infrastructure development, have been transferred from the prefectures to the Designated Cities. Second, though coordination and communication with the prefecture are maintained, the Designated Cities are not supervised by the prefecture. They are supervised directly by the national government. Third, a special provision approves greater financial responsibilities on the cities.

However, the special provisions for division of responsibilities under the system are limited to only a very small portion of actual responsibilities that large cities have to assume,

---

<sup>11</sup> Osaka City Government, *An Outline of the Osaka City Administration*, 1993

**Table 3-4****Government Ordinance Designated Cities in Japan**

City	Area (km2)	Population	Budget (Millions of Yen)
Sapporo	1,121	1,671,765	617,000
Sendai	788	918,378	297,494
Chiba	273	837,183	-----
Kawasaki	143	1,173,606	425,577
Yokohama	432	3,220,350	1,067,197
Nagoya	326	2,154,664	828,651
Kyoto	610	1,461,140	531,800
Osaka	220	2,623,831	1,428,800
Kobe	544	1,465,149	766,289
Hiroshima	740	1,085,677	444,841
Kitakyushu	482	1,026,467	414,841
Fuluoka	336	1,237,107	480,692
*Tokyo	618	8,227,979	2,237,818

Tokyo has very different local government system. In Tokyo, the City of Tokyo and Tokyo Prefectural Government merged in Tokyo Metropolitan Government.

(Source : Osaka City Government, *An Outline of the Osaka City Administration*, 1993)

and do not guarantee comprehensive and systematic administration by large cities.

### 3-2-2-3 District Branch of National Government and District Law

As tools of national involvement in regional planning, some national ministries have district branches offices. The Ministry of Construction (MOC) has eight district branches and the Ministry of Transport (MOT) has five. These district branches are in charge of construction of nationally planned regional public works. They also help communication between prefectural and local governments and the national government.

However, these regional offices do not have authority to deal with regional planning issues by themselves. Furthermore, the relation between regional offices of the MOT and the MOC's regional branch offices is not enough to coordinate projects. Therefore, the Administration Reform proposes to establish Regional Development Offices (tentatively named) by merging the two offices. This reform will grant these offices authority to compile unified budgets and to issue approval and licenses relating to land development.

The national government also has special regional development laws for specific districts such as the Tokyo, Osaka, and Nagoya District. These laws stipulate basic development plans for the districts and regional projects that are needed to implement the development plans. However, these laws do not include provisions to implement projects. Since they do not provide any incentives or any systems for implementation, these laws have never functioned effectively.

### **3-3 Summary**

Chapter 3 has reviewed a background of Japanese transportation development system to better understand Japanese regional transportation planning efforts discussed in the case study in Chapter 4. It has looked at fundamental structure of transportation development in Japan through examining its main players and important characteristics. It identified strong national leadership, transportation mode-oriented bureaucracy, and mode-oriented planning as the characteristics. Chapter 3 also reviewed transportation development planning process for each of transportation modes. Trend of administrative reform and decentralization were introduced as factors that seemed to affect transportation planning. Finally, situation of metropolitan areas in Japan and fundamental planning mechanism for regional transportation planning were looked at.

The next chapter will address the regional strategic transportation planning in the Osaka/Kobe/Kyoto metropolitan area as a case of the planning in a real world. The regional strategic transportation planning in the region is also in the framework of Japanese transportation development system looked at in this chapter, but at the same time, there are characteristics peculiar to the region. Chapter 4 examines how the regional strategic transportation planning of the metropolitan area works and identifies its problems.



## **Chapter 4**

### **Case study :**

## **Regional Strategic Transportation Planning in the Osaka/Kobe/Kyoto Metropolitan Area in Japan**

This chapter is a case study concerning regional strategic transportation planning in the Osaka/Kobe/Kyoto metropolitan area in Japan. It aims to examine the process of the planning and make its challenges clear. Looking at planning systems in the real world helps in understanding the real image of regional strategic transportation planning. In this case study, planning efforts conducted by various planning agencies, their planning products, and the relationships among planning organizations are examined in terms of the planning requirements discussed in Chapter 2.

### **4-1 Introduction to the Osaka/Kobe/Kyoto Metropolitan Area**

#### **4-1-1 Reasons to Select the Osaka/Kobe/Kyoto Metropolitan Area as A Site for A Case Study**

This thesis selected the Osaka/Kobe/Kyoto metropolitan area as the site of its case study for the several reasons. First, this region's transportation systems are very complicated and expected to become more advanced to support various urban activities. The scale of this metropolitan area is very huge; the Osaka/Kobe/Kyoto metropolitan area is one of the biggest metropolitan areas in the world. This big scale makes the planning of the region's transportation systems challenging. To plan and manage the huge transportation systems effectively, very developed planning systems are needed.

Second, this metropolitan area extends beyond prefectural and local limits. That requires many governmental bodies to get involved in transportation planning. In this region, the planning organizations that are in charge of regional transportation planning include six prefectural governments, three Government Ordinance Designated Cities, an

expressway public corporation, district branch offices of the national ministries, many private operators, and advisory planning committees. The fact that many planning agencies are involved in regional transportation planning makes effective and coordinated planning very difficult. In spite of this difficulty, this metropolitan area has managed its transportation systems for a long time.

Third, unlike the Tokyo metropolitan area, the biggest metropolitan area in Japan, the Osaka/Kobe/Kyoto metropolitan area has had a tradition of a relatively strong initiative of the prefectural and the three big city governments and cooperation with the private sector in developing this region. In the Tokyo metropolitan area, the national government has shown strong interests its development due to its status as a capitol of the nation. However, in the Osaka/Kobe/Kyoto, since the national motivations in the development for the region has not been so strong as in the Tokyo area, many developments have been initiated by prefectural and three big local governments and the public-private partnership though the national government have strong control over such developments, too. This traditions are expected to become important in regional development.

These characteristics of the Osaka/Kobe/Kyoto metropolitan area make the planning efforts in this metropolitan area a good case to consider new ideas for regional strategic transportation planning.

## **4-1-2 The Osaka/Kobe/Kyoto Metropolitan Area**

### **4-1-2-1 Outline of the Osaka/Kobe/Kyoto Metropolitan Area**

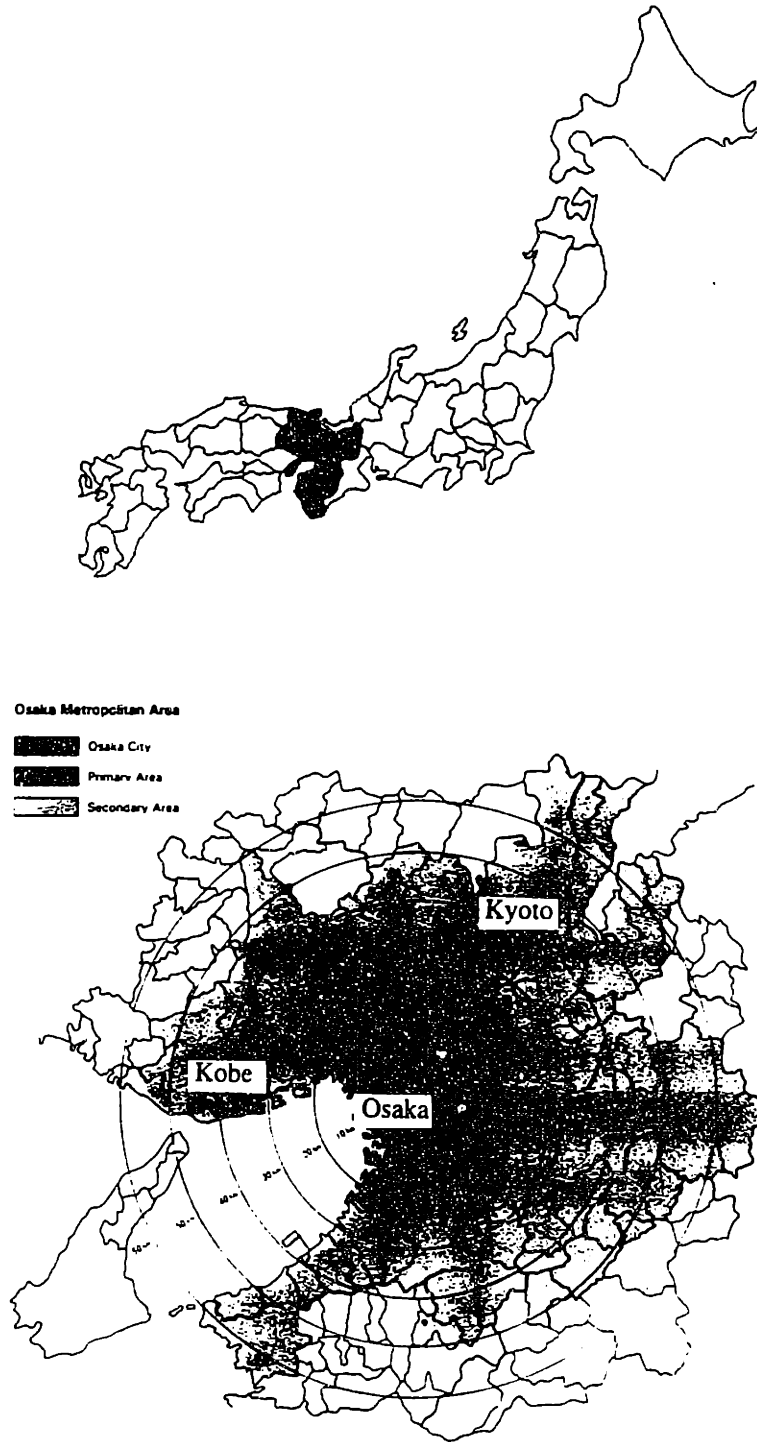
The Osaka/Kobe/Kyoto metropolitan area, which is also called Kansai Region, forms an urban metropolis integrated with the urbanization of the surrounding areas of the central cities, Osaka, Kobe and Kyoto.

Six prefectures--Osaka, Hyogo, Kyoto, Nara, Wakayama, and Shiga prefectures, which constitute the Kinki District--and their 128 municipalities, including three Government Ordinance Designated Cities, Osaka City, Kobe City and Kyoto City,



**Figure 4-1**

**The Kinki District and the Osaka/Kobe/Kyoto Metropolitan Area, "Kansai Region"**



(Source: Office of the Mayor in Osaka City, *Osaka City Comprehensive Plan for the 21st Century*)

constitute this area. This metropolitan area covers a total area of 7,800 square kilometers within a radius of about 50 to 60 km from the center of Osaka. The population totaled about 17 million as of 1990.

The Kinki district that includes this metropolitan area as its central area has a combined Gross Regional Product of 79.8 trillion yen, or about US\$ 741 billion, which would give it the seventh largest GDP in the world and be equivalent to that of Canada if it were viewed as a separate country. This regional economy is playing a key role in Japan's economic growth.

Another important characteristic of this area is that it has three big cores: Osaka, Kobe, and Kyoto. Each of the three has a long history as one of the most important cities in Japan. While Osaka is the center of the region, Kobe and Kyoto, whose populations are also more than 1 million, have roles as its sub-centers.

**Table 4-1**  
**Population and Area in the Osaka/Kobe/Kyoto Metropolitan Area**

	Osaka City (a)	Primary Area (b)	Secondary Area (c)	Osaka/Kobe/Kyoto metropolitan area [In Total: (a)+(b)+(c)]	Kinki District
Municipalities and Prefectures	1 City	29 City	35 Cities, 63 Towns and Villages	65 Cities, 63 towns and villages in 3 Prefectures	6 Prefectures
Area (Km <sup>2</sup> )	220.37	1,189.21	6,369.39	7,778.97	27,158 ('94)
Population (Persons)	2,623,801	6,521,226	7,755,357	16,900,384	20,340 ('95)

(Source: Kyoto University Team, Mobility Observatory in Seven Cities of the World's Most Industrialized countries)

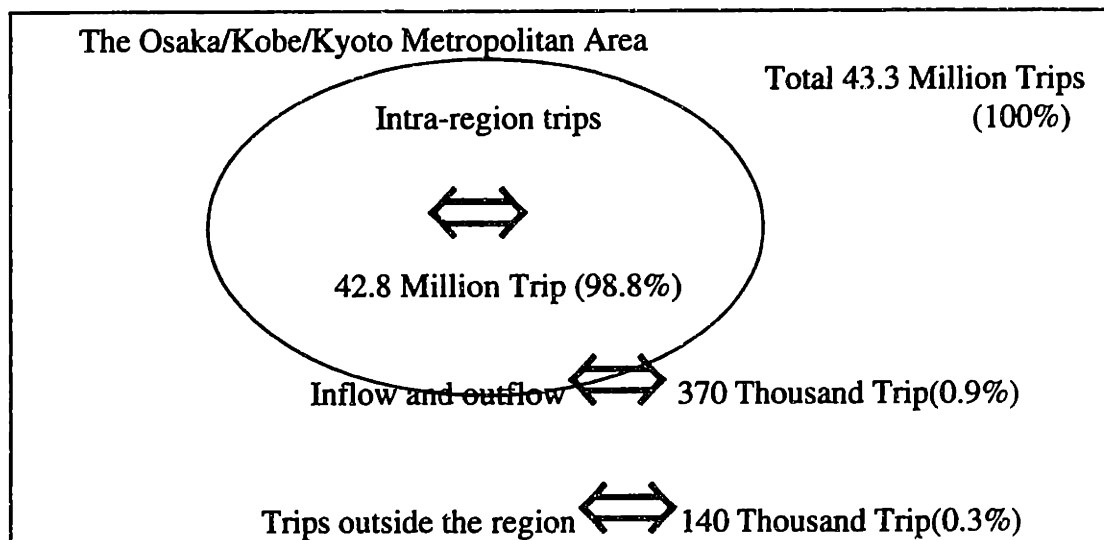
#### 4-1-2-2 Transportation in the Osaka/Kobe/Kyoto Metropolitan Area

##### **-Traffic Demand**

Large economic activities generate a huge amount of traffic. The total number of trips generated by people living in the region amounts to 43.3 million trips per day and

about 99 percent of these trips are intra-region trips. The total amount of generated traffic increased by 4 percent from 41.6 million trips to 43.3 million trips from 1980 to 1990.

**Figure 4-2**  
**Traffic Demand of the Region**



(Source: The Osaka/Kobe/Kyoto Metropolitan Planing Committee, 3<sup>rd</sup> Person Trip Survey in the Osaka/Kobe/Kyoto Metropolitan Area, 1992)

**Table 4-2**  
**Change of Traffic Demand**

Year	Intra-Region Trips	Inflow and Out flow Trips	Trips Outside the Region	Total Trips
1980	41.2 Million (99.2%)	260 Thousand (0.6%)	90 Thousand (0.2%)	41.6 Million (100%)
1990	42.8 Million (98.8%)	370 Thousand (0.9%)	140 Thousand (0.3%)	43.3 Million (100%)

(Source: The Osaka/Kobe/Kyoto Metropolitan Planing Committee, 3<sup>rd</sup> Person Trip Survey in the Osaka/Kobe/Kyoto Metropolitan Area, 1992)

In terms of transportation mode selection, 24 percent of all traffic in this region was carried by the public transportation in 1990. However, usage of cars is increasing at a rapid rate. Fewer people use buses and move on foot and by bicycles. These trends are projected to continue in the early years of the next millennium.

**Table 4-3**  
**Transportation Mode Selection**

Year	Railroad	Bus	Car	Bicycle and Foot
1980	18.6	4.4	19.8	57.6
1990	20.0	3.3	26.1	51.0
2010 (Projection)	22.1	2.7	28.7	46.5

(Source: The Osaka/Kobe/Kyoto Metropolitan Planning Committee, 3<sup>rd</sup> Person Trip Survey in the Osaka/Kobe/Kyoto Metropolitan Area, 1992)

Concerning traffic flow among cities in the region, significant part of traffic concentrates on Osaka City and the flow to Osaka has been increasing for the past ten years.

**Figure 4-3**  
**Traffic Flow in the Osaka/Kobe/Kyoto Metropolitan Area**



(Source: The Osaka/Kobe/Kyoto Metropolitan Planning Committee, 3<sup>rd</sup> Person Trip Survey in the Osaka/Kobe/Kyoto Metropolitan Area, 1992)

In sum, traffic volume is increasing with population growth in this region. In particular, motorization is accelerating because of the increasing number of licensed drivers, particularly women and the elderly, increasing opportunities to go out, and growing demand for commodity distribution and comfortable door-to-door transportation.

### **-Transportation Infrastructure**

To serve these traffic demands, the Osaka/Kobe/Kyoto metropolitan area has developed advanced highway and railroad networks for a long time.

Two National Expressways go through the region. Japan Highway Public Corporation is in charge of the expressways as a part of the national expressway network. In addition, about 200km of Hanshin Expressway's network circulates through the metropolitan area and another 57km of the expressways are planned.

Railroads are also very developed. A national trunk railroad, the Shinkansen Line goes through the area. Furthermore, inter-city railroads that connect cities in the region and complex subway systems in Osaka, Kobe, and Kyoto City are playing a key role in regional and urban transportation. Transportation bureaus of the three cities and six major private railroad companies serve these railroads.

There are two important ports in this metropolitan area. The Port of Kobe and the Port of Osaka are two of the biggest ports in Japan. The two ports are serving both foreign and domestic trade. The port authorities that are departments of the city governments are developing many berthing facilities with special attention to large container berths. In addition to the port facilities, these authorities are active in developing port area and providing the needed transportation infrastructure such as highways, bridges, tunnels, and public transportation in the areas.

## **4-2 Mechanisms of Regional Strategic Transportation Planning in the Osaka/Kobe/Kyoto Metropolitan Area**

There are various planning agencies getting involved in regional transportation planning in the Osaka/Kobe/Kyoto metropolitan area. In this case study, planning agencies that have formal organization and play the primary role in transportation

planning are examined, first. Those organizations include prefectural governments, governments of Government Ordinance Designated City, and district branch offices of the national ministries.

In addition, a regional highway agency, the Hanshin Expressway Public Corporation, is addressed. Private planning organizations, the Kansai Economic Federation and the Osaka Chamber of Commerce and Industry, are also looked at as an example of the private regional planning agency.

Finally, advisory regional planning committees are discussed with special attention. These committees, the Kinki District Highway Committee, the Transport Policy Council, and the Osaka/Kobe/Kyoto Metropolitan Planning Committee, have very important role in regional transportation planning in this metropolitan area. Though they are advisory mechanisms, they have significant influence in regional transportation planning by complementing the formal planning organizations.

The following is a summary of this case study. (The detailed study is included in **Appendix B**, "Mechanisms of Regional Strategic Transportation Planning in the Osaka/Kobe/Kyoto Metropolitan Area.")

**Prefectural Governments** (Osaka, Hyogo, Kyoto, Wakayama, Nara, and Shiga Prefectural Government), and **Governments of Government Ordinance Designated Cities (GODCs)** (Osaka, Kobe and Kyoto City Government), are the most essential organizations that have the basic responsibility for regional strategic transportation planning. As general purpose governments, these organizations are in charge of very broad administrative areas including not only transportation planning but also land-use regulation, economic development, environmental preservation, education, welfare, and health. These organizations are involved in regional transportation development in two ways; as planners and as implementing agencies of transportation development. However, expansion of the Osaka/Kobe/Kyoto metropolitan area beyond the borders of these GODCs and prefectures makes their regional planning efforts ineffective.

**District Branch Offices of the National Ministries** (the Kinki District Construction Bureau of the Ministry of Construction (MOC), the Third Port Construction

Bureau and the Kinki Transport Bureau of the Ministry of Transport (MOT) are established to implement national policy at the regional level and they are involved in transportation development in the Osaka/Kobe/Kyoto metropolitan areas through carrying out the national public works in the Kinki district. In addition, those offices help prefectural and local governments to communicate with the ministries and coordinate prefectural and local interests in planning from the regional point of view. However, this task is usually carried out by advisory planning committees led by the Bureaus. These district branch offices have no financial and legal authority to do planning, to select projects, or to provide approval and subsidies for major transportation development. For this reason, they cannot play a key role in regional transportation planning even though their jurisdictions are large enough to cover the whole metropolitan area.

**The Hanshin Expressway Public Corporation (HEPC)** is a national highway agency that is in charge of developing urban expressways in the Osaka/Kobe/Kyoto metropolitan area. The HEPC can deal with expressway development only and it can never get involved in economic development and environmental planning. As the HEPC is the only public corporation in the Osaka/Kobe/Kyoto metropolitan area that, as a single body, can treat regional transportation with legal authority, the HEPC has great opportunities to contribute to regional transportation development in this metropolitan area. However, the actual planning capacity of the corporation is very limited because the legal and financial power to administrate the HEPC are given to other organizations such as the MOC and prefectural and local governments.

**The Kansai Economic Federation (“Kankeiren”) and the Osaka Chamber of Commerce and Industry (OCCI)** have long contributed to economic developments and transportation developments in the region by promoting discussion among stakeholders, proposing projects and policies, and coordinating various opinions about various developments through public-private partnership. Though the Kankeiren and the OCCI do not have any legal authority over transportation planning, by using their strong financial resources and political connections with legislators, they have actively promoted transportation projects such as the Kansai International Airport.

**The Kinki District Highway Committee** is a very important mechanism for regional highway planning in the Osaka/Kobe/Kyoto metropolitan area as an advisory planning agency though it does not have any legal authority over project selection, or coordination among interests. The committee is constituted by the only public organizations that are related to highway development, such as the Kinki District Construction Bureau, prefectures and GODCs, the HEPC, and other related agencies. In urban expressway network planning, the committee coordinates opinions from related agencies and formulates the plan. While prefectural and local governments supply more than half of the members in the committee, the MOC, as the supervisor of the Kinki Construction Bureau, drafts plans, coordinates interests, and leads the discussions at the committee. The inclusion of an expressway in this plan does not guarantee the approval or financial aid by the MOC legally, but the MOC, which has the authority, considers the inclusion as an important condition for giving the approval and financial support for the expressway development. The committee focuses on highway development and tends not to take other planning issues such as environmental preservation into account. Moreover, it cannot treat other transportation modes such as railroads and ships. The jurisdiction of the committee is large enough for regional transportation planning for the metropolitan area. However, strong national control over the committee makes it difficult for the committee to consider local interests and tends to put a priority on the national perspectives rather than regional perspectives in the planning process though it is suitable for coordinating local interests.

As an advisory organization to the Minister of Transport, **the Transport Policy Council** plays a key role in regional railroad planning in big metropolitan areas, such as Osaka/Kobe/Kyoto metropolitan area. The council formulates a basic railroad plan by including railroad projects that should be implemented in the near future. Though the council does not have legal authority, and the inclusion does not guarantee that the operators can obtain the approval and financial aid, inclusion of projects in the council's plan is an essential condition for railroad operators to get approval and financial aid from the MOT. In the Osaka/Kobe/Kyoto metropolitan area, the sub-committee of the council, the Osaka Metropolitan Area Urban Transportation Committee actually made the basic



plan for the metropolitan area. In the process, private railroad operators and prefectural and local governments, as members of the committee, can propose railroad projects to the committee for inclusion in the plan. Through this involvement, information from the private sector and local interests can be put into the planning process considerably, and it helps this committee to coordinate regional interests. In accordance with these proposals, the committee selected projects and ranked them in three categories. As financial constraints are not considered in this planning process, however, the result of the deliberation tends to include more projects than the available funds can support. Indeed, considerable part of the decision about project selection was made not in the discussion of the committee but through the negotiation among transit operators, prefectural and local governments, and the MOT that has the real control over planning at the committee. When planning, the committee took changes of land-use pattern caused by development projects into account and projected the traffic demands on which the project selection was based. The focus of the committee is railroad planning for passengers and cannot deal with freight. Moreover, the committee could not have an intermodal perspectives because of the mode-oriented bureaucracy in the national ministries. There is almost no description of technology scanning in the plan. Concerning operation of transportation facilities, this planning process took it into account by including railroad operators in the committee and receiving proposals of railroad projects from those operators.

**The Osaka/Kobe/Kyoto Metropolitan Planning Committee** is an advisory planning body that aims to implement data collection about transportation movements in the Osaka/Kobe/Kyoto metropolitan area and to formulate regional transportation planning to coordinate regional transportation measures. A person-trip survey and freight movement survey are conducted every ten years. Regional transportation plans using these updated transportation data cover almost all transportation modes, reflect development projects that were proposed by prefectural and local governments, and consider transportation systems comprehensively from the regional point of view. In spite of its many advantages, however, the regional transportation plan is not considered very important by governmental agencies because this committee cannot get involved in the project selection process, unlike the two other planning committees reviewed above,

the Kinki District Highway Committee and the Transport Policy Council. This committee is constituted only by the related public organizations in this region. To ensure comprehensive planning, it includes public agencies that are not related to highway development. Though there are many members that come from prefectural and local governments in the committee, the Kinki Construction Bureau chairs this committee, and actually the MOC leads decisions of the committee. However, the control over the discussions is not as strong as the Kinki District Highway Committee, because the planning of this committee is not so closely connected to the project approval and subsidy determination process. Weak control by the MOC means also that the committee does not have capacity to coordinate regional and local interests.

### **4-3 Regional Strategic Transportation Planning System as a Single System**

So far, this chapter has examined each of various planning organizations in the Osaka/Kobe/Kyoto metropolitan area. To advance the case study, this section aims at making clear the structure and problems of this regional strategic transportation planning system as a single system that consists of those organizations. First, relations among each element and structure of the system are discussed, and then planning ability and problems of this system is addressed.

#### **4-3-1 Relations of Elements and Structure**

**-The regional planning system in this region is very fragmented.**

Though there are many agencies related to transportation planning in this region, no single planning organization can formulate regional strategic transportation plans by itself. Advisory regional planning committees play very important roles in regional transportation planning, but many other organization are involved in the planning, too. For example, this region's highway plans and railroad plans were formulated by the Kinki District Highway Committee and the Transport Policy Council, respectively. However,

various planning bodies, including prefectural and local governments, private railroad companies, the regional expressway corporation, the national ministries, and their district branch offices, are involved in regional planning in various ways.

There are actually five-tiers of planning mechanisms: national, district, metropolitan, prefectural, and local. Moreover, many planning organizations are area-oriented or transportation mode-oriented and their scopes are limited to planning for a specific area or in a specific transportation mode. Function and responsibility for the planning are scattered throughout many planning organizations.

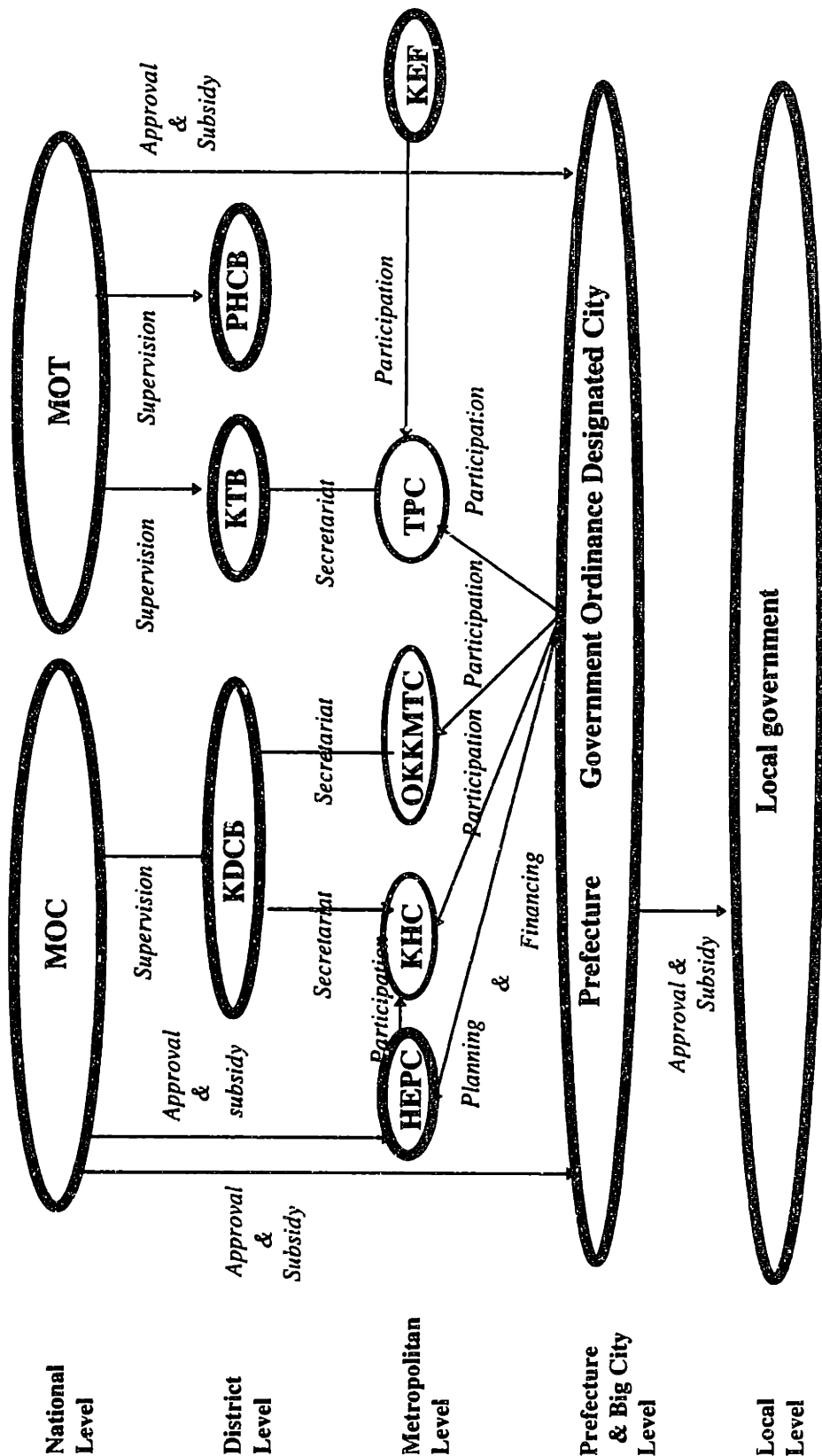
When the Osaka/Kobe/Kyoto regional transportation planning system is seen as a single system, the planning system can be considered a very fragmented system that is composed of many planning mechanisms.

**-Relations among planning organizations are complicated.**

The national ministries such as the MOC and the MOT have strong control over all transportation development, and prefectural and local governments can also affect regional transportation planning. In contrast to these traditional governments, newly established planning mechanisms, including advisory regional planning committees and district branch offices of the national ministries, are controlled by those governments in various ways.

There are also various types of relations among planning organizations. The strongest control measures are approval and subsidies. The national ministries control other planning agencies through these measures. Prefectural and local governments try to affect regional transportation planning by participating regional planning committees. Prefectural and local governments also control the HEPC through planning the expressway network and giving financial support. The weakest relation is the involvement of district branch offices in regional planning committees. They get involved in the planning only as administrators. (See Figure 4-4)

**Figure 4-4**  
**Relation Among Planning Agencies**



- MOC : Ministry of Construction
- MOT : Ministry of Transport
- KDCB : Kinki District Construction Bureau of the MOC
- KTB : Kinki Transport Bureau of the MOT
- PHCB : Third Port and Harbor Construction Bureau of the MOT
- HEPC : Hanshin Expressway Public Corporation
- KHC : Kinki District Highway Committee
- OKKMT : Osaka/Kobe/Kyoto Metropolitan Planning Committee
- TPC : Transport Policy Council
- KEF : Kansai Economic Federation

**-Each of those organizations has both advantages and disadvantages.**

Some planning organizations can deal with transportation development planning only partly because they are transportation-mode oriented planning agencies and partly because the bureaucracy of the national ministries affects their planning processes. Some organizations tend to ignore regional perspective even when planning regional transportation. Others have no financial and legal authority. Each of those planning organizations has advantages and disadvantages and no organization is perfect in terms of the ten requirements identified in Chapter 2. (SEE Table 4-4)

In sum, the national ministries can coordinate local and regional interests but they can not have a regional perspective. The jurisdictions of prefectural governments, GODCs, and local governments are too small to do regional planning though they are the most capable of comprehensive planning. While district branch offices of the national ministries have broad planning areas, they have no authority for decision-making. The HEPC can treat only highway development though its jurisdictional area is almost the same as the actual urbanized area in this region. The planning areas of private economic organizations are also large enough to conduct regional transportation planning, but they have no legal authority. Finally, while the advisory regional planning committees have ideal planning areas and capacity to coordinate among many stakeholders, but they are not formal and have no legal authority over transportation planning.

**Table 4-5  
Advantages and Disadvantages of Planning Mechanisms**

	<b>Advantages</b>	<b>Disadvantages</b>
National Ministries	Can Coordinate Interests	No Regional Perspective
Prefectural & Local Gov'ts	Can Plan Comprehensively	Too Small
District Branch of the National Ministries	Have Large Planning Area	No Authority for Decision-Making
Regional Highway Agency	Have Large Planning Area	Only Expressways
Private Economic Organizations	Have Large Planning Area	No Legal Authority
Advisory Regional Planning Committees	Have Capacity for Coordination	No Legal Authority

**Table 4-4**  
**Evaluation of Regional Planning Mechanisms under the Ten Requirements**

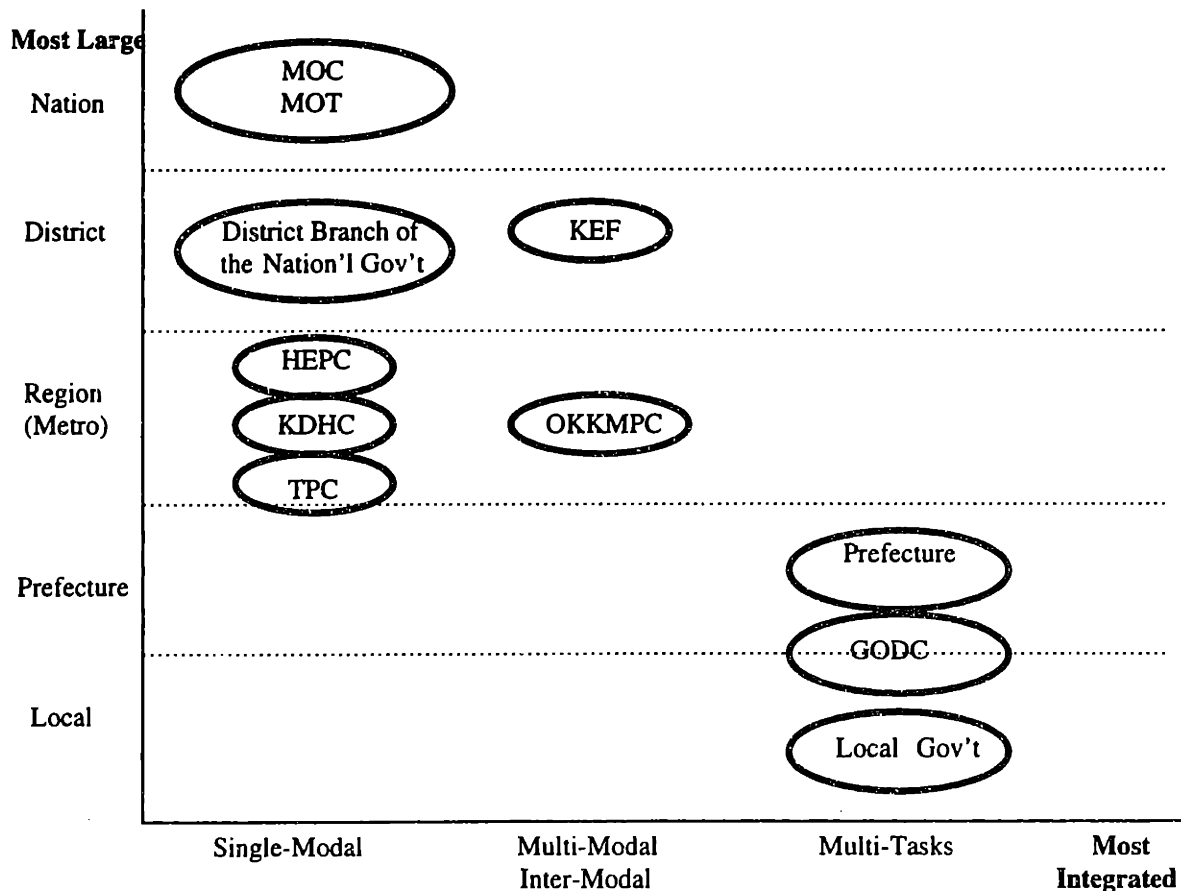
	Prefectural Government	GODC	District Office of the National Ministries	HEPC	KEF	KDHC	TPC	OKKMP
Integrated Planning	Good	Good	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Adequate	Unsatisfactory
Freight Consideration	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Unsatisfactory	Good
Intermodalism	Good	Good	Unsatisfactory	Unsatisfactory	Adequate	Unsatisfactory	Unsatisfactory	Good
Technology Scanning	Unsatisfactory	Unsatisfactory	Good (at national level)	Good	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
Focus on Operation	Good	Good	Good	Good	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
Large Planning Area	Unsatisfactory	Unsatisfactory	Adequate	Good	Adequate	Good	Good	Good
Local Consideration	Adequate	Good	Unsatisfactory	Unsatisfactory	Unsatisfactory	Adequate	Adequate	Adequate
Coordination among Local and Regional Interests	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Adequate	Adequate	Adequate	Adequate
Public-Private Partnership	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Unsatisfactory	Adequate	Unsatisfactory
Financial and Legal Authority	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Good	Unsatisfactory

GODC : Government Ordinance Designated City  
 HEPC : Hanshin Expressway Public Corporation  
 KEF : Kansai Economic Federation  
 KDHC : Kinki District Highway Committee  
 TPC : Transport Policy Council  
 OKKMP : Osaka/Kobe/Kyoto Metropolitan Planning Committee

**-The more comprehensive planning mechanisms are, the smaller the planning areas are.**

There is a tendency that the more comprehensive planning mechanisms are, the smaller the planning areas are. Figure 4-5 contrasts those regional planning mechanisms according to the following two measures. First, planning organizations are located in according to the extent to which their transportation planning is comprehensive by integrating transportation planning with other planning issues, and by planning transportation development intermodally. Second, those organizations are also located according to the size of their planning jurisdiction. Prefecture and GODCs have comprehensive and integrated planning capacity, but their jurisdictions are too small to handle regional transportation in this large metropolitan area. District branch offices of the MOC and the MOT and the HEPC can deal with only transportation development and

**Figure 4-5  
Contrast of Various Planning Mechanisms**



only a single mode of transportation though their jurisdictions are so large that they include the whole Osaka/Kobe/Kyoto metropolitan area. The MOC and the MOT can supervise regional transportation planning as the highest public authorities, but they have no regional and local perspective because they tend to focus on national interest rather than regional and local interests.

**-Those mechanisms overcome each other's disadvantages to implement strategic regional transportation planning, especially by advisory regional planning committees.**

Though no single planning organization can treat regional strategic transportation planning appropriately independently, these planning mechanisms function as a single planning system by overcoming each other's disadvantages. Especially, advisory regional planning committees, such as the Osaka/Kobe/Kyoto Highway Committee, the Transport Policy Council, and the Osaka/Kobe/Kyoto Metropolitan Planning Committee, play very important roles in regional transportation planning in the metropolitan area. It is difficult for formal planning organizations that have legal status, such as any types of governments and public corporation, to handle regional strategic transportation planning by themselves because of jurisdictional and bureaucratic problems. At the same time, it is also difficult to change the fundamental structure and relationship of those existing organizations. To make up for this problem, the formal planning organizations established advisory planning bodies. These committees can make up for the disadvantages of small jurisdictions of prefectures and local governments. They can also compensate for the lack of comprehensiveness and local consideration of the national planning efforts. For example, the MOC and prefectural and local governments can discuss regional highway networks at the Kinki District Highway Committee from different perspectives. The Transport Policy Council can input information from the private sector by including the private railroad companies in the planning process.

**-There are also problems in planning by advisory regional planning committees.**

This case study revealed that the advisory regional planning committees are important players in regional transportation planning in this region, but even they are not



perfect. First, they tend to focus on only transportation planning in general. Second, transportation planning of these committees is limited within a single transportation mode. Third, those planning bodies are not formal and under strong control of the national ministries. They do not have any legal status in transportation planning independently. Their planning has authority only when the national ministries respect their planning. Fourth, since the status of these committees is not formal, their discussions are not transparent. Almost all decisions are made in negotiations between project implementation agencies and the national ministries.

#### **4-3-2 Functional Capacity and Administrative Ability of the Regional Planning System -Analysis through the Ten Planning Requirements-**

This part examines the functional capacity and administrative ability of the regional planning system in this region through analysis of the ten planning requirements of the Chapter 2.

##### **-Integrated Planning**

In terms of integration of transportation planning with other planning issues, prefectural and local governments have substantial planning capacity. Especially, Government Ordinance Designated Cities (GODCs) are ones of the best mechanisms for such planning. They can integrate transportation development with various types of planning through city planning, port and harbor plans, and comprehensive plans. However, the linkage between transportation planning and environmental preservation planning is not so strong even at the GODCs' level.

At the regional level, district branch offices of the national ministries, including the Kinki District Construction Bureau of the Ministry of Construction (MOC), the Third Port and Harbor Construction Bureau, and the Kinki Transport Bureau of the Ministry of Transport (MOT), can not deal with any planning other than infrastructure development. Even the MOC and the MOT do not have authority to plan land-use and local area regional economic development unlike prefectures and GODCs. The Hanshin

Expressway Public Corporation (HEPC) is in charge of expressway development only. The private organizations and their federations tend to focus on economic development and transportation development that can support the economic development. Three advisory regional planning committees can discuss only transportation development.

In sum, in this region, there is no regional mechanism that can integrate transportation planning with related planning issues successfully.

### **-Freight Consideration**

As a whole, no regional planning mechanisms in this metropolitan area can consider freight issues significantly. The private sector, such as the Osaka Chamber of Commerce and Industry, is interested in efficient freight movement to achieve efficient business and is proposing measures that the private sector can carry out. The MOC is interested in truck terminal development to improve freight movement, but the MOT seems to have less interests in freight. Though, as general purpose governments, prefectural and local governments recognize the importance of freight planning, they do not have practical mechanisms to improve freight movement. The port and harbor plans of prefectural and local governments consider freight movement one of the most important planning targets, but their other planning, such as railroad and highway planning, tends to neglect the freight issues. The HEPC and advisory regional planning committees also do not treat freight in their planning, while one of the regional planning committees, the Osaka/Kobe/Kyoto Metropolitan Planning Committee, conducts freight movement surveys regularly.

### **-Intermodalism**

In this metropolitan area, intermodalism is, like freight, not considered in regional strategic transportation planning very much. Prefectural and local governments can consider transportation development intermodally in the framework of city planning. However, the national ministries do not have intermodal planning mechanisms. Transportation planning at the national level is divided into transportation modes. Regional highway agency, the HEPC, can not treat transportation development

intermodally because they are established by the MOC and affected by the mode-oriented bureaucracy at the national level. Among planning committees, only the Osaka/Kobe/Kyoto Metropolitan Planning Committee can include various transportation modes in its plans. The private planning organizations such as the Kansai Economic Federation can plan regional transportation development intermodally, too. However, those planning mechanisms that can do intermodal planning generally do not have powerful implementation measures.

The transportation mode-oriented bureaucracy in the national ministries is the biggest reason why regional transportation planning in this region can not deal with transportation intermodally.

### **-Technology Scanning**

Every planning mechanism examined lacks technology consideration in its planning process. The national research institutions established by the MOC and the MOT are the only institution for that purpose. Some transportation operators such as the HEPC are also interested in new technologies to make their operation more effective. The HEPC has adapted the state-of-the-art technologies for traffic management for long time. However, in many cases, technology scanning in those mechanisms are not systematic but on a case by case basis. In sum, there are no regional mechanisms to promote technology scanning and application of new technologies to practical transportation development.

### **-Focus on Operation**

Many public planning organizations, including national, prefectural and local governments, and the public highway agency, are operators of transportation infrastructure as well as planning agencies. They can take operational issues into account when planning. However, there are no mechanisms that coordinate operational issues beyond such organizations. Advisory regional planning committees do not have capacity to include operations considerations in their plans because they do not include transportation operators as their members.

### **-Large Planning Area**

This region's planning mechanism has rather large planning area. Among regional planning mechanisms in this region, the jurisdiction of the two national district branches, the Kinki District Construction Bureau of the MOC and the Kinki Transport Bureau of the MOT, is the largest. Their jurisdiction, which is the Kinki district, is larger than the actual Osaka/Kobe/Kyoto metropolitan area. The Kansai Economic Federation covers the same area, too. The planning mechanisms whose jurisdiction is the same as the actual metropolitan area are the HEPC and three advisory regional planning committees. Prefectures and GODCs can not cover the whole metropolitan area due to their small jurisdictions.

### **-Local Consideration**

The regional planning mechanism closest to local activities is GODCs. They can treat regional administration to some extent and, at the same time, as local authority, they consider local interests very important. Prefectural governments are also able to take local issue into account to some extent. On the other hand, district branch offices of the national ministries are not very interested in local issues. The HEPC also does not consider local interests because it is national highway agency and under strong control of the MOC. In terms of the extent of consideration of local issues, advisory regional planning committees are in the intermediate position between the national ministries and prefectural and local governments. The private sector is also not very interested in local interests.

As a whole, the planning mechanisms in this region are controlled too strongly by the national ministries and that impedes local interests to be included in the regional transportation planning.

### **-Coordination among Local and Regional Interests**

The national ministries, their district offices, and the national highway agency have capacity to coordinate local and regional interests, as higher level authorities. However, in many cases, they lack a regional perspective that is essential for regional

strategic transportation planning. In a coming era when regions will be the important economic units, it is necessary that planning agencies having regional and, sometime local, perspective do regional strategic transportation planning.

Small local governments and even prefectures and GODCs do not have any mechanisms that can balance and coordinate interests among them. In the Osaka/Kobe/Kyoto metropolitan area, planning mechanisms that can fill in this gap between the national agency and regional and local agencies are advisory regional planning committees. These committees include both types of agencies as their members. Though they are under control of the national ministries, the committees function as a coordinating mechanism to some extent.

A strong private planning organization such as the Kansai Economic Federation also has capacity as a mediator among various local and regional interests.

#### **-Public-Private Partnership**

Though the Osaka/Kobe/Kyoto metropolitan area has a tradition of close public-private partnership, there is no formal planning role for the public-private partnership. However, the private sector was involved in transportation development in various ways at the implementation stage and at the very early stage of the planning process.

In general, the public agencies do not have regular contact with the private sector as a partner at the planning stage. For example, there is no formal private participation in transportation development planning in this region except at the Transport Policy Council and Port and Harbor Councils.

The involvement of the Kansai Economic Federation is another example of the public-private partnership in planning. In the case of development of the Kansai International Airport, the Kankeiren and the OCCI got involved in the development at the very early stage in the planning process. These economic federations recognized the importance of the airport and agreed to cooperate with prefectural and local governments in the region to negotiate with the related national ministries. Moreover, they agreed to share the financial burden of implementing the development. However, physical planning such as location of the airport was conducted by the public sector exclusively

because inclusion of particular private companies into the planning process might benefit those companies unfairly. At the implementation stage, the private sector again got involved in the development through joining in the newly established the Kansai International Airport Company that was in charge of construction, operation, and maintenance of the airport. In the development of other transportation systems in the region, too, such structure of public-private partnership is seen.

### **-Financial and Legal Authority**

Regional planning mechanisms of this region lack financial and legal authority for transportation development while the national ministries have the authority in many areas concerning transportation development. Prefectural and local governments can stipulate city planning, but they need approval and subsidies of the MOC. The HEPC and the district branch offices of the national ministries do not have any power for decision-making. The private economic planning organizations also have no financial and legal authority over transportation planning.

The actual power of the advisory regional planning committees depends on the committees. The Osaka/Kobe/Kyoto Metropolitan Planning Committee does not have authority over project selection partly because its superintendent, the City Bureau of the MOC, does not have strong control over project implementation. On the other hand, the Kinki District Highway Committee affects regional highway planning considerably because its superintendent, the Road Bureau of the MOC, has decisive power over highway development by giving subsidies to project implementation agencies. The Transport Policy Council also plays an important role in regional planning on railroad developments in the same way.

As a single unit of planning, this region has no formal single planning organization for regional strategic transportation planning. That means that this region has no decision-making mechanism for the planning. The advisory regional planning committees are most likely to be such mechanisms. However, in discussions at the committees, each implementing agency proposes its projects and the national ministries lead the planning discussions. In many cases, the discussions are led not by voting but by

negotiating among the members of the committees. In such negotiations, the national ministries have a strong posture because they have various devices to control implementing agencies not only in regional transportation planning but also through regulation and financial support. This decision-making mechanism impedes the region from making a real regional strategic transportation planning.

Another problem is that the regional planning system is outside the flow of funds for transportation development. Implementing agencies need to negotiate with financial authorities to obtain financial support, but these regional planning organizations, such as advisory regional planning committees, are not involved in the process and they have no control over budgeting. This is related to the relation between budgeting and planning. In the Japanese transportation development system, budgeting is separated from planning, especially in long-term planning. When making long-term plans, what transportation systems should be in the long-term is the main theme and the financial constraints about the plans are not discussed actively. It might be because the governmental funds available for transportation developments have been abundant to date. However, the planning does not guarantee whether or not projects included in the plans are financed. To get the needed funds, implementing agencies need to negotiate with finance authority even if their projects are included in the long-term plans. Then, the financial authority, the MOC and the MOT in many cases, decides whether it can finance the projects according to the financial condition at that time and the long-term plans that certify the importance of the project from the public interest point of view. In this system, the role of the long-term planning for the financial authority is to provide information about the public interest and priority of the proposed projects. In many cases, budgeting is more influential on practical transportation development than long-term planning. This separation of planning and budgeting weakens the ability of regional planning committees. Though those committees play important roles in regional planning, they can not get involved in managing the flow of funds. In spite of efforts of the regional planning committees at planning, the lack of ability for budgeting makes the regional planning at those planning committees not very influential.

### **4-3-3 Conclusion of the Case Study**

Analysis of regional strategic transportation planning systems in the Osaka/Kobe/Kyoto metropolitan area shows that there are no single planning mechanisms in this region that can consider transportation planning formally, comprehensively, strategically, and regionally. There are many planning organizations in this region, but no organization is perfect in terms of the requirements that this thesis set for regional strategic transportation planning. Some planning mechanisms overcome each other's disadvantages, but they still cannot meet every requirement. Moreover, the relationships among those organizations are very fragmented. This case study shows that this region needs a single, more integrated, formal, and comprehensive regional transportation planning mechanism.

### **4-4 Summary**

As a case study of regional strategic transportation planning systems, this chapter examined various regional transportation planning organizations that constitute the regional transportation planning mechanism of the Osaka/Kobe/Kyoto metropolitan area to analyze the mechanism and to identify its problems. For this purpose, this thesis has provided an overview of the scope, organization, planning products, authority, and relationship among those organizations.

The conclusion of the case study is that, the Osaka/Kobe/Kyoto metropolitan area has no formal and legal regional strategic transportation planning mechanisms that can consider the regional transportation planning comprehensively, intermodally, and strategically. The case study found that the existing planning bodies, such as the national ministries, prefectural and local governments, and the private transportation operators, had various disadvantages for regional strategic transportation planning, and the three advisory regional planning committees that were established to complement such disadvantages played an important role. Moreover, the case study made clear the need of



more integrated, formal, comprehensive regional transportation planning mechanisms for the region.

The next chapter will make recommendations to the Osaka/Kobe/Kyoto metropolitan area concerning regional strategic transportation planning and consider its implementation.



# **Chapter 5**

## **Recommendation to the Osaka/Kobe/Kyoto Metropolitan Area**

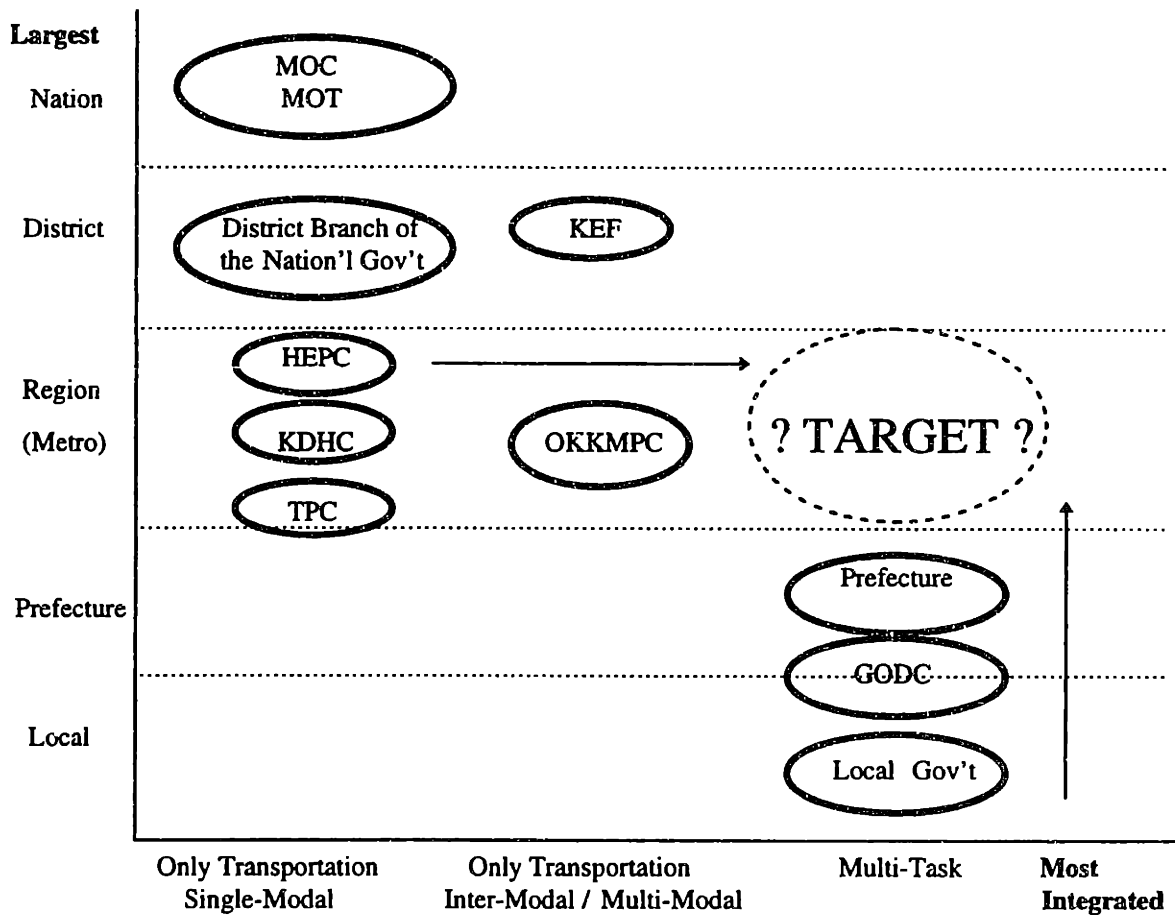
Chapter 5 is a recommendation to the Osaka/Kobe/Kyoto metropolitan area concerning regional strategic transportation planning systems. Chapter 4 looked at the structure and problems of the current planning systems in this region. This chapter suggests reforms in regional strategic transportation planning in this metropolitan area and proposes a planning organization that can tackle challenges made clear in Chapter 4. Lessons obtained from comparing Japanese regional planning mechanisms and U.S. metropolitan transportation planning organizations are used to formulate the proposal. Finally, this chapter addresses the issues in implementing the recommendation.

### **5-1 Fundamental Direction of Recommendation**

The most important findings in the case study in the Osaka/Kobe/Kyoto metropolitan area is that 1) there are no formal regional transportation planning systems for this region, 2) the transportation planning systems should be integrated with other planning issues comprehensively, 3) planning for all transportation modes should be done in an intermodal manner. The target of reforming this planning systems can be shown by putting it into the figure used at the last part of Chapter 4. (See Figure 5-1). In the current planning mechanism, agencies that can treat transportation developments with large planning jurisdictions can not deal with planning issues other than transportation. Many of them are involved in developments of only a single transportation mode. On the other hand, agencies, such as prefectural and local governments, which can integrate transportation planning with other planning issues, including land-use regulation, environmental preservation, and economic development, do not have regional perspective due to their small jurisdictions. What this region needs - the target of the

recommendation of this thesis - is the planning mechanism that has both of the advantages and considers transportation planning regionally, comprehensively, intermodally, and strategically.

**Figure 5-1**  
**Target of Recommendation**



There are several approaches to the target. The discussion in Chapter 2 helps to determine the direction of the reform. That chapter made clear that special district type of planning mechanism is feasible for implementing regional strategic transportation planning in the real world. This mechanism can arrange their jurisdictions and their scope flexibly according to urban growth. Moreover, this mechanism can decrease the impact of the reform on the existing governmental bodies less than other effective approaches. One of the reasons why the general-purpose metropolitan government proposed many times could not be established was that the reform affected the existing

governments and planning organizations too drastically. Therefore, this thesis considers establishing this special district type of planning organization as the fundamental direction of the reform of regional strategic transportation planning system for the Osaka/Kobe/Kyoto metropolitan area.

Before considering the actual recommendations about this type of planning mechanisms suitable for the metropolitan area, this chapter contrasts Osaka/Kobe/Kyoto's advisory regional planning committees examined in the case study in Chapter 4 with the Metropolitan Planning Organizations (MPOs) in the United States in order to obtain information needed to make the recommendations. This is because the planning system conducted by the MPO, which can be characterized as an intermodal and integrated planning mechanism, has a variety of effective approaches to and experiences about regional strategic transportation planning.

## **5-2 Lessons from MPOs in the United States**

### **-Contrast of Osaka/Kobe/Kyoto's Advisory Regional Planning Committees with the MPOs in the United States-**

As described in Chapter 2, the Metropolitan Planning Organization (MPO) is a planning mechanism that is expected to play a key role in regional transportation planning in the United States. To strengthen the planning capacity, the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 provided the MPOs with various tools and responsibility. The approaches to regional transportation planning by MPOs can be good examples for Japanese regional transportation planning.

In Japan, there are no planning mechanisms like MPOs currently, but planning mechanisms that resemble the MPO the most in the Osaka/Kobe/Kyoto metropolitan area are the advisory regional planning committees discussed in Chapter 4, such as the Kinki District Highway Committee, the Transport Policy Council, and the Osaka/Kobe/Kyoto Metropolitan Planning Committee.

This section contrasts the two planning mechanisms in terms of the ten requirements described in the Chapter 2. The ten requirements were set as requirements that sound regional strategic transportation planning mechanism should satisfy.

### **5-2-1 Analysis through Ten Requirements**

#### **-Integrated Planning**

In terms of comprehensiveness of the planning mechanisms, MPOs are better mechanisms than the Japanese counterpart though neither of them is perfect. The regional transportation planning system in the United States requires MPOs to consider transportation planning that conforms to air quality regulations. In the areas that can not meet the air quality standards, the ISTEA requires the MPO to make plans that conform to the State Implementation Plan, which demonstrates how the state will attain air quality standards. Some MPOs, such as the one in Portland, Oregon, deal with land-use regulation and transportation planning in a single planning framework.

On the other hand, the current regional transportation planning mechanism in the Osaka/Kobe/Kyoto metropolitan area is weak in integrating transportation planning with other planning issues such as environmental regulation, land-use regulation, and economic development. The Osaka/Kobe/Kyoto's system considers transportation planning only and there are no legal mechanisms that ensure the linkage of transportation planning with other planning issues at the regional level. The only exception is the Transport Policy Council that takes urban development projects into account.

#### **-Freight Consideration**

In general, freight is not well considered by either MPOs or the planning committees in Osaka/Kobe/Kyoto. The planning tends to focus on passenger transportation predominantly. Though the Osaka/Kobe/Kyoto Metropolitan Planning Committee conducts freight movement surveys and considers some freight related plans, the planning does not affect the actual transportation development significantly due to the lack of the needed authority to implement the plans. The other two planning council and

committee, the Kinki District Highway Committee and the Transport Policy Council, can not formulate effective planning related to freight movement, either.

MPOs in the United States also have to improve their planning so that they include freight planning. In spite of the expectation of the ISTEA, planning for freight movement in a comprehensive way has proven to be a difficult enterprise for most regional planners.<sup>1</sup> One of a few good model programs for freight planning is the Delaware Valley Regional Planning Commission (DVRPC). The Commission formed a task force to coordinate freight movement programs by including various stakeholders such as trucking firms, rail operators, freight shippers and some public planning agencies.<sup>2</sup>

### **-Intermodalism**

The difference in intermodal planning between the planning systems of the two countries is substantial. The Osaka/Kobe/Kyoto's planning committees are very transportation mode-oriented. They consider planning only for a single transportation mode; the Transport Policy Council is for railroad planning and the Kinki District Highway committee is for highway planning.

However, MPOs are working well in intermodal transportation planning. MPOs can treat almost all transportation modes and the flexible funding from the ISTEA helps MPOs to do so.

### **-Technology Scanning**

Both MPOs and planning mechanisms in Osaka/Kobe/Kyoto do not take technology advancement into account very much. The common characteristics of the two nations is that planning agencies that are in charge of operating transportation facilities as well as planning tend to be interested in technology scanning. In the United States, for example, the Port Authority of New Jersey and New York which has responsibility for

---

<sup>1</sup> Sussman et al., *Regional Strategic Plans: Developing the Competitive Region, Year 1 Report*, 1997

<sup>2</sup> Association of Metropolitan Planning Organizations, *MPO Best Practices*, 1995

the port facility operations, though it is not a MPO, is active in technology scanning.<sup>3</sup> In Osaka/Kobe/Kyoto metropolitan area, too, the Hanshin Expressway Public Corporation is very active in new technology development because the technology can improve their operation significantly.

### **-Focus on Operation**

Operation is also not considered very much by the regional planning mechanisms in both countries though the extent depends on organizations. One of the keys to do so seems to be an inclusion of transportation facilities operators into the planning mechanisms. However, for example, though the Transport Policy Council in the Osaka/Kobe/Kyoto metropolitan area includes the private railroad companies as its member, the council does not discuss operational issues actively because many of the other members are interested in capital planning. On the other hand, MPO's financially constrained planning is expected to ensure that the plans and programs pay attention to maintenance and operation of the existing system to save funds. Management systems that MPOs are required to address also can encourage MPOs to focus on operation of the existing facilities.

### **-Large Planning Area**

A geographical condition of a metropolitan area affects the suitable form of regional planning organization for the area. In the Osaka/Kobe/Kyoto metropolitan area, the actual urbanized area extends beyond the jurisdictions of existing general purpose governments, which are prefectures. To respond to this situation, related planning agencies established advisory regional planning committees that have adequate planning area for this metropolitan area.

On the other hand, many metropolitan areas in the United States exist in a single state, not extending beyond the limits of the state, and MPOs that are responsible for the transportation planning for those metropolitan areas are established according to the actual urban condition under supervision of state governments. Therefore, in many cases,

---

<sup>3</sup> Ibid., 1



MPOs can cover the entire actual metropolitan areas. In some regions, the metropolitan area has a single MPO even though the metropolitan area extend into multiple states, such as the Ohio-Kentucky-Indiana Regional Council of Governments serving three states.<sup>4</sup> However, in a case such as the New York metropolitan area, there are multiple MPOs in a single metropolitan area due to the jurisdictions of state governments. In this case, the planning system should be improved so that a single planning organization can treat the entire metropolitan area from the regional point of view.

### **-Local Consideration**

Though each MPO has different constitution of its organization, state and local governments are the main planners in the MPO planning process in many cases. The planning process needs federal approval, but the actual planning activities are conducted by state and local governments. In fact, many MPOs do not include the federal agencies as their voting members.

On the other hand, regional planning committees in Osaka/Kobe/Kyoto are controlled by the national ministries strongly and the district branch offices of the national ministries lead the discussion at the committees. In this mechanism, it is difficult for local interests to be reflected in the planning. From the local point of view, the system of MPOs is better than the Osaka/Kobe/Kyoto's system.

### **-Coordination among Local and Regional Interests**

In many metropolitan areas in the United States, state governments have authority to coordinate among local and regional interests as the higher authority of MPO planning process. The coordination can be done from regional perspective.

However, in Osaka/Kobe/Kyoto metropolitan area, the coordination efforts are exclusively conducted by the national ministries. The problem with this system is that the national perspective is given priority rather than the regional perspective.

---

<sup>4</sup> Ibid., 2

### **-Public-Private Partnership**

In both countries, public-private partnership can take various forms. So far, the popular forms have been partnership for project implementation and service delivery. In planning, too, the partnership can be seen especially in urban development projects. However, public-private partnerships for regional strategic transportation planning are not active in either nation. In metropolitan areas in the United States, both public and private sectors are interested in partnership, but not all partnerships in MPO's process have been successful. The next challenge is the development of an institutional means whereby the two sectors jointly develop strategy and policy for overall benefit of a region.<sup>5</sup>

In the Osaka/Kobe/Kyoto metropolitan area, too, the three advisory regional planning committees examined do not have close relationship with the private sectors. The only and relatively good practice is the planning by the Transport Policy Council that includes the private railroad companies and local economic federation to reflect the private interests in its plan.

### **-Financial and Legal Authority**

The most remarkable difference between the regional strategic transportation planning systems of the MPOs in the United States and the advisory regional planning committees in Osaka/Kobe/Kyoto is financial and legal authority. Though the main scope of the planning mechanism is to select projects in both systems, the U.S. MPOs have legal, and in some cases, financial authority more than their counterparts in Osaka/Kobe/Kyoto.

First, the MPOs are a legal planning body to plan regional transportation development and their positions in relation to governments is clear. The planning conducted by the MPOs are parts of a legal process of transportation developments. On the other hand, Osaka/Kobe/Kyoto's planning mechanism is not formal. They do not have any legal authority though they actually play an important role in the regional planning through the power of the national ministries that supervise the committees.

---

<sup>5</sup> Ibid., 1

Second, while Osaka/Kobe/Kyoto's advisory planning committees have no financial authority, some big MPOs have their own financial capacity.

### **5-2-2 Lessons from the Contrast with MPO**

There are several things that a new regional planning mechanism for Osaka/Kobe/Kyoto metropolitan area should borrow from MPOs.

#### **-Linkage of Transportation Planning with Other Planning**

To ensure a strong linkage between transportation planning and other planning issues, such as environmental regulation, land-use regulation and economic development, a regional planning mechanism should have legal and formal mechanisms to connect those planning efforts. The U.S. planning system requires MPOs to make plans that conform to air quality regulations. Land-use regulation is also linked with transportation planning at the regional level in the case of Portland, Oregon.

#### **-Intermodal Planning**

Unlike the regional planning committees in Osaka/Kobe/Kyoto, MPOs can treat various transportation modes as an intermodal system. To establish efficient regional transportation systems, the planning system has to be able to deal with every transportation mode and coordination of their operations.

#### **-Regional Initiative**

Since regions have become important economic units in global competition, regions should do their transportation planning strategically and with regional perspective. To ensure this, a regional transportation planning organization has to take initiative in transportation planning and developments. In the planning systems in Osaka/Kobe/Kyoto, decision-making authority that are currently at the national level has to be transferred to regional level.

### **-Strong Authority**

To make the planning by the regional planning organization more effective, such planning organization should have strong legal and financial authority over regional transportation planning as much as, or more than, MPOs. The most difficult issues in this reform is to carry out transferring the authority. This thesis considers the implementation measures at the later part of this chapter.

## **5-3 Recommendations**

### **-Establishing a New Organization-**

The analyses so far in this thesis showed that the Osaka/Kobe/Kyoto metropolitan area needed formal regional transportation planning systems that could consider transportation planning strategically, and comprehensively. Furthermore, considering the special district type of planning agency as the most suitable solution to the challenges, this chapter has discussed lessons obtained from the MPOs in the United States.

Referring to these analyses, this section makes some recommendations to the Osaka/Kobe/Kyoto metropolitan area concerning regional strategic transportation planning systems. The following section recommends a special district type of planning organization to this metropolitan area. To do so, its organization form, scope, authority, and decision-making process, are examined as a fundamental framework of the new planning mechanism.

#### **5-3-1 Principles for Establishing a New Planning Organization**

In considering a new organization, it would be helpful to make clear first the principles for establishing the organization.

##### **5-3-1-1 A Guideline for the Establishment**

The analysis so far has led to the following important points in establishing a new regional transportation planning organization.

- Transportation planning by the new mechanism should be linked with other planning issues such as environmental regulation, land-use regulation, and economic development at the regional level.
- Current planning mechanisms that are divided by transportation modes should be integrated into a single mechanism. Moreover, freight operators, shippers, and transportation operators have to be invited as members of regional transportation planning organization.
- The planning area of regional transportation planning should correspond to the actual urbanized metropolitan area.
- Prefectural and local governments should have more responsibility than now to reflect local interests in regional planning.
- The responsibility assumed by the national ministries now should be transferred to the newly established regional planning organization so that the regional body can make decisions about regional transportation planning from the regional point of view.
- The private sector should be included in the new planning organization.
- It is essential for the new regional planning mechanism to have considerable legal and financial authority over regional transportation planning and its process so that the mechanism can function effectively.

#### **5-3-1-2 Feasible Reform**

For the recommendation to be useful, it should be feasible in its environment. Though there seem to be several approaches to establish a new special district type of planning mechanisms, the most feasible way is to make the most use of the existing planning mechanisms rather than establish a completely new organization. In the United States, too, many MPOs were established from the existing regional planning bodies such as councils of governments. In the Osaka/Kobe/Kyoto metropolitan area, the existing special district type of planning organizations are the three advisory regional planning committees. Therefore, it seems to be the best strategy to integrate those committees into a single planning body and make it a base of the new regional planning mechanism.

#### **5-3-1-3 Accordance with Other Ongoing Reforms**

The social changes that appear to affect the regional transportation planning mechanism for this region very much are administrative reform and decentralization reform discussed currently at the national government. The recommendations in this thesis should be accord with these ongoing reforms.

In the administrative reform, an integration of the Ministry of Construction (MOC) with the Ministry of Transport (MOT) will be carried out. This makes the integration of transportation mode-oriented planning committees feasible at the regional level, too. Accordingly, as this reform will be implemented, the various problems caused by transportation mode-oriented bureaucracies, such as mode-by-mode planning, should be improved at the prefectural and local level, too.

The biggest impact on the regional planning mechanism is decentralization of governmental power from the national agencies to prefectural and local governments. There are several problems that should be resolved as the reform proceeds. First, it is necessary to make the sharing of responsibility among the three levels of government clear. Currently the national involvement in local and regional transportation development is too strong to promote planning from a regional perspective. Second, it is important to identify the responsibilities of regional governmental bodies because there are currently no formal and regional governmental bodies in Japan.

Concerning the metropolitan governance, various plans have been proposed for a long time in Japan. Though they have not been carried out so far, the current movement toward the decentralization is stronger than before, and even a political party such as the Democratic Party of Japan proposed practically establishing powerful regional and local governments. One of the proposals by the party is the establishment of regional general purpose governments. According to the proposal, which is similar to the proposal by the Kansai Economic Federation and some business leaders such as Kenichi Omae, Japan will have about ten big regions with their own regional governments created by merger of several prefectures. This thesis considers the special district type of regional planning mechanism as short-term measures that can lead to the general purpose metropolitan government if the reform is carried out in the future. This thesis also assumes that authority of the regional planning organization to strengthen the organization should be shifted from the national ministries rather than the prefectural and local governments.

### **5-3-2 A Proposal -A New Organization for the Regional Strategic Transportation Planning for the Osaka/Kobe/Kyoto Metropolitan Area-**

This section proposes a new organization for the regional strategic transportation planning as a recommendation to the Osaka/Kobe/Kyoto metropolitan area. Hypothetically, this thesis names the new planning organization *the Osaka/Kobe/Kyoto Metropolitan Transportation Planning Council* (MTPC).

#### **5-3-2-1 Organization**

##### **Strategy 1: Adapt a Special District Type of Organization by Using the Existing Advisory Regional Transportation Planning Committees**

The MTPC forms a special district type of organization. This organization is established on a planning body created by the merger of the existing three advisory regional planning committees: the Kinki District Highway Committee, the regional sub-committee of the Transport Policy Council, which is the Osaka Metropolitan Area Urban Transportation Committee, and the Osaka/Kobe/Kyoto Metropolitan Planning Committee.

##### **Strategy 2: Include Various Stakeholders but Eliminates Strong Intervention of the National Ministries**

The MTPC should include various stakeholders for regional transportation development. Its constitution is shown in the Table 5-1.

The primary members of this organization are not the national ministries but various planning agencies that are located in this region. The three big cities: Osaka, Kobe, and Kyoto, participate in this organization as equal partners to prefectures according to the tradition of this region. Agencies that have experiences of transportation facility operation are invited to this organization, too. The Hanshin Expressway Public Corporation has had experiences as the only regional public agency in the region for a long time. In addition, to ensure public-private partnership at the planning stage, this

**Table 5-1**  
**Constitution of the Organization and Roles**

		<b>Constitution</b>	<b>Role</b>
<b>Academics</b>			
<b>Public Sector</b>			<b>Concept Planning</b>
Policy Side	Prefecture Level	Governors of Osaka, Hyogo, Kyoto, Nara, Wakayama, Shiga, Fukui	Concept Planning Physical Planning
	Local Level	Mayors of Osaka, Kobe, Kyoto	Concept Planning Physical Planning
Operation Side		Hanshin Express Public Corporation Japan Highway Public Corporation Railroad Operators	Concept Planning Physical Planning
<b>Private Sector</b>		Kansai Economic Federation Private Railroad Operators Freight Related Corporations	Concept Planning
<b>(Observer)</b>	National Ministries	Ministry of Construction Ministry of Transport (They will be integrated into the Ministry of Land and Transport)	Observation

organization includes representative of the private sector. Academics are invited to this organization, too. They are expected to bring objective discussions in the planning since they seldom have particular local and regional interests.

While members from the public sector play the primary role in both concept and physical planning, academic and representatives of the private sector are expected to contribute in concept planning of the regional transportation system, such as identifying the needed transportation projects and procurement methods. They are also expected to coordinate prefectural and local interests brought by prefectural and local governments. However, the involvement of the private sector should be limited to concept planning. This is because the private involvement in physical planning might allow only a few companies that were invited to the planning process to benefit unfairly.



### **5-3-2-2 Scope**

#### **Strategy 1: Assume the Regional Responsibility for Transportation Planning**

The MTPC makes a regional transportation plan for the Osaka/Kobe/Kyoto metropolitan area. The plan includes regional transportation projects. Regional transportation data collection is also included in the planning activity of this organization. The MTPC does not substitute for the existing formal planning body such as governments, but supplements the current planning mechanism. For the new mechanism to function effectively, it is important to identify its share of planning responsibility clearly among planning organizations such as national, prefectural and local governments.

The national ministries such as the Ministry of Construction (MOC) and the Ministry of Transport (MOT) have been involved in not only policy making but also planning and implementing of actual transportation developments. From now on, the MOC and the MOT should focus on policy-making concerning transportation development. The national involvement in planning has to be limited to the planning of the national-wide transportation developments such as the National Expressway and the Shinkansen Railroad.

Prefectural and local governments focus on the prefectural and local transportation developments. They continue to have authority over city planning and port and harbor plans for prefectural and local transportation planning, but planning of the “regional” transportation facilities that have been done at the discussion at the advisory regional planning committees should be treated by the new regional planning organization in close cooperation with prefectural and local governments. It is not easy to define regional transportation facility. There are some facilities for which prefectural and local governments can not or should not make plans because, for example, the facilities extend beyond the borders of local jurisdictions or have huge impact not only on the local area but also on the entire region. Such facilities can be considered regional facilities.

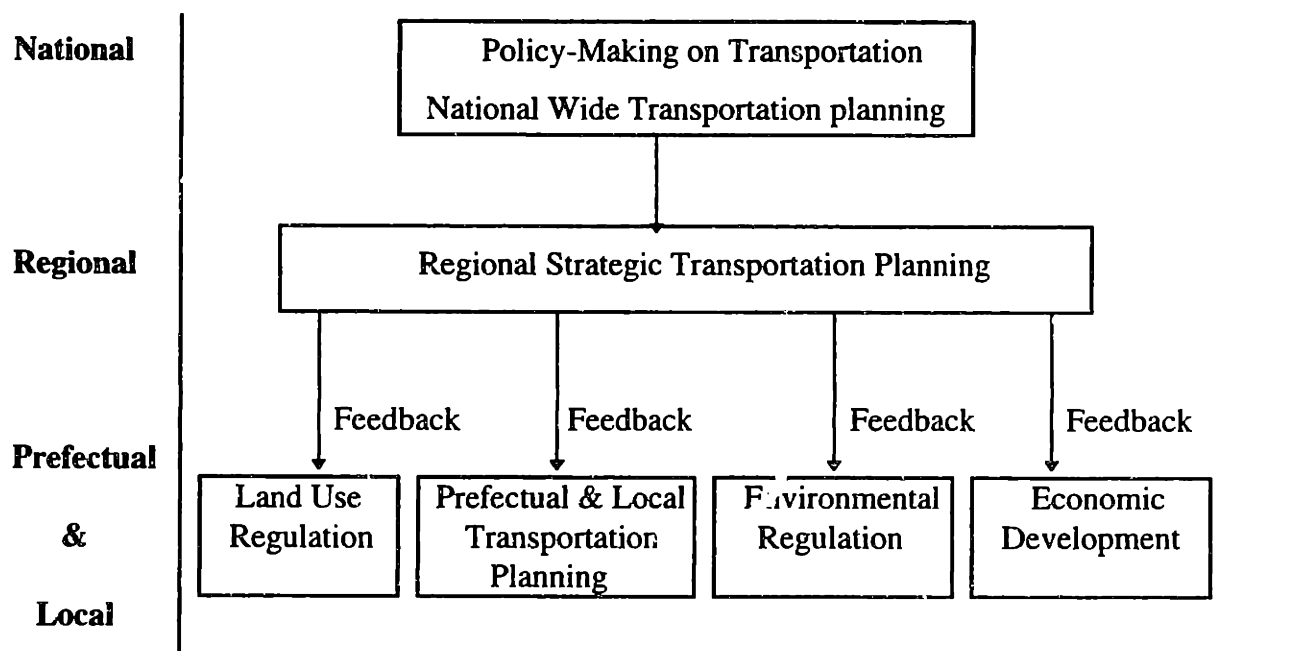
The MTPC has the primary authority over planning of regional transportation facilities.

**Strategy 2: Have Close Linkage with Environmental Regulation, Land-Use Regulation, and Economic Development by the Prefectural and Local Governments.**

Prefectural and local governments also continue to be the primary authority about land-use regulation, environmental regulation, and economic development, but these planning efforts at prefectural and local levels should respect the feedback from the regional transportation point of views provided by the MTPC.

Though the MTPC might also have to treat regional environmental regulation and regional economic development in the long-term, it focuses on regional transportation planning for the present because too drastic a change in the governmental structure will impede the feasible reforms.

**Figure 5-2  
Responsibility Sharing**



**Strategy 3: Treat All Types of Transportation Modes**

To ensure intermodal and multimodal transportation planning, the MTPC should consider all modes of regional transportation except aviation. Aviation should be in the national jurisdiction.

#### **Strategy 4: Focus Not on Service Delivery but on Planning**

The MTPC should focus on planning, not on having service-delivery or operational functions. Though information from operators and service deliverers is important for planning, organizations that have both a planning function and implementing function tend to focus on implementation. The MTPC does not operate any transportation facilities by itself though it includes the Hanshin Expressway Public Corporation and the private railroad operators as its members for planning.

#### **5-3-2-3 Authority**

When establishing a new mechanism, one of the most important tasks is to allocate adequate authority to the mechanism. If the newly established organization has less authority over its scope, its function will be ineffective. If the mechanism requires much authority, it demands drastic change in existing structure and it might affect the feasibility of this reform. However, the current regional transportation planning mechanism is not formal and not capable of formulating the plan from the regional perspective effectively. As a basic strategy, this thesis suggests that the new regional organization, the MTPC, should have much more responsibility and authority than now, and the authority should be transferred not from prefectural and local levels but from the national level.

This thesis will propose to transfer authority over regional transportation planning to the MTPC in three steps according to the extent to which the new mechanism can obtain authority. It is because the more authority the mechanism obtains, the less feasible the reform is, and because the region can advance this reform feasibly by strengthening its authority step by step.

#### **Step1: Screening Authority**

The MTPC should have formal and legal authority over various areas of regional transportation planning. The first step is to provide the MTPC with legal authority over project selection for national approval and subsidies. It requests that projects that need

approval and financial support from the national ministries be included in plans made by the MTPC. This system is similar to the MPO's system in the United States. The Transport Policy Council in the Osaka/Kobe/Kyoto metropolitan area has a similar mechanism for project selection, too. Screening various transportation projects by a single regional planning organization from the regional perspective can make its planning more integrated and efficient.

Another advantage of this strategy is its feasibility. If the screening authority is given to the new regional planning mechanism, the regional planning will get better while the national government continues to keep the current authority over transportation development, such as the one giving approval and subsidies. The calm shift of authority might weaken the strong rejection by the national ministries and help the realization of this reform.

However, the regional transportation plan created by the MTPC may tend to be a "wish list" that includes every project proposed by the existing prefectural and local governments, railroad operators and highway operator under this mechanism.

### **Step2: More Legal Authority**

The second step in providing authority is to give the MTPC not only the legal screening authority but also the authority over granting actual approval.

Step 1 is a mechanism that coordinates local and regional interests from a regional perspective by using the national authority over the approval and subsidies. In the mechanism, the national government has the final and decisive authority over the selection of transportation projects that need the national approval and subsidies, whatever the MTPC's decision is.

In step 2, to enhance the capacity of the regional mechanism, the authority over giving legal approval to prefectural and local governments, private transportation companies, and other transportation agencies will be transferred by the national ministries to the MTPC. In the current transportation development system in Japan, prefectural and local governments and private transportation companies need various approval by the national ministries. While the national ministries should assume the responsibility for the

national-wide transportation development, such as the National Expressway and the Shinkansen Railroad, authority over other types of transportation development should be transferred to the regional and, in some cases, prefectural and local planning organizations. By doing so, the region will be able to formulate strategy about regional transportation planning independently.

To proceed to the Step 2 from the Step 1, it will take more than a few years. During the time, every organization related to this reform should be accustomed to regional thinking and prepare more drastic changes.

### **Step 3: Both Legal and Financial Authority**

Though legal authority is essential for the regional planning organization to plan effectively, the most decisive authority is financial authority. Even if an agency has legal authority over transportation development, it is difficult to implement the development if the agency does not have financial authority.

The final step toward the enhancement of capacity of the regional planning mechanism is to provide the MTPC with financial authority, too. For that purpose, appropriate amount of funds is allocated to each region, including Osaka/Kobe/Kyoto, from the national government according to suitable conditions such as population and taxes contributed to the nation from the region. The MTPC is granted an authority to allocate the funds to appropriate projects in the region. This system helps its transportation plans not to become a “wish list” because the MTPC becomes more careful to allocate “their own” funds.

However, it depends on the decision of the national government from which the financial authority is most likely to be transferred. In many cases, the national government is likely to oppose the change. In the United States, too, only MPOs supported by generous state governments can be successful.

Step 3 might be the final step toward a regional general purpose government. Even if this recommendation can reach this step, the MTPC can not control all transportation projects. While the organization can coordinate regional transportation planning, it can not control prefectural and local transportation plans that need regional

coordination. It will need rather long time for the national ministries to be persuaded to grant their financial authority. To proceed from the Step 2 to the Step 3, it will take more than 5 years.

**Table 5-2**

**Transfer of Authority from the National Government to the Regional Planning Organization**

	Screening Authority	Legal Approval Authority	Financial Authority
Current	National	National	National
Step 1	Regional	National	National
Step 2	Regional	Regional	National
Step 3	Regional	Regional	Regional

**5-3-2-4 Decision-Making Process**

Each transportation implementation agency in this region proposes its transportation plans (that need the national approval and financial support and that are considered “regional transportation” )to the MTPC. Such implementation agencies include prefectural and local governments, highway agencies, and public and private railroad and bus operators. Then the organization prioritizes each plan as regional transportation project for the Osaka/Kobe/Kyoto metropolitan area in terms of the traffic demand for the project, strategic need, and availability of funds.

**5-4 Evaluation**

In making recommendations, this thesis proposed several strategies and steps, but at the same time, several points remain that should be improved in the future because this thesis limited its recommendations to ones we considered practical in implementing, not too idealistic. This section assesses those recommendations and makes the advantages and disadvantages clear.

### **5-4-1 Examples of Changes with the New Regional Planning Organization -Hypothetical Planning Cases-**

To better understand the new regional planning mechanism, it would be helpful to present examples of how the new planning organization shapes the process. This section provides hypothetical examples of changes in regional transportation planning that the new mechanism would make happen if the recommendations are realized. This case shows how the new planning mechanism affects expressway planning by looking at hypothetical expressway planning in the Osaka/Kobe/Kyoto metropolitan area.

#### **5-4-1-1 Background of the Hypothetical Expressway Planning**

The Osaka/Kobe/Kyoto metropolitan area has developed a considerable expressway network. Osaka has circumferential and radial expressway network and Kobe has two east-west expressways, which are connected to the expressway network in Osaka area. Kyoto is also planning new expressways in the downtown area and a connecting expressway to the Osaka area. This entire network is constructed and operated by the Hanshin Expressway Public Corporation. The Japan Highway Public Corporation operates two inter-regional expressways that also function as an outer-ring network for the region and is planning an additional one in this region.

Hypothetically, in 200X, this region will be planning several expressways, such as a second circumferential expressway and a few additional radial routes in the Osaka area, a second connecting route between the Osaka and Kobe that goes through the coastal area in the Osaka Bay, a second connecting route between Osaka and Kyoto areas. The public opinions about transportation development will be changing. Much more environmental consideration in expressway development and more strategic planning to enhance the region's economy and the standard of living will be needed. To address these problems, *the Osaka/Kobe/Kyoto Metropolitan Transportation Planning Council (MTPC)* would be established.

### **5-4-1-2 Three Hypothetical Plans and Influences of the New Planning Mechanism on the Plans**

The cases examine three hypothetical expressway plans to show examples of the changes in regional transportation planning that the hypothetical MTPC would bring.

#### **Hypothetical Case 1: Urban Expressway in the Residential Area**

The Osaka area has been planning several urban expressways to enhance urban vitality, such as a second circumferential network. The plans of these routes have the common problem that those routes would go through residential areas. It is because these routes are to complement the existing expressway network that is located in the downtown area, and these routes have to go through the surrounding area where residential development is already completed. The residents near the planned route have been opposed to the expressway plan for a long time since they fear the expressway will damage their residential environment by emitting fumes and noises.

So far, expressway development has been under strong control of the Road Bureau of the Ministry of Construction (MOC) through discussion at the Kinki District Highway Committee though prefectural and local governments can make draft plans. Prefectural and local governments agreed with the Road Bureau of the MOC concerning the need for the expressway, but those governments had a different vision from the Bureau concerning how to implement the plan. Prefectural and local governments suggested the route should be depressed to decrease the environmental damage to the area along the route, or that the route should not go through their jurisdictions. On the other hand, the Road Bureau, as an authority that can provide legal approval and financial support on the plan, did not like the depressed plan because of the huge construction costs. If the Road Bureau approved this plan and the financial support, many other prefectural and local governments would seek the same approval and financial support because the depressed expressway has been a common issue in many localities that have to develop expressways. Therefore, the Bureau declared this route should be constructed

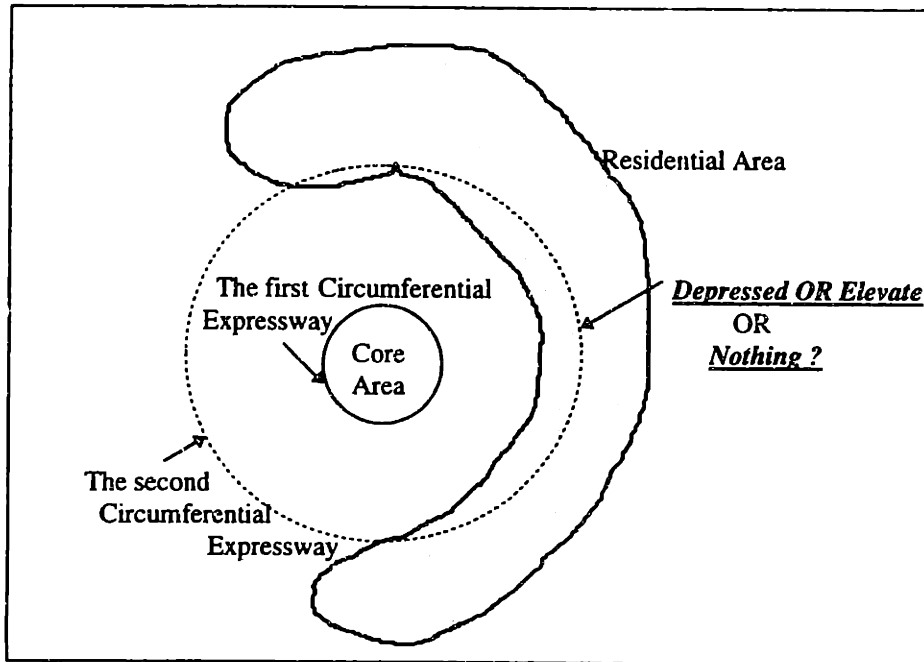


as an elevated one because it would be less. Due to the conflict between the MOC and local residents, the plan has stopped for a while.

This problem is related to the distribution system of funds available to transportation development. The Osaka/Kobe/Kyoto metropolitan area has long complained about its financial status because the region can not obtain enough financial support from the national government in comparison with the amount of taxes that the region contributes to the nation. The region's complaint is not only about the amount but also about the fact that the region can not decide how to use its own money by itself.

The newly established Metropolitan Transportation Planning Council (MTPC) has financial authority over investment in transportation projects in the region as well as legal authority over project approval. (In the recommendation of this thesis, both legal and financial authority were transferred to the MTPC at the Step 3 of the process of authority transfer.) The MTPC also is constituted mainly by the prefectural and local governments that take local interests into consideration in planning more easily than the national ministry. The MTPC examined this expressway plan from the regional perspective and recognized the need for the development. At the same time, the MTPC understood the need for environmental mitigation measures that the residents have sought for a long time. Finally, the planning council decided to construct the expressway as a depressed one though the projects would be costly. Now that the financial authority has been transferred from the Road Bureau to the region, it is not very difficult for the region to construct the expressway. Though there still remains a considerable re-distributional function in the national government, this new mechanism enabled this region to decide their plans and their implementation strategies of transportation development more flexibly. The new planning mechanism encouraged the region to consider expressway planning in such a way that the planning was integrated with the land-use pattern along the planned route and that local interests were reflected in the plan. Moreover, it helped avoiding the NIMBY(Not In My Back Yard) attitude of the local governments asserting they would not need such an expressway that would damage the environment in their jurisdictions.

**Figure 5-3**  
**Hypothetical Map I**

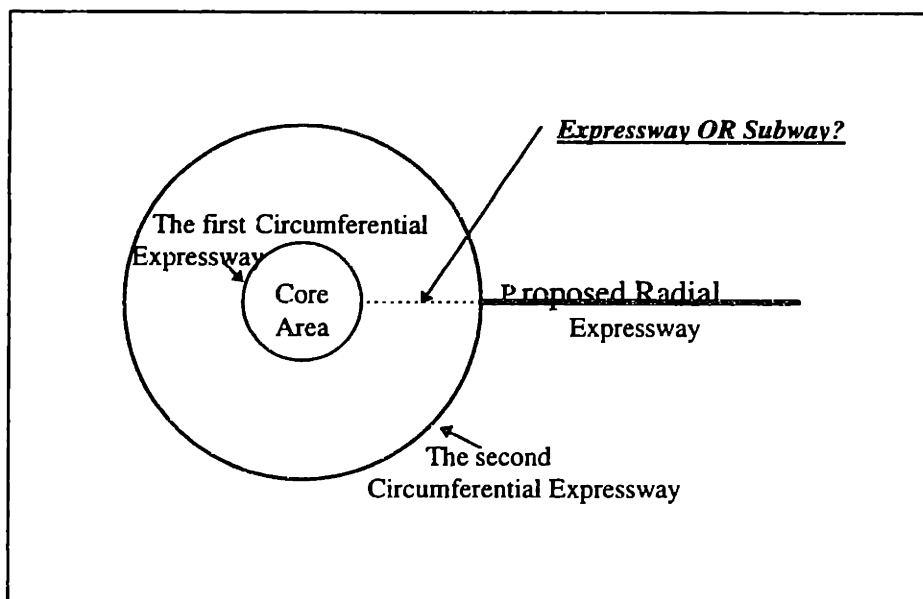


**Hypothetical Case 2: Intermodal Transportation Policy Shift**

The construction of the additional radial expressways was another issue for the Osaka area. Osaka has already had five radial expressways, but it recognized the need for a few additional radial expressways that reach its first circumferential expressway network. The Road Bureau of the MOC also has wanted those new expressways to enhance the traffic capacity in the region. However, the traffic demand for the expressways has not increased very rapidly recently, and the public concern on the environmental issue has been prevalent. Prefecture and City Government of Osaka began to fear that the expressways that go into the core area of Osaka lead to severe environmental problems by increasing the number of trucks and cars entering the city. These governments considered that the radial expressways should not enter the core area but stop at the edge of the city, and subway systems should be extended to this point to ensure the transportation need to connect the core area and the surrounding areas. It was not too difficult for the prefectural and city governments to shift their thinking about the

transportation mode from the expressway to the public transportation because those governments have dealt with many transportation modes so far. However, the Kinki District Highway Committee and its supervisor, the Road Bureau of the MOC that has strong power over the expressway planning, can not easily make such plans because these agencies were highway-oriented planning agencies. Public transportation such as the subway systems was under the jurisdiction of the Railroad Bureau in the Ministry of Transport (MOT). Even though the public attitude concerning expressway developments has changed, the Road Bureau continued to assert that the radial expressways should be linked to the expressway network in the downtown area without changing its traditional policy.

**Figure 5-4**  
**Hypothetical Map II**



After the establishment of the MTPC, the council took over the authority over the regional transportation planning from the Road Bureau and planning committees in the region. It was not difficult for the MTPC to shift the previous transportation development policy focusing on expressway developments since the MTPC had the capacity for intermodal and multimodal regional transportation planning. The MTPC decided to

extend the subway system to the border of the city where the expressway would stop to connect the two modes of transportation.

### **Hypothetical Case 3: Expressway Development in the Coastal Area**

Though there has been an expressway connecting Osaka and Kobe that goes along Osaka Bay, the region is planning a second connecting expressway to strengthen the connection between the two core cities in the region and to promote redevelopment of the underused coastal area. This expressway is a strategic one for the region because the redevelopment of the coastal area along the Osaka Bay, through which this expressway would go, was one of the most important development projects to revitalize the region's economy and the expressway was expected to promote the development. Almost all land in this area was owned by the local private sector and those companies were expecting their underused land to be developed. While the expressway was expected to promote developments, it seemed that traffic demand for this route would be low until the developments were completed. In spite of the importance of the expressway for the entire economy of the region and the potential traffic demand, the low projected traffic demand discouraged the planning agencies related to this route from advancing this plan. The traditional public highway planning agencies could not consider the expressway development strategically though the private sector had recognized the strategic importance of the route for the region.

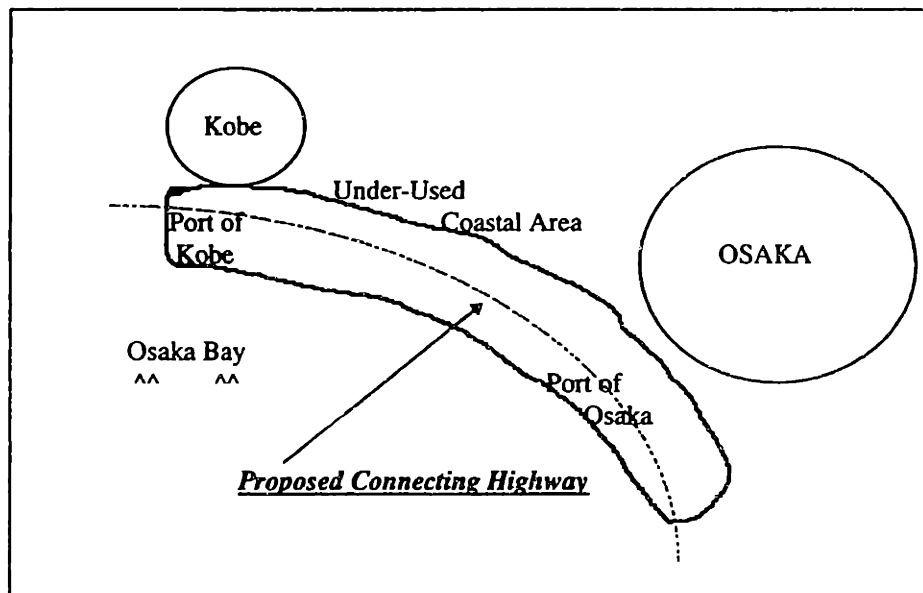
Another important task of the expressway was to distribute freight unloaded at the ports near the expressway to the entire region without affecting the core areas of cities by the heavy traffic. However, it was difficult for the traditional highway agencies, such as the Hanshin Expressway Public Corporation, the Kinki District Highway Committee, and the Road Bureau of the MOC, to coordinate expressway planning with maritime freight planning at the national level because the expressway development was under jurisdiction of the Road Bureau in the MOC and urban development in the coastal area was supervised by the Port and Harbor Bureau of the Ministry of Transport (MOT). Prefectural and local governments dealt with both maritime freight and expressway development, but their planning needed approval and financial aid from the national

ministries. The poor-communication between the two national bureaus often impeded such coordination efforts at the prefectural and local level. Thus, berth location and ship courses in the port areas and location of the expressway were not well coordinated.

Due to the lack of strategic motivation for the expressway development and the complexity of coordinating expressway planning with maritime freight planning, the plan has been stagnant for a long time.

As a new regional transportation planning authority in this metropolitan area, the MTPC addressed this plan again. It included the private sector as its member and recognized, from the regional perspective, the importance of the expressway development proposed by the private members. The MTPC also could treat maritime freight planning as well as expressway planning. The coordination between expressway and maritime

**Figure 5-5**  
**Hypothetical Map III**



facilities was well managed by the discussions at the Council. The planning mechanism of the MTPC enabled the region to take a strategic approach to transportation development by ensuring the public-private partnership. The MTPC also helped the

coordination efforts between maritime planning and expressway planning at localities otherwise impeded by national involvement, which does not have the regional viewpoint.

#### **5-4-2 Advantages and the Disadvantages of the Proposed Mechanism**

This section examines advantages and disadvantages of the proposed regional planning mechanism.

Unfortunately, the proposed planning mechanism still has a weak point in *integrating transportation planning with other planning*. This is because such mechanism requires that planning mechanisms for land-use regulation, environmental regulation, and economic development be regional. It is not easy to shift these mechanisms that are currently functioning mainly at prefectural and local levels to a regional level. Some of those planning mechanisms should be regional, but it will take a long time. Therefore, this thesis focuses on regional transportation planning to make the recommendation practical.

The new regional transportation planning organization in Osaka/Kobe/Kyoto will include various stakeholders, such as shippers and business leaders related to freight movement in order to ensure that the organization considers *freight* seriously. The planning organization is also able to treat almost *all transportation modes* because the organization is established by integrating the existing transportation planning committees that have been segmented by transportation mode.

Considering the importance of including transportation operators into planning discussion, the recommended organization invites transportation operators such as highway operator and railroad operators as its members. This might help the planning mechanism take *technology scanning and operational issues* into account in its planning process.

Concerning planning area, the new planning mechanism proposed above has a large planning area suitable for the actual Osaka/Kobe/Kyoto metropolitan area.

The newly established planning organization is designed to have the capacity to make plans by their region. The prefectural and local governments, not the national ministries, are the primary members of the planning organization. This helps reflect *local issues* in the planning and *coordinate various interests* from the regional point of view.

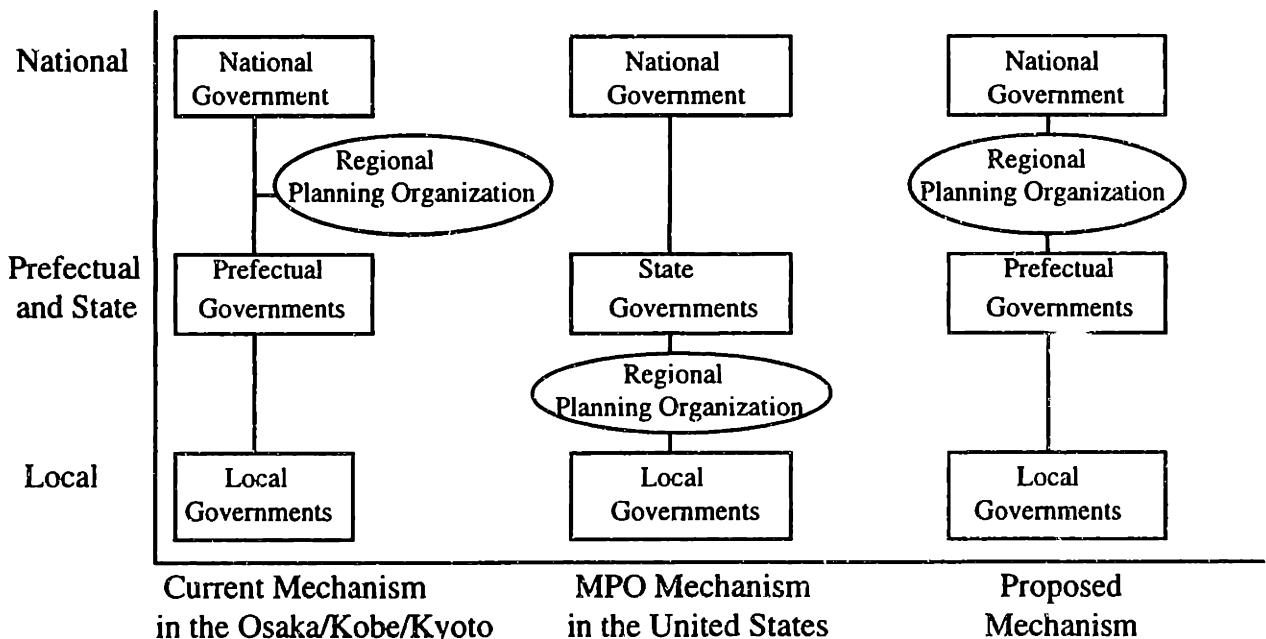
To address the public-private partnership, the proposed mechanism also includes private representatives in the organization and ensures that the private sector can participate in transportation development from the planning stage.

Finally, the new planning mechanism is granted *legal authority* and *financial authority* over transportation development. Among the three steps proposed to transfer authority, Step 1 (Screening Authority) provides authority similar to MPOs' authority. Step 2 (More Legal Authority) and Step 3 (Both Legal and Financial Authority) will grant more powerful authority to the new organization.

Concerning the relation among the new organization and the existing governments, Figure 5-6 illustrates that the new planning organization is located under the national government and above prefectures while MPOs are located under state and

**Figure 5-6**

**Difference of Status of Regional Planning Organization in the Governmental Hierarchy**



above local governments. On the other hand, the current regional planning organizations can not be involved in the formal process of the project selection and negotiation between the national and prefectural and local governments for financial support. They are given only advisory status.

Table 5-3 contrasts the new planning mechanism with the current planning system in the Osaka/Kobe/Kyoto region and Metropolitan Planning Organizations (MPOs) in the United States. (See Section 5-2-1 for detailed descriptions about comparison between the current Osaka/Kobe/Kyoto's mechanism and MPO mechanism.)

**Table 5-3**

**Contrast of the Proposed Mechanism with the Current Regional Transportation Planning Mechanism in Osaka/Kobe/Kyoto and the MPO Mechanism in the United States**

	The Current Mechanism in Osaka/Kobe/Kyoto Metropolitan Area	Metropolitan Planning Organizations (MPOs) in the United States	Proposed Mechanism in Osaka/Kobe/Kyoto Metropolitan Area
Integrated Planning	Unsatisfactory	Good	Unsatisfactory
Freight Consideration	Unsatisfactory	Unsatisfactory	Adequate
Intermodalism	Unsatisfactory	Good	Good
Technology Scanning	Unsatisfactory	Unsatisfactory	Adequate
Focus on Operation	Unsatisfactory	Adequate	Adequate
Large Planning Area	Good	Adequate	Good
Local Consideration	Unsatisfactory	Good	Good
Coordination among Local and Regional Interests	Unsatisfactory	Good	Good
Public-Private Partnership	Unsatisfactory	Unsatisfactory	Adequate
Financial and Legal Authority	Unsatisfactory	Adequate	Step1: Adequate Step2: Good Step3: Good



## **5-5 Implementation -How to Make Change Happen-**

This thesis has proposed establishing a new regional transportation planning organization, but the proposal requires organizational changes that will be difficult to implement. To realize this recommendation, implementation strategies are very important. This section identifies the difficulties in implementation and proposes some strategies to address the difficulties.

### **5-5-1 Difficulty in Implementation**

In implementing the recommendation, there are several predictable difficulties. Because the proposed planning mechanism requires the existing organizations related to regional transportation planning to change their authority, scope, and relationships among them, those organizations will resist the changes.

First, the recommendations can not be implemented if the national ministries do not agree to transfer their legal and financial authority to the newly established regional transportation planning organization. It is predictable that the national ministries will be reluctant to transfer authority because they had had such authority for a long time. Second, prefectural and local governments might oppose transferring their authority over planning, such as prefectural and local transportation planning, land-use regulation, environmental regulation and economic development, if this reform seeks the more powerful regional planning mechanism. Third, the new planning organization needs its planning capacity, including staff and budgets, to manage planning. How it can get this capacity is also one of difficulties because the planning organization has no mechanism for raising revenue. Fourth, how the organization can obtain cooperation from its members through the planning process is a practical difficulty once the organization is established. The new organization needs information from various members to make plans and their cooperation and respect to make its plans effective.

## **5-5-2 Strategies to Make Changes Happen**

To overcome these difficulties, the newly established regional transportation planning organization has to increase its capacity strategically and the existing governments also have to recognize the importance of the regional transportation planning mechanism. To make changes happen, the Osaka/Kobe/Kyoto metropolitan area needs to implement this transition strategically.

Theories concerning organizational changes, which are developed mainly in the field of management, would be helpful to consider the strategies because the proposal to establish a new organization to which authority would be transferred from various existing organizations is a major organizational change. Those theories might be able to provide practical insights and measures to carry out the changes. A theory for organizational changes suggests that, for those who want to make changes happen, four key factors which enable the change process to be successful are important: understanding of human nature, skillful use of power, well-designed social process, and persuasive leadership.<sup>6</sup> Referring to these points, this section aims at formulating a set of strategies to make the change happen.

### **Strategy 1: Establishing Collective Leadership by Prefectures and Government Ordinance Designated Cities**

Establishing leadership should be a starting point for this reform since there is no clear leadership in the Osaka/Kobe/Kyoto metropolitan area to implement the proposed changes. It seems that this reform of establishing a new regional planning organization brings resistance from various related agencies and this fact needs strong leadership. However, it is not easy to find such a leader in this region. It might be because this reform establishes a new organization while it lets the existing planning organizations continue to exist. However, among various stakeholders, prefectures and governments of Government Ordinance Designated City (GODC) should assume the primary leadership collectively. These governments have motivations to proceed with this change. Though

---

<sup>6</sup> Brill and Worth, *The Four Levers of Corporate Change*, 1997

the proposed mechanism might affect their own jurisdictions, the reform also provides the region with much planning capacity. This is desirable for those governments because decisions concerning transportation development in the new mechanism would be made at a level nearer to them than in the current system, in which the national ministries decide everything. Prefectures and GODCs also have capacity for assuming the tasks since those governments are the primary member of the proposed planning organization and they have already had experiences as prefectural and local authorities.

There are several challenges for those governments to establish a strong leadership. First, there are seven prefectures and three GODCs in the recommended planning organization. To lead the change effectively, these governments should function cooperatively. Currently, these governments have an annual mechanism to talk about the region, called the Subaru Committee. This committee should be the base. The private economic federations, such as the Kansai Economic Federation, also have to be powerful partners. Their positions free from the legal jurisdictions and strong connection with the politics in the capitol would help the change to happen.

To ensure close cooperation, those existing prefectures and GODCs have to assume the responsibility as a leader collectively. The regional leaders must persuade the national ministries, ask cooperation to other stakeholders in the region, and even encourage their subordinates in their organizations.

## **Strategy 2: Designing Vision**

Properly designed vision is necessary for leaders to proceed with changes with many stakeholders. The vision should state the needs for establishing the new planning organization, form of the reform, and goals of the changes. It also should help leaders to convince related parties to follow the changes. However, vision statements should not be too idealistic or too specific because such visions are unrealizable.<sup>7</sup> The vision of this reform should be effective and practical. In this change, the existing planning organizations, such as prefectures, GODCs, and other formal planning agencies, are

---

<sup>7</sup> Ibid., 6

allowed to stay in existence while a new planning organization is established. Moreover, the transition should be not too revolutionary but gradual.

### **Strategy 3: Creating Environment**

In the corporate change, leaders should learn to mitigate the impact of natural human traits, such as suspicion, stubbornness, and anxiety, to make change happen. Though logic is important, change must also occur at the emotional level of the stakeholders.<sup>8</sup> In establishing a new planning organization and transferring authority from the existing organization, too, it is important to consider the “emotional trails” of such existing organizations and people in the organizations. Organizations that are required to change too substantially and quickly tend to be opposed to the change. To avoid emotional opposition from the existing organizations in the region, leaders should create the environment in which those organizations can feel the need for changes before they propose a change.

It also important to get broad public support for the reform because public support might make the environment in which politics can persuade opposing organizations, especially the national ministries, to grant their authority. To make such an environment, prefectures and GODCs have to present opportunities for various stakeholders, beyond the related organizations, including also people outside the related organizations, to consider the challenges facing the current regional planning mechanism and the need for the reform. A variety of measures, such as holding symposia, fostering journalism, launching campaigns are helpful.<sup>9</sup>

### **Strategy 4: Making the Most Use of External Events**

When there are events external to the transition that can promote the changes, leaders should make the most use of such events. One of the most important factors in the proposal is transferring the national authority over transportation development to the regional planning organization; it may well cause strong opposition from the national

---

<sup>8</sup> Ibid., 6

<sup>9</sup> Dodge, *Regional Excellence*, 1996

ministries. How to persuade the national ministries to transfer their authority to regions is a key for the successful reform. Actually, though the current argument over decentralization does not discuss regional governance very actively, the decentralization movement provides the best opportunity to implement this change. Leaders should emphasize that the transfer of authority from the national ministries to the regional organization should be implemented as a part of the decentralization process that is discussed throughout Japan.

Deploying new technologies, such as Intelligent Transportation Systems (ITS), can become a strategic tool for re-thinking roles of institutions and transportation agencies<sup>10</sup> because, for example, a system architecture for the ITS requires the existing organizations related to transportation to communicate and cooperate with each other to make information flow smoothly. Regional architecture is a helpful measure because it describes how institutions must relate to one another in order to provide transportation services and defines the interactions of the institutions.<sup>11</sup> The Osaka/Kobe/Kyoto metropolitan area should make the most use of the opportunity for such regional architecture to integrate segmented governmental bodies in the region and to strengthen the new regional transportation planning organization.

### **Strategy 5: Building Consensus**

The most critical step to implement a change is consensus building, especially persuasion of opposing people and organizations. In building consensus, it is important to consider “emotional traits” of the opposing organizations and people. The consensus building should proceed not through coercive power but through negotiation and persuasion among related organizations.

When governors and mayors in this region encourage their subordinates, the raw exercise of power often produces gridlock<sup>12</sup> though leaders might have various power to make their subordinates follow the change. Well-designed social processes, such as

---

<sup>10</sup> Rodoriguez, *Developing a System Architecture for Intelligent Transportation Systems With Application to San Juan, Puerto Rico*, 1996

<sup>11</sup> Pendleton, *Regional Architecture: Definition and Integration into the Strategic Transportation Planning Process*, 1998

<sup>12</sup> *Ibid.*, 6

training programs and discussions, help them to open their minds. For the regional leaders to persuade the national ministries, it is also helpful to cooperate with other regions that are seeking decentralization.

### **Strategy 6: Transferring Authority to a New Mechanism Gradually**

The reform should be implemented step by step and strategically. Too drastic changes often cause rejections by stakeholders. For the new organization to be a real regional transportation planning organization, the authority related to transportation planning should be transferred from the national ministries to the regional organization gradually even if it would take a long time. This process gives time for prefectural and local governments and other planning agencies in the region to get accustomed to regional thinking. Then, if authority over regional land-use and regional environmental regulation can be transferred from the existing prefectural and local governments to the regional organization, the reform is approaching the real regional government.

### **Strategy 7: Strengthening Planning Capacity**

It is also helpful for the regional organization to assume regional tasks other than regional transportation planning. Possible regional tasks include regional data collecting, and developing ITS. Steering the Hanshin Express Public Corporation (HEPC) would enhance the ability of the organization, too. Currently, the HEPC is steered by the steering committee that consists of governors, mayors, and business leaders in the region. It is not impossible for the new regional organization to substitute for the steering committee.

In the future, the authority of the regional planning organization will be enhanced if the organization has the capacity to tax for transportation purposes. This taxation would need to allow residents in the region to vote on transportation policy and planning created by the organization. The regional body may be able to have its own elected officials like the MPO in Portland, Oregon.<sup>13</sup> For the present, the budget and staff needed

---

<sup>13</sup>Metropolitan Service District (Metro), *Web Site*

for the regional organization to manage planning should be transferred away from prefectural and local governments.

## **5-6 Summary**

Chapter 5 made recommendations to the Osaka/Kobe/Kyoto metropolitan area concerning a new regional strategic transportation planning mechanism. The recommendation is establishing a new regional strategic transportation planning organization for the region which is a special district type. To obtain practical lessons, MPOs have been contrasted with the three advisory regional transportation planning committees in the Osaka/Kobe/Kyoto metropolitan area.

In the recommendation to the region, this chapter has identified the form of the organization, the scope, the authority, and the decision-making process of the planning mechanism. The recommendation proposed that the planning organization would be able to decide the regional transportation planning independently. The recommendation also expects the organization to have a broad scope, including ensuring a linkage of transportation planning with other planning issues, and treating many transportation modes. To ensure the scope, this thesis has suggested that the existing governments should provide authority over regional transportation planning to the planning organization.

The final part of this chapter has shown examples of changes made by the new mechanism, reviewed the advantages and disadvantages of the proposal, and made clear the difficulties in implementing it. Finally, this chapter also has proposed several strategies for the recommendation to be implemented practically.





# **Chapter 6**

## **Conclusion**

Chapter 6 reviews contributions of this thesis and suggests further research concerning regional strategic transportation planning systems.

### **6-1 Review of Contributions of This Research**

Recognizing the importance of regions as units in the global economy and of regional strategic transportation planning to serve such regions, this thesis has addressed the need of establishing regional transportation planning mechanisms and considered how to implement the planning in a real world. This is because, in many metropolitan areas, the current governmental three-tier hierarchy; national(Federal), prefectural(state), and local, can not manage regional transportation planning strategically. To understand regional transportation planning efforts, this thesis has conducted a case study that revealed the challenges facing an actual metropolitan area, the Osaka/Kobe/Kyoto metropolitan area in Japan. Then this thesis made recommendations to that region concerning the regional transportation planning system.

After Chapter 1 made clear the objectives of this thesis, Chapter 2 introduced a special district type of mechanism, as a form of regional planning mechanism, among various regional governance mechanisms. A system of Metropolitan Planning Organizations (MPOs) in the United States and its problems also has been reviewed as an example of planning efforts by the special district type of planning organization.

This thesis includes a case study concerning regional transportation planning in a metropolitan area in Japan. To better understand the planning efforts in Japan in the case study, Chapter 3 has reviewed the Japanese transportation development system. Chapter 4 is the case study. Various regional transportation planning organizations that constitute the regional transportation planning mechanism for the Osaka/Kobe/Kyoto metropolitan

area have been examined to analyze the structure and to identify its problems. For this purpose, this thesis has provided an overview of the scope, organization, planning products, authority, and relationship among those organizations.

The conclusion of the case study is that, in the Osaka/Kobe/Kyoto metropolitan area, there are no formal and legal regional transportation planning mechanisms that can consider the regional transportation planning comprehensively, intermodally, and strategically. The case study found that the existing planning bodies, such as the national ministries, prefectural and local governments, and the private transportation operators, had various disadvantages for regional strategic transportation planning, and the three advisory regional planning committees that were established to complement such disadvantages played important roles in making regional transportation plans.

In Chapter 5, this thesis made recommendations to the Osaka/Kobe/Kyoto metropolitan area concerning regional strategic transportation planning. The chapter suggested establishing a new special district type of organization for regional strategic transportation planning for this region. To obtain practical lessons from the planning efforts of special district type of planning mechanism, MPOs in the United States have been contrasted with the three advisory regional transportation planning committees in the Osaka/Kobe/Kyoto metropolitan area. The analysis has shown that the regional strategic transportation planning mechanism should integrate transportation planning with other planning issues, including land-use regulation and environmental regulation, and also should treat all transportation modes intermodally with strong regional initiative and authority.

In the recommendation to the region, to present a clear image of the newly established planning organization, this thesis has identified the form of the organization, the scope, the authority, and the decision-making process of the planning mechanism. The recommendation expects the proposed planning organization will be able to decide the regional transportation planning independently. To ensure that, this thesis has proposed that the organization included various stakeholders related to regional transportation in the area and that the planning be led by agencies in the region, not by the national ministries. The recommendation also expects the organization to have a broad scope,

including ensuring a linkage of transportation planning with other planning issues, and to deal with all transportation modes in an intermodal fashion. For the new organization to carry out its responsibility effectively, this thesis has suggested that the existing governments, especially the national ministries, should provide the new regional organization with authority over regional transportation planning.

The final part of this chapter has shown examples of changes made by the new mechanism, reviewed the advantages and disadvantages of the proposal, and made clear the difficulties in implementing it. Finally, this thesis has proposed several strategies for the recommendation to be implemented practically.

## **6-2 Further Research**

Further research should be done to realize a practical and effective regional strategic transportation planning mechanism in large metropolitan areas such as the Osaka/Kobe/Kyoto metropolitan area.

### **-To Design Desirable Decision-Making Processes and Flow of Funds**

First, more research is needed to make the recommendations of this thesis function practically in the real world. Though this thesis has focused on the form of the new regional strategic transportation planning organization, it is necessary to understand the desirable decision-making process and flow of funds in order for the organization to manage its planning operation effectively. Based on the fundamental elements of the organization that the recommendation has made clear, such as constituents of the organization, scope, and authority, more detailed analyses about governing mechanism over the organization, rule of discussions, financial shares among its members, and so on are needed.

Moreover, the planning mechanism might need broader scope and stronger authority to carry out more effective regional strategic transportation planning. Further research should identify how the newly established planning organization can strengthen its capacity to do regional strategic transportation planning. To assume regional service-

delivery responsibility, as well as regional planning, is another measure. Practical and effective measures are expected to be identified in further research.

### **-To Design Regional Institutional Relationships Appropriately**

There are many transportation planning agencies in regions. To design the appropriate relationship and responsibility sharing among those planning agencies need further research.

Regional architectures for transportation systems is one of the important measures to enhance the regional integrated planning efforts. An MIT research group is defining regional architecture. In his thesis, Pendleton considered that regional architecture described how the region's institutions should interact with one another in order to provide an integrated series of transportation services to the region and regional architecture broadened the scope of traditional transportation planning by focusing on institutions, rather than simply focusing on infrastructure.<sup>1</sup> For example, the process of defining an architecture for Intelligent Transportation Systems at the regional level has a function "as a guiding tool to a new role re-orienting institutional relationship by taking advantages of inter-agency coordination and support."<sup>2</sup>

Concerning organizational issues in regional strategic transportation planning, contrast of approaches of regional architecture and this thesis is also an interesting further research area because the two research are parallel but use different approach.

### **-To Establish a System in Which Regional Transportation Planning Can Be Integrated with Other Regional Planning**

In implementing the reform recommended in this thesis, the most difficult task is to do regional strategic transportation planning in the context of true regional governance. Recognizing the difficulty of drastic reforms of transportation planning systems, this thesis has made its recommendation within a limitation in which the existing planning mechanism other than regional transportation and related existing planning organizations

---

<sup>1</sup> Pendleton, *Regional Architecture: Definition and Integration into the Strategic Transportation Planning Process*, 1998

<sup>2</sup> Rodoriguez, *Developing A System Architecture for Intelligent Transportation Systems With Application to San Juan, Puerto Rico*, 1996

continue to have jurisdiction. In the recommendation, only the national ministries were required to transfer their authority to the new regional planning organization because the decentralization of the administrative power from the national government to the prefectural and local governments is currently being discussed very actively throughout Japan. It is being said that the decentralization movement in Japan has moved from the debate stage to the implementation stage.<sup>3</sup> However, this recommendation has left untouched other planning mechanisms, including regional environmental regulation, that can affect regional strategic transportation planning since reforms of such mechanisms would cause drastic changes in transportation planning schemes in Japan and such changes might impede the establishment of the proposed planning organization.

However, there are several challenges to planning mechanism in Japan that should be addressed if regions want real regional strategic planning mechanisms that can formulate regional plans comprehensively and strategically from the regional point of view. Such regional mechanisms should treat not only regional transportation but also regional environmental issues, regional land-use issues, and regional economic developments. City planning at a local level is such mechanism that can integrate many planning tasks in a single planning framework. At the regional level, too, such mechanism is needed. These changes would lead to a metropolitan government that many in Japan have proposed in various ways so far. From the regional point of view, this reform of regional governance might be one of solutions for many regional issues. However, it will take a long time to establish metropolitan government and whether the reform will be implemented is not clear at this time. Some think that regional governance experimentation has moved away from looking for the single all-powerful governance mechanism -metropolitan government- to creating a network of mechanisms.<sup>4</sup> Other suggests that the issue of metropolitan government will again come to fore though there is currently little likelihood that metropolitan government will come to the forefront of political agendas in the foreseeable future.<sup>5</sup>

---

<sup>3</sup> Ministry of Home Affair, *Web Site*

<sup>4</sup> Dodge, *Regional Excellence*, 1996

<sup>5</sup> Barlow, *Metropolitan Government*, 1991

The transition from the midway point (a special district type of regional transportation planning organization recommended in this thesis) to an unclear final destination should be made clear in further research. To what extent should authority over land-use be transferred from local governments to regional government? How should regional transportation planning be linked to regional environmental regulation? Who should govern them? For the regional bodies to respond to regional needs, the fundamental relationship among the national government, prefectural and local governments, and the regional planning bodies has to be re-established appropriately for the new planning system.

#### **-To Develop a Scenario for the Reform Implementation**

This transition will need a long time to be implemented. There could be many stakeholders in the reform and many uncertainties in the process. To ensure the implementation of this recommendation in this complicated situation, more strategic measures concerning how to advance the reform are needed. Scenario development would be helpful to plot in a structured approach. How the scenario can provide the strategies to implement this reform is expected to be studied in further research.

Regional strategic transportation planning systems include very broad elements. For the effective and practical reform, further research by various people from a variety of disciplines should be conducted and integrated in much broader contexts.

Though the form of regional transportation planning organization should depend on geographic, cultural, and political characteristics of regions, the best practice of each region can be helpful to each other region. I hope this research become a help for establishing regional strategic transportation planning systems in many regions around the world that pursue regional solutions to transportation problems, as well as the Osaka/Kobe/Kyoto metropolitan area.

# Bibliography

- Administrative Reform Council. *Final Report*. Provisional Translation. 1997.
- Association of Metropolitan Planning Organizations. *About MPO*. Web Site. 1995.
- Association of Metropolitan Planning Organizations. *MPO Best Practices*. Web Site. 1995.
- Barlow, I.M. *Metropolitan Government*. London: Routledge. 1991.
- Brill, Peter and Worth, Richard. *The Four Levers of Corporate Change*. New York: American Management Association. 1997.
- Carlson, Daniel & Wormser, Lisa & Ulberg, Cy. *At Road's End*. Washington D.C.: Island Press. 1995.
- Conklin, Christopher. *Enhanced Planing Review*. A Working Paper for Center for Transportation Studies, Massachusetts Institute of Technology. 1998.
- Dodge, William. *Regional Excellence*. Washington D.C. : National League of Cities. 1996.
- Hanshin Expressway Public Corporation. *Web Site*.
- Hanshin Expressway Public Corporation. *The Work of the Hanshin Expressway Public Corporation*. 1995.
- Hanshin Expressway Public Corporation. *The Work of the Hanshin Expressway Public Corporation, Japanese Version*. 1996. Trans. Yasuo Tatsumi.
- Japan Highway Public Corporation. *Web Site*.
- Japan Society of Civil Engineers. *System for Infrastructure Development: Japan's Experience*. 1995. Trans. Yasuo Tatsumi.
- Kansai Economic Federation. *Web Site*. Trans. Yasuo Tatsumi.
- Kansai International Airport. *Web Site*. Trans. Yasuo Tatsumi.
- Kanter, Rosabeth. *World Class*. New York : Simon & Schuster. 1995.
- Kinki Construction Bureau of the Ministry of Construction. *Web Site*. Trans. Yasuo Tatsumi.

Kinki District Highway Committee. *A Document of the General Assenmbly of the Kinki District Highway Committee*. 1997. Trans. Yasuo Tatsumi.

Kinki Transport Bureau of the Ministry of Transport. *Web Site*. Trans. Yasuo Tatsumi.

Krugman, Paul. *Geography and Trade*. Cambridge : MIT Press. 1991.

Krupnick, Alan. *Vehicle Emissions, Urban Smog, and Clean Air Policy*. 1992.

Kyoto University Team. *Mobility Observatory in Seven Cities of the World's Most Industrialized Countries*

North Jersey Transportation Planning Authority. Inc., *History of MPOs*.

Metropolitan Service District (Metro), *Web Site*

Ministry of Construction, Japan. *Web Site*.

Ministry of Home Affairs, Japan. *Web Site*.

Ministry of Transport, Japan. *Web Site*.

Office of the Mayor in Osaka City. *Osaka City Comprehensive Plan for the 21st Century*. 1991. Trans. Yasuo Tatsumi.

Osaka Chamber of Commerce and Industry. *Web Site*.

Osaka City Government. *An Outline of the Osaka City Administration*. 1993.

Osaka City Government. *City Planning in Osaka City*. 1997.

Osaka Prefecture. *History of 100 Sessions of Osaka Prefectural City Planning Council*. 1996. Trans. Yasuo Tatsumi.

Osaka/Kobe/Kyoto Metropolitan Planing Comittee. *3<sup>rd</sup> Person Trip Survey in the Osaka/Kobe/Kyoto Metropolitan Area*. 1992. Trans. Yasuo Tatsumi.

Pendleton, Todd A. *Regional Architecture: Definition and Integration into the Strategic Transportation Planning Process*. Master Thesis in Massachusetts Institute of Technology. 1998

Port Authority of Port of Osaka.. *Directory of Port and Harbor Council of the Port of Osaka*. 1996. Trans. Yasuo Tatsumi.

Port & Harbor Bureau, City of Osaka.. *Port of Osaka*. 1996.



Rodriguez, Daniel Andres. *Developing a System Architecture for Intelligent Transportation Systems With Application to San Juan, Puerto Rico*. A Master Thesis at Massachusetts Institute of Technology. 1996.

Rusk, David. *Cities Without Suburbs*. Washington D.C. : The Woodrow Wilson Center Press. 1993.

Shigemori, Akira. *Decentralization - How to implement-*. Tokyo: Maruzen. 1996.

Sussman, Joseph et al. *Regional Strategic Plans: Developing the Competitive Region, Year 1 Report*. 1997.

Takahashi, Toru. *Institutional Design for IVHS in Osaka: Applying the Concept of ISTE A in Japan*. Master Thesis at Massachusetts Institute of Technology. 1994.

Third Port Construction Bureau of the Ministry of Transport, Japan. *Web Site*. Trans. Yasuo Tatsumi.

Transport Policy Council. *Basic Plan Concerning Transportation Network Development Centering Rapid Railroad in Osaka Metropolitan Area*. 1989. Trans. Yasuo Tatsumi.

Transportation Research board, National research Council. "Institutional Aspects of Metropolitan Transportation Planning" In Transportation Research Circular, Number 450. 1995.

United State Advisory Commission on Intergovernmental Relations. A Commission Report, *Alternative Approaches to Governmental Reorganization in Metropolitan Areas*. 1962.

United State Advisory Commission on Intergovernmental Relations. An Information Report, *Performance of Urban Functions:Local and Areawide*. 1963.

United State Advisory Commission on Intergovernmental Relations. A Commission Report, *MPO Capacity*. 1995.

United State Advisory Commission on Intergovernmental Relations. A Staff Report, *Planning Progress*. 1997.

United State Congress, General Accounting Office. *Urban Transportation : Metropolitan Planning Organizations' Efforts to Meet Federal Planning Requirements*.1996.

United State Department of Transportation, *A guide to Metropolitan transportation Planning Under ISTE A*.

United States Department of Transportation. *Enhanced Planning Review of the Chicago Metropolitan Area. Final Report.* 1996.

United States Department of Transportation. *Enhanced Planning Review of the San Francisco Bay Metropolitan Area. Final Report.* 1996.

United State Department of Transportation. *The FTA-FHWA MPO Reviews.*

United State Department of Transportation. *Urban Transportation Planning in the United States.* 1992.

Yang, Xing. *Designing A Transportation Network for Mendoza, Argentina: A Strategic Approach.* Master Thesis at Massachusetts Institute of Technology. 1997.

## **Appendix A**

### **Advantages and Disadvantages of Mechanisms for Various Regional Governance**

#### **-Review of a Commission Report, *Alternative Approaches to Governmental Reorganization in Metropolitan Area*, the U.S. Advisory Commission on Intergovernmental Relations-**

A report by the Advisory Commission on Intergovernmental relations (ACIR), *Alternative Approaches to Governmental Reorganization in Metropolitan Area*, examined strength and weakness of various regional governance mechanism. This appendix reviews those discussions in the following four categories. This appendix is to provide detailed information concerning regional governance related to the discussion of Chapter 2 in this thesis.

#### **-Agreement/Contract**

Intergovernmental agreements are arrangements under which a governmental unit conducts an activity jointly or cooperatively with one or more other governmental units, or by contracting for its performance with another governmental unit. These agreements may be for the provision of direct services to citizens of two or more jurisdictions.

This category includes voluntary metropolitan councils as a form of agreement. Voluntary metropolitan councils, which are voluntary associations of elected public officials, are formed to seek a better understanding among the governments and officials in the area, to develop a consensus regarding metropolitan needs, and to promote coordinated actions in solving their problems.

These mechanisms are useful in broadening the geographical base for handling common functions in metropolitan areas, and they can make their performance more efficient. Flexibility of boundaries and political feasibility are other strengths because

this approach involves little modifications of the existing political structure and does not threaten to interfere with citizen control over their local governments.

A basic weakness is that intergovernmental agreements are practical only when the local interest of each participating unit is not likely to be in conflict with the broader area-wide interest. Thus, this approach is not suitable to effective decision-making in issues which transcend the interest of any one part of the area.

### **-Special District/Authority**

In this category, there are two types of approaches: limited purpose and multi-purpose special district.

A limited purpose metropolitan special district is an independent unit of government organized to perform one or a few urban functions throughout part or all of a metropolitan area, including the central city. Limited purpose districts, sometimes called authorities, perform service rather than regulatory functions and generally finance themselves through service charges, sales, rents and tolls since they do not have taxing power. Examples of this type of mechanisms are the Massachusetts Bay Transportation Authority, and the Port Authority of New York and New Jersey.

The key advantage of the limited purpose special district approach is its high degree of political feasibility because it is a minor threat to existing political organizations and powers. This approach has proved effective in providing an area-wide geographic base for dealing with area-wide problems. It can carry out its function unrestricted by the boundaries of regular governmental structure, and at the same time, local governments continue to retain responsibility for other functions. Moreover, a metropolitan special district is adaptable to use where the metropolitan area overstrides more than one county, or more than one state. Some of the other mechanisms are practically limited to a single county and state.

However, extensive use of this device complicates rather than simplifies the problem of governmental coordination and it tends to erode the importance of general purpose governments. The voter has no direct control over the district's conduct.

The multi-purpose district has developed mainly as a way of capitalizing on the strength of the limited purpose approach and overcoming its weaknesses. A metropolitan multi-purpose special district is a special authority set up to perform a number of services in all or most of a metropolitan area. Usually the initiation and approval of the establishment of the district requires the approval of local governing bodies or of the voters of the affected local governments.

This approach has most of the strengths of the limited purpose district and has advantages not possessed by the limited purpose district. By requiring voter approval for its establishment and the addition of functions, it preserves sensitivity to local wishes and local control over local matters while facilitating area-wide control over area problems. In addition, it greatly diminishes the problems of coordination among area-wide functions.

However, the multi-purpose district is not as politically feasible as the limited purpose special district because it is more of a threat to established local governments and other existing institutions.

#### **-Annexation/Consolidation**

Annexation and consolidation are the two general ways by which municipal boundaries are adjusted. Annexation is the absorption of territory by a city, usually by a central city. Consolidation is the joining together of two or more units of government of approximately equal stature to form a new unit of government.

City-county consolidation and urban county are also included in this category. The urban county approach refers to the development of the county from its traditional position as an administrative subdivision of the state for carrying on state functions to one in which it provides a significant number of services of a municipal character throughout all or part of its jurisdiction. This may occur through transfer of functions from municipalities or special districts.

The major strength of these approaches is that they broaden the geographical jurisdiction, and unlike limited purpose special districts, these approaches strengthen rather than weaken general purpose governments.

These approaches became more difficult, however, as suburbanization grew and new cities and villages gradually were incorporated around the edges of the central cities. Suburbanization is proceeding at a more accelerated rate in some metropolitan areas. In such areas, these approaches are not flexible enough to respond to the rapid suburbanization.

### **-Metropolitan Government**

Metropolitan government is a separately chartered, general purpose unit of government that conducts or at least guides all major regional decision making, its interrelationships with county and municipal government, and problem solving and service delivery.

The strength is that this metropolitan government can deal with almost all needs in the region in more coordinated manner than any other mechanisms. However, it is very difficult to be implemented because this approach has too huge an impact on the existing governmental and political structures.

# **Appendix B**

## **Case Study**

### **Mechanisms of Regional Strategic Transportation Planning in the Osaka/Kobe/Kyoto Metropolitan Area**

This is a case study concerning regional strategic transportation planning in the Osaka/Kobe/Kyoto metropolitan area in Japan. It aims to examine the process of the planning and make its challenges clear. In this case study, planning efforts conducted by various planning agencies, their planning products, and the relationship among planning organizations are examined in terms of the planning requirements discussed in Chapter 2. The summary of this case study and its analysis are included in Chapter 4.

There are various planning agencies serving regional transportation in the Osaka/Kobe/Kyoto metropolitan area. First, this case study looks at formal planning agencies. Those agencies have formal organization and play the primary role in transportation planning. Agencies examined here include prefectural governments (Osaka, Hyogo, Kyoto, Wakayama, Nara, and Shiga Prefectural Government), governments of Government Ordinance Designated City (Osaka, Kobe and Kyoto City Government), district branch offices of the national ministry (the Kinki District Construction Bureau of the Ministry of Construction, the Third Port Construction Bureau and the Kinki Transport Bureau of the Ministry of Transport).

In addition, a regional highway agency, the Hanshin Expressway Public Corporation, will be addressed. Private planning organizations, the Kansai Economic Federation and the Osaka Chamber of Commerce and Industry, will also be looked at as an example of the private regional planning agency.

Then, advisory regional planning committees will be discussed with special attentions. These committees, the Kinki District Highway Committee, the Transport Policy Council, and the Osaka/Kobe/Kyoto Metropolitan Planning Committee, have very

important role in regional transportation planning in the Osaka/Kobe/Kyoto metropolitan area. Though they are advisory mechanisms, they have significant influence in the regional transportation planning by complementing the formal planning organizations.

### **A list of planning mechanism examined**

- 1. Prefectural Governments and Governments of Government Ordinance Designated City**
- 2. District Branch Offices of the National Ministries**
- 3. The Hanshin Expressway Public Corporation**
- 4. The Kansai Economic Federation and the Osaka Chamber of Commerce and Industry**
- 5. The Kinki District Highway Committee**
- 6. The Transport Policy Council**
- 7. The Osaka/Kobe/Kyoto Metropolitan Planning Committee**

### **1 Prefectural Governments and Governments of Government Ordinance Designated City**

Prefectural governments and governments of Government Ordinance Designated Cities (GODCs) are most essential organizations that are responsible for regional strategic transportation planning. As general purpose governments, these organizations are in charge of very broad administrative areas including not only transportation planning but also land-use regulation, economic development, environmental preservation, education, welfare, and health. They also have rather large jurisdiction to deal with regional issues. However, expansion of the Osaka/Kobe/Kyoto metropolitan area beyond the borders of these GODCs and prefectures makes their regional planning efforts ineffective.

There are many municipalities in this region, too, but they are too small in terms of their jurisdictions and too weak from the point of view of fiscal and administrative capacity to treat regional administration. Therefore, regional tasks concerning these cities are done by prefectural governments that include those cities in their jurisdiction.



In this metropolitan area, prefectures and GODCs work for regional strategic transportation planning as equal partners traditionally because the three big GODCs have had rather strong power.

These organizations are involved in regional transportation developments in two ways. First, they develop prefectural and local transportation plans as prefectural and local authorities. Second, they can construct, operate and maintain transportation facilities such as highways, port facilities and public transportation as implementing agencies.

### **1-1 Planning by Prefecture and Government Ordinance Designated City**

Prefectures and GODCs do two types of planning. The first is comprehensive planning, which is not legally required. The second is legal planning mechanisms, city planning and port and harbor planning.

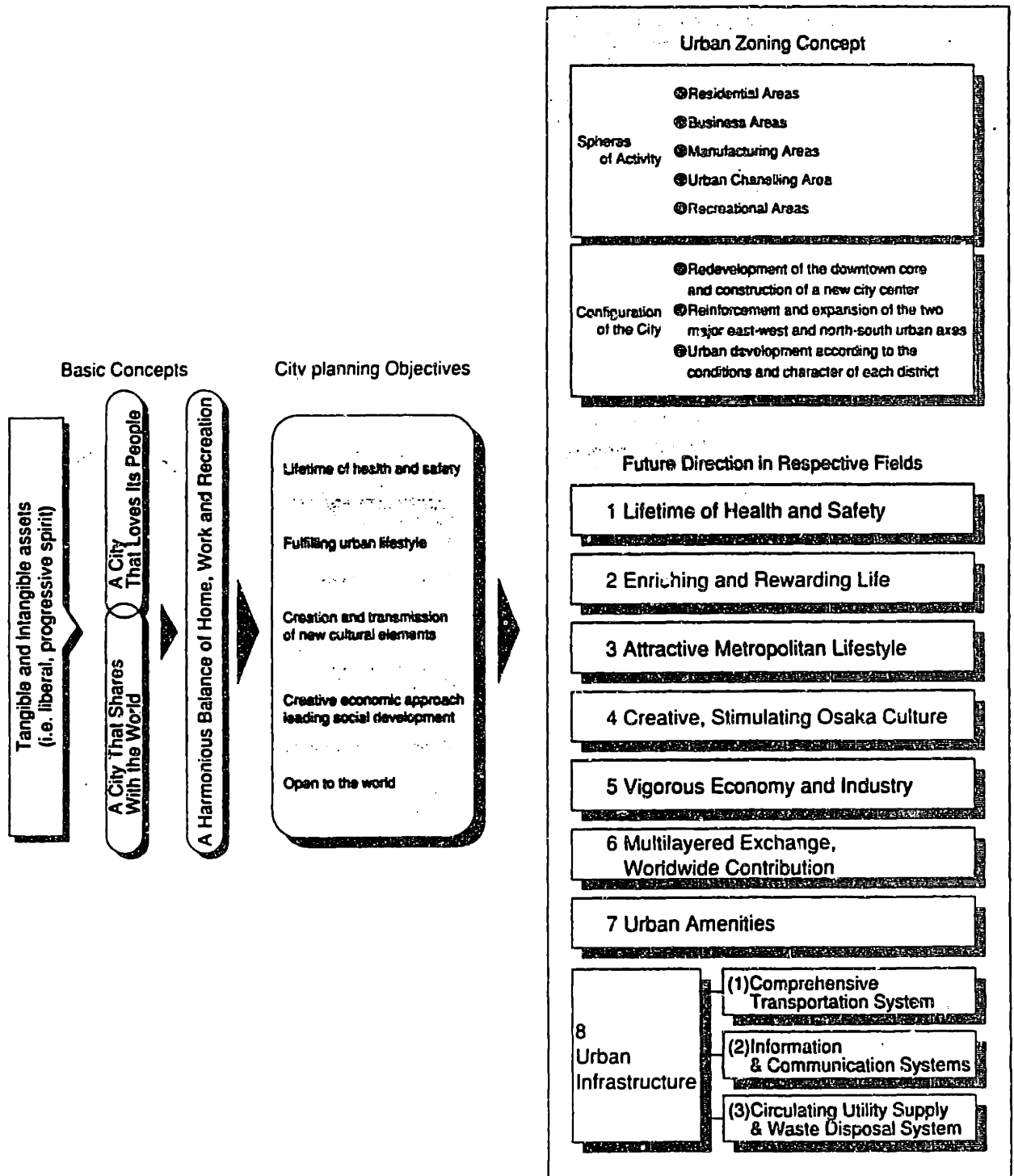
#### **-Comprehensive Planning**

In many cases, prefectural governments and governments of GODCs have comprehensive plans as their guides for policy-making and service-delivery. The comprehensive plans include almost all administrative areas of the governments. These are very important documents representing the fundamental directions of development of their jurisdictions. These governments develop transportation systems in accordance with their comprehensive plans to coordinate transportation development with other administrative objectives. As an example, a comprehensive plan of the City of Osaka, *Osaka City Comprehensive Plan for the 21st Century*, is examined here.

The plan adopts two basic development themes: "The city for its people" and "The city that contributes to the welfare of the world". The plan sets out five objectives involved in realizing a harmonious balance of home (life function), work (economic function), and recreation (culture, amenities, relaxation, etc.) in the lives of its citizens. To clarify the contents of the five objectives, eight items are specified, which show the future directions of the master plan, and an urban zoning concept is formulated.

**Figure 1**

**Framework of the Osaka City Comprehensive Plan for the 21st Century**



(Source: Office of the Mayor in Osaka City, *Osaka City Comprehensive Plan for the 21st Century*, 1991)

Concerning transportation development, this plans states:

*Osaka City will establish new, comprehensive transportation systems in harmony with the urban environment, from the standpoint of providing ease of movement within the city, and between Osaka and points throughout Japan and across the globe. To achieve this objective, the city will promote the formulation of a nation-wide and world-wide network comprising land, sea, and air transport, and will establish a convenient city-wide public transportation system centered on railroad transport. This will be complemented by a full fleet of city buses, and promoted on the basis of curbing private automobile use in favor of reliable, less polluting mass transit.*

This plan recognizes the importance of comprehensive and intermodal planning, but it lacks a regional point of view. This is typical of comprehensive plans made by prefectural and local governments. Moreover, the situation is very serious in the Osaka/Kobe/Kyoto metropolitan area because the actual metropolitan area extends beyond the limits of prefectural and local governments.

### **-City Planning**

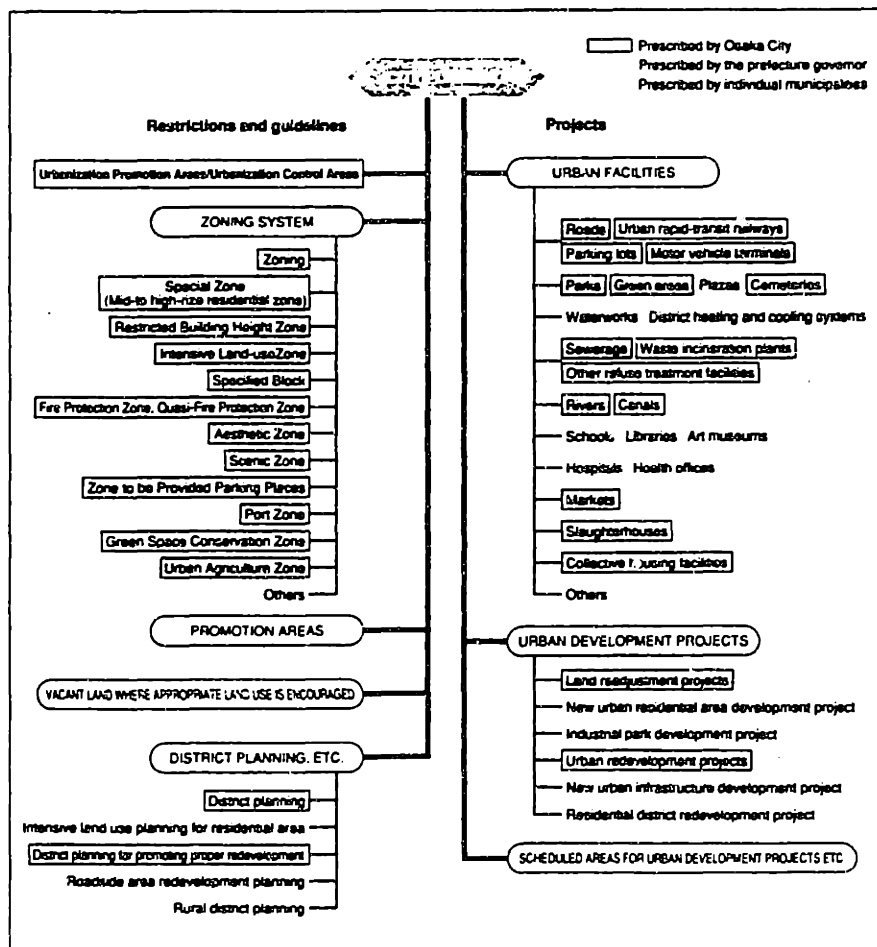
City planning is a legal mechanism to establish urban structures comprehensively. The major planning areas of the city planning are zoning, urban facilities, and urban development projects.

The city planning area is divided into urbanization promotion areas, existing urban districts and districts to be urbanized over periods of approximately ten years, and restricted urbanization control areas in which urbanization should be controlled. In addition, in the urbanization promotion areas, city planning can stipulate zoning regulations that specify the use of land. Urban facilities can include fundamental urban infrastructure such as highways, expressways, railroads, and parking. Urban development

projects consist of land readjustment projects and urban redevelopment projects.<sup>1</sup> Coordination between transportation development, and land-use and economic developments can be carried out effectively through this planning mechanism.

Though detailed content of city planning varies from that of cities and prefectures, the core of the planning product is common to them, according to the national standard. City planning for the City of Osaka is shown in the next figure.

**Figure 2**  
**City Planning System in Osaka**



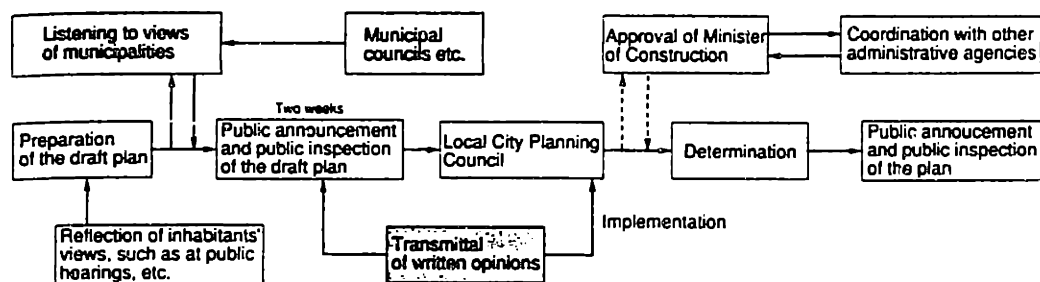
(Source: Osaka City Government, *City Planning in Osaka City*, 1997)

<sup>1</sup> Kyoto University Team. *Mobility Observatory in Seven Cities of the World's Most Industrialized Countries*

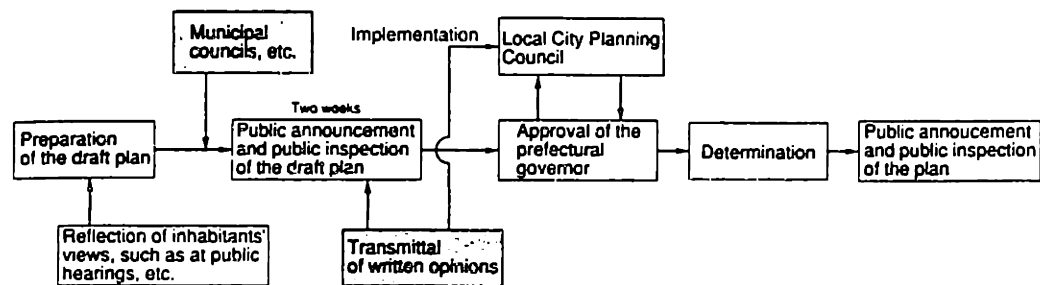
In general, city planning is formulated by the municipalities individually. City planning that applies beyond the city limits and needs regional coordination is formulated by the governor of the prefecture. However, even for the city planning that is expected to be formulated by the governor, municipalities draft the plan with close consultation with the prefecture. City planning that municipalities can formulate needs deliberation of the Local City Planning Council and the approval of the governor of the prefecture. City planning that the governor must formulate needs deliberation of the Local City Planning Council and the approval of the Minister of Construction at the national level.

**Figure 3**  
**Process of City Planning**

(1) City planning formulation process by the prefectural governor



(2) City planning formulation process by municipalities



(Source: Osaka City Government, *City Planning in Osaka City*, 1991 )

The Local City Planning Council is a prefectural committee that discusses city planning by request of the governor, and deliberates whether the governor should approve or designate inclusion of proposals to the current plan.

The organization and operation of the Local City Planning Council are decided in prefectural ordinance in accordance with the national standard. The Council of Osaka Prefecture, for example, is constituted by 35 members. To ensure objective discussions from the regional point of view, the ordinance of this prefecture gives few votes to local governments.

**Table 1**  
**Constitution of the Osaka Prefectural City Planning Council**

	Number
Persons of Learning and Experience	11
Kinki District Construction Bureau of the Ministry of Construction	1
Kinki Transport Bureau of the Ministry of Transport	1
District Branch Offices of Other Related Ministries	2
Vice Governor	1
Prefectural Education Department	1
Prefectural Police Department	1
Prefectural Council Members	11
Representative of Mayors in Osaka Prefecture (Except the City of Osaka)	2
Representative of Chairpersons of councils in Osaka Prefecture (Except the City of Osaka)	2
Mayor and Chairperson of council of the City of Osaka	2
Total	35

(Source: Osaka Prefecture, *History of 100 Sessions of Osaka Prefectural City Planning Council*, 1996)

City planning is a very helpful mechanism for urban planning because it can coordinate various planning tasks, such as intermodal transportation development and land-use regulation, in a single system. There are no legal systems in Japan that can deal with planning comprehensively other than city planning. The biggest problem of the city planning system is that the planning is done only within the jurisdiction of a single prefecture. Due to the small planning areas, it is difficult for this planning mechanism to have a regional perspective. To pursue regional strategic transportation planning,

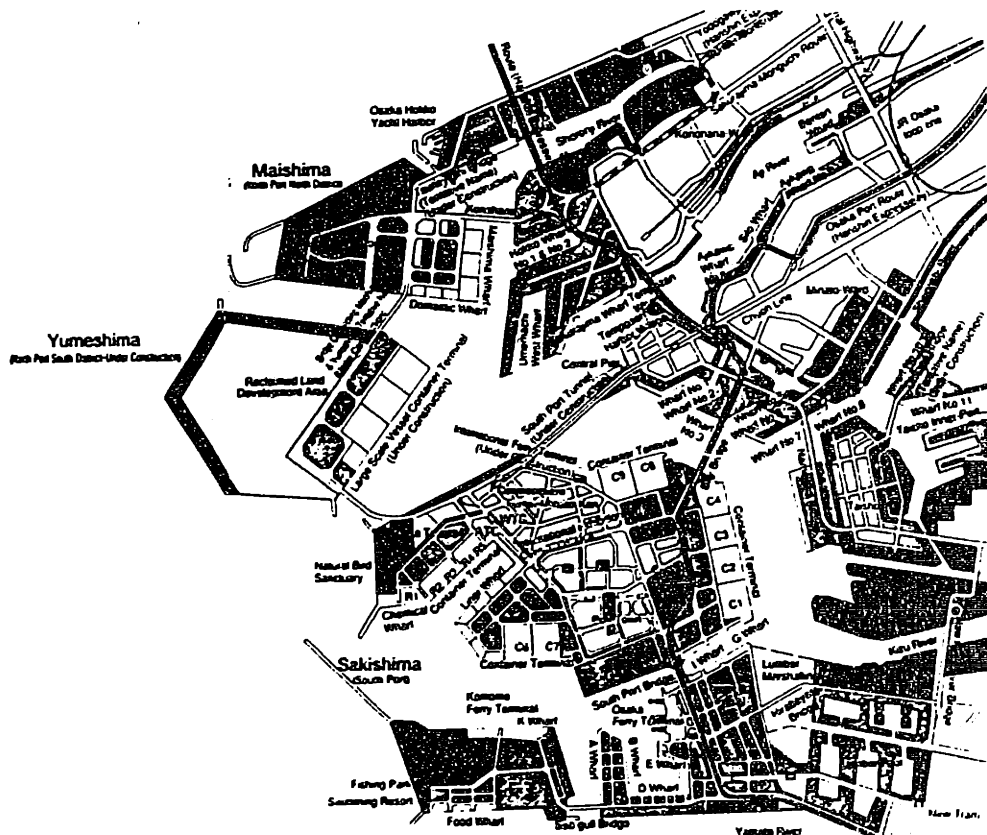
however, this system might be able to be used as one of models for well integrated planning with other planning issues.

### -Port and Harbor Planning

Major ports must have port and harbor plans by law. The port authority, usually a department of prefectural or local governments, is in charge of the planning. The plan includes 1) development policy of the port and harbor area, 2) function, location and capacity of the port and harbor facilities, and functions as a master plan of port and harbor area. Land-use plan of the area and transportation development plan supporting the land use are also included in the plan.<sup>2</sup>

Figure 4

### Land Utilization of Port of Osaka

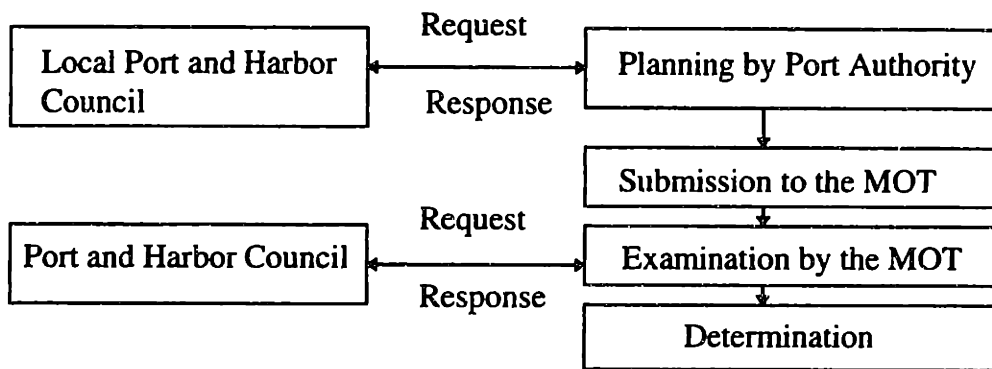


(Source: Port & Harbor Bureau, City of Osaka, *Port of Osaka*, 1996)

<sup>2</sup> Japan Society of Civil Engineers, *System for Infrastructure Development: Japan's Experience*, 1995

The process of port and harbor planning requires the port authority to have response from the Local Port and Harbor Council to stipulate its plan. Then the plan is send to the Ministry of Transport (MOT) that has authority to approve the plan. The MOT also must receive the response of the national Port and Harbor Council to decide whether it should approve plans proposed by port authorities.

**Figure 5**  
**Planning Process of Port and Harbor Plan**



The characteristic of this planning process is that it recognizes the importance of involvement by the private sector. In general, the usage of port facilities is limited to

**Table 2**  
**Constitution of Port and Harbor Council of the Port of Osaka**

	Number of Member
Persons of Leaning and Experience	11
Port and Harbor Business (Shippers, Carries, Union ,and so on)	11
Kinki Transport Bureau of the Ministry of Transport	1
Third Port Construction Bureau of the Ministry of Transport	1
Kinki District Construction Bureau of Ministry of Construction	1
Other Related Public Agencies	2
Osaka Prefecture	1
Osaka City Council	1
Osaka City Government	1
<b>Total</b>	<b>30</b>

(Source: Port Authority of Port of Osaka, *Directory of Port and Harbor Council of the Port of Osaka*, 1996)



specific users such as shipping companies and storage companies while other transportation facilities such as highways and public transportation are open to be used by public. The special situation requires the planning process to include opportunities to hear opinions of the concerned business persons. The Port and Harbor Council that is in charge of deliberation of the proposed port and harbor plan includes persons in shipping, storage, and trading businesses.

## **1-2 Transportation Development by Prefectures and Government Ordinance Designated Cities**

Prefectures and Government Ordinance Designated Cities (GODCs) develop transportation infrastructure such as highways, port and harbor facilities and public transportation by themselves.

Prefectures are in charge of Prefectural Highways from planning to maintenance. Local governments are in charge of Local Highway from planing to maintenance, too. Given the authority over Prefectural Highways, GODCs are responsible for both Prefectural Highways in their areas and Local Highways from planning to maintenance. The only exception to these rules is that urban expressways, though they are Prefectural Highways or Local Highways, are constructed, operated and maintained by the Hanshin Expressway Public Corporation, a national highway agent that will be examined later.

The three cities of Osaka, Kobe, and Kyoto develop subway systems and bus systems while other inter-city railroads are developed by the private railroad companies. For instance, subway systems developed by the City of Osaka extend over more than 100 km, with about 100 stations as of 1997.

Port and harbor facilities are developed exclusively by the port authorities that are departments of prefectural or local governments.

Prefectures and GODCs have considerable impact on regional transportation development not only as planning agencies but also as implementing agencies of transportation projects and its operators.

### **1-3 Relation among Prefectures and Government Ordinance Designated Cities in the Region**

Prefectures and the three big cities act as equal partners in many cases. In general, however, the communication among them is not so active. A council constituted by these governments was established in 1987 to strengthen collaboration for stipulating development policies. Yet, the organization, the Subaru Committee, has no power to implement planned projects or to solve conflicts among them. Only limited areas, such as promotion of tourism and events that are not likely to produce conflicts among governments, began to be conducted under cooperation of those governments in the metropolitan area.

### **1-4 Application of the Ten Requirements**

Chapter 2 identified ten requirements which regional transportation planning system should include: Integrated Planning, Freight Consideration, Intermodalism, Technology Scanning, Focus of Operation, Large Planning Area, Local Consideration, Coordination among Local and Regional Interests, Public-Private Partnership, and Financial and Legal Authority. This section examines the planning efforts of prefecture and GODCs from the point of view of these requirements.

#### **-Integrated Planning**

Prefectures and GODCs can coordinate transportation development with other planning including land-use and economic development. GODCs are the most suitable organization for this coordination. These cities can deal with almost all urban issues within their jurisdictions. City planning is the most powerful tool to coordinate them. However, the linkage between transportation and environmental preservation policies is not strong. Though some of their comprehensive plans state that transportation should be controlled to preserve the environment, these plans do not have implementation mechanisms.

### **-Freight Consideration**

Prefectures and GODCs consider freight movement in their plans. For example, the comprehensive plan for the City of Osaka states that the city needs to develop the Port of Osaka and the suitable arrangement of distribution terminals. However, their efforts concerning freight are not comprehensive. Its involvement tends to focus on only construction of distribution terminals.

### **-Intermodalism**

All transportation modes such as cars, trucks, public transportation, and ships, can be dealt with together by Prefectures and GODCs. They are involved in planning concerning cars and trucks as planning authorities on highway network. Governments of Osaka City, Kobe City, and Kyoto City operate subways and bus systems by themselves in their jurisdictions. In addition, both highways and subways are planned in a single legal structure, city planning. Port authorities that are in charge of port and harbor facility development are departments of prefectural governments or governments of GODCs.

What should be improved is the connection between port and harbor areas, and inland areas. Both areas have different plans; city planning and port and harbor plan. These two plans should be connected in a single structure.

The involvement of prefectures and GODCs in inter-city railroads is very limited. There are six major private railroads companies in the Osaka/Kobe/Kyoto metropolitan area and they plan their investment by themselves and negotiate with the Ministry of Transport directly about the needed approval and subsidies. Coordination for such regional transportation systems is conducted by advisory regional planning committees, which will be examined later.

In the regional planning mechanisms in this metropolitan areas, prefecture and GODCs are the most capable organizations for comprehensive and intermodal planning, but their efforts are not perfect and should be improved.

### **-Technology Scanning**

Concerning technology scanning, there are no formal systems in planning of prefectures and GODCs. Though some of these governments have laboratories in a specific field such as environmental protection technologies, transportation planning is usually done with little consideration of technological development.

### **-Focus on Operation**

Prefectures and GODCs operate many transportation facilities. This involvement makes them consider operational issues in planning. However, planning activities and operations for some transportation modes are conducted by different agencies. For instance, urban expressways are planned by prefecture and GODCs, but operation is the responsibility of a public highway corporation.

### **-Large Planning Area**

Concerning planning area, prefecture and GODCs are not appropriate as regional planning agencies. The Osaka/Kobe/Kyoto metropolitan area extends over the jurisdictions of six prefectures. Six prefectures and three GODCs and many small local governments are involved in transportation planning in this region. This fragmented governmental structure is one of the most serious problems in pursuing regional transportation planning in this region.

### **-Local Consideration**

GODCs have characteristics of both local government and regional organization. This system is intended to assume the two tasks in a single structure. GODCs are the best institutions in this region from a local interest point of view.

### **-Coordination among Local and Regional Interests**

The objective of establishing prefectures is to coordinate local interests and regional interests. Indeed, prefectures are assuming these tasks in their jurisdictions. However, the actual metropolitan area in this region is far beyond the borders of

prefectures. From this regional point of view, both prefecture and GODCs tend to consider local interests more seriously than regional interests. In this region, there are no regional coordination organizations in the practical sense.

### **-Public-Private Partnership**

As legal planning system, city planning and port and harbor planning that prefecture and GODCs can use consider public-private partnership to some extent. City planning stipulates that the private beneficiaries from infrastructure development should negotiate to share the expense. The Port and Harbor Council that is in charge of examining proposed Port and Harbor Plan includes private companies related to shipping businesses as its members.

This region has more experience of public-private partnership in project implementation than other metropolitan areas in Japan. For example, the City of Osaka established a development company in cooperation with private companies to develop waterfront areas. In the development of new Kansai International Airport, the Kansai Economic Federation, a private economic planning organization, which will be examined later, played a key role in close cooperation with the Osaka Prefecture.

However, other transportation infrastructure developments are carried out by the public sector exclusively. Regional transportation planning system needs to include mechanisms to promote close partnership between the two sectors in the planning process.

### **-Financial and Legal Authority**

The legal mechanisms that are helpful for prefecture and GODCs are city planning and port and harbor planning. With this framework, they can implement considerable coordination tasks. However, these tools are effective only in jurisdiction of prefectures.

Almost all transportation projects by prefecture and GODCs need subsidies from the national government. Yet, because inclusion of projects in city planning or port and harbor plan does not guarantee that they can obtain the subsidies, they have to negotiate with the related ministries to get subsidies.

Prefecture and GODCs have problems concerning their planning areas and financial authority. New planning systems have to compensate for the limits of these governments.

## **2 District Branch Office of the National Ministries**

### **2-1 Responsibilities of District Branch Offices**

District branch offices of the national ministries are established to implement national policy at the regional level. Concerning transportation development, the branch offices of the Ministry of Construction (MOC) and the Ministry of Transport (MOT) play important roles. There are three district branch offices that are in charge of transportation development in the Osaka/Kobe/Kyoto metropolitan areas: the Kinki District Construction Bureau of the MOC, the Third Port Construction Bureau of the MOT, and the Kinki Transport Bureau of the MOT.

The Kinki District Construction Bureau of the MOC is one of eight Construction Bureaus of the MOC in Japan. The Bureau's task is mainly to carry out the national public works such as highway development and river development in the Kinki district and the adjoining areas. In addition, it helps prefectural and local governments to communicate with the MOC. Another task is coordinating prefectural and local interests in planning from the regional point of view. Since this task is usually carried out by an advisory regional planning committee led by the bureau, it will be examined later.

The Third Port Construction Bureau of the MOT is one of five Port Construction Bureaus of the MOT in Japan. The responsibility of this bureau includes development of 348 ports and 18 airports in its jurisdiction. The major ports that serve the Osaka/Kobe/Kyoto metropolitan area are the Port of Kobe and the Port of Osaka. The Port of Kobe is one of the biggest ports in Japan. The Port of Osaka is also very important. Both ports are in Osaka Bay. Actual development projects of these ports are implemented by port authorities. The task of the Bureau is, like the Kinki District Construction Bureau, to help communication between port authorities and the MOT. In

some cases, the bureau coordinates the port planning of the two big ports by assigning the amount of the port facilities that should be developed at each port.

The Kinki Transport Bureau of the MOT is one of 10 Transport Bureaus of the MOT in the country. This bureau covers implementation of transport policy in the Kinki district. It does not have its own projects. Rather, its main tasks are regulation and approval on various private transport activities. However, big issues, such as approval for starting a railroad business, need to be decided upon the MOT. One of the most important tasks of the bureau for regional transportation planning is long-term railroads planning. The task is done by an advisory regional planning committee for which the bureau is the secretary. The tasks of the committee will be discussed later. What is common to these Bureaus is that they are well involved in policy study activities and transportation data collection.

**Table 3**  
**Jurisdiction of District Branch Offices**

District Branch Offices	District	Prefecture
The Kinki District Construction Bureau of the MOC	Kinki	Shiga, Kyoto, Osaka, Hyogo, Wakayama, Nara
	Part of Chubu	Part of Mie
	Part of Hokuriku	Fukui
The Third Port Construction Bureau of the MOT	Kinki	Shiga, Kyoto, Osaka, Hyogo, Wakayama, Nara
	Part of Chuugoku	Tottori, Shimane, Okayama, Hiroshima
	Shikoku	Tokushima, Kagawa, Ehime, and Kochi
The Kinki Transport Bureau of the MOT	Kinki	Shiga, Kyoto, Osaka, Hyogo, Wakayama, Nara

(Source: Web Site of the Kinki District Construction Bureau of the MOC, the Third Port Construction Bureau of the MOT, and the Kinki Transport Bureau of the MOT)

## **2-2 Application of the Ten Requirements**

### **-Integrated Planning**

The scope of these three bureaus, the Kinki District Construction Bureau of the MOC, the Third Port Construction Bureau of the MOT, and the Kinki Transport Bureau of the MOT, is very limited. They can get involved in some public works projects, but their main tasks are to connect prefectural and local governments with the MOC and the MOT. They can deal with only transportation development and they never get involved in land-use regulation, economic development, and environmental preservation.

### **-Freight Consideration**

Since both the MOC and the MOT consider freight issues an important policy area, these bureaus are involved in some studies about freight. However, they have no power to decide their policy or to implement the result of the studies.

### **-Intermodalism**

Their involvement in transportation development is limited to a single transportation mode. The Kinki District Construction Bureau of the MOC can treat only cars and trucks. The tasks of the Third Port Construction Bureau of the MOT relate to ships. The Kinki Transport Bureau of the MOT can deal with nothing other than public transportation. These organizations do not have appropriate systems for intermodal planning.

### **-Technology Scanning**

Like other planning areas, district branch offices do not get involved in technology scanning. However, the MOC and the MOT have strong interests in technology development and its application to transportation policy. The MOC has its own research institute, the Public Works Research Institute of the MOC. For over 70 years since its establishment, the institute has conducted research and development



covering a wide variety of elemental and applied research fields to improve the technologies for major construction projects.<sup>3</sup>

The MOT also has its own research institute, the Port and Harbor Research Institute. The institute has been committed to researching broad range of themes concerning ports and harbors as well as airports. Moreover, the Council for Transport Technology, an advisory body to the MOT submitted a report entitled “Proposals for Transport Technology Policy Prospects for the 21st Century”. In line with the proposals, the MOT is promoting various technologies such as Magnetic Levitated Railways, Techno Superliner, Mega-Float, and Advanced Safety vehicle.<sup>4</sup>

### **-Focus on Operation**

Among the three bureaus in this region, only the Kinki District Construction Bureau of the MOC has experience in management and operation of transportation facilities. For the other two bureaus to take operational consideration into account seems difficult because they do not operate actual transportation facilities.

### **-Large Planning Area**

In spite of many functional disadvantages of district branch offices, the area that they can cover as their jurisdictions are rather favorable for regional transportation planning in this metropolitan area. Their planning areas include the whole of the Osaka/Kobe/Kyoto metropolitan area. Though the large planning areas provide these offices with regional perspectives, those areas still have problems. The areas are too large to consider regional transportation planning for the metropolitan area. The planning areas include both very urbanized areas such as the Osaka/Kobe/Kyoto metropolitan area and areas with small populations. Furthermore, planning areas of the three bureaus are different from each other as shown in Table 3. Some prefectures that are at the peripheral areas are treated as a member of different district depending on the kinds of infrastructure. This disagreement of areas brings confusion to prefectural governments.

---

<sup>3</sup> Ministry of Construction, *Web Site*

<sup>4</sup> Ministry of Transport, *Web Site*

### **-Local Consideration**

What the district branches lack most is local consideration. Since they are branch offices of the national ministries, they have less motivation to consider local interests. Therefore, these offices are often opposed by local governments in discussing regional transportation planning.

### **-Coordination among Local and Regional Interests**

As national agency, these three district branch offices are at the suitable position to coordinate local and regional interests because they have no particular local interests. However, they have no authority to decide transportation development planning, or to select projects. These tasks are scattered to local and prefectural governments, and the national ministries.

### **-Public-Private Partnership**

Both at the project level and at the planning level, partnership between the private sector and these regional Bureaus is not active. In the field of highway development that the Kinki District Construction Bureau of the MOC is in charge of, almost all highways are constructed, operated, and maintained by the public sector. Since regional bureaus of the MOT are regulators rather than partners of the private companies, it is difficult for the MOT to have close partnerships with the private sector.

### **-Financial and Legal Authority**

These district branch offices have no financial and legal authority to do planning, to select projects, or to provide approval and subsidies for major transportation development. For this reason, they cannot play a key role in regional transportation planning even though their jurisdictions are large enough to cover the whole metropolitan area. To improve this situation, the national Administrative Reform is proposing to strengthen regional offices by merging the Construction Bureau of the MOC, the Port Construction Bureau of the MOT. The newly established office, whose tentative name is

the Regional Development Office, is to be given authority to compile unified budgets and to issue approvals and licenses for the related private activities.

### **3 The Hanshin Expressway Public Corporation**

#### **3-1 Outline of the Hanshin Expressway Public Corporation**

The Hanshin Expressway Public Corporation (HEPC) is a national highway agency that is in charge of developing expressways in the Osaka/Kobe/Kyoto metropolitan area. In the 1960's, as the economy grew, the traffic congestion got worse in this region. To respond to this problem, the Ministry of Construction (MOC) established an efficient toll road system under the Road Construction Special Measures Law of 1956. The HEPC was established in 1962 through capital investment by the related public agencies, including the national government, Osaka and Hyogo Prefectures, and the City of Osaka and Kobe, to plan, construct, operate, and maintain expressways in the Osaka/Kobe region. In 1993, the Hanshin Expressway Public Corporation Law was revised to authorize operation in the Kyoto area as well and Kyoto Prefecture and the City of Kyoto joined as capital investors. This expanded the jurisdiction of this corporation to three prefectures: Osaka, Hyogo, and Kyoto Prefecture. For over than 30 years, this corporation has contributed to the development of this region and even now it is the only public transportation agency that can cover the whole of the Osaka/Kobe/Kyoto metropolitan area. As of 1996, the current plan covers 21 expressway routes with a total length of 257km. Among this, the HEPC provides expressway service on the 200km of its network, which carries 869,700 cars and trucks on an average day as of 1997.<sup>5</sup>

---

<sup>5</sup> Hanshin Expressway Public Corporation, Web Site, *The Work of the Hanshin Expressway Public Corporation*

**Figure 6**  
**Expressway Network of the Hanshin Expressway Public Corporation**



(Source: Hanshin Expressway Public Corporation, *The Work of the Hanshin Expressway Public Corporation*, 1995)

### 3-2 Development Process

Though the HEPC is a national agency, the related laws stipulate considerable prefectural and local involvement in the development of these expressways. Therefore, this corporation is managed through the close cooperation between the MOC, and prefectural and local governments in the region.

The plans of the corporation are decided by a legal process, and are implemented by the corporation. The expressways constructed by the HEPC are categorized as Prefectural or Local Highways by Road Law. That requires the corporation to get its plans included in city planning that is under jurisdictions of prefectural and local governments. Prefectural and local governments formulate the plans in city planning from the viewpoint of the overall urban structure, improvement of the urban environment, and efficient land utilization.<sup>6</sup> In this stage, local governments can affect the plans from the local interest point of view. In the negotiation between the HEPC and local governments whose jurisdictions include the planned expressway, local governments lead the discussion about the route, structure, scales of the development of expressways. This works well when an expressway is in a jurisdiction of a single government. However, the expressway network that the HEPC is in charge of often extends beyond local limits and even the prefectural borders. More regional expressway planning is needed. In fact, expressway network planning from the regional point of view is done through coordination and negotiation at an advisory regional planning committee. This case study will examine the committee in detail later in this section.

Operation begins with Basic Plan directives received from the MOC based on the Hanshin Expressway Public Corporation Law. Many conditions must be met before such directives can be issued. First, local governments, which are actual administrators of the expressways, must approve the routes and designate the roadways as solely for automobile use in accordance with existing Road Law. Discussions have to be held

---

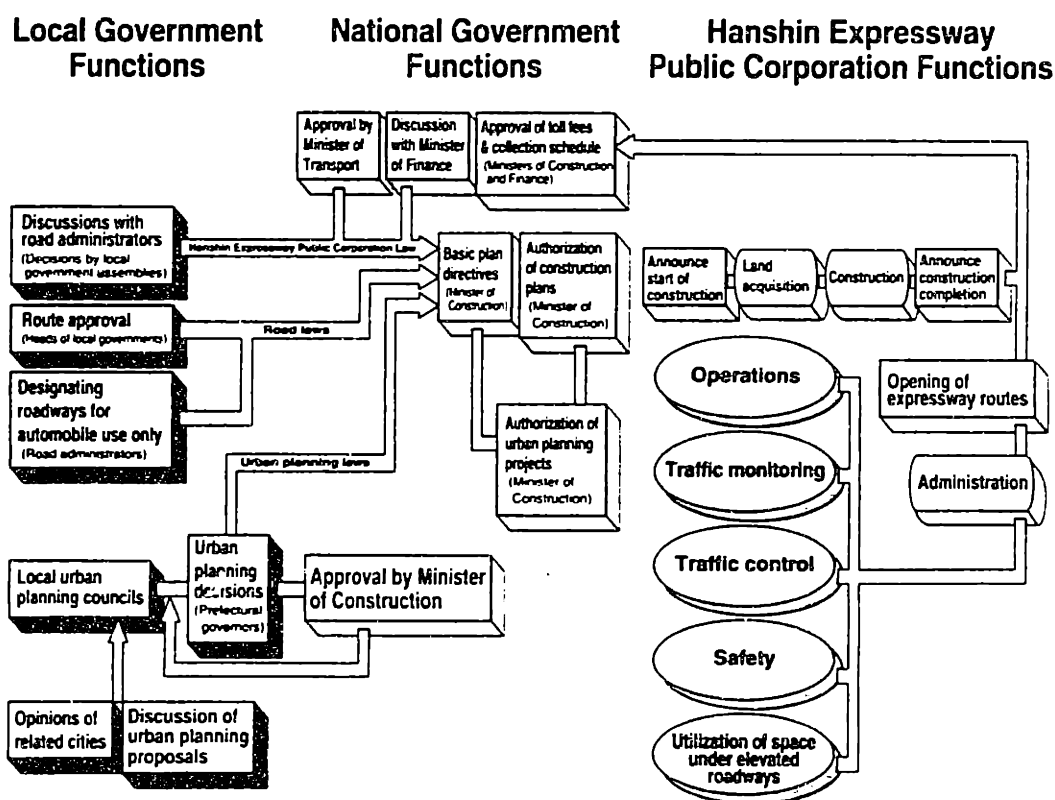
<sup>6</sup> Ibid., 5

between the Ministry of Finance and the local governments, and approval must be obtained from the Ministry of Transport, too.<sup>7</sup>

Once plans for carrying out the construction work have been prepared, approval of the road administrators, which are local governments in many cases, is obtained, followed by the authorization by the MOC. The HEPC then can start to work on their projects. After that, the corporation is empowered to exercise part of the authority of the actual road administrators on their behalf.

Inclusion of projects into these plans does not guarantee the needed budgets for the projects. The budget must be approved by the MOC every year. Before submission

**Figure 7**  
**Development Process**



(Source: Hanshin Expressway Public Corporation, *The Work of the Hanshin Expressway Public Corporation*, 1995)

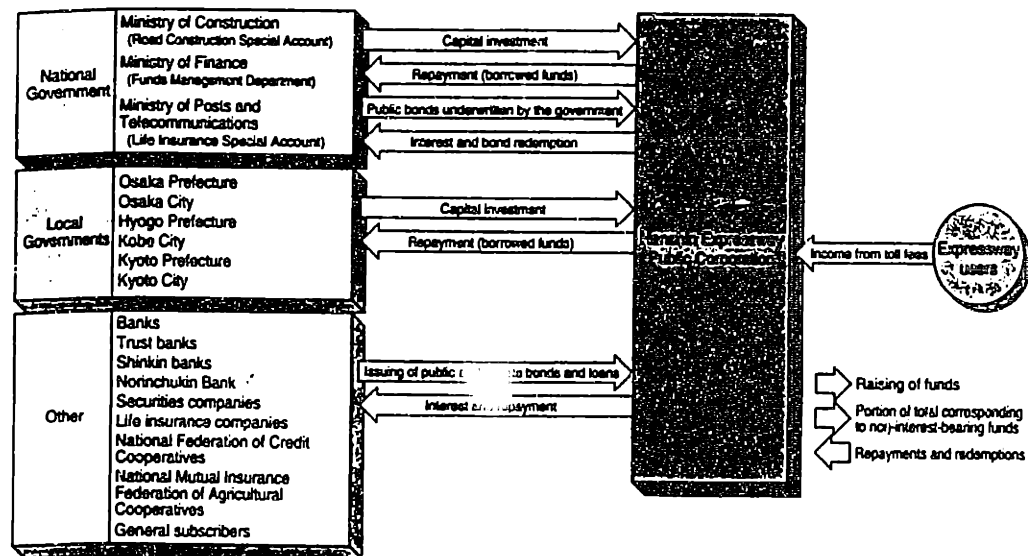
<sup>7</sup> Ibid., 5

of budget requests to the MCC, the budget, operating plans, and other plans of this corporation are decided each year by the Management Committee that consists of seven committee members and the chief director of the corporation. By the Hanshin Expressway Public Corporation Law, the appointment of the seven members must be approved by the MOC. Among the seven, three committee members have to be selected in accordance with the recommendation by the governors and mayors of the governments that invest in the HEPC. As of 1996, the governors of Osaka and Hyogo Prefectures, the mayors of the City of Osaka and Kobe, two business leaders in this region, and an academic constitute the committee.

### 3-3 Financing of Expressway Development

The income needed for the HEPC to implement its responsibilities consists of various sources.

**Figure 8**  
**Flow of Funds**



(Source: Hanshin Expressway Public Corporation, *The Work of the Hanshin Expressway Public Corporation*, 1995)

Of the total income of 566.1 billion yen in fiscal 1996, income from toll fees is 149.7 billion yen (26.4% of total income). The remaining necessary funds are obtained mainly by a combination of capital investment and borrowing. The investment capital of the corporation is non-interest-bearing funds received from the MOC and prefectural and local governments. As of fiscal 1996, 36.8 billion yen (6.5%) was received from these governments. The majority of borrowed funds are raised by issuing 377.6 billion yen (66.7%) Hanshin Expressway Bonds.<sup>8</sup>

### **3-4 Application of the Ten Requirements**

#### **-Integrated Planning, Freight Consideration, and Intermodalism**

The HEPC can deal with expressway development only by law and it can never get involved in land-use regulation, economic development and environmental planning.

The expressways contribute to freight movements in this region considerably, but the HEPC does not have capacity to lead policy on freight movements. For example, the HEPC has no authority to construct freight terminal, and even no relation with shipping businesses. It cannot deal with other transportation facilities such as public transportation and port facilities, either.

It is difficult for the HEPC to coordinate expressway developments with other urban planning issues, to consider its planning together with freight planning, and to develop the expressway through integrating it with other transportation modes.

#### **-Technology Scanning and Focus on Operation**

As an implementation agency of expressway projects, the HEPC has responsibilities from construction and operation to maintenance of its expressway systems. When planning, the planning division of the corporation takes technical and operational issues into account more than other planning-only agencies.

Concerning technology scanning, the HEPC is very active. The corporation

---

<sup>8</sup> Hanshin Expressway Public Corporation, *The Work of the Hanshin Expressway Public Corporation, Japanese Version*, 1996



constructs expressways in a very dense urban area. Its expressways have to carry a huge number of vehicles in the systems. Some parts of the expressways carry more than 30,000 cars and trucks per lane in a day. These situations make the HEPC very interested in state-of-the-art technologies for construction, operation, management, and maintenance of its systems. So far, the corporation has developed various advanced technologies for traffic management, traffic control, environmental mitigation, toll collection, and so on. Traffic control system of this expressway is considered one of the most advanced systems in the world. Equipped with traffic data collection systems, information processing systems, motorist information systems, entrance control systems, and accident detection systems, this traffic control systems contribute to make driving more efficient, safer, and more comfortable significantly.<sup>9</sup>

#### **-Large Planning Area**

In spite of many disadvantages of the planning mechanism of the HEPC, its planning area is appropriate for the Osaka/Kobe/Kyoto metropolitan area in terms of regional transportation planning. The jurisdiction of this corporation is almost the same as the most urbanized area in the region. In addition, the jurisdiction is very flexible. When the corporation recognized the need for extension of its expressway systems to the Kyoto area, the jurisdiction was extended from Osaka/Kobe area to the greater Osaka/Kobe/Kyoto metropolitan area. However, its jurisdiction does not include Nara, Wakayama, and Shiga Prefecture because the expressways of the corporation have not extended to these prefectures yet.

#### **-Local Consideration, and Coordination among Local and Regional Interests**

The HEPC is under strong control of both the national government and prefectural and local governments. Both sides can affect planning of the corporation significantly. In planning of the HEPC's expressways, national interests often conflict with prefectural and local interests. The MOC wants the HEPC to construct expressways mainly to

---

<sup>9</sup> Takahashi, *Institutional Design for IVHS in Osaka: Applying the Concept of ISTE A in Japan*, 1994

improve traffic flow; on the other hand, local authorities have more complicated interests about expressway development. This is because expressways might damage the environment while they provide mobility and access and might promote economic activities.

The MOC can affect the HEPC through Basic Plan Directives, Authorization of Construction Plans, and Budgeting. Prefectural and local interests can be reflected in the planning of the HEPC through the process of city planning. In this situation, the HEPC has no capacity to coordinate national, regional and local interests.

### **-Public-Private Partnership**

The HEPC does not have much experience with the public-private partnership throughout its business. An exception is that two business leaders in the region are included as members of the Management Committee, the highest decision-making organization for the corporation. The committee affects not only construction planning but also budgeting and almost all activities of this corporation. However, the committee meets only once a year in many cases. There is no other practical partnership between the HEPC and the private sector in the actual planning process.

### **-Financial and Legal Authority**

The HEPC is the only public corporation in the Osaka/Kobe/Kyoto metropolitan area that, as a single body, can treat regional transportation with legal authority. Given that it is very difficult to establish a metropolitan government that is in charge of all administration tasks in this metropolitan area, the HEPC has a great opportunities to contribute to regional transportation development. However, the actual planning capacity of the corporation is very limited because the legal and financial power to administrate the HEPC are given to other organizations such as the MOC and prefectural and local governments.

Income that the HEPC can obtain without negotiation with other governmental bodies is tolls, but it is only 26.4 percent of total income. 66.7 percent of the total income, the biggest share of income, is obtained by issuing bonds, for which the HEPC

needs the approval of the MOC. Planning process also allows the HEPC to be affected by the MOC and prefectural and local governments. The areas that the HEPC can control is very limited in the current system.

#### **4 Kansai Economic Federation and The Osaka Chamber of Commerce and Industry**

Private economic organizations in the Osaka/Kobe/Kyoto metropolitan area have long contributed to economic developments and transportation developments in the region. Unlike the Capitol Metropolitan area where the national government gets involved in its developments actively, the Osaka/Kobe/Kyoto metropolitan area has traditions of public-private partnership in its development activities. The Kansai Economic Federation, which is called the “Kankeiren”, and the Osaka Chamber of Commerce and Industry (OCCI) are some of the most influential private economic organizations in the region. These organizations also contribute to transportation developments by promoting discussion among stakeholders, proposing projects and policies, and coordinating various opinions about transportation developments through public-private partnership.

##### **4-1 The Contribution of Kansai Economic Federation**

The Kansai Economic Federation was established in 1964 as a private, non-profit organization. It consists of 860 members drawn from representative businesses and organizations which pursue economic activity mainly in the Osaka/Kobe/Kyoto metropolitan area, which is called the “Kansai Area”.<sup>10</sup> As one of Japan’s representative economic organizations, the Kankeiren promotes development of the Japanese economy by conducting research studies on important issues facing the Japanese economy and making proposals on policy to the relevant authorities. There are 22 committees for these purposes.

---

<sup>10</sup> Kansai Economic Federation, *Web Site*

**Table 4**

**Committees of the Kankeiren**

Steering
Economic Policy
Economic Legislation
Economic Reforms
Administrative System
Fiscal and Taxation system
Financial System
Aging Society
Human Resources Development
Good Corporation Citizenship
Science and Technology
Industrial Development
Global Environmental and Energy
Hanshin-Awaji Economic Revitalization
Urban Policy
Kansai Regional Development
Osaka Bay Area Development
Airport Projects
Research Cities
Cultural Promotion
International Affairs
International Exchanges

(Source: Kansai Economic Federation, *Web Site*)

One of the biggest private commitments in transportation developments in this region was construction of a new international airport. Since the 1970's, the region has been suffering from the lack of capacity of its international airport. In spite of long negotiation for a new international airport with the Ministry of Transport (MOT), which is in charge of construction of major airports by law, the Kansai region could not convince the MOT to construct a second airport for the region due to the fiscal shortage of the national government. In this situation, led by the Kankeiren, prefectural and local governments and private sector in the region decided to take a strategic approach. They proposed establishing a "private" company to take charge of construction, and operation of the new international airport. There were no precedents for such mechanism for airport development at that time because the law related to airport development stipulated that the MOT had responsibility for construction and operation of major airports in Japan.

In this process, the Kankeiren played a key role by using its strong connection with policy-makers in the Capitol. In 1984, Kansai International Airport Co. Ltd. was settled as a special corporation formed with investment capital from the national government, prefectural and local governments, and the private sector, for the purpose of constructing, operating Kansai International Airport. In 1994, the Kansai International Airport was completed as the first airport in Japan with 24-hour operational capacity with the project cost of 1,458 billion yen.<sup>11</sup>

**Table 5**  
**Equity Breakdown of Capital Investment**

National Government	289.1 billion yen	4/6 of equity
Local Governments	72.275 billion yen	1/6 of equity
Private Sector	72.275 billion yen	1/6 of equity

(Source: Kansai International Airport, Web Site, As of July, 1995)

Another important involvement of the Kankeiren in development of this region is Osaka Bay Area development. To implement the development, the Kankeiren not only established Osaka Bay Area Development Organization, a planning and coordinating organization, but also persuaded the national government to enact “The Act concerning the Development of Osaka Bay Area”. This bill was enacted in 1992 to promote the development of the Osaka Bay Area as a national project by providing development incentives. By order of this act, local governments are stipulated to hear the opinion from the Osaka Bay Area Development Organization when they make development plans.

The Kankeiren is also active in promoting regional cooperation in this metropolitan area. Recognizing the need to prepare for the era of regional competition, the Kankeiren is setting up a mechanism to ensure close cooperation among stakeholders in the region. Led by the Kankeiren, 9 prefectures and 3 Government Ordinance Designated Cities in this metropolitan area are discussing establishment of a permanent organization that is in charge of research, planning, and coordination. The Kankeiren will establish this organization by 1999.

---

<sup>11</sup> Kansai International Airport, *Web Site*

The Kankeiren is a very innovative and strategic economic organization with regional perspectives. Public-private partnership through the Kankeiren has contributed to development in the Kansai region so far, and it is expected to play an important role in formulating a united Kansai.

#### **4-2 The Contribution of The Osaka Chamber of Commerce and Industry**

The Osaka Chamber of Commerce and Industry (OCCI) has been committed to development of Osaka and the Kansai region since its establishment in 1,878 as a major economic organization of the Osaka business community. The OCCI is a comprehensive regional economic organization with membership of 42,000 consisting of all voluntary members. It is also a special legal corporate body in accordance with the Chamber of Commerce and Industry Law. The OCCI activities are focusing on: expansion of international business exchange, support to small and medium-size enterprises, and regional development of Osaka and the Kansai region. To conduct the activities, the OCCI has set up fourteen Trade Councils and twenty five Special Committees.<sup>12</sup>

Committee for Measures for Urban Transportation Problems is one of the committees that deal with transport issues. Its report, "Toward the Improvement of the Transportation Environment in Osaka" suggests that the private sector that produces traffic demand contribute for improving transportation problems though the primary responsibility for transportation policy is held by the public sector. The report proposes measures that private corporations can take to improve traffic congestion, parking problems, environmental pollution, and traffic accidents. In addition, the OCCI is expected to play a key role in promoting these private activities suggested in the report.

---

<sup>12</sup> Osaka Chamber of Commerce and Industry. Web Site.

### **4-3 Application of the Ten Requirements**

#### **-Integrated Planing**

The activities of the Kansai Economic Federation (Kankeiren) and the Osaka Chamber of Commerce and Industry (OCCI) are varied. The Kankeiren's variety of committees deal with not only economic development but also environmental and energy issues, administrative reforms, science and technology, cultural promotion, and international affairs. The OCCI is involved in many social and economic issues through its members' business activities. These economic organizations has contributed developments in this region and also will be a good partner to the public sector to promote a wide range of developments. However, the interests of the Kankeiren and the OCCI usually tend to focus on economic developments. By nature, it is difficult for these organizations to support severe regulation concerning land-use and the environment.

#### **-Freight Consideration**

While the public sector cannot control freight issues only through transportation facilities development, the private sector is involved in freight movement considerably. Almost all shippers are private. The flow of freight depends on the operation of the freight companies. In this sense, the private sector is expected to get involved in freight planning. The OCCI proposes efficient logistics in its report from the point of view of shippers. Efficient logistics can contribute not only to the improvement of the businesses but also to the reduction of traffic demand and energy consumption. Even if it is difficult for each company to carry out effective logistics, the OCCI that consists of many companies can lead the movement to improve the efficiency of freight by helping and giving incentives to small companies. To encourage private companies to cooperate with the public sector to ensure the public purpose, the close connection with business people is essential. In many cases, however, governments do not have this connection. Economic organizations such as the Kankeiren and the OCCI are expected to act as a mediator between governments and many private companies.

### **-Intermodalism, Technology Scanning, and Focus on Operation**

The Kankeiren and the OCCI usually get involved in transportation planning and policy-making from the users' point of view. Therefore, their interests tend not to focus on operation of transportation facilities and technologies that can improve the operation. For example, the OCCI's report, "Toward the Improvement of the Transportation Environment in Osaka", does not consider these issues. Though the Kankeiren is interested in efficient logistics, it has not proposed many plans on intermodalism. However, the public sector needs information from the private sector as users of transportation systems to improve intermodal connections, to ensure the needed technologies, and to make operation more effective.

### **-Large Planning Area**

Though those economic organizations, unlike public sectors, do not have clearly defined jurisdictions, the Kankeiren usually covers the whole Osaka/Kobe/Kyoto metropolitan area in its activities. The organization includes business leaders who come not only from Osaka but also from Kobe and Kyoto.

### **-Local Consideration**

The Kankeiren is less interested in local interests than regional interests. Unlike the Kankeiren, the OCCI is a local economic organization. Kobe and Kyoto also have their own Chambers of Commerce and Industries as well as Osaka. Though the OCCI is involved in development, not only in Osaka but also other areas in Osaka/Kobe/Kyoto metropolitan area as an economic organization of the core city of the region, chambers of commerce and industry are local by nature. Chambers of Commerce and Industries consist of many small enterprises and are more capable of responding to local interests than the Kankeiren.

### **-Coordination among Local and Regional Interests**

The Kankeiren has considerable potential to coordinate local and regional interests in the metropolitan area. There are many prefectural and local governments that



are in charge of regional transportation planning. The national involvement in transportation development is fragmented mode by mode. The Kankeiren does not need to care about the governmental jurisdictions and sometimes has political power to coordinate local interests. However, commitment of the Kankeiren tends to focus on economic development. This is the limitation of economic organizations on being ideal coordinators in regional development.

#### **-Public-Private Partnership**

The Kankeiren and the OCCI are some of the best examples of the public-private partnership in development activities in Japan. They contribute to transportation development by proposing action programs carried out by their members, participating in transportation development projects, coordinating fragmented interests, and leading regional cooperation.

#### **-Financial and Legal Authority**

Like other non-governmental organizations, the Kankeiren and the OCCI do not have any legal authority over transportation planning. However, by using their strong financial resources and political connections with legislators, they have promoted transportation and development projects actively. In the development of the Kansai International Airport, the Kankeiren played an important role in establishing an implementation company of the projects. In the case of Osaka Bay Area development, an organization affiliated with it obtained the authority to review development plans prepared by local governments.

## **5 The Kinki District Highway Committee**

### **5-1 The scope of the Kinki District Highway Committee**

Before establishment of this highway committee, in the Osaka/Kobe area and the Kyoto/Shiga area, there were two highway planning committees that had the same

functions as this committee. By combining these two committees and adding a few other prefectures in its jurisdiction, the Kinki District Highway Committee was established in 1969 to carry out surveys and coordination concerning highway planning and its project implementation in the Kinki District.<sup>13</sup>

This committee is constituted by public organizations that are related only to highway development. The district branch office of the Ministry of Construction (MOC), the Kinki District Construction Bureau, chairs the committee, but the MOC has decisive power over the discussion at this committee.

**Table 6**  
**Constitution of the Kinki District Highway Committee**

	Number of Member
Osaka Prefectural Government	2
Hyogo Prefectural Government	2
Kyoto Prefectural Government	1
Nara Prefectural Government	1
Wakayama Prefectural Government	1
Shiga Prefectural Government	1
Fukui Prefectural Government	1
Osaka City Government	2
Kobe City Government	2
Kyoto City Government	2
The Kinki District Construction Bureau of the MOC	1
Japan Highway Public Corporation	2
Hanshin Expressway Public Corporation	2
Honshu-Shikoku Bridge Authority	1
Total	21

(Source: the Kinki District Highway Committee, *A Document of the General Assembly of the Kinki District Highway Committee*, 1997)

\*Each agency has different number of seats in this committee because all departments of each agency related to highway development can be members of this committee. This does not affect the discussion at the committee because its decision is made not by voting but by negotiating.

<sup>13</sup> Kinki District Highway Committee, *A Document of the General Assembly of the Kinki District Highway Committee*, 1997

This committee is a very important mechanism for regional highway planning in the Osaka/Kobe/Kyoto metropolitan area as an advisory planning agency though it has no formal organization. It deals with long-term highway planning of the Osaka/Kobe/Kyoto metropolitan area. The committee also coordinates opinions among related governments about highway developments. Environmental preservation measures related highway development are discussed in this committee, too. Recently, it started to consider comprehensive transportation measures including congestion measures, Transportation Demand Management (TDM), intermodal planning, and freight movements.

One of its most important regional planning efforts is urban expressway network planning. Urban expressway planning is very complex. The planning and implementation of the National Expressways, arterial highways in Japan, are all under control of the MOC. Prefectural and local highways are formulated in the mechanism of city planning, of which prefectural and local governments are in charge. On the other hand, urban expressways need close coordination among all related governmental agencies since they often extend beyond the limits of local and sometimes even prefectural jurisdictions. However, the plans of the expressways have to be formulated in city planning because the urban expressways are designated as Prefectural or Local highways by law. The planned projects are implemented by the Hanshin Expressway Public Corporation (HEPC). Moreover, the Road Bureau of the MOC has the authority to approve city planning that prefectural and local government decide upon and to provide financial aid to the HEPC for the construction of the urban expressways.

The Kinki District Highway Committee coordinates opinions from these agencies and formulates network plans of expressways that have to be constructed in the long-term perspective. Though prefectural and local governments supply more than half of the members in the committee, the MOC drafts plans, coordinates interests, and leads the discussions at the committee. In 1982, the basic network plan of the urban expressway in the Osaka/Kobe/Kyoto metropolitan area was formulated by the committee. After that, the urban expressways in the region have been constructed in accordance with this plan. The inclusion of an expressway in this plan does not guarantee approval or financial aid officially, but the MOC, especially its Road Bureau, that has the authority, considers the

inclusion as an important condition for giving the approval and financial support for the expressways.

However, the discussion concerning regional expressways at this committee has been not active recently. Instead of that, each public agency such as prefectural and local governments negotiates with the MOC directly concerning the expressways that those agencies are interested in.

## **5-2 Application of the Ten Requirements**

### **-Integrated Planning**

Planning by the committee is not very integrated with other planning issues. It focuses on highway development and tends not to take railroad planning and environmental preservation into account successfully. The involvement of prefectural and local governments (which have capacities of comprehensive planning, including economic development planning, railroad planning, and environmental preservation planning), is limited by the strong presence of the MOC. That the committee's planning is not integrated is also reflected by the fact that the committee does not include other planning agencies that are not related to highway development.

### **-Freight Consideration**

The Kinki District Highway Committee started to recognize the need of planning for freight. However, the committee has no relation with the private sector that is most involved in freight movement. The involvement of the committee in freight planning is limited to construction of transportation infrastructure such as freight terminals. It lacks a capacity of dealing with other important measures including coordination of freight produced by many shippers.

### **-Intermodalism**

Since the scope of the Kinki District Highway Committee is limited to highway planning, it cannot treat other transportation modes such as railroads and ships. So far,

this planning method has contributed to rapid development of the highway systems in this region, but now more intermodal planning is required to improve almost all transportation problems. In this era of environmental protection, for example, it is often said that traffic congestion on the highways needs to be mitigated by providing public transportation services instead of increasing highway capacity. For regional strategic transportation planning, it is essential that the planning effort of the committee should be linked to the planning of other transportation modes.

#### **-Technology Scanning**

This committee does not have a permanent mechanism for technology scanning in its planning process. Only when it faces a problem that needs new technologies to carry out projects, the committee and the related highway operators make efforts at searching the needed technologies. Constant technology scanning for highway development is conducted by a national research institute of the MOC.

#### **-Focus on Operation**

The committee includes highway operators as its members. Moreover, the MOC itself is a highway operator as well as planner, policy-maker, and regulator. For these reasons, this committee can consider operational issues of highway facilities. However, its interests also are limited to highway development.

#### **-Large Planning Area**

The jurisdiction of the Kinki District Highway Committee includes not only the whole Kinki district but also the adjoining Fukui Prefecture. The planning area is much larger than the Osaka/Kobe/Kyoto metropolitan area and is large enough for regional transportation planning in the metropolitan area.

#### **-Local Consideration**

Though seven prefectures and three big cities are the members of the committee, strong national control over the committee makes it difficult for the committee to

consider local interest in its planning process. For example, the traffic projection that the committee uses to make regional transportation plans is given by the MOC from the national perspective without considering local development policies.

#### **-Coordination among Local and Regional Interests**

The planning mechanism of this committee is suitable for coordinating local interests. Especially, in the planning of urban expressways, the committee functions well as a coordinator. Municipalities often do not want urban expressways to go through their jurisdictions though they recognize the importance of expressways for them. In this case, the MOC coordinates those local interests through discussions and negotiations at the Kinki District Highway Committee. However, in many cases in which the discussion at the committee can not reach an agreement about plans, each member negotiate with the MOC separately. This mechanism tends to put a priority on the national perspectives rather than regional perspectives in the planning process.

#### **-Public-Private Partnership**

The planning process of this committee does not consider public-private partnership. Typically, almost all highway developments in Japan are conducted by the public sector exclusively. There are no privately-owned highways except a rare case, or systems to ensure effective public-private partnership at the planning stage, though recently various types of implementation methods for highway development such as Build-Operate-Transfer (BOT) systems have been discussed.

#### **-Financial and Legal Authority**

The Kinki District Highway Committee does not have any legal authority over project selection, or coordination among interests. The reason for the strong leadership of this committee in regional highway development is that the MOC that leads this committee has decisive authority over highway development for the region. The MOC implements some highway projects by itself. It also can give approval and subsidies to

prefectural and local governments. By using this financial and legal power, the MOC and this committee carries out regional planning.

## **6 The Transport Policy Council**

### **6-1 The Scope of the Transport Policy Council**

In railroad developments in Japan, the private railroad companies has responsibilities for planning, constructing, and operating of systems. Those operators proceed with their plans by receiving the needed approval and financial aid from governments. However, comprehensive planning mechanisms are needed to ensure effective and efficient railroad systems especially in big metropolitan areas. Therefore, railroad planning in large metropolitan areas is done through discussions in the Transport Policy Council.

This council plays a key role in regional railroad planning. As an advisory organization to the Minister of Transport (MOT), the Transport Policy Council considers national policy concerning transport development. Recognizing the need for comprehensive transport planning in Tokyo/Yokohama, Osaka/Kobe/Kyoto, and Nagoya metropolitan areas, the MOT adopts a system in which the MOT receives feedback from the council about railroad development. The council formulates a basic railroad plan for these metropolitan areas by including railroad projects that should be implemented in the near future into the plan. Though the council does not have legal authority, inclusion of projects in the council's plan is essential for railroad operators to get approval and financial aid from the MOT. Yet, the inclusion does not guarantee that the operators can obtain the approval and financial aid.

In the Osaka/Kobe/Kyoto metropolitan area, the newest plan, Basic Plan Concerning Transportation Network Development Centering Rapid Railroad in Osaka Metropolitan Area, was formulated by the Council in 1989. Upon request by the MOT in 1987, the council made the basic plan for the Osaka/Kobe/Kyoto metropolitan area with a 15-year perspective. The target year is 2005.

Actually the planning was done by the sub-committee of the council, the Osaka Metropolitan Area Urban Transportation Committee. The committee included not only the public sector but also the private sector and academics.

**Table 7**  
**Constitution of the Osaka Metropolitan Area Urban Transportation Committee**

	Number
<b>Persons of Learning and Experience</b>	8
Hanshin Expressway Public Corporation	1
Japan Railroad Construction Corporation	1
Japan Development Bank	1
Housing and Urban Development Corporation	1
Kansai International Airport	1
Osaka Prefectural government	1
Hyogo Prefectural government	1
Kyoto Prefectural government	1
Nara Prefectural government	1
Osaka City Government	1
Kobe City Government	1
Kyoto City Government	1
Railroad Operators	3
Economic Organization / Private Company	2
Related Organizations	4
<b>Total</b>	<b>29</b>

(Source: Transport Policy Council, *Basic Plan Concerning Transportation Network Development Centering Rapid Railroad in Osaka Metropolitan Area*, 1989)

The private railroad operators can propose projects to the committee for inclusion in the plan. Prefectural and local governments also propose projects essential from the public point of view. Academic is expected to lead objective discussion because they seldom have particular interests in a particular project. In accordance with these proposals, the committee deliberates about demographic changes, development projects planned in the region, challenges that the metropolitan area is facing, and demand and profitability for each project, to select and to prioritize the proposed projects. Finally, it ranked the selected projects in three categories: 1) projects that should be implemented by



2005, 2) projects on which construction should be started by 2005, and 3) projects that should be examined in the future in accordance with the increase of the demand.

The regional branch office of the MOT, the Kinki Transport Bureau, is in charge of operation of the committee though it is not official members of the committee. Indeed, considerable part of the decision about project selection was made not in the discussion of the committee but through the negotiation among railroad operators, prefectural and local governments, and the MOT. However, this committee contributes to the regional transportation planning by providing an environment suitable for discussions with regional perspectives.

## **6-2 Application of the Ten Requirements**

### **-Integrated Planning**

When planning, the Osaka Metropolitan Area Urban Transportation Committee of the Transport Policy Council took changes of land-use pattern caused by development projects into account. In accordance with a list of development projects proposed by prefectural and local governments, the committee projected the traffic demands in 2005. The project selection by the committee was based on the demand projection. Yet, linkage of railroad planning with environmental preservation is not strong.

### **-Freight Consideration and Intermodalism**

The focus of the committee is planning of railroad for passengers and cannot deal with freight. The probable reason is that regional freight movements in the Osaka/Kobe/Kyoto metropolitan area are carried mainly by trucks. Moreover, the committee does not have an intermodal perspective that allows it to see that railroads could improve traffic problems such as congestion and air pollution by being substituted for trucks. This is a typical problem that is caused by the mode-oriented bureaucracy in the national ministries. The Transport Policy Council is under control of the MOT. On the other hand, the Ministry of Construct (MOC) is in charge of highway developments that are closely related to track movement improvement.

### **-Technology Scanning**

There is almost no description of technology scanning in the Basic Plan. It only states that it is important to develop new technologies and to apply them to railroad development. The plan was formulated based on the technologies available at the time of planning. The committee did not make any efforts to scan new technologies in the planning process.

### **-Focus on Operation**

Concerning operation of transportation facilities, this planning process took it into account by receiving proposals of railroad projects by railroad operators. Railroad operators are in the best position to bring information about operation of railroad systems into planning process. In addition to including railroad operators in the committee, receiving proposals from the operators directly about railroad projects ensures the operational consideration in the planning process.

### **-Large Planning Area**

Recognizing the need of regional planning for railroad development, the Osaka Metropolitan Area Urban Transportation Committee included the whole Osaka/Kobe/Kyoto metropolitan area as its planning area. Its planning area agrees with the actual urban area. In terms of setting planning area, advisory regional planning committee such as this committee can decide its planning area more flexibly than the formal governmental bodies.

### **-Local Consideration**

Though the committee is led mainly by the MOT, seven members out of the 29 in the committee are governors and mayors of prefectures and the three big cities in this region. Through the discussion of the committee, local interests can be reflected in the results considerably.

### **-Coordination among Local and Regional Interests**

Deliberation of this committee was carried out through hearing from railroad operators and prefectural and local governments. Taking these proposals and urban development projects that will be implemented in the region into account, this committee coordinated regional interests and prioritized projects. However, financial constraints are not considered in this planning process. Therefore, the result of the deliberation tends to include more projects than the available funds can afford.

### **-Public-Private Partnership**

In addition to proposing railroad projects, the private sector had five seats in the committee; three from railroad operators and two from business leaders. Through this involvement, information from the private sector can be put into the planning process considerably.

### **-Financial and Legal Authority**

This committee has no legal and financial authority over railroad planning. Even if a project is included in the plan by the committee, possible railroad operators and related local governments have to start the development process by discussing how they will finance the project. However, the plan formulated by the committee can play very important role in regional railroad planning because the MOT respect the plan when it decide whether it approve and give subsidies on proposed railroad projects by railroad operators.

## **7 The Osaka/Kobe/Kyoto Metropolitan Planning Committee**

### **7-1 The scope of the Osaka/Kobe/Kyoto Metropolitan Planning Committee**

The Osaka/Kobe/Kyoto Metropolitan Planning Committee is an advisory planning body that aims to implement data collection about transportation movements in the

Osaka/Kobe/Kyoto metropolitan area, and to formulate regional transportation planning to coordinate regional transportation measures.

This committee is constituted only by the related public organizations in this region. To ensure comprehensive planning, it includes public agencies that are not related to highway development, unlike the Kinki District Highway Committee. Though there are many members that come from prefectural and local governments in the committee, the district branch offices of the Ministry of Construction (MOC), the Kinki District Construction Bureau, chairs this committee and actually the MOC leads decisions of the committee.

**Table 8**

**Constitution of the Osaka/Kobe/Kyoto Metropolitan Planning Committee**

	Number of Member
The Kinki District Construction Bureau of the MOC	2
The Kinki Transport Bureau of the MOT	1
The Osaka Office of the National Land Agency	1
Japan Highway Public Corporation	1
Hanshin Expressway Public Corporation	1
Housing and Urban Development Corporation	1
Osaka Prefectural Government	1
Hyogo Prefectural Government	2
Kyoto Prefectural Government	1
Nara Prefectural Government	1
Wakayama Prefectural Government	1
Shiga Prefectural Government	1
Osaka City Government	2
Kobe City Government	1
Kyoto City Government	1
<b>Total</b>	<b>18</b>

(Source: Osaka/Kobe/Kyoto Metropolitan Planning Committee, 3<sup>rd</sup> Person-trip Survey in the Osaka/Kobe/Kyoto Metropolitan Area, 1992)

\*Each agency has different number of seats in this committee because all departments of each agency related to highway development can be members of this committee. This does not affect the discussion at the committee because its decision is made not by voting but by negotiating.

One of the most important tasks of this committee is survey activity. A person-trip survey and a freight movement survey are conducted every ten years. Regional

transportation plans using these updated transportation data is the primary production of the committee. The most recent person-trip survey for this metropolitan area was completed in 1992 and a new regional transportation plan was formulated in 1993. The recent freight movement survey was completed in 1997.

The person-trip survey is the only comprehensive transportation survey that can cover the whole Osaka/Kobe/Kyoto metropolitan area. The data collected by the survey is used by many related planning agencies because it is very useful by presenting origin-destination traffic demands for all transportation modes such as cars, bus, public transportation, and ships.

The recent freight movement survey focuses on the movement of freight in this metropolitan area. Recognizing the needs of freight in urban transportation, this committee conducted data collection about freight movement. However, this survey was not so successful as the person-trip survey because the methods for the freight survey have not been established firmly unlike the person-trip survey.

Using the data from the person-trip survey, the regional transportation plan of the committee covered almost all transportation modes, reflected development projects that were proposed by prefectural and local governments, and considered transportation systems comprehensively from the regional point of view. "A Report on Survey for Comprehensive Urban Transportation Systems in the Osaka/Kobe/Kyoto Metropolitan Area, 1993" made clear the challenges that this metropolitan area was facing, and formulated basic policy for transportation development.

In spite of its many advantages, however, the regional transportation plan is not considered very important by governmental agencies. It is because the planning process of this committee does not link to any implementing programs and cannot get involved in the project selection process, unlike the other two planning committees reviewed above, the Kinki District Highway Committee and the Transport Policy Council. This is also because of the factionalism at the national ministries. The City Bureau of the MOC that is in charge of administration of this committee can get involved in transportation development through its authority to approve city planning that is formulated by prefectural and local governments. However, city planning is usually effective only for

developments that do not extend beyond the limits of each local city planning area. On the other hand, highway development, which is a major part of transportation development in Japan, often needs regional planning approaches. In addition, the primary authority of highway development is the Road Bureau of the MOC. Since almost all highway development programs are made by the Road Bureau, the City Bureau cannot get involved in highway development effectively. Moreover, both bureaus do not communicate with each other actively. At regional level, too, the Road Bureau established different regional planning body, the Kinki District Highway Committee. For these reasons, the Osaka/Kobe/Kyoto Metropolitan Planning Committee that has a capacity to implement comprehensive regional planning cannot get involved in the regional transportation planning practically while the Kinki District Highway Committee formulates regional highway plans without considering regional and local conditions comprehensively.

## **7-2 Application of the Ten Requirements**

### **-Integrated Planning**

The main characteristic of the Osaka/Kobe/Kyoto Metropolitan Planning Committee is that it can deal with both data collection and transportation planning. Its survey also includes the data of urban development projects that are projected in the region. Those developments are reflected in its regional transportation plans, but the committee does not have much interests in environmental preservation. Actually, there are no linkages between its planning and environmental regulation. The plans do not consider transportation systems as means for economic development, either.

### **-Freight Consideration**

The committee is the only public regional body that is involved in freight planning in the Osaka/Kobe/Kyoto metropolitan area. Though the recent survey by the committee could not collect much data concerning freight in the region, it proposed a few

policies and implementation measures to improve freight movement. However, it does not examine the linkage between passenger movement and freight movement effectively.

#### **-Intermodalism**

This committee is also the only public regional body that treats almost all transportation modes intermodally. For example, the committee projected the traffic demand for cars and the public transportation by taking the future transportation mode share into account. There are a few other traffic projections for this metropolitan area, but they are for only a single transportation mode.

#### **-Technology Scanning and Focus on Operation**

The planning products of this committee do not touch technology scanning or operation of the transportation facilities at all. This committee is not interested in these issues because it does not include operators of transportation facilities as its members, and that this planning is not connected to implementation programs closely.

#### **-Large Planning Area**

This committee's planning and data collection area includes the whole of the actually unified metropolitan area. The extent of how closely each local zone is connected by transportation to the core cities of the metropolitan area decided the inclusion of a zone into the planning area. When the traffic flow between a zone and the core cities in this metropolitan area exceeds a standard level, the zone is included in the planning area. By adapting this process, the planning area of this committee can treat the real Osaka/Kobe/Kyoto metropolitan area from the transportation point of view.

#### **-Local Consideration**

Though this committee is led by the MOC, the control over the discussions is not as strong as the Kinki District Highway Committee, because the planning of this committee is not so closely connected to the project approval and subsidy determination process. In addition, more than half of the members of this committee come from

prefectural and local governments. For these reasons, this committee can consider local issues to some extent.

#### **-Coordination among Local and Regional Interests**

Weak control by the MOC means that the committee does not have capacity to coordinate regional and local interests. Though a rule of the committee states that one of the objectives of this committee is to coordinate the MOC and prefectural and local governments to plan and to implement transportation improvement measures, actually, this committee cannot deal with issues that need to be coordinated. Prefectural and local governments do not want to discuss such issues at this committee because the discussions do not affect the implementation of projects that prefectural and local governments want to carry out.

#### **-Public-Private Partnership**

The planning process of this committee does not consider the public-private partnership significantly. This can be known by the fact that the committee is constituted by the public sector only. Only in the freight survey conducted in 1997, the committee heard from the private companies about their shipping strategies to reflect these data in transportation planning.

#### **-Financial and Legal Authority**

In almost all cases, prefectural and local governments need to get approval and financial aid by the MOC to implement their transportation plans. However, the plans and planning process of this committee are not linked to any approval and subsidy determination process at the MOC level. This weakens the authority and importance of this committee. Though the committee has potential for comprehensive regional transportation planning, the advantages cannot be realized due to its limitation of the implementation mechanisms.