

BINATIONAL BORDER TRANSPORTATION PLANNING AND PROGRAMMING STUDY

Task 4

The Transportation Planning and Programming Processes In Mexico

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4.1 Introduction

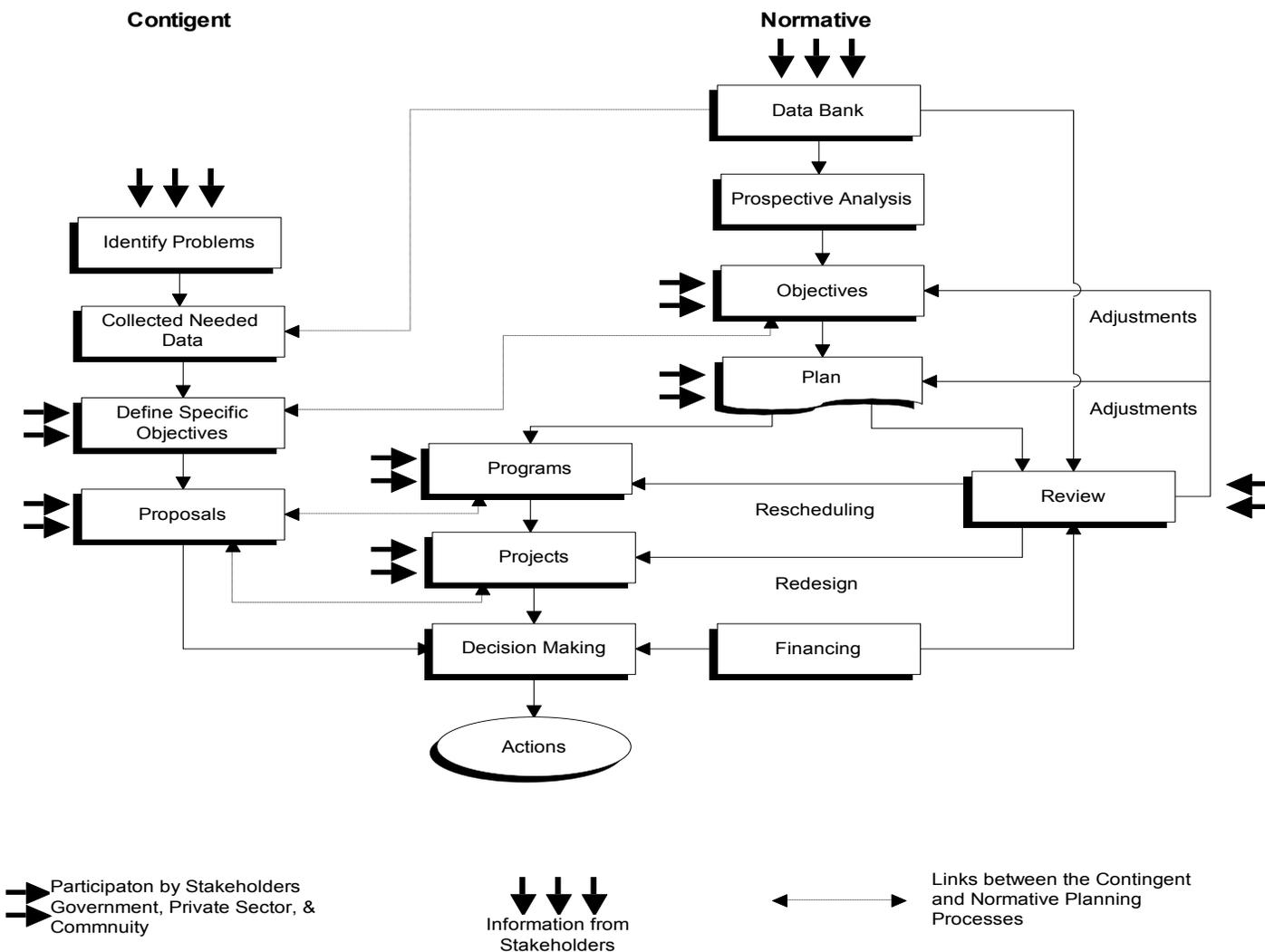
This document describes the overall Mexican planning process at each government level and the relationship among them. A standard planning process combined with a contingent planning process was used as the typical framework and is shown in Figure 4.1. The primary agencies involved in the process include the responsible planning agencies, as well as other participants directly involved in the cross border process such as motor carriers, railway companies, and custom brokers., Each of these participants is involved in the planning and/or use of key aspects of infrastructure, operation, and administration. The main constraints to the planning process are financing, existing policies, and the different objectives of agencies, interested parties, and other participants (see Figure 4.2).

Information related to border transportation and infrastructure planning, financing, regulation, or operation was obtained mainly through personal interviews with officials from the following Mexican agencies:

- Officials of 10 border municipalities,
- All six border state government planning officials,
- Directors of all six border state SCT centers, and
- Officials of 16 federal agencies related to transportation.

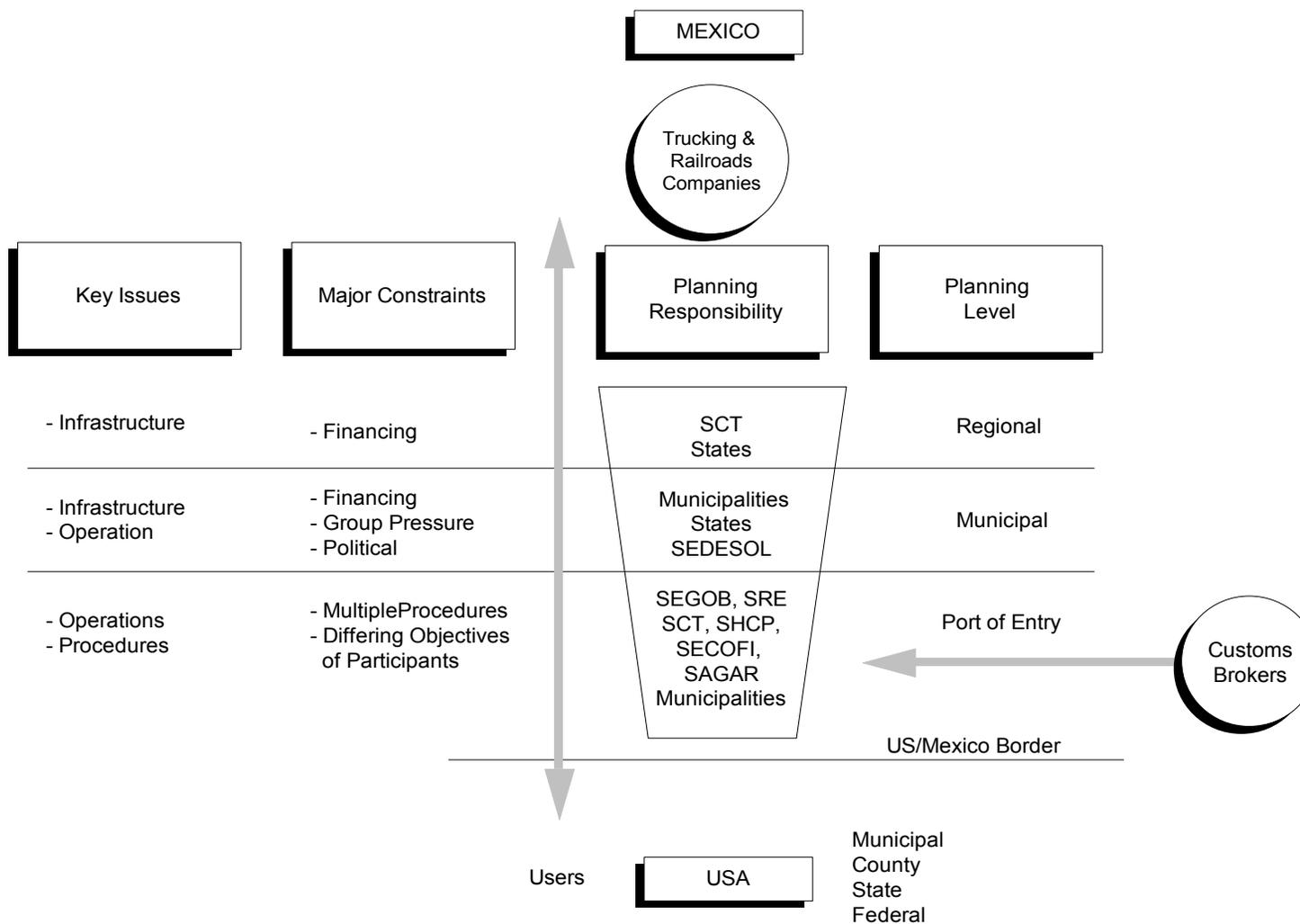
In addition, 17 executives of private transportation companies, such as custom broker firms and freight transportation companies or associations, were interviewed. Complementing the interviews, 62 border transportation planning documents and published material by official planning agencies were analyzed.

Figure 4.1 Mexican Planning and Programming Process Conceptual Framework



Source: La Empresa, 1997.

Figure 4.2 Identification of Stakeholders



Source: La Empresa, 1997

4.2 Transportation Planning and Programming Process at Different Government Levels

The observed planning process is complex because of over-involvement at the state and federal levels, and on the other hand, a lack of an established planning process at the municipality level due to political, technical, and budget limitations.

4.2.1 Planning in Federal Agencies

Border transportation planning (infrastructure and operation) at the federal level is accomplished independently at each agency and through different interagency committees (which explains the over-planning phenomenon). The agencies with transportation planning authority are: *Secretaria de Comunicaciones y Transportes* (SCT - Secretariat of Communications and Transportation) and *Secretaria de Desarrollo Social* (SEDESOL - Secretariat of Social Development).

Federal transportation planning agencies (SCT-General Directorate of Planning and SEDESOL) make their decisions as a function of funding resources available and priorities of need established by their respective state SCT and SEDESOL centers. Decisions are usually directed by local political pressures which actively involve state and municipal officials. However, local involvement is minimal if planning decisions are directed to prevent medium and long-range problems and future planning solutions, since they do not carry-out the execution of these infrastructure projects.

Agencies that regulate and administer transportation activities, such as SCT-General Directorate of Federal Transport and SEDESOL, exert their control and authority when making decisions. For example, in order to receive financial resources, the states and municipalities must comply with certain federal standards and control issues specified by these agencies.

Secretaria de Comunicaciones y Transportes (SCT)

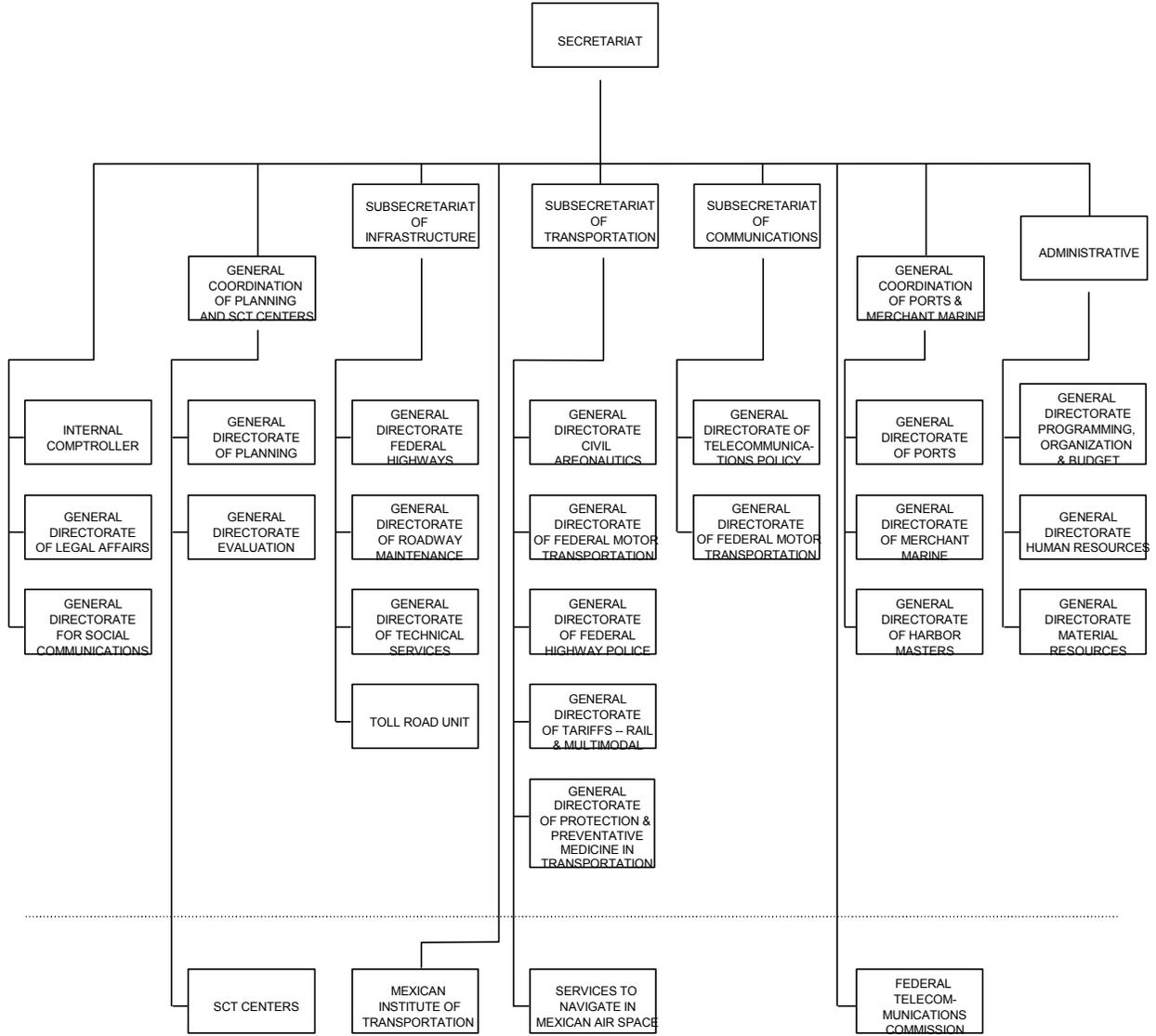
SCT is a state secretariat created in 1891, responsible for the formulation and implementation of policies, plans and programs aimed at the development of communications and transportation. Originally, SCT rendered its services and executed the public works directly through subagencies within its organizational structure. At present, SCT has been converted into a regulatory and coordinating organization over all public and private entities involved in communications and all modes of transportation activities. Figure 4.3 shows the organizational structure of SCT.

SCT organizational structure is divided into three main Subsecretariats (Undersecretariats) and two Coordinaciones Generales (General Coordination):

Undersecretariats:

- *Subsecretaria de Infraestructura* (Undersecretariat of Infrastructure),
- *Subsecretaria de Transporte* (Undersecretariat of Transportation), and
- *Subsecretaria de Comunicaciones y Desarrollo Tecnológico* (Undersecretariat of Communications and Technological Development).

Figure 4.3 Organizational Structure of SCT



Source: Undersecretariat of Transportation, SCT.

Only some agencies within the Undersecretariat of Infrastructure and the Undersecretariat of Transport are responsible for transportation infrastructure and operation.

General Coordination:

- General Coordination of Planning and State SCT Centers, and
- General Coordination of Ports and Merchant Marine.

Undersecretariat of Infrastructure

Unidad de Autopistas de Cuota (UAC - Toll Road Unit) is in charge of monitoring, overseeing, and following-up on matters related to toll roads and bridges, including the construction and maintenance as well as licensees, or permit holders, and approved rates (tolls). Moreover, UAC reviews road preservation and widening studies and projects, and it prepares databases and analytical tools for managing the national system of toll roads and bridges. Hence, the UAC works in coordination with SCT Centers and other administrative units of the Undersecretariat of Infrastructure on a permanent basis.

Dirección General de Carreteras Federales (DGCF-General Directorate of Federal Highways). In order to carry out its main function; i.e., that of building new federal highways, the DGCF is involved in designing policies and programs for the motor transportation sector. Some of the DGCF's major functions are:

- establish technical criteria for developing projects, programs, and works;
- conduct studies and projects for implementing projects under its purview;
- ensure that works are performed in conformity with contracts
- negotiate the acquisition of easements for federal roads and bridges; an
- coordinate studies, projects, and works for federal roads and bridges and other ancillary works with the SCT Centers and the Planning and Evaluation General Directories.

When projects are performed by other federal agencies, the DGCF will participate within the scope of its authority. Furthermore, the DGCF approves projects and programs for roads and bridges to be built by private contractors.

Dirección General de Conservación de Carreteras (DGCC-General Directorate of Highway Maintenance). This agency is in charge of maintenance and rehabilitation/reconstruction activities of the existing federal highway network including the setting of standards for these activities. The DGCC's responsibilities are similar to those of the DGCF, except that instead of building new roads, it maintains the existing roadways. Hence, it advises state (road) agencies and oversees the activities of other agencies within the transportation sector. The DGCC also works with the SCT Centers for planning, installation, and maintenance of signage and safety devices; training personnel (including rural communities participating in the programs); and standardizing/updating the inventory of federal toll-free roads and bridges.

Dirección General de Servicios Técnicos (DGST-General Directorate of Technical Services). The DGST's main function is to conduct basic engineering studies and lab tests to support the transportation infrastructure sector. It conducts geologic, hydraulic, hydrologic, geotechnical, foundation, pavement, and other related studies necessary to develop SCT projects. DGST is also responsible for strength tests and chemical assays of construction materials. It prepares and maintains the national inventory of materials used for infrastructure projects; and it processes and disseminates information on origins and destinations, weights and dimensions, and traffic volume on the national highway system. The DGST's scope is broader still since it is involved in making

policies and designing infrastructure programs for the transportation sector; conducting studies for planning and scheduling the development of the federal system of roads and bridges; and participating in the development of Mexico's official standards for federal roads and bridges.

Participation of these SCT agencies in the planning process is limited, but their role in the identification of solutions is important. In all four cases, their experience is used as a feedback to solutions proposed by other agencies or government levels through their personnel in state SCT centers.

Undersecretariat of Transportation

Direccion General de Autotransporte Federal (DGAF-General Directorate of Federal Transport). The General Directorate of Federal Transport has a direct influence in the operation of freight and passenger transportation. Because of its regulatory and standards functions, it keeps in close communication with freight transportation companies, and in the NAFTA context, with U.S. officials. In addition, it coordinates with other federal agencies such as the *Secretaria de Hacienda y Credito Publico* (SHCP-Secretariat of the Treasury and Public Credit), mainly with the *Administracion General de Aduanas* (AGA-General Administration of Customs), and the *Secretaria de Comercio y Fomento Industrial* (SECOFI-Secretariat of Commerce and Industrial Development). Its position in the transportation framework is strategic and becomes the most feasible agency to monitor transportation problems in the planning process.

Direccion General de Tarifas, Transporte Ferroviario y Multimodal (DGTTFM-General Directorate of Tariffs, Rail and Multimodal Transport). This SCT-general directorate regulates rail transport and sets transport tariffs (except for maritime transport). It keeps a close communication with National Railroads of Mexico (FNM) and is involved in the privatization process of the Mexican railroad system. However, railroad transportation planning is concentrated at FNM.

Coordinacion General de Planeacion y Centros SCT (General Coordination of Planning and State SCT Centers).

The General Coordination of Planning and State SCT Centers assist the SCT Secretary directly in the planning, execution, supervision, and evaluation of the activities accomplished by the *Direccion General de Planeacion* (DGP-General Directorate of Planning) and the *Direccion General de Evaluacion* (DGE-General Directorate of Evaluation).

The General Directorate of Planning formulates and reviews the national planning programs relative to communications and transportation, and tracks and schedules investment programs and projects.

The General Directorate of Evaluation evaluates the effectiveness of the actions involved in the programs relative to communications and transportation, and evaluates the merits of investment projects and programs proposed by different administrative units and state SCT Centers. These evaluations use criteria established by the general policies, guidelines, and procedures of the central authorities.

The role of state SCT centers, which represent SCT before the state governments, is to determine regional needs and to supervise the enforcement of transportation standards.

Coordinacion General de Puertos y Marina Mercante (CGPMM-General Coordination of Ports and Merchant Marine)

The General Coordination of Ports and Merchant Marine assists the SCT Secretary directly in the planning, execution, supervision, and evaluation of the activities accomplished by the *Direccion General de Puertos* (General Directorate of Ports) and the *Direccion General de Marina Mercante* (General Directorate of Merchant Marine).

The General Directorate of Ports proposes and implements policies and programs for the development of the national maritime port system and exerts on them the authority through the master harbor offices; arranges concessions for the integral port administration and the use, profit, construction, and, operation of public goods in ports, terminals, and marinas.

The General Directorate of Merchant Marine proposes and implements policies for the development of maritime transportation and the Mexican merchant marine, registers Mexican naval vessels, and promotes the integration of maritime transportation with other transportation modes.

Decentralized Transportation Agencies

SCT also coordinates the activities of other decentralized transportation entities such as:

Caminos y Puentes Federales de Ingreso (CAPUFE-Federal Toll Highways and Bridges). CAPUFE is a decentralized agency responsible for the operation and maintenance of toll roads and bridges built with federal funds before private investment was allowed in infrastructure projects. At present, the highway network covered by CAPUFE includes approximately 1,360 kilometers and 33 bridges, 12 of them across international borders. Its function in the planning process is limited to programming/budgeting objectives, since planning for added infrastructure is performed by another SCT agency. CAPUFE is authorized to propose and implement solutions for operational problems occurring at border crossing bridges. Its financial capability (previous authorization from SHCP) gives high leverage to this agency.

Aeropuertos y Servicios Auxiliares (ASA-Airports and Auxiliary Services)

Airports and Auxiliary Services (ASA) is a decentralized public organization created by presidential decree on June 10, 1965, with the objective to administer, operate, and preserve the airport network that is property of the Mexican Federal Government. In 1989, when the *SCT-Dirección General de Aeropuertos* (GDA-General Directorate of Airports) was discontinued, ASA assumed the responsibilities for planning and construction of new airports on federal property. At this time, ASA administers approximately 60 airports throughout the country, which have the highest air traffic. In the near future, ASA will arrange concessions for the operation of some airports by the private sector.

Ferrocarriles Nacionales de Mexico (FNM-National Railroads of Mexico). FNM is a state-owned company in the process of being privatized now that Mexican law has been amended to allow private investment in the railway system. A Committee for Restructuring FNM has been established as an advisory organization made up of FNM and SCT officials, who are analyzing additional railroad privatization schemes.

FNM plays a major role in cross border transportation. The characteristics of rail operations, which require specific and precise operational guidelines to avoid interference with urban and border crossing activities, cause FNM to be blamed for obstructing city streets and saturating crossing facilities. However, there are other authorities who are responsible of those congested areas (i.e., SAGAR that makes sanitary inspections to rail cars with grain or checks the owners of the commodity being transported when the shipments are not properly documented).

The efficient operation of FNM depends on customs and agriculture inspections, railroad scheduling, infrastructure capacity, and demand. At this time, FNM operates trains with mixed efficiency in conjunction U.S. railway companies. An important change in border rail operations is expected in terms of the joint US/Mexican operations as a result of FNM privatization.

Instituto Mexicano del Transporte (IMT-Mexican Transportation Institute). IMTI was created in 1987 as a decentralized unit of SCT. IMT carries out research and technological development projects for the benefit of Mexico's public and private transportation sectors. For the purpose of

promoting research and technological development, IMT has signed Memorandum of Agreements (MOA) with local and foreign research institutions. U.S. border transportation research institutions that have signed MOAs with IMT are:

- The Texas Transportation Institute, TTI, of the Texas A&M University System,
- The Center for Transportation Research, CTR, of the University of Texas at Austin, and
- The Alliance for Transportation Research, ATR, New Mexico.

Planning at the federal level responds to strategic criteria in some cases (DGP, DGST, and CGPMM), or to institutional requirements with programming objectives (CAPUFE, DGCF, and DGCC). Long-range planning for the highway network has been established and are solving problems at the regional level. However, decisions made to solve local border problems usually do not correspond to a previously established plan. There are inconsistencies between long-range and short-term planning, and between regional, subregional, and urban planning, which show a lack of communication for planning between municipalities and federal agencies.

This deficiency in communication has its origin in the municipality's inability to establish a systematic planning process, with the recent exception of Ciudad Juarez (which reflects a conscientious and organized urban planning effort), due to the political pressure to execute public works within the term of municipal governments (three years), the lack of established plans, and funding limitations.

The DGP is currently designing a strategy to answer to this deficiency of communication. It appears that involvement of federal agencies has been in two extremes: one where it imposes criteria or solutions to local problems, under the traditional centralized federal government, and another where it does not participate in the solution of local problems. Many of these local transportation problems result from regional transportation flows, and they are solved by the municipalities, not always with similar perspectives.

To respond to these extremes, planning tools (not plans) are being developed to assist local officials in the solution of their own problems, as well as establishing a standard evaluation to the problems and to assess the impact of the proposed solutions. It is planned that the same type of problem can be analyzed in the same way in any state or municipality and the solution criteria be consistent. The supervisory activity of state SCT centers may allow dissemination of the above planning criteria.

The highway planning process at SCT is conducted in an ordered and consistent manner at the strategic level. It is prioritized by regional needs, availability of resources (or searching for those resources through the concession of projects to private investors), and a territorial integration and arrangement policy. Planning implementation, however, is influenced by state governors, city mayors, industrial, commercial, or trucking associations, etc., who usually divert limited resources toward financing non-essential infrastructure or with low strategic value to the national transportation system. This situation is more noticeable in the border states where the needs of regional transportation, planned at central level within a strategic context, and the needs of urban transportation and development, either unplanned or planned using criteria contrary to regional transportation needs, converge in the same sub-region. Involvement of multiple entities in this sub-region makes the settlement of different interests more complex, prevailing local needs if political interests are involved, or central needs in the case of national strategic interests.

Based on results obtained thus far, the initial privatization scheme for highway infrastructure projects in Mexico under the SCT's jurisdiction is being redesigned and revised basically in the following aspects:

- The criteria for granting concessions will be based on lower fees, lower construction costs, and a pre-established fixed term for the concession.
- The maximum term for a highway concession was extended from 20 to 30 years.
- The government may participate in projects which cannot be 100 percent funded by private capital but are a high priority for the highway system.
- Tax incentives, especially in operational roads, should enable fee reductions.

One problem yet to be resolved is that of available lines of credit and the possible participation of interested parties other than construction companies willing to pledge themselves to a long-term commitment.

Responsibility for preserving federal highways, which has been under the federal government is being transferred to the state level. Approximately 25,000 km of the basic national highway system is being decentralized to the states. This decentralization effort includes the transfer of the respective funds for road preservation.

Secretaria de Relaciones Exteriores (SRE)

The *Secretaria de Relaciones Exteriores* (SRE-Secretariat of Foreign Relations) encourages participation in the planning, construction, and operation process of international bridges and border crossings. Its participation is through the coordination of the *Grupo Intersecretarial de Puertos y Servicios Fronterizos* (Interagency Group on Ports of Entry and Border Services) and carried out by the *Direccion General para America del Norte* (General Directorate for North America). This group, created in 1983, coordinates all the Mexican agencies related to ports of entry and services. It evaluates proposals and follows up projects associated with ports of entry, taking into consideration the following objectives: (1) protecting the national border sovereignty, security, and integrity; (2) expediting land communication with neighbor countries; (3) strengthening of bilateral border cooperation; and (4) promoting national and border states development. These objectives are emphasized in any border infrastructure project proposed.

At the Mexico/U.S. border, the Interagency Group on Ports of Entry and Border Services, has established as a matter of policy for the development of ports of entry, the coordination of construction projects with local governments considering the urban development guidelines of the border state governments. This avoids an irregular urban development motivated by economic expectations from infrastructure construction and allows for a positive environmental and ecological balance.

Even with federal jurisdiction and operation of the border, there is a coordination and cooperation at the three levels of government for the construction works of this nature. The Interagency Group of Ports of Entry and Border Services has established, as a requirement for the construction of new international bridges and crossings, the application and proven interest from local governments for the development of communication works as well as the maintenance of their access routes along the border. The Interagency Group on Ports of Entry and Border Services meets usually every three months. The most recent meeting was held on August 27, 1996 (46th meeting).

The agencies that make up the Interagency Group of Ports of Entry and Border Services are:

- *Secretaria de Gobernacion* (SEGOB-Secretariat of Interior)
- *Secretaria de la Defensa Nacional* (SEDENA-Secretariat of National Defense)

- *Secretaria de Hacienda y Credito Publico* (SHCP-Secretariat of the Treasury and Public Credit)
- *Secretaria de Desarrollo Social* (SEDESOL-Secretariat of Social Development)
- *Secretaria del Medio Ambiente, Recursos Naturales y Pesca* (SEMARNAP-Secretariat of Environment, Natural Resources, and Fisheries)
- *Secretaria de Comercio y Fomento Industrial* (SECOFI-Secretariat of Commerce and Industrial Development)
- *Secretaria de Agricultura, Ganaderia y Desarrollo Rural* (SAGAR-Secretariat of Agriculture, Livestock and Rural Development)
- *Secretaria de Comunicaciones y Transportes* (SCT - Secretariat of Communication and Transportation)
- *Ferrocarriles Nacionales de Mexico* (FNM - Mexican National Railroad)
- *Caminos y Puentes Federales de Ingreso* (CAPUFE - Federal Toll Highways and Bridges)
- *Secretaria de la Contraloria y Desarrollo Administrativo* (SECODAM-Secretariat of the Comptroller and Administrative Development)
- *Secretaria de Turismo* (SECTUR-Secretariat of Tourism)

Other federal, state or local agencies are involved when necessary. The Interagency Group is assisted by seven subgroups that are in charge of analyzing specific activities. These subgroups are created and staffed by various offices from the agencies directly involved in such specific activities and meet when necessary. The working subgroups are:

- *Subgrupo Tecnico* (Technical Subgroup)
- *Subgrupo de Autoridades en Garita* (Subgroup of Crossing Authorities)
- *Subgrupo de Planeacion* (Subgroup of Planning)
- *Subgrupo de Administracion y Operacion de Puentes y Cruces Internacionales* (Subgroup of Management and Operation of the International Bridges and Border Crossings)
- *Subgrupo de Seguridad* (Subgroup of Security)
- *Subgrupo de Ferrocarriles* (Subgroup of Railways)
- *Subgrupo de Servicios* (Subgroup of Services)

The coordination of the Interagency Group at the SRE takes on the function of project management, since it coordinates the participants, evaluates new projects, conducts diplomatic steps, and follows up on the infrastructure construction process and the operation of all border crossing points. The project management function is key for reconciling the interests and objectives of the federal agencies with those of the state and local governments, as well as with the U.S. states and counties.

The vision that SRE has over the border crossings, through the coordination of the Interagency Group, gives this agency a major role in the transborder transportation. This circumstance should be considered in establishing a planning process for Mexico and the U.S.

There is a coordination process in place for establishing new border ports of entry. For the northern border, the coordination is headed by the *Direccion General para America del Norte*

(General Directorate for North America), and for the southern border, by the *Dirección General para América Latina y el Caribe* (General Directorate for Latin America and the Caribbean).

Secretaría de Desarrollo Social (SEDESOL)

The *Secretaría de Desarrollo Social* (SEDESOL-Secretariat of Social Development) plays an active role in urban planning processes. Its role is primarily setting standards in the urban infrastructure planning and designing, but also it is involved in financing or pursuing financing and supervising development (but not execution) of projects.

The *Dirección General de Infraestructura y Equipamiento* (DGIE-General Directorate of Infrastructure and Equipment) is in charge of implementing the *Programa de las 100 Ciudades* (Program of the 100 Cities) on medium-size municipalities. This program develops an integral study of the municipality that involves the analysis of the following issues: institutional, traffic and transit, public transportation, pavement management, and environmental impact.

There is no legal obligation for the municipalities to participate in this program, but there exists the motivation that if a municipality has done its integral study, it becomes eligible for financial support from the *Banco Mundial* (BM-World Bank) through the *Banco Nacional de Obras y Servicios* (BANOBRAS-National Bank of Works and Services). Moreover, most of the integral studies are financed by SEDESOL.

SEDESOL has received comments from municipal authorities regarding the Program of the 100 Cities. Due to budget limitations, the municipalities consider the studies in the program too broad and ambitious. With the pressure of a short-term municipal administration (three years), most of the municipal authorities question the usefulness of doing studies on projects prior to construction.

SEDESOL also provides technical support to the municipalities in order to establish a consistent criteria between the central level and the municipalities. It has published a series of *Manuales Normativos de Vialidad y Transporte* (Manuals of Traffic and Transit Standards) given to each municipality that participates in the program. Unfortunately, these manuals usually disappear when the municipalities change administration.

SEDESOL is an important entity for the municipalities, since it has the capability to offer solutions to the recommendations made in the integral study. Each state has a SEDESOL center and representatives in border cities to assess and evaluate local needs in coordination with the municipalities. However, SEDESOL decides the final programming of activities to be carried-out by the municipalities. The municipalities simply endorse the plans.

SEDESOL clearly represents the municipal planning entity of the federal government, and it provides the opportunity for establishing a permanent technology transfer process, as well as a funding mechanism, provided that municipalities are willing to cooperate.

The Comprehensive Highways and Transportation Study is the first stage of the 100-City Program. This study includes five components: 1) The institutional component; 2) highways and transit; 3) public transportation; 4) pavement administration; and 5) environmental impact. The second stage includes the Immediate Action Plan, and the third stage is the three-year Action Plan.

Each city in the Program is entitled to request support from SEDESOL at any stage. SEDESOL offers technical assistance directly and through the *Normative Handbook on Highways and Transportation* distributed among the municipalities participating in the Program.

During any one of its three stages, the Program is funded using a mixture of resources: the municipality participates to the extent permitted by its available resources, another portion is

contributed by SEDESOL in accordance with its annual budget, and, if these resources are insufficient, a World Bank credit (line) is requested through BANOBRAS.

Other Federal Agencies

Other federal agencies are:

- *SECOFI*, which regulates and sets standards for the international flow of goods. *SECOFI* is a primary source of information for planning purposes. It keeps an updated database on goods being imported and exported. The database includes the type of merchandise, volume, name of the importer or exporter, and the name of the port of entry and departure. This information is considered of high reliability by *SECOFI*. It also establishes the *Normas Oficiales Mexicanas* (NOM-Mexican Official Norms) for the international import and export of goods.
- *SHCP*, through the *Administracion General de Aduanas* (AGA-General Administration of Customs), which taxes imports and exports of goods. It enforces the export and import standards of goods in border cities, and eventually in other locations in the interior of the country. It plays an indirect role in the transportation planning process.
- *SEGOB*, through the *Instituto Nacional de Migracion* (INM-National Institute of Immigration) which checks entrance and departure of people to the country.
- *SAGAR* which enforces the sanitary standards for imported farming products at every port of entry, including maritime ports and international airports.
- The Comision de Avaluos de Bienes Nacionales (CABIN-Commission of National Goods Valuation), an agency coordinated by *SECODAM*, is in charge of the federal agency facilities located at the ports of entry.

Even though these other federal agencies are not directly involved in the transportation planning process, their decisions and actions affect the international flow of freight and vehicles. In general, these agencies participate in the transportation planning process through interagency committees. Most prominent is the Interagency Group on Ports of Entry and Border Services at SRE which addresses the problems of international transit (goods and people) that cause local problems, sector problems or problems with the United States. These interagency committees do not generate medium or long-term plans. They are oriented to the solution of short-term problems.

To pursue land transportation commitments required by NAFTA, these agencies are requested by SCT-General Directorate of Federal Transport to form working groups.

BANOBRAS is a financial agent of the World Bank in Mexico for providing financial credits to the states and municipalities. As a complement to this activity, BANOBRAS created the *Programa para el Fortalecimiento Administrativo y Financiero de los Estados y Municipios de la Frontera Norte* (PFAFEM-Program for the Administrative and Financial Strengthening of North-Border States and Municipalities) to support border governments' efforts in enhancing administration.

4.2.2 Planning in State Governments

State Governments work as an intermediate entity between strategic transportation planning and the municipalities' needs. They also represent another source of funding for the municipalities, although similar to the federal influence this funding ability is frequently used to impose decisions.

State highway agencies, formerly, *Juntas Locales de Caminos* (JLC-Local Road Councils), were responsible in each state for the construction and maintenance of state highways under a two-party cooperative program between each state and the federal government (1932-1989). Now

these organizations have been abolished, and their functions transferred directly to the state governments' highway agencies. Their objectives and organizational structure vary from state to state. These state agencies have the technical capability for analyzing and establishing solutions.

State Government of Baja California

The *Secretaria de Asentamientos Humanos y Obras Publicas del Estado* (SAHOPE-State Secretariat of Human Settlements and Public Works) is the agency in charge of planning, through the *Departamento de Planeacion* (Planning Department) in the *Direccion de Administracion Urbana* (Department of Urban Administration). The legal framework of this agency is based on the *Ley de Desarrollo Urbano del Estado de Baja California* (Urban Development Law for the State of Baja California).

A proposed name for SAHOPE is *Secretaria de Desarrollo Urbano y Rural del Estado* (State Secretariat for Urban and Rural Development), and its proposed organizational structure is based on the Directions of Planning, Projects, Works and Technical Services, Administration, and Investment.

SAHOPE communicates systematically with municipal counterparts and other agencies such as SCT, SEDESOL, and FNM.

Even though SAHOPE has a clear understanding of how important the planning is, it does not keep updated information on changes in the urban and transportation planning process. Most of the reliable urban information is contained in the traffic and transit studies performed for the municipalities of Mexicali, Ensenada, and Tijuana. These studies use a forecast model called EMME-2, developed by a Canadian firm and the University of Baja California. The model makes urban traffic and transportation projections using a database from 1992. Lack of funding has prevented SAHOPE from updating the database, and from collecting information required by other modules that have not been used (e.g. the environmental module).

SAHOPE is currently developing a *State Geographic Information System* (GIS) where the state highway system and other types of infrastructure information will be included.

To detect and evaluate problems related to urban and transportation development, the *Comite de Planeacion y Desarrollo del Estado* (COPLADE-Planning Committee for the State Development) collects the needs and problems from federal, state, and local agencies in order to maintain compatible planning efforts. It appears there is an ambiguity of responsibilities between COPLADE and SAHOPE-Department of Planning. COPLADE plays the role of spokesperson between municipal communities and authorities, while SAHOPE-Department of Planning plays the role of financial entity. It is supported by its capability for pursuing financial resources, mainly before BANOBRAS. It was not possible to perceive the influence of COPLADE related to investment decisions.

State Government of Sonora

The *Secretaria de Infraestructura Urbana y Ecologia* (Secretariat of Urban Infrastructure and Ecology) is responsible for the planning process of the state highway network and for supporting municipalities in urban planning activities.

The *Direccion de Obras Viales* (Direction of Highway Works) has materials and equipment resources to execute infrastructure projects selected by the Secretariat of Urban Infrastructure and Ecology. For large-scale or complex projects, such the Nogales Bypass which is being constructed under a concession scheme, the State SCT center supports the Secretariat in the

planning process. In this sense, there is an adequate collaboration between the state and federal (SCT) levels.

State Government of Chihuahua

The *Direccion General de Comunicaciones y Obras Publicas* (General Directorate of Communications and Public Works) is in charge of highway infrastructure planning in the state. The activity of this agency is sustained on the *Ley Organica del Estado* (Organic State Law) and the *Codigo Administrativo del Estado* (Administrative State Law).

There is a Highway Construction Office and a Highway Maintenance Office, with technical structure and capability, for the development of the state highway network. The General Directorate of Communications and Public Works keeps permanent communication with SCT and the community sector in the state for funding highway infrastructure projects. The community sector participates actively in the prioritization of such projects. There is collaboration with municipalities where the state provides financial resources for specific projects.

The State of Chihuahua has the *Programa de Caminos y Carreteras 94-98* (94-98 Road and Highway Program) that integrates work requests submitted by the state communities, and where projects started during the previous administration are considered a priority.

This agency made a Highway Program four years ago to develop the planning of infrastructure works that are required to maintain, modernize, and extend the network of highways, roads, bypasses, and urban roads. This program integrated the following points:

- Continuation of all highway sections in process.
- Requests to extend the internal network for connecting the different goods production or tourist regions in the state.
- Increase in the number of international crossings.
- Improvement of traffic conditions in the cities.
- Increase the length of bypasses.
- Previous plans that have been unfinished.
- Recommendations from the Proyecto Chihuahua Siglo XXI (Chihuahua Century XXI project). The responsibility of this project is to design the state economy for the next 20 years, and therefore, the Highway Program must include the required infrastructure for the development of different economic clusters.
- Requests from independent productive sectors such as lumber or agriculture.

The incorporation of the above points, as well as the technical needs detected by the General Directorate, allowed the establishment of an initial proposal for constructing roads. This proposal was presented to the different related goods production sectors, such as the Camara Nacional de la Industria de la Construction (National Chamber of Construction Industry), the Colegio de Ingenieros Civiles (Association of Civil Engineers), el Centrl Empresarial (Industrialist Center), the Facultad de Ingenieria de Universidad Autonoma de Chihuahua (College of Engineering at the Autonomous University of Chihuahua), and the Union de Madereros (Association of Lumber Producers), with the objective of gathering their comments and adjusting the proposal to include their interests as much as possible.

After these adjustments were made, the proposal of the General Directorate was sent to the Coordinacion de Planeacion y Presupuestos (Coordination of Planning and Budgeting), which is

the state agency in charge of organizing the annual investments of the State Government of Chihuahua and of accomplishing the Programa Estatal de Desarrollo (State Development Program) that has currently been executed, and is completed at the same time as the SCT proposal for the execution of works for the corresponding year.

The Highway Program annually includes the roads to be constructed and includes such works as roadways in the Tarahumara Mountain, the roads connecting with the State of Sinaloa and the State of Sonora, the improvement of the highway network in an area of high agricultural potential in Chihuahua and in the southern part of the state. The plan is intended to develop and benefit the whole state, instead of a specific region.

State Government of Coahuila

The *Secretaria de Comunicaciones y Obras Publicas* (SCOPE-State Secretariat of Communications and Public Works) is the agency responsible for state planning. Its organizational structure is oriented to the execution and control of infrastructure projects, and to regulate public transportation. In order to plan the state development, it receives systematic support from the *Comites para el Desarrollo del Estatal de Coahuila y de los Municipios* (COPLADEC and COPLADEM-Planning Committees for State of Coahuila and Municipalities Development). These committees work with officials at local and state levels to coordinate identified problems and planning needs. There exists a Master Plan for the State Government and a Highway Plan. The Highway Plan includes the alternatives of highway concessions for which an interagency group was created.

The State of Coahuila has an information data bank that classifies the state highway network and maintains incoming information from COPLADEC. However, there is a concern regarding the reliability of information relative to transportation, since the information does not compare well with the available information in the U.S. border states. Therefore, regular meetings are being proposed among authorities from the States of Nuevo Leon, Tamaulipas, and Coahuila for the purpose of creating a consistent information bank.

The Secretariat of Communications and Public Works with support from the *Instituto Tecnológico y de Estudios Superiores de Monterrey* (ITESM-Monterrey Tech) uses a Total Quality Management program to evaluate projects and actions in operation.

State Government of Nuevo Leon

In the State of Nuevo Leon, planning, construction, and maintenance of the transportation infrastructure is responsibility of *Sistema de Caminos de Nuevo Leon* (Nuevo Leon Highway System), which is an autonomous organization, according to the 1989 decree that created this organization.

There is coordination between the Nuevo Leon Highway System and the *Secretaria de Desarrollo Urbano y Obras Publicas* (Secretariat of Urban Development and Public Works).

The organizational structure of the Nuevo Leon Highway Systems is oriented to the execution of infrastructure projects. It has two main areas: a *Direccion Tecnica* (Technical Area) and a *Direccion Administrativa* (Administrative Area). The Technical Area includes the Coordination of Works and Coordination of Maintenance.

Nevertheless, the Nuevo Leon Highway System has a process for gathering highway infrastructure needs and has developed criteria for prioritizing investments. There is a desire to formalize a Work Plan until year 2020. Regarding the collection of needs and prioritization of

actions, there is an important participation of the COPLADEs. However, it has inconsistent criteria, according to Nuevo Leon Highway System officials.

The Nuevo Leon Highway System does not have an electronic system for obtaining and saving information. When specific information is needed, information is generated by an outside source (usually by the INEGI). Nuevo Leon Highway System officials believe there is a regulatory vacuum of transportation infrastructure planning, since the jurisdictional view is often oriented to transportation operations.

State Government of Tamaulipas

To accomplish its objective of promoting tourism, industrial, commercial, and infrastructure development, the Secretaria de Desarrollo Industrial, Comercial y Turistico (SEDECOT-Secretariat of Industry, Commerce, and Tourism Development) in the State of Tamaulipas is comprised of three work areas:

- Infrastructure
- Industrial and commercial promotion, and
- Tourism development

The Subsecretaria de Infraestructura (Undersecretariat of Infrastructure) has the main objective of creating and fostering the necessary conditions for the development of commerce, industry and services in the state through the creation of the required infrastructure that will facilitate state, national, and international commercial flow. Therefore, infrastructure planning and transportation operation in the State of Tamaulipas is the responsibility of the Undersecretariat of Infrastructure.

This Undersecretariat has the following main functions:

- To elaborate the Infrastructure Master Plan
- To analyze projects; development and technical-financial evaluation to promote private investment in the execution of infrastructure projects such as international bridges, highways, railways, and ports.
- To mediate with the federal government for new infrastructure projects
- To supervise the execution of works under the concession scheme
- To conduct operative functions in the existing infrastructure under the concession scheme
- To promote complementary development by providing services to the existing infrastructure and new projects

The organizational structure of the Undersecretariat of Infrastructure is divided as follows:

- Direction of infrastructure projects
- Direction of ports and railways, and
- Direction of operation and transport

The Undersecretariat maintains a close relationship with the following agencies:

Federal. SCT, SRE, FNM, CAPUFE, SEDESOL, SECODAM, SCT-General Directorate of Ports, and the Comision Internacional de Limites y Aguas (CILA-International Boundary and Water Commission).

State. Tamaulipas-SCT Center, SEDESOL, Secretariat of Public Safety, Secretaria General de Gobierno (the Secretary of State), and with organizations and institutions such as CANACAR, Camara Nacional de Comercio (National Chamber of Commerce), Camara Nacional de la Industria de la Transformacion (National Chamber of the Transformation Industry), and the Association of Customs Brokers.

Municipal. Presidencia Municipal (City Hall), Secretaria del Ayuntamiento (the Secretary of the Municipal Government), the Direccion de Planeacion y Proyectos (Direction of Planning and Projects), and the Direccion de Obras Publicas (Direction of Public Works).

The functions related to planning, under the supervision of the Undersecretariat of Infrastructure, are designed to promote, develop and coordinate transportation infrastructure projects. Promotion is mostly directed to the private sector, and to promotions of private investments.

Information used in the planning process is obtained from studies conducted by the Undersecretariat and from documented external sources, such as the Center for Transportation Research (CTR) and the Texas Transportation Institute (TTI).

There is a permanent process of diagnosis for analyzing transportation problems in the state, and the solution is always made in conjunction with other entities involved.

Due to the fact that the major portion of the investment promoted by the Undersecretariat is provided by private parties, the criteria for decision making have a high technical and economical component, while the social component stems from complementary projects, normally under the responsibility of SCT and SEDESOL.

For evaluating the results of the implemented actions, the project is evaluated by the Trabajos Preoperativos (Preoperative Works) when 50 percent of the work has been accomplished, and by the Trabajos Operativos (Operative Works) when the work has been finished and is in operation.

The planning process is developed in conjunction at the local, regional and binational levels, since the majority of these projects require this type of coordination.

Given the necessity of having to rely on infrastructure and operation of modern public transportation systems in the state, in October 1996, the Instituto Tamaulipeco del Transporte (Tamaulipas Transportation Institute) was created as a decentralized entity with its own legal framework and patrimony, under the Secretaria de Seguridad Publica del Estado (State Secretariat of Public Safety).

The fundamental objective of the Institute is to conduct research and promote an integral development of the necessary technical aspects related to public transportation services in the state for the optimum operation, function, and organizational development of its different categories.

The institute is funded with resources from the annual budget allotted to it by the state government and revenue from studies, consultations, and research projects conducted, services rendered, and royalties for the use of patents and trademarks.

The institute is managed by a Board of Directors and a General Manager appointed by the Governor of the State. The Board is made up of a chairman (the State's Governor), four members (state officials), and a technical secretary (the State's Public Transportation Manager). It also includes a Technical Consultative Council staffed by professionals from public, social, and private institutions.

4.2.3 Planning in Municipal Governments

Planning of urban development and transportation systems in municipalities is directed toward short-term objectives, since municipal administrations last for three years. Too often, the planning process at this level lacks long-term goals, is not comprehensive, is inflexible, and is not institutionalized.

Municipal officials try to execute and complete as many infrastructure projects as possible, because the measure of the efficiency of their administration is usually a function of the number of infrastructure projects completed. For this reason, most municipalities have a strong organizational structure directed to construction of public works, and a deficient structure related to planning activities.

Two general classifications of municipalities were detected in the study:

- Municipalities (such as Agua Prieta and San Luis Rio Colorado) with a local or regional commercial trade and transit of people, and
- Municipalities (such as Tijuana, Mexicali, Juarez City, and Nuevo Laredo) with a binational commercial trade and a transit of people from origins and destinations sites different than those in the border region, in addition to local or regional transit.

This classification is important because in the municipalities with cross regional transit, the involvement of local, state, and federal interests is more noticed. State governments are usually mediators between local and federal agencies and some municipal officials request the state governments to become responsible for local planning. In other cases, state governments impose their own solutions to local problems, most of the time contrary to municipal expectations, because the state provides the financial support.

Urban Traffic and Transit Plans, financed and supervised by SEDESOL in the Program of the 100 Cities, describe the relationship among local, state, and federal governments. Development of these plans is required by SEDESOL in order for the municipalities to become eligible for financial support from the World Bank. Some municipalities took seriously and responsibly the development of these plans and participated actively in the planning process. In contrast, other municipalities considered the development of the plans as a centralized demand without concern of real local problems, and did not put much local effort in the planning process.

There is evidence that some Urban Traffic and Transit Plans produced inflexible results that lack efficient and systematic mechanisms to be updated. This limitation is noticed when some municipalities complained that they cannot use the plans due to the 1995-96 economic contraction. It seems also that SEDESOL and municipalities did not take into consideration training on how to follow up, update, and modify the plans after finishing the study.

Social pressure from influential groups causes some decisions to become political in nature. This creates a conflict with desirable technical-economical decisions. Since there is no formal plan which is accepted by the community, authorities responsible for urban planning do not have an adopted program to redirect proposed actions. Their efforts are limited to justifying the decisions that were made.

This section describes the cases that exist in municipalities, whose importance to transborder transit or by particular characteristics allow the comprehension of the attitude toward planning at this level of government.

Municipality of Tijuana

The Municipality of Tijuana accomplishes its planning activities in the *Direccion de Planeacion, Desarrollo Urbano y Ecologia* (Direction of Planning, Urban Development and Ecology) through the *Departamento de Planeacion y Proyectos* (Department of Planning and Projects).

The Department of Planning has continuous communication and exchanges information with SEDESOL, SCT, and SAHOPE. It has also established systematic communication channels with the CANACAR and custom brokers to discuss transportation issues related to the Otay Mesa.

The Municipality of Tijuana does not have a planning process to generate information. Instead, planning information is gathered only for specific cases, but its is never updated. When a problem is detected, it is, in most cases, initially identified by the community. The problem is first evaluated by a *Consejo Consultivo del Desarrollo Urbano* (Urban Development Council). This circumstance allows social and technical-economical issues to have more weight than political issues when evaluated. . The subsequent evaluation is summarized at the end of the municipal and COPLADE administrations.

This municipality has an organizational structure capable of establishing a permanent planning process. However, the urban dynamics of the city generate urgent and complex problems that prevent the municipal authorities from initiating a planning process.

Municipality of Mexicali

The municipal office responsible of planning functions is the *Direccion de Catastro, Control Urbano y Ecologia* (Direction of Cadastral and Urban and Ecological Control) through the Planning Office in the Department of Transit Engineering. The Planning Office appears to cover most of the aspects involved in a planning process, since its activities include planning of traffic structure, regulation and improvement of public land, and establishing a database of statistics to support planning decisions. However, this Office recognizes that there exists a lack of updated information, since information is generated only when specific needs arise.

The EMME-2 forecast model (see Section 4.2.2.1) assists the Municipality to anticipate future problems. But, because out-of-date information (from 1992) is used for making the predictions, the results are not very reliable. Usually the problems are not recognized until their consequences are evident.

When financial support comes from the State Government, it is required to receive authorization from the State Planning and Development Commission (COPLADE) before beginning the executions of projects. It is unknown if COPLADE has an updated and reliable plan for municipal development.

According to municipal officials, evaluation of possible solutions give higher priority to technical-economical criteria over political issues.

Municipality of Tecate

The Municipality of Tecate plans its urban development through the *Direccion de Planeacion, Obras y Servicios Publicos* (Direction of Planning and Public Works and Services) in the *Subdireccion de Planeacion* (Department of Planning).

This Municipality is similar to the Municipalities of Tijuana and Mexicali with respect to technical structure, the collection of information, and the decision making process. One difference is that more priority is given to political factors than to technical-economical issues in the evaluation of solutions and the allocation of resources.

Municipality of Nogales

Even though the Municipality of Nogales has a Department of Planning in the *Dirección de Obras Públicas Municipales, Urbanismo y Ecología* (Direction of Municipal Public Works, Urbanism, and Ecology), functions of the Department of Planning are directed mainly to control and supervise the execution of projects and environmental regulations.

Planning activities for the Municipality have been officially delegated to the State Government, which authorizes the development of studies and plans, and funds for executing recommended actions. The State Secretariat of Urban Infrastructure and Ecology develops municipal plans in coordination with the *Comisión Estatal de Agua Potable y Alcantarillado de Sonora* (CEAPAS-Sonora State Commission of Water and Sewage Systems) because one of the most serious problems in the Municipality is the treatment of residual water. Residual waters are currently sent to Nogales, Arizona, where they are treated, but they are never sent back to Nogales, Sonora.

The Municipality also has close communication with SCT-Residency of Maintenance, because of the binational importance of Highway 15. This highway is the access is the crossing point known as *Garita 2* (Dennis DiConcini Port of Entry). There is also a railway traversing the city, and serious traffic congestion problems are created by long railway trains (between 180 and 200 cars) heading Northbound. The problem begins when trains must wait for authorization to cross the border from U.S. inspectors, thus dividing the city in two parts. This requires a permanent relationship with FNM. Hazardous materials are also being transported by train, which adds a risk component to the traffic problem. However, FNM has not taken care of municipal requests for studying the problem. This problem illustrates the relationship between central and municipal entities.

Even though planning responsibilities were delegated to the State Government, municipal officials do not trust the information being used by the State for developing municipal urban plans. Basic information for development of the municipality plans is taken from statistics collected by the *Instituto Nacional de Estadística, Geografía e Informática* (INEGI-National Institute of Statistics, Geography and Information). The local officials and associations argue that the information, such as municipality population and number of vehicles, has always been underestimated by INEGI, with a direct impact on funding allocations made by the State to the Municipality.

Identification of problems and the decision for solving them is a result of political pressures from powerful and influential local groups before state authorities. The state authorities are able to impose solutions that satisfy the problems of local groups.

Municipality of Agua Prieta

The case of the municipality of Agua Prieta is similar to that of Nogales. Municipal planning activities also have been delegated to the State Government, which appears to be a statewide policy. There is a Department of Planning in the Direction of Urban Planning and Public Works, but its functions are directed to the elaboration of studies and the detection of urban and transportation problems. Therefore, it is considered as an information office.

Due to the economic characteristics of the municipality, that depend on a reduced local maquiladora industry and commercial trade associated with regional mining activities, mainly from Cananea, planning is focused on solving local problems. However, solutions to local urban and transportation problems are made by centralized state and federal agencies because of their financial support to the municipality.

Municipality of Juarez

The Municipality of Juarez represents a special case of serious and organized municipal planning efforts. The Municipal Institute for Research and Planning (IMIP- Instituto Municipal de Investigacion y Planeacion) was created in 1995 as a decentralized public agency in the Municipality of Juarez. With legal capacity and its own funding, the IMIP is responsible for designing urban development, urban research, and socioeconomic research plans enabling an efficient use of available resources within the Municipality of Juarez.

The IMIP is managed by a Deliberation Council and a general manager appointed by the former with a term of office of three years. The Deliberation Council is the institute's highest authority and is made up of 22 members who are municipal, state, and federal officials, as well as representatives of chambers of commerce, professional associations, and higher education institutions. The incumbent mayor of Juarez is the chairman of the Council.

The organizational structure of IMIP is divided into four Departments:

- Plans and Programs,
- Traffic and Transportation,
- Research and Information, and
- Administration.

IMIP owns a 2,000 m² facility to house 30 transportation and planning professionals. It has advanced computer equipment and software to manage a city information database, including a digitized geographical information system.

Its main institutional relationship is with the Municipality of Juarez as an advisor on city planning policies and as a coordinator between the Municipality and state and federal agencies with respect to infrastructure projects. IMIP has developed a close relationship *with Secretaria de Desarrollo Urbano y Ecologia del Estado* (State Secretariat of Urban Development and Ecology), *Direccion de Transporte Estatal* (Direction of State Transportation), and *Direccion de Fomento Estatal* (Direction of State Promotion).

IMIP has bimonthly meetings with SEDESOL to prioritize infrastructure projects in the Municipality, and then, to make requests to BANOBRAS and the World Bank for financing selected infrastructure works. There is also some relationship between IMIP and SCT with respect to international bridges located within the city limits. From the beginning of operations, IMIP established relationships with both Texas and New Mexico DOT's to exchange information, plans, and programs on monthly meetings.

IMIP also works closely with the Municipal Direction of Public Works in order to maintain updated infrastructure inventory database. This database has a digitized urban map for the total municipal jurisdiction with information on year of construction, historical maintenance record, and projected remaining life of infrastructure, as well as traffic flow information on main streets and avenues. Recently, SEDESOL financed an origin-destination study for the city, and the Direction of State Transportation funded a study on public transportation (type of vehicles, routes, and bases).

In a short period of time, IMIP has established a formal and permanent communication channel with municipal officials through weekly meetings, as well as with state and federal agencies, and representatives of political, commercial, industrial, transportation, and community organizations in Technical Committee to detect and evaluate urban problems. Solution of problems is always oriented to the objectives contained in the *1995-2015 Plan Director de Desarrollo Urbano* (Master

Plan of Urban Development) developed in collaboration with all departments of the municipal public administration, State Direction of Public Works, and SEDESOL.

The Institute also takes steps to attain financing resources for the proposed projects before two institutions: the State Government of Chihuahua and the World Bank (through BANOBRAS). There are plans to organize private foundations for solving problems that affect specific groups of the population.

Most of the studies and projects are executed internally and are complemented with the participation of specialists when it is required. IMIP has established an evaluation procedure for the solution of problems, which involves a systematic following of the effects of the projects on the transit or the urban activity.

IMIP stands out as the only organization in the border states and municipalities created specifically for planning, executing, and following up transportation solutions, in an integral, participative, and methodical manner. It represents an adequate mediator between the municipal government level and the state and federal levels, and has the technical structure required to participate effectively in the solution of binational transportation problems with U.S. states and counties.

Municipality of Piedras Negras

Planning in the Municipality of Piedras Negras has been delegated to the *Secretaria de Desarrollo Social del Gobierno del Estado* (Secretariat of Social Development for the State Government). This Secretariat developed a Plan de Desarrollo Municipal (Plan of Municipal Development) which has been used by local authorities to communicate public work needs to the state through COPLADEM. Local authorities use the plan as an instrument for receiving state and federal funds, via SEDESOL.

It has not developed any initiative for the establishment of a permanent and long-term urban and transportation planning process. As evidence, the organizational structure of the municipal administration is directed to the execution and control of projects.

Municipality of Nuevo Laredo

The Direccion de Planeacion Urbana Municipal (Direction of Municipal Urban Planning) is responsible for planning the urban development of Nuevo Laredo, and therefore, it is responsible for the functions relative to transportation planning. The functions of the Direction of Municipal Urban Planning include the control of land use, studies of land use, and proposals for urban equipment and infrastructure. These functions are conducted via four divisions: Socioeconomic and Urban Studies, Urban Projects, Urban Control and Urban Roads and Transportation.

The planning actions that are currently being conducted in the Municipality of Nuevo Laredo originated in the current federal and state development plans. Based on those documents, public hearings, and a needs analysis, the Municipal Plan for Development was derived. The plan establishes the technical, economical, social, and political guidelines that will be carried on by the municipal administration. In order to execute the plans, there exists a close coordination with U.S. state and federal authorities.

There is exchange of information with the City of Laredo, Texas, as well as with the state governments of Tamaulipas and Nuevo Leon. There is a city ordinance that specifies the types of land use and urban road projects; and an environmental city ordinance is being expanded as well. The planimetric ordinance of the city is available electronically.

The Direction of Municipal Urban Planning, with the participation of diverse entities, analyzes and revises urban projects and evaluates some municipal projects; nevertheless, the projects are executed by other entities.

Municipality of Reynosa

The municipal organizational structure of Reynosa does not have a specific area of planning, but it seems that municipal officials have a clear understanding on the need to organize decisions, investments, and projects according to a master plan. Therefore, the Municipality is expecting to have completed its Municipality Development Plan by May 1996.

There exists a *Programa Ambiental de la Frontera* (Environment Program of the Border) oriented in the first year to pave city streets and avenues. Reynosa was part of the Program of the 100 Cities developed by SEDESOL in 1993, and the municipality is in the process of updating the plans to include community issues. Financing resources for works are provided by the State Government, SEDESOL, and CAPUFE. It is intended to make public the Urban development Plan, with the purpose of including the community point of view.

Municipality of Matamoros

The Municipality of Matamoros has a Planning Department in the Direction of Public Works, but there is little organization to solve complicated urban and transportation problems. Execution of projects depends directly on funding assigned to the Municipality by the State Government, and the objective of the City Mayor is to allocate all the resources for infrastructure projects and none, if possible, for urban planning and studies.

There is an Integral Traffic and Transportation Plan financed and developed by SEDESOL during the previous administration, but because of the economic contraction of the nation (1995-96), it has not been possible to initiate recommendations made in the Plan.

The relationship of the Municipality with federal agencies is usually motivated by a specific problem or interest. For example, with SCT there is a federal highway that crosses the city, with FNM to relocate its facilities, with CAPUFE to receive funds for road maintenance operations, and with SEDESOL to request financial resources from BANOBRAS.

4.2.4 Legal Framework for Transportation Planning

The formation of the *Sistema Nacional de Planeacion Democratica* (SNPD National System of Democratic Planning) is required under the *Constitucion Politica de los Estados Unidos Mexicanos* (Mexican Constitution Law), in *Articulo 26* (Section 26). It demands the creation of the *Plan Nacional de Desarrollo* (PND-National Development Plan) and requires that all programs from the *Administracion Publica Federal* (APF-Federal Public administration) comply.

Derived from Section 26, the *Ley de Planeacion* (LP-Planning Law) establishes the policies and basic principles to carry out the PND, and the basis for the *Ejecutivo Federal* (President of Mexico) for coordinating planning activities with state governments.

The APF agencies and entities constitute the SNPD through the administrative units that have planning functions assigned inside the agencies and entities. In order to execute the PND, the proposals from the federal agencies and entities, as well as from the state governments and interested social groups, must be taken into consideration.

The PND must indicate the institutional, sectorial, regional, and special programs that should be elaborated:

Sectorial Programs are created by the APF agencies and take into consideration the proposals presented by the related entities and state governments, and the opinions from interested social groups.

Institutional Programs are created by affiliated federal government agencies under presidential request, and should include the recommendations from the corresponding sectorial program.

Regional Programs are referred to the regions that are considered to have priority or strategic value, with respect to the PND objectives. Their extension goes beyond the jurisdictional reach of one state government.

Special Programs are referred to the integral development priorities of the country established in the PND, or to the activities related with two or more coordinating agencies of the sector.

Annual Programs are programs that agencies and entities should develop for the execution of the PND and sectorial, regional and special programs. The programs mesh together and should be put in place during the year of approval.

The LP regulatory outlines establish the organizational and functional guidelines of the SNPD and the planning process that will regulate the formulation, instrumentation, control and evaluation of the PND activities and the above programs.

The coordination for the execution of the PND and programs should be proposed to the state governments through agreements, so that the actions to be executed by the federation and the states are planned at the same time. The participation of the municipalities should also be considered.

Therefore, complying with the legislation applicable to the states and municipalities, federal authorities should coordinate with state and municipal authorities for encouraging the planning of an integral development at each government level, and make it consistent with the national planning, as well as to promote the participation of different social groups in planning activities.

SCT heads and is responsible for the *Programa del Sector Comunicaciones y Transportes* (Program of the Communications and Transportation Sector), and should make the state and municipal programs be consistent with the SCT program.

4.2.5 Programming (Scheduling) by Federal Agencies

Scheduling of investments in border transportation at federal level takes place in several agencies: SCT through several of its general directorates and decentralized transportation agencies; SRE; and SEDESOL.

In the case of SCT, the participating agencies are DGP, DGCF, DGCC, UAC (Toll Road Unit), the SCT Centers, DGAF, and the General Ports Directorate, in addition to decentralized agencies such as CAPUFE and ASA.

Regarding highway infrastructure, UAC had been in charge of overseeing the construction, operation, and maintenance of private highways. Even though the investment schedule was proposed by private investors, it was subject to approval by the UAC before the concession was granted. Now, the UAC will, together with DGCF, propose the scheduling for modernization of strategic segments of the country's trunk lines (high-spec roads), based on resources available from the new Road Fund, public funds that will continue to be allocated on a yearly basis for this purpose, and bank credits.

Scheduling for the construction of federal feeder roads is the responsibility of DGCF and UAC. These two agencies propose the schedule based on the annual allocation of public funds to

DGCF. This scheduling has to be coordinated with other proposals coming in from the states through the SCT Centers.

Scheduling for federal road maintenance is under the purview of the DGCC and is based on this agency's annual allotment of public funds. A large portion of these resources will now be assigned to the states following the decentralization policy started by the federal government which includes approximately 50% of the national basic highway system.

CAPUFE is responsible for scheduling investments for modernization and maintenance of the toll roads and bridges under its purview. This decentralized agency obtains its own budget from tolls collected; however, appropriations must be approved by the SHCP.

ASA is another decentralized agency whose budget comes from two sources: 1) revenue from services rendered, and 2) budget appropriations from public resources. This agency is in charge of scheduling investments in federal airports.

Scheduling of investments in the railway system is currently in transition from FNM to private investors. Contracts have already been awarded for the Northeast Railroad and the North Pacific Railroad -- the two major trunk lines in the country. Some shorter lines are in the bidding process. Thus, investment in the Mexican railroad system is making its transition to the private sector. The investment schedules of these private companies have already been approved for the next several years.

DGAF receives an annual appropriation of public funds which it uses to schedule its investments on an annual basis. However, the budget restrictions imposed on DGAF have been a serious obstacle for the implementation of modernization plans in federal cargo transportation (including the use and monitoring of weights and dimensions regulations, standardization of federal motor transportation, streamlining of information systems, and standardization of surface transportation).

The General Directorate for Ports is another agency receiving public fund appropriations from the SCT, although as a result of the transfer of ports to private companies, it has become mainly a regulating body. (Operation of some less important ports is still its responsibility.) Major investments in the construction and modernization of port-maritime infrastructure are under the purview of Comprehensive Port Administrations.

All these investment programs under the purview of SCT's decentralized agencies or bodies are consolidated by the DGP which, in turn, generates the annual schedule of investments in the communications and transportation sector.

As stated above, the SRE is the mechanism uniting all the Mexican government's agencies involved with ports and border services, and, as such, it coordinates investment programs related to these border ports at the three government levels.

Support provided by SEDESOL to municipalities (municipal urban planning), is given through the 100-City Program. Investments are scheduled with funds from this program, from SEDESOL's budget appropriations, and from bank credits (BANOBRA). Whenever possible, municipalities contribute from their own resources. In scheduling investments, the following issues are taken into account: requests received from the municipalities; strategic priorities -- such as border cities; and the existence of comprehensive highway and transportation studies (that make up the first stage in the 100-City Program). Where comprehensive studies exist second stage projects (immediate actions) are considered, or when immediate actions have already been taken, third stage projects may be scheduled (three-year action plans).

The general process followed for project scheduling is shown in Figure 4.4.

4.2.6. Programming (Scheduling) by State Governments

The process of programming transportation investments is similar in all six border states. As in the case of planning, scheduling includes highway infrastructure. Resources to finance highway projects in the states typically come from several sources including: federal (usually SCT), state, and private funds. For state projects, funding is usually a combination of state and private funds. In the event of a short fall of funds for a project bank credits are sought. Generally, municipalities do not contribute funds in large-scale projects, given their budget restrictions. The proportion of federal and state funds may vary from state to state, and it is also dependent on the type of project. Scheduling of these investments is based on highway plans, whose duration is typically six years, and the availability of annual resources.

Scheduling of investments for maintenance of the state highway system is subject to resource allocation by the State Government. Appropriations are usually not enough to adequately maintain the entire system.

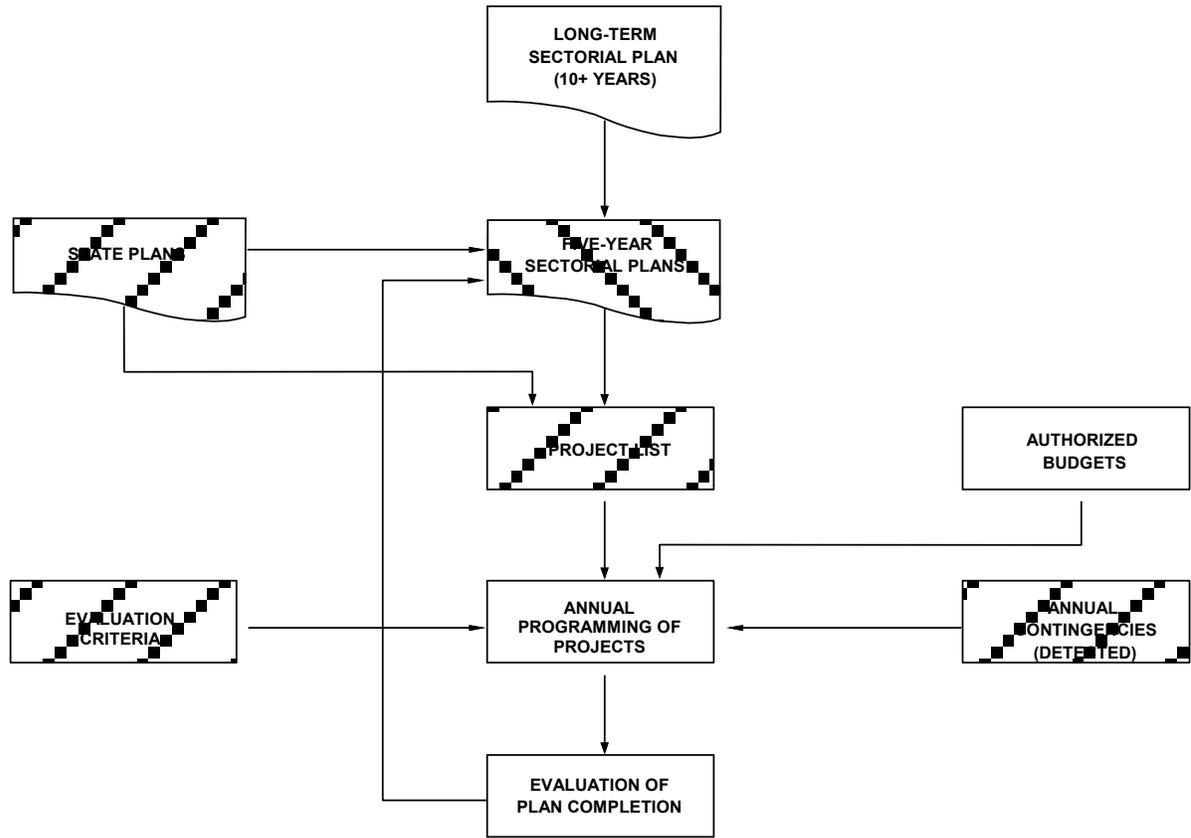
4.2.7. Programming (Scheduling) by Municipal Governments

Whenever any investments are scheduled in urban area roadways, the State Government is in charge of scheduling the works and usually funds the project. This type of scheduling is based on the availability of state resources and the three-year mayoral term. In cases where there are comprehensive highways and transportation studies, the municipality obtains the resources necessary to implement the scheduled project through SEDESOL, and the works are conducted as resources are received.

4.2.8. Issues in Planning and Programming Border Transportation

Table 4.1 shows a summary of significant issues involved in the planning and scheduling processes in Mexico.

Figure 4.4 Project Programming Flow Chart



-  ACTIVITIES INCLUDED IN FEDERAL GOVERNMENT PLANS
-  ACTIVITIES WHERE LOCAL INFORMATION AND COMMUNITY INVOLVEMENT ARE NECESSARY

Source: La Empresa, 1997

**Table 4.1
Summary of Planning and Programming Processes in Mexico**

Component	Federal agencies	Border states
1. PLANNING		
Agency in Charge of Initiating Planning Process	In general, for infrastructure with border access, it is SCT, through its SCT Centers in each state. In the case of a border bridge or crossing, the SRE coordinates planning efforts.	The Urban Development and Public Works Departments. Their name may change but their function is best described in these terms. They work through the Directorate of Highways or Transportation.
Frequency of Plan Updates	They are based on SCT's six-year plan. SRE maintains an ongoing updating process, given the nature of the projects.	States prepare six-year development plans. Municipalities base their work on these plans and prepare three-year plans.
Planning Scope	10 to 20 years	10 years
Who is Responsible for the Plan?	General Planning Coordination and SCT Centers	The Urban Development and Public Works Department or its equivalent. In some states development plans are prepared by economic development departments.
Technical Support	The General Directorate of Technical Services, the General Directorate of Federal Highways, and the Toll Road Unit, among others.	SCT through its state centers and SEDESOL, mainly in municipalities.
Modes included in the plan	Motor transportation, railroads, airports, and ports.	Mainly roads, as a result of the federal purview over the other modes. Urban area roads are under municipal purview, although whenever an urban road is related to the state transportation system, the state may include it in its plans.
Details of the Plan	It is a strategic plan with a detailed description of its objectives.	It is a strategic plan, with more details and emphasis on actions.
Use of Travel Forecast Models	The General Planning Coordination and SCT Centers, and the Toll Road Unit have developed travel forecast models at national level.	Some states (Baja California and Chihuahua, for example) have their own forecast models.
Setting Priorities	Priorities are set according to the National Development Plan	N/A

**Table 4.1
Summary of Planning and Programming Processes in Mexico**

Component	Federal agencies	Border states
Administration Systems	SCT has two systems: the Mexican Pavement Administration System developed by IMT and the Bridges System developed by the General Directorate of Highway Preservation.	N/A
Community Participation	SCT often polls its users. For border bridges and crossings, the SRE conducts an intensive public participation campaign.	States and municipalities use COPLADE and COPLADEM data to get a feel for the public opinion.
Approval of the Plan	SCT consolidates its plan which is then incorporated into the National Development Plan.	State and municipal urban development plans where transportation projects are included are approved by the Local Legislature.
Coordination with the United States	SRE maintains ongoing coordination with the Department of State in matters related to bridges and crossings. SCT participates in this effort and during the projects' construction phase.	It is very significant in some states (Nuevo Leon and Baja California) and more generalized at municipal level where binational projects of mutual interest are defined.
2. PROGRAMMING		
Agency in Charge of Initiating the Programming Process	SCT with information from each state center. State centers collect information in coordination with the local government.	The Urban Development and Public Works Department or its equivalent, in accordance with the budget allocated.
Frequency of Programming	Annual	Annual
Scope of Programming	Six years	N/A
Who is responsible for Programming	General Planning Coordination and SCT Centers.	N/A
Technical Support	General Directorate of Federal Highways, General Directorate of Highway Preservation, Toll Road Unit, FNM, ASA, and Mexican Ports (or API's)	SCT through its state centers.
Components of the Program	They include new roads, widening and maintenance of the existing highways. In airports and ports, they include widening and maintenance works. Railroad projects usually include works on the existing system to improve operations.	They include new roads and highways as well as maintenance of same. Maintenance of nearly 25,000 km of federal highways is being decentralized to the states. States will have to include annual highway maintenance programs, according to the resources allocated to them by the federal government.

**Table 4.1
Summary of Planning and Programming Processes in Mexico**

Component	Federal agencies	Border states
Project Scheduling	Annual. When a project requires more than a year for its execution, the SCT has to include it in the following year, in accordance with the execution program in force.	Annual
Administrative Systems	Same as described above.	N/A
Prerequisites to Include a Project in the Program	It has to be consistent with the sector's six-year plan objectives. A feasibility study must be submitted. In some cases, locally significant projects can be included, as agreed between the federal government and each state.	States try to comply with six-year plans, but more often than not, projects are scheduled as demanded by the population.
Public Participation	SCT Centers relay state-level concerns to promote implementation of projects in each agency. There is clear coordination with the state government, and, in general, the center's director keeps abreast of the public opinion.	Intense and growing. To a certain degree this participation becomes pressure pushing resources toward projects that are not always consistent with the plan's objectives. CANACAR (motor transport sector) and agricultural producers are important pressure groups in the border area.
Approval of the Program	It is part of the annual federal budget debated in and approved by the Congress.	It is part of the state budget and is debated in and approved by the Local Legislature.
Coordination with the United States	Similar to that described above	Similar to that described above

4.3 Compatibility Between the Planning Processes of Border Transportation Between Mexico and United States

This study searched for existing binational planning activities in order to identify the degree of integration in the transportation planning processes between Mexican and U.S. border municipalities, counties, and state governments, and between federal agencies. Most of the binational transportation planning activities have been limited to establishing a systematic exchange of information, and only in few cases, to some specific studies and projects of common interest.

4.3.1 Relationship Between U.S.-Mexico Federal Agencies

At the federal level, permanent communication is maintained, as anticipated, between two neighboring countries with an extensive common border. This was the case particularly in the areas of transportation, commerce, agriculture, the environment and the cattle industry (the areas of immigration and drug control were not investigated). The relationships encompass the exchange of the following information between Mexican and U.S. federal agencies:

- SRE with the Department of State – matters related to ports and border crossings,
- SECOFI with the U.S. Department of Commerce -- statistics of international trade,
- SCT-DGAF with U.S. border states DOTs and the U.S. DOT -- regulation of freight transportation,
- SAGAR with the U.S. Department of Agriculture -- sanitary standards for the inspection of produce, and
- FNM with the two Class I U.S. railroad companies -- standards of operation and coordination of border crossing activities.

Historically, there have been some cases of planning and construction of infrastructure (mainly border crossings and bridges), between the two countries. The decision making process, in these cases, is very slow, and the negotiations and planning of infrastructure projects can take several years.

Whenever there is an agreement for the construction of infrastructure of binational interest for the two countries, such as an international bridge, the relationship continues through the design and construction of the project. The process begins with the decision of which side will prepare the design, leaving the responsibility for checking the design to the other side. Construction of a bridge relies on participation of two construction firms, one on each side of the border. Overall supervision of the construction on each side is performed by the corresponding national authorities, which maintain a close relationship during the construction process by holding periodic meetings.

Other agencies, such as CAPUFE, hold frequent meetings with their U.S. counterparts and other authorities along the border. However, there has never been an attempt to plan the development of infrastructure or the operational procedures at the international crossing sites.

Experience from binational transportation planning studies have shown that there is a perception that problems are viewed differently by participants of both countries. In addition, there has not

always been a positive relationship among counterpart agencies, sometimes resulting in tension, little cooperation, and lack of communication.. For these reasons, the implementation of many agreements has been delayed.

The most advanced process for standardizing operative criteria for the border transportation has been carried out by SCT-DGAF. Due to negotiations of NAFTA, this agency has developed studies and negotiations with its U.S. counterparts in the border states to integrate the operation of freight transportation trucks on both sides of the border.

Bilateral projects such as border crossings require a bilateral procedure and analysis for their construction. For this bilateral procedure, SRE and the U.S. State Department created the *Grupo Binacional sobre Puentes y Cruces Internacionales* (Binational Bridges and Border Crossings Group).

The Binational Bridges and Border Crossings Group (BBBCG) is the consultation and conciliation forum established between Mexico and the U.S. to assure an adequate bilateral communication and harmonization for the construction, maintenance, and operation of the international ports and crossings. Mexico coordinates its internal needs for development through the Interagency Group on Ports of Entry and Border Services. The BBBCG meets twice a year and makes one annual inspection tour to different ports of entry, selected alternatively in both countries. The most recent meeting of the BBBCG was held March 17-20, 1997, at Mexicali, B.C., Mexico (21st meeting).

The construction of international bridges and crossings is coordinated among different authorities with technical responsibility from both countries respect to planning, project development, construction, and financing issues.

Because of the budget limitations in both countries, the BBBCG looks for alternatives that would improve the efficiency of the existing ports of entry. This is conducted before the approval of new infrastructure construction projects, in order to guarantee the recovery of private investments or make the most efficient use of public resources. In spite of limited budgets, the BBBCG has the construction of new ports of entry in its agenda. However, it is estimated that mid-term projects will concentrate on operational and maintenance aspects of the international bridges and crossings. Special emphasis will be put on facilitating crossings at the international ports.

The coordination activity of the BBBCG is a serious effort that searches for a compatible planning process for infrastructure and operation of border transportation, even though its objective is limited to specific border projects (bridges and support facilities). However, it should be worthy of note the experience accumulated by this group for expanding the established criteria towards planning a binational transportation system.

4.3.2 Relationship Between State Governments

The Mexican authorities in the border states have, in general, a relationship of mutual cooperation with U.S. border states, especially with U.S. state DOTs on transportation issues. The SAHOPE of the State Government of Baja California has a signed agreement with Caltrans to support transportation planning, municipal and regional planning, establishing a transportation library, transferring technology and protecting the environment. However, to date, this agreement has been limited to studies of common interest.

The State Government of Sonora already has the experience of planning, designing, and constructing one binational project with the State of Arizona. A binational bypass project is in the construction stage and includes the construction of customs, parking, and complementary facilities, which will prevent the border traffic flow between Nogales, Sonora, and Arizona from using urban streets.

In the State of Coahuila, the Secretariat of Communications and Public Works has a good relationship with the Texas Department of Transportation (TxDOT) and mayors of the U.S. border cities, particularly with the officials of Eagle Pass. The State of Coahuila has in place a Texas-Coahuila Technology Exchange Program, which includes periodic meetings in its agenda that facilitates the constant flow of information.

The Nuevo Leon Highway System also has a good relationship with TxDOT, which includes the exchange of information related to the project of Colombia Bridge, and the construction of highway links from the bridge to the main highway systems of both countries.

The Secretariat of Industry, Commerce, and Tourism Development (SEDICOT) of Tamaulipas maintains a close relationship with the TxDOT, from which the following joint efforts stand out:

- The Technology Exchange Program between both border states
- Joint Planning for access roads to existing and projected international bridges, as well as their link to principal highways in Mexico and the U.S.
- Joint participation in the generation of new ideas for the development of infrastructure

It also maintains working relations with the following U.S. authorities:

Federal Level

- Federal Highway Administration
- U.S. Department of State
- International Boundary and Water Commission
- U.S. Customs Service
- U.S. Immigration and Naturalization Service
- U.S. Department of Commerce

State Level

- Texas Department of Transportation
- Texas Department of Public Safety
- Texas Department of Commerce
- Texas Secretary of State
- Texas Legislature
- State District Judges along the border area

Municipality Level

- Border City Mayors and City Managers
- Contractors
- Promoters

SEDICOT participates constantly in meetings with the aforementioned agencies, with the objective of analyzing, in the majority of cases, issues related to existing and proposed international border crossings.

SEDICOT assists in binational forums which include the Border Governors' Conference, the Gulf Coast Governors' Conference, and the Binational Bridges and Border Crossings Group, where federal, state and municipal authorities from Mexico and the U.S. meet and analyze border projects and problems in conjunction.

The State Government of Chihuahua granted the concession of the Cordoba Bridge, in Ciudad Juarez, from the Federal Government. The enlargement project was accomplished by TxDOT, through an agreement between the federal governments of both countries.

4.3.3 Relationship Between Municipalities and Counties

At the municipal level, there is some variation in the level of binational cooperation on urban planning and border transportation issues. These issues are related to the interests that U.S. border cities and counties have regarding commerce with Mexican cities. Relationships range from the integration of information and the formulation of proposals that in some cases led to actions, to a simple diplomatic relationship that is characteristic between neighbors with common problems. Cases of binational cooperation are:

- Tijuana and San Diego have a binational agreement on planning, which already has produced the "Use of the Land Act Tijuana-San Diego (1996)." This agreement is a supplement to the agreement signed between the State Government of Baja California and Caltrans.
- Municipal authorities of San Luis Rio Colorado and Yuma County, Arizona, have been holding frequent meetings to discuss issues of infrastructure, tourism, ecology and commerce.
- Agua Prieta (together with Cananea and Naco) and the cities of Douglas, Sierra Vista, Naco and Bisbee, in Arizona, exchange information. There are discussions on the construction of a binational bypass with the corresponding relocation of Agua Prieta and Douglas' custom facilities. There is also a good commercial relationship between the two parts. For example, the City of Douglas supports the City of Agua Prieta with asphalt at low cost, lending equipment, and supplying technical assistance. There is also assistance with public transportation between Agua Prieta's Downtown and Douglas' commercial zone.
- IMIP in Juarez, and the States of New Mexico and Texas exchange information, plans, and programs on monthly meetings.
- Nuevo Laredo and Laredo, Texas, developed a "Use of the Land Act for the Two Laredos," which constitutes the beginning of a coordinated effort for planning the development of the urban zone.
- Reynosa and Mission, McAllen, Hidalgo and Pharr have established a relationship more oriented toward economical and commercial interests than toward planning of urban and transportation development. Therefore, there is a good relationship between chambers of commerce and public transportation companies.

4.3.4 Identification of Challenges and Opportunities for Complementary Border Transportation Planning Between Mexico and the United States

The asymmetric economies between Mexico and the U.S. creates different views on the state and urban needs of both countries, not only in the perception of the problem's importance, but also in the urgency for solving them. In addition, the availability of financial resources has different dimensions and characteristics. While the U.S. cities, counties, and states have plans supported,

in most cases, by identified financial sources, Mexican municipalities depend on federal and state funds which are not always predictable in amount and opportunity.

It does not seem to be adequate to contemplate a unique planning mechanism. Therefore, the most important challenge is to envision a specific planning process on each side of the border, that would respond to the opportunities, needs, and available financing of each municipality, county, or state in both countries. And, at the same time, meet local expectations while facilitating transborder transportation of goods.

On the other hand, there may be some opportunities for the concept of a border planning process. These opportunities are related to key issues for improving border transportation efficiency that are of common interest in the cities on both sides of the border.

In this scenario, there is a need for identifying the key issues and establishing a continuous process that will assist in (1) the identification of interest groups, (2) the assessment of the impacts on each country, and (3) the achieving a consensus on the interests and efforts (see Figure 4.5).

Some general issues that are considered key for border transportation were detected from interviews conducted in the border region. Some of the issues are related to border transportation, while others are related to the urban and social impacts in border communities (see Figure 4.6).

Figure 4.7 shows a preliminary list of interest groups (stakeholders) on each issue considered important for border transportation and an indication of the level of impact on each country.

If there is common interest, there is an opportunity to generate synergy for solutions to identified problems, including joint strategies for the implementation of actions that contribute to the objective plans prepared in both countries.

Figure 4.5 Identification of Opportunities and Challenges for Establishing a Binational Planning Process

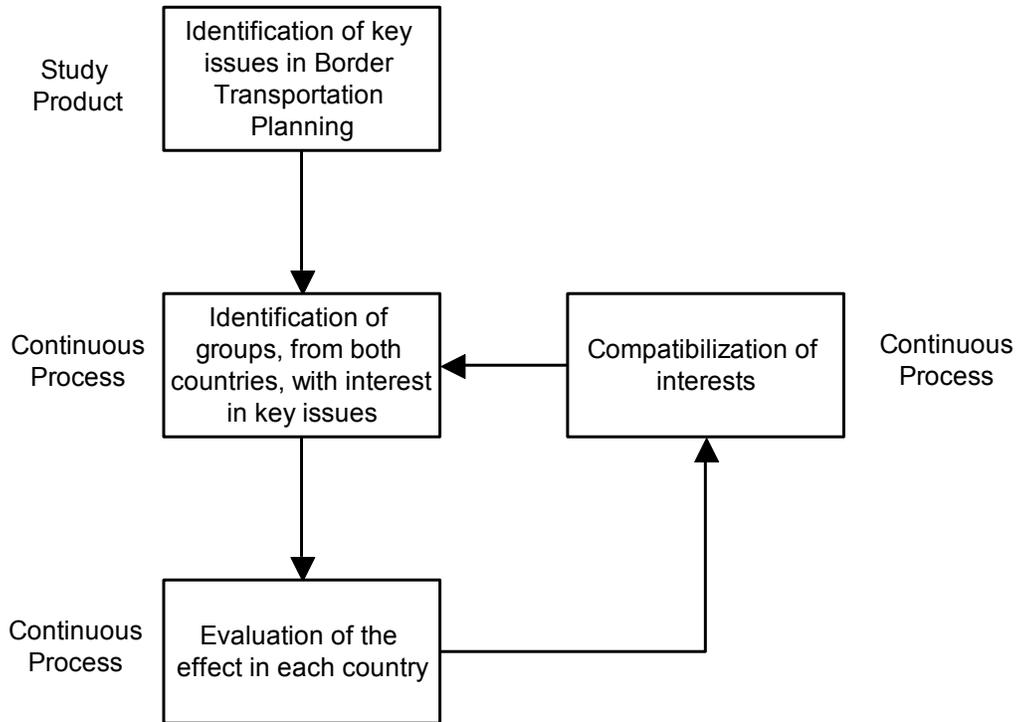
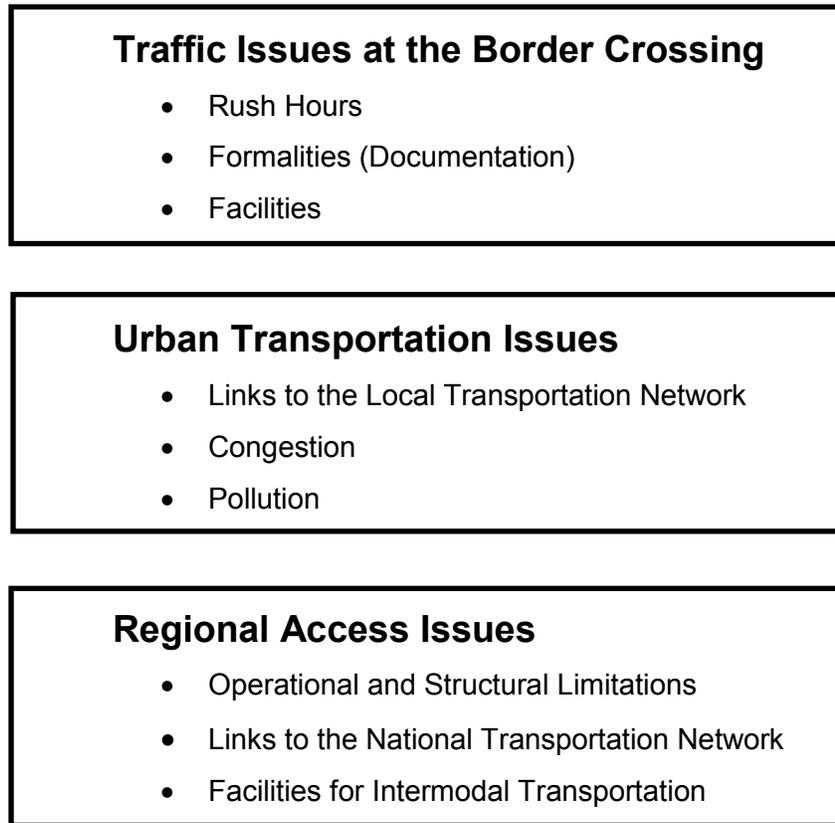


Figure 4.6 Identification of Key Issues Involved in Border Transportation Planning



Source: La Empresa, 1997

Figure 4.7 Identification of Interest Groups

Key Issues	Interest Groups	Major Effect On	
		Mexico	US
Congestion during rush hours	<ul style="list-style-type: none"> • Border authorities • Carriers • Local consumers • Local businessmen • Daily commuters 	x x x x x	x x x x
Paperwork	<ul style="list-style-type: none"> • Carriers • Exporters and importers • Customs brokers 	x x x	x x x
Infrastructure and facility capability	<ul style="list-style-type: none"> • Carriers • Local consumers • Local businessmen • Daily commuters 	x x x	x x x
Link to the local network	<ul style="list-style-type: none"> • Carriers • Daily commuters 	x x	
Street congestion	<ul style="list-style-type: none"> • Carriers • Local inhabitants 	x x	x
Pollution	<ul style="list-style-type: none"> • Local inhabitants 	x	x
Operative and structural limitations	<ul style="list-style-type: none"> • Carriers • Railways 	x x	
Link to the national network	<ul style="list-style-type: none"> • Carriers • Railways • Municipalities or counties 	x x x	x
Facilities for intermodal transportation	<ul style="list-style-type: none"> • Carriers • Railway • Freight Forwarders 	x x x	

Source: La Empresa, 1997.

4.4 Private and Community Participation

Community participation on the detection and solution of problems related to border transportation is characterized in two ways: (1) through passive transportation entities, such as chambers of commerce and industrial associations of border municipalities, and (2) through active transportation entities, such as custom brokers and freight transportation associations.

The capacity to influence and pose solutions varies, even for a single group or society in each state or municipality. This capacity is related with the importance of activities on the local economy.

The community is represented by the COPLADES before federal, state, and local entities. Social organizations participate in these committees as representatives of industrial, professionals, and neighborhood associations. These groups constitute the channel of communication between authorities and community. The efficiency by which these committees carry out this activity cannot be detected.

The participation of the business sector is intense at the municipal level. The decisions related to transportation issues are heavily influenced by the National Association of Freight Transportation (CANACAR) and custom brokers, since both associations are strong at state and national levels. Their participation at the central level is considered important by the federal government. They are involved in different committees such as the *Comite Mixto para la Promocion de las Exportaciones* (COMPEX-Mixed Committee for Promoting Exportations) promoted by SECOFI, the *Comites de Facilitacion Aduanara* (Committees for Customs Facilitation) promoted by SHCP, and the *Comite de Caminos y Puentes Fronterizos* (Committee of Border Highways and Bridges) in CAPUFE.

Even with this level of involvement, some local freight transportation carriers complain that the lack of communication with authorities regarding transportation regulations has affected their business.

CANACAR has a good relationship with government agencies at all levels, and its influence in some municipalities is very important. This strong relationship of power frequently modifies the decisions at the municipal level, especially when the agencies are capable of studying, proposing and financing the solutions. This is the case in Nogales, in which the freight transportation association established a partnership for the relocation of custom facilities. The *Confederacion de Asociaciones Agricolas del Estado de Sinaloa* (CAADES-Association of Produce Exporters from the State of Sinaloa) has an influence in the city of Nogales, since is a powerful promoter of the economy in the municipality as well as statewide.

From the agreements on joint regulation of freight transportation between Mexico and the U.S., local and national freight transportation carriers are complaining about the asymmetric financial capability that exists between the Mexican and the U.S. freight transportation carriers. To comply with the requirements that will allow them to operate in both countries, Mexican operators must invest a far greater percentage of their resources..

Customs brokers have less influence than freight transportation associations because their activity is limited to a professional service along border cities. However, if this service is affected by transportation or infrastructure problems, customs brokers will support the petitions made by freight transportation associations. At the same time, there exists a tense relationship between both groups because the freight transportation association complains that the inefficiency of customs brokers cause major delays in crossing the border and increase their operating costs.

In general, local freight transportation companies and CANACAR consider themselves as having great influence in the decision making process for solving problems that affect their interests, even though most of the time they are not in favor of the proposed solutions. Their principal concerns are related to the transportation infrastructure and to inefficiencies in the border crossing process.

Active private transportation participants, such as freight transportation companies and custom brokers, usually do not follow a formal planning process during the performance of their activities, except large companies (FNM and TMM). The following behavior was perceived from these groups:

4.4.1 Freight transportation companies

- Even though they do not have any formal planning procedure, they establish goals and tactics that favor their activity.
- The goals, however, are for short period and scope. There is a lack of business vision that may allow them grow as enterprises.

Their tactics and strategies are more oriented to the coercion of the group, than to actions well articulated and based on operative and administrative efficiency.

4.4.2 Custom Brokers

- They did not react opportunely to the structural and legal change of their activity.
- Instead of establishing a strategy that would take advantage of the new conditions, they oppose to them.

Freight transportation companies and custom brokers usually look for stimulating their activity from inside the government.

4.4.3 Large Transportation Companies (FNM and TMM)

- Their planning is similar to the official, but in many cases, it influences the official planning.

In conclusion, the vision of the private sectors is to short term solutions to specific problems. Even though they are interested in participating in the urban and transportation planning process, most of the time they are skeptical of planning mechanisms being used. For this reason, the private transportation sector, i.e., the custom brokers, has funded technical studies to support their concerns and requests. Custom brokers, with presence before SHCP and SCT, may be characterized as active and capable participants in the border transportation planning process.

4.5 List of Abbreviations

ADOT	Arizona Department of Transportation
AGA	<i>Administracion General de Aduanas de la SHCP</i> (SHCP-General Administration of Customs)
APF	<i>Administracion Publica Federal</i> (Federal Public Administration)
ASA	<i>Aeropuertos y Servicios Auxiliares</i> (Airports and Auxiliary Services)
ATR	Alliance for Transportation Research
BBBCG	Binational Bridges and Border Crossing Group
BANOBRAS	<i>Banco Nacional de Obras y Servicios</i> (National Bank of Works and Services)
BID	<i>Banco Interamericano de Desarrollo</i> (Inter American Bank for Development)
BM	<i>Banco Mundial</i> (World Bank)
CAADES	<i>Confederacion de Asociaciones Agricolas del Estado de Sinaloa</i> (Association of Produce Exporters from the State of Sinaloa)
CABIN	Comision de Avaluos de Bienes Nacionales
CALTRANS	California Department of Transportation
CANACAR	<i>Camara Nacional del Autotransporte de Carga</i> (National Association of Freight Transportation)
CANACAR BC	<i>Camara Nacional del Autotransporte de Carga: Delegacion Estatal en Baja California</i> (National Association of Freight Transportation: State of Baja California Branch))
CAPUFE	<i>Caminos y Puentes Federales de Ingreso y Servicios Conexos</i> (Federal Toll Highways and Bridges)
CEAPAS	<i>Comision Estatal de Agua Potable y Alcantarillado de Sonora</i> (Sonora State Commission of Water and Sewage Systems)
CILA	Comision Internacional de Limites y Aguas (International Border and Water Commission)
CGPMM	<i>Coordinacion General de Puertos y Marina Mercante de la SCT</i> (SCT-General Coordination of Ports and Merchant Navy)
COMPEX	<i>Comite Mixto para la Promocion de las Exportaciones</i> (Mixed Committee for Promoting Exportations)
CONACAL	<i>Comision Nacional de Caminos Alimentadores</i> (National Commission for Feeder Roads)
COPLADE	<i>Comite de Planeacion para el Desarrollo del Estado</i> (Planning Committee for the State Development)
COPLADEM	<i>Comite de Planeacion para el Desarrollo del Municipio</i> (Planning Committee for Municipality Development)
CTR	Center for Transportation Research, University of Texas at Austin

DEA	Drug Enforcement Agency
DGA	<i>Direccion General de Aeropuertos</i> (General Directorate of Airports)
DGE	<i>Direccion General de Evaluacion de la SCT</i> (SCT-General Directorate of Evaluation)
DGAF	<i>Direccion General de Autotransporte Federal de la SCT</i> (SCT-General Directorate of Federal Transport)
DGCC	<i>Direccion General de Conservacion de Carreteras de la SCT</i> (SCT-General Directorate of Highway Maintenance)
DGCF	<i>Direccion General de Carreteras Federales de la SCT</i> (SCT-General Directorate of Federal Highways)
DGIE	<i>Direccion General de Infraestructura y Equipamiento de la SEDESOL</i> (SEDESOL-General Directorate of Infrastructure and Equipment)
DGP	<i>Direccion General de Planeacion de la SCT</i> (SCT-General Directorate of Planning)
DGST	<i>Direccion General de Servicios Tecnicos de la SCT</i> (SCT-General Directorate of Technical Services)
DGTTFM	<i>Direccion General de Tarifas, Transporte Ferroviario y Multimodal de la SCT</i> (SCT-General Directorate of Tariffs, Rail and Multimodal Transport)
DOT	U.S. Department of Transportation
FNM	<i>Ferrocarriles Nacionales de Mexico</i> (National Railroads of Mexico)
GIPSF	Grupo Intersecretarial de Puertos y Servicios Fronterizos de la SRE (Interagency Group on Ports of Entry and Border Services)
IMIP	<i>Instituto Municipal de Investigacion y Planeacion de Ciudad Juarez</i> (Ciudad Juarez Municipal Institute of Research and Planning)
IMT	<i>Instituto Mexicano del Transporte</i> (Mexican Transportation Institute)
INEGI	<i>Instituto Nacional de Estadistica, Geografia e Informatica</i> (National Institute of Statistics, Geography, and Information)
INM	<i>Instituto Nacional de Migracion del SEGOB</i> (SEGOB-National Institute of Immigration)
ITESM	<i>Instituto Tecnologico y de Estudios Superiores de Monterrey</i> (Monterrey Tech)
JLM	<i>Junta Local de Caminos</i> (Local Road Council)
LP	<i>Ley de Planeacion</i> (Planning Law)
MOA	Memorandum of Agreements
NOM	<i>Norma Oficial Mexicana</i> (Mexican Official Norms)
NMDOT	New Mexico Department of Transportation
PPAFEM	<i>Programa para el Fortalecimiento Administrativo y Financiero de los Estados y Municipios de la Frontera Norte, BANOBRAS</i> (BANOBRAS-Program for the Administrative and Financial Strengthening of North-Border States and Municipalities)

PGR	<i>Procuraduria General de la Republica</i> (Attorney General)
PND	<i>Plan Nacional de Desarrollo</i> (National Development Plan)
SAGAR	<i>Secretaria de Agricultura, Ganaderia y Desarrollo Rural</i> (Secretariat of Agriculture, Livestock, and Rural Development)
SAHOPE	<i>Secretaria de Asentamientos Humanos y Obras Publicas del Estado, Gobierno del Estado de Baja California</i> (State Secretariat of Human Settlements and Public Works, State Government of Baja California)
SCOPE	<i>Secretaria de Comunicaciones y Obras Publicas del Estado, Gobierno del Estado de Coahuila</i> (State Secretariat of Communications and Public Works, State Government of Coahuila)
SCT	<i>Secretaria de Comunicaciones y Transportes</i> (Secretariat of Communications and Transportation)
SEODAM	<i>Secretaria de la Contraloria y Desarrollo Administrativo</i> (Secretariat of the Comptroller and Administrative Planning)
SECOFI	<i>Secretaria de Comercio y Fomento Industrial</i> (Secretariat of Commerce and Industrial Development)
SEDENA	<i>Secretaria de la Defensa Nacional</i> (Secretariat of National Defense)
SEDESOL	<i>Secretaria de Desarrollo Social</i> (Secretariat of Social Development)
SEDICOT	<i>Secretaria de Desarrollo Industrial, Comercial y Turistico, Gobierno del Estado de Tamaulipas</i> (Secretariat of Industry, Trade, and Touristic Development, State Government of Tamaulipas)
SEGOB	<i>Secretaria de Gobernacion</i> (Secretariat of Interior)
SEMARNAP	<i>Secretaria de Medio Ambiente, Recursos Naturales y Pesca</i> (Secretariat of Environment, Natural Resources, and Fisheries)
SHCP	<i>Secretaria de Hacienda y Credito Publico</i> (Department of Treasury and Public Credit)
SPF	<i>Servicio Publico Federal</i> (Federal Public Service)
SNPD	<i>Sistema Nacional de Planeacion Democratica</i> (National System of Democratic Planning)
SRE	<i>Secretaria de Relaciones Exteriores</i> (Secretariat of Foreign Relations)
TMM	<i>Transportacion Maritima Mexicana</i> (Mexican Maritime Transportation)
UAC	SCT's Toll Road Unit

4.6 Matrix of Relationships Among Agencies

In the planning process, there is an active participation of individuals; representing their own interests or those from a public agency, productive associations, or society sectors. Their participation may be direct or indirect, depending on if they contribute to the process establishment (active agents) or if they are recipients — benefited or harmed — of the process effects (passive agent). Some individuals participate with enthusiasm and others because it is their responsibility. Individuals who are benefited from the process will support it, while those who are harmed will oppose it.

Then, there is complex relationships scheme, which is directed by personal or group interests that usually are not very explicit.

As a result of the investigation, an initial approach to the relationships that were perceived during this phase of the study are presented. It is necessary, however, to consider this first Matrix of Relationships as the initial point of permanent identification of the objectives and the conflict of interests among the planning process participants. The understanding of this Matrix of Relationships will be beneficial for a realist planning process design.

Table 4.2
Matrix of Relationships Among Mexican Agencies

Main Participant	PLANNING ENTITIES AND USERS						
	SCT PLANNING	State Government	Municipality	CANACAR	FNM	Custom Brokers	SRE
SCT					Regulatory and coordination.	Cooperative, since custom brokers are a primary information source for planning.	Coordination
DGAF	Institutional and cooperative.			Regulatory and intense; some times conflictive; freight transportation carriers participate in committees, but feel that they are not taken into consideration.		Intense through COMPEX.	Coordination
CAPUFE	Permanent relationship. Institutional and subordinate. There is pressure from CAPUFE for having more planning and decision making participation.		Relationship of convenience, because of CAPUFE 's contributions to the municipalities.	Intense. Freight transportation carriers participate in the CAPUFE's Committee of Border Highways and Bridges. In general, it seems to be a cooperative relationship.			Coordination
DGCF	Institutional and complementary. There is some discrepancy between the planning approach (DGCF has a vision for executing works more than planning).		There is a relationship only in some special cases (when it is necessary to relocate a highway that became an important urban road, for instance).				Coordination
SEDESOL	Complementary. Strategic planning of the highway network, for instance, corresponds to the urban development foreseen by SEDESOL.	It has a coordinating relationship through the state SEDESOL branches.	Intense and cooperative. SEDESOL represents for the municipalities a source for accessing loans from BM and BID, more than a technical support entity. However, there is a link for training and technology transfer to the municipalities.				Coordination
State Government	Support. SCT, through its state centers, gives technical support. Directors of the state SCT centers have political power in their corresponding state, and some times they become planners of the State Government.				Institutional.		Coordination

Table 4.2
Matrix of Relationships Among Mexican Agencies

Main Participant	PLANNING ENTITIES AND USERS						
	SCT PLANNING	State Government	Municipality	CANACAR	FNM	Custom Brokers	SRE
Municipality	Support. Municipalities request support to the state SCT centers for maintenance of roads; close relationship when there is a road that crosses the municipality.	Institutional. The State Government imposes its criteria when it contributes with financial resources for specific projects. Operates as normative.					Coordination
Maquiladoras	There is communication through forums such as COMPEX.	Informative through state SECOFI branches.	Cooperative. Maquiladora industry generates local employment.	Conflictive. Maquiladoras use their own transportation fleets.	There is little relationship, since maquiladoras usually use highway transportation.	Complementary and daily until the new Customs Law took place.	
CANACAR	Close and conflictive in the case of regulation of transportation operation. They formally meet in the <i>Comision Consultiva del Transporte</i> (Consultative Transportation Commission).	Political relationship, in many cases this group has high pressure capability.	If there is any, it may be conflictive. Some times the activity of freight transportation carriers is important for the local economy.				
FNM	Regulatory and coordination. FNM has high operative and financial autonomy.		Conflictive. FNM does not pay attention to municipal complaints when its operation create problems to the local community. In this case, it is evident the weakness of municipal capability.	Complementary			Coordination until privatized
Custom Brokers	There is communication and their relationship increases as custom brokers expand their activity towards transportation operation.		Custom brokers integrate the community and constitute an important local economic activity.	Complementary. Some times conflictive because freight transportation carriers blame customs brokers for delays in their operations. They participate together in forums such as the <i>Observador Externo</i> (External Eyewitness Forum).	Complementary with intense communication.		
Community		In some states, there exist the COPLADEs as an instrument for communication and discussion of problems and solutions.	There are community committees, COPLADEMs, and councils that participate in making important decisions. Community support to municipalities seems to be the only source of strengthening before central entities.	Eventual. It was perceived some complementarily when they look for common solutions.	Conflictive.		Coordination
Customs				Regulatory and cooperative through the <i>Comite de Facilitacion Aduanera</i> (Committee of Customs Facilitation).	Regulatory. Usually, Customs procedures affect railway operation, but conflicts arise between FNM and users and community.	Regulatory. Apparently cooperative.	Coordination

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Matrix of Relationships Among Mexican Agencies

Main Participant	PLANNING ENTITIES AND USERS						
	SCT PLANNING	State Government	Municipality	CANACAR	FNM	Custom Brokers	SRE
SAGAR				Regulatory.	Conflictive. FNM blames SAGAR for inadequate procedures in the agricultural inspections.	Regulatory.	Coordination
SEGOB (Immigration)		Close relationship since immigration issues have high social effects.	Immigration policies that are adopted affect the demographic and economical dynamic of the municipalities. However, there is not perceived any formal relationship.	Regulatory.			Coordination

Source: La Empresa, 1997.

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