Chapter 2. State of the Practice for POE and Transportation Infrastructure Planning

This chapter documents current planning practices followed by Federal, State, regional, and local agencies to determine transportation and POE infrastructure needs and priorities for project implementation. To better understand the current planning practices of these agencies in determining transportation and POE infrastructure needs and priorities, planning documents were reviewed and information was obtained from consultancy reports, books, articles, and academic literature. In addition, telephone and in-person interviews were conducted with a number of BNAC members.

Figure 2.1 shows information about funding and the mandates of different types of planning agencies. In the United States, Federal agencies establish guiding principles and a regulatory framework for transportation planning at State and regional levels. State, county, and city agencies have strong funding capabilities (i.e., strong tax collection jurisdictions) relative to Mexican State and regional agencies (which mostly receive redistributed funds from the Federation) and may seek additional funding from the Federal Government through programs established in transportation regulations that can fund transportation projects entirely or partially.

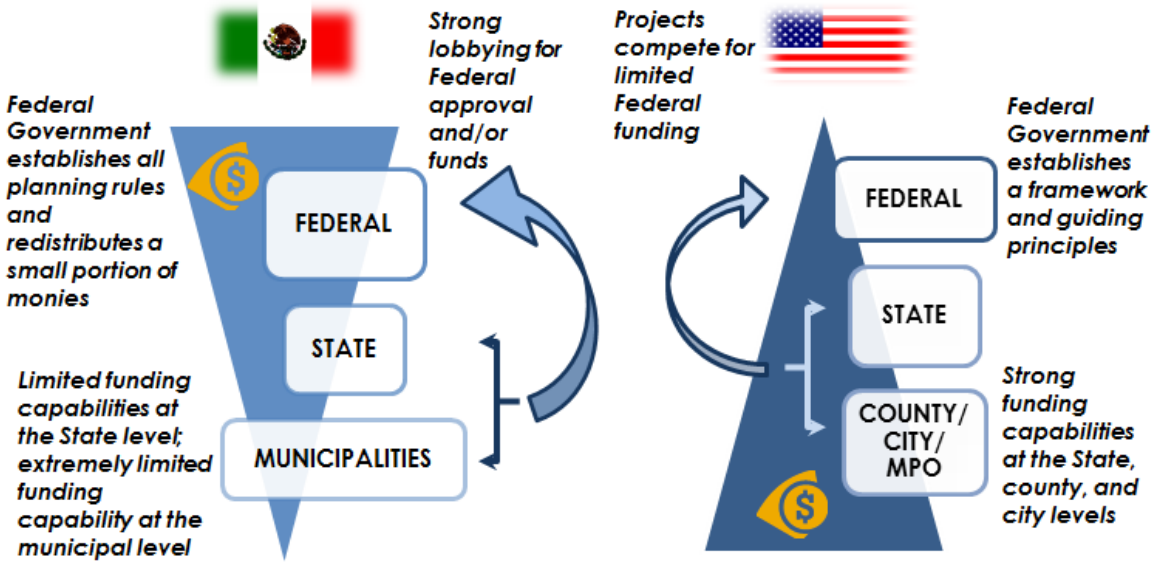


Figure 2.1: Planning Levels and Mandates

In Mexico, Congress and Federal agencies enact six-year planning documents that not only establish the guiding principles and framework for transportation planning at the regional and local levels, but may select which projects will be granted authorization and/or funding. Mexican Federal agencies approve all transportation infrastructure projects irrespective of their funding source (private, public, or a combination of both). Since State and municipal finances are limited, stakeholders have in some cases incurred debt to finance infrastructure projects. The use of debt to finance infrastructure projects is the direct result of the current fiscal policy framework that limits distribution of Federal funding to States and municipalities.

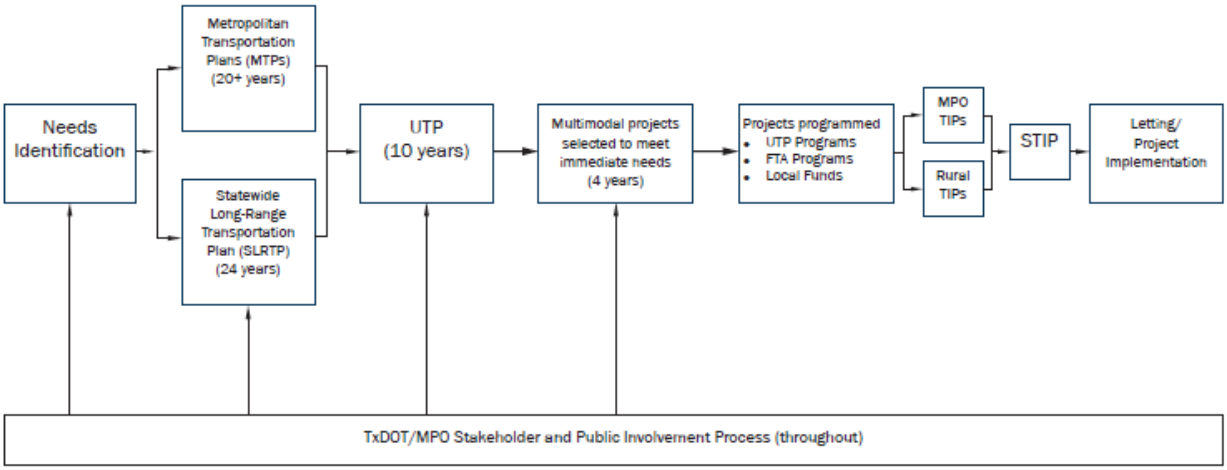
2.1 Transportation Border Infrastructure Planning Practices: United States

For Federal funding, the U.S. Department of Transportation (USDOT) relies on FHWA division offices, the Federal Transit Administration, the Federal Railroad Administration, the Maritime Administration, State departments of transportation (DOTs), and metropolitan planning organizations (MPOs) to oversee and conduct transportation planning at the statewide, regional, and local levels.

2.1.1 Participants in Transportation Border Infrastructure Planning

TxDOT acts on behalf of the governor of Texas in most matters relating to transportation plans. Figure 2.2 provides a summary of the interaction between the entities involved in transportation infrastructure planning in Texas. Projects can be planned at the city, county, and State levels. Projects include traditional roadways as well as projects that support other modes of transportation such as transit, bike paths/lanes, and sidewalks. TxDOT's responsibilities concern the State-maintained road network, which is commonly referred to as "on-system." TxDOT also has an Aviation Capital Improvement Program that lists planned projects at general aviation airports in the State, supports the Port Authority Advisory Committee in the development of the Port Capital Program Annual Report, and is currently in the process of developing the Texas Freight Mobility Plan.

Urbanized areas in the United States with a population of more than 50,000 must have a designated MPO. The metropolitan area boundary of MPOs includes urbanized areas (established in an agreement between the MPO and the governor) and the area that is expected to be urbanized during a 20-year forecast period. All MPOs must develop a Metropolitan Transportation Plan (MTP) and a Transportation Improvement Program (TIP). The MTP must be consistent with the latest Federal transportation law, which is currently the Moving Ahead for Progress in the 21st Century Act (MAP-21) signed by President Barack Obama in 2012.[1]



Note: FTA = U.S. Federal Transit Administration; MPO = Metropolitan Planning Organization; MPO TIP = Metropolitan Transportation Improvement Program; TxDOT = Texas Department of Transportation; STIP = Statewide Transportation Improvement Program; TIP = Transportation Improvement Program; and UTP = Unified Transportation Program

Source: TxDOT[2]

Figure 2.2: Transportation Planning and Programming Process in Texas

2.1.2 Texas Department of Transportation

In general, TxDOT is responsible for planning for the on-system roads over a 20-plus-year period. MPOs are responsible for planning for transportation infrastructure in the current and expected urbanized areas over a 20-year forecast period. Texas's MPOs vary greatly in organizational size, structure, available resources (both number of employees and available funding), and program emphasis. The most important transportation planning documents developed by TxDOT and the MPOs are illustrated in Figure 2.3. Several of these transportation plans and documents consider changes in population, employment, and economic trends. The documents are briefly described in the following paragraphs.

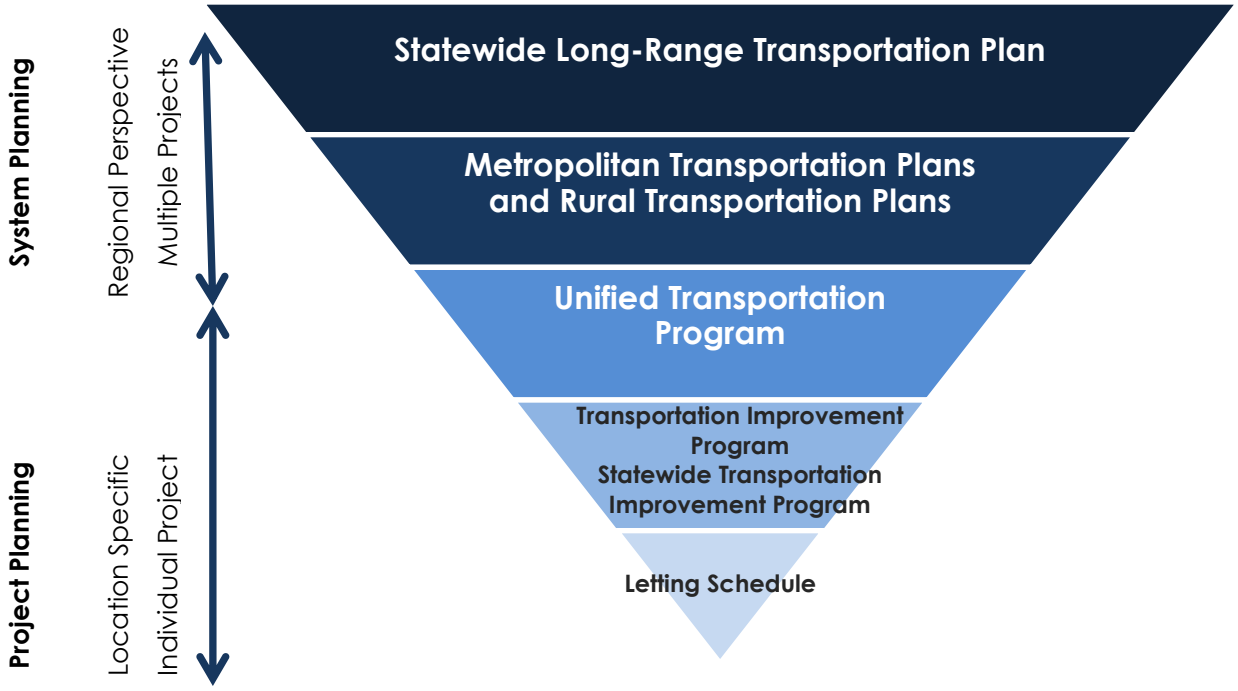


Figure 2.3: Key TxDOT Transportation Planning Documents

The planning documents can be broadly categorized as system planning and project planning documents. As shown in Figure 2.3, system planning initiatives include:

- *Statewide Long-Range Transportation Plan* (SLRTP)[3]—The Statewide Long-Range Transportation Plan 2035 details TxDOT's long-range (24-year) transportation goals and strategies. The plan includes an inventory of the State's transportation system—roads, pedestrian and bicycle facilities, transit, freight and passenger rail, airports, waterways and ports, pipelines, and intelligent transportation systems—and includes TxDOT's Unified Transportation Program and Statewide Transportation Improvement Program by reference.
- *MTPs and Rural Transportation Plans (RTPs)*—MTPs are long-range (20-plus years) transportation plans for urban areas that exceed 50,000 people. These plans are developed by the MPO in cooperation with TxDOT and publicly owned transit services. MTPs identify policies, programs, transportation needs, and projects by travel mode, including road, pedestrian, bicycle, transit, freight and passenger rail, airport, and freight facilities necessary to meet a region's transportation needs. They may include information on the socio-economic profile of the area and any environmental considerations.

  The RTP is a component of the SLRTP and includes a long-range (24-year) transportation plan for areas not included in an MPO boundary. RTPs are

developed in cooperation with TxDOT, local and regional decision makers, and all transportation stakeholders. The RTP includes a list of needed rural highway projects and identifies non-highway (pedestrian and bicycle, transit, freight and passenger rail, airport, and waterway and port) needs and projects.

As shown in Figure 2.3, project planning initiatives include development of:

- *Unified Transportation Program (UTP)*[4]—The UTP is a 10-year program used by TxDOT to guide transportation project development and project construction. The UTP is updated annually and authorizes development of included projects. Project development includes activities such as preliminary engineering work, environmental analysis, right of way acquisition, and design. The UTP lists planned projects in terms of 12 categories and includes the estimated cost and funding sources for each project. Although important in that projects included in the UTP can move forward in terms of project development, the UTP does not ensure a budget or guarantee that projects will be built.
- *TIPs and Statewide Transportation Improvement Program (STIP)*—Each MPO and TxDOT district develops a TIP of regional (urban and rural, respectively) transportation needs that are consistent with the SLRTP and the MTP. The TIPs represent a short-term (typically four-year) capital improvement program of multimodal transportation projects. All federally funded projects have to be included in the TIP. The STIP is a four-year capital improvement program and includes the various TIPs developed by the MPOs and TxDOT districts. The TIPs and STIP include detailed project descriptions, cost estimates, and available funding sources. The TIPs and STIP represent how TxDOT and local agencies plan to allocate available funding resources based on the transportation needs of each region for each fiscal year of the program.
- *Letting Schedule*—The letting schedule lists projects that will be let within the next two years. At this point, the final contract documents—the plans, specification, and estimates (PS&E) that provide detailed descriptions of projects, construction, and estimated costs—have been completed or are nearing completion.

In addition to the planning documents described above, TxDOT and the MPOs conduct a number of studies—including land use, safety, traffic and mobility (congestion), major corridor, major investment, and project feasibility studies—that inform system and project planning, as well as project development and alternatives analyses.

Areas that are classified as "nonattainment" or "maintenance" areas do not meet or have not met national ambient air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide.[5] In this case, MTPs, TIPs, and transportation

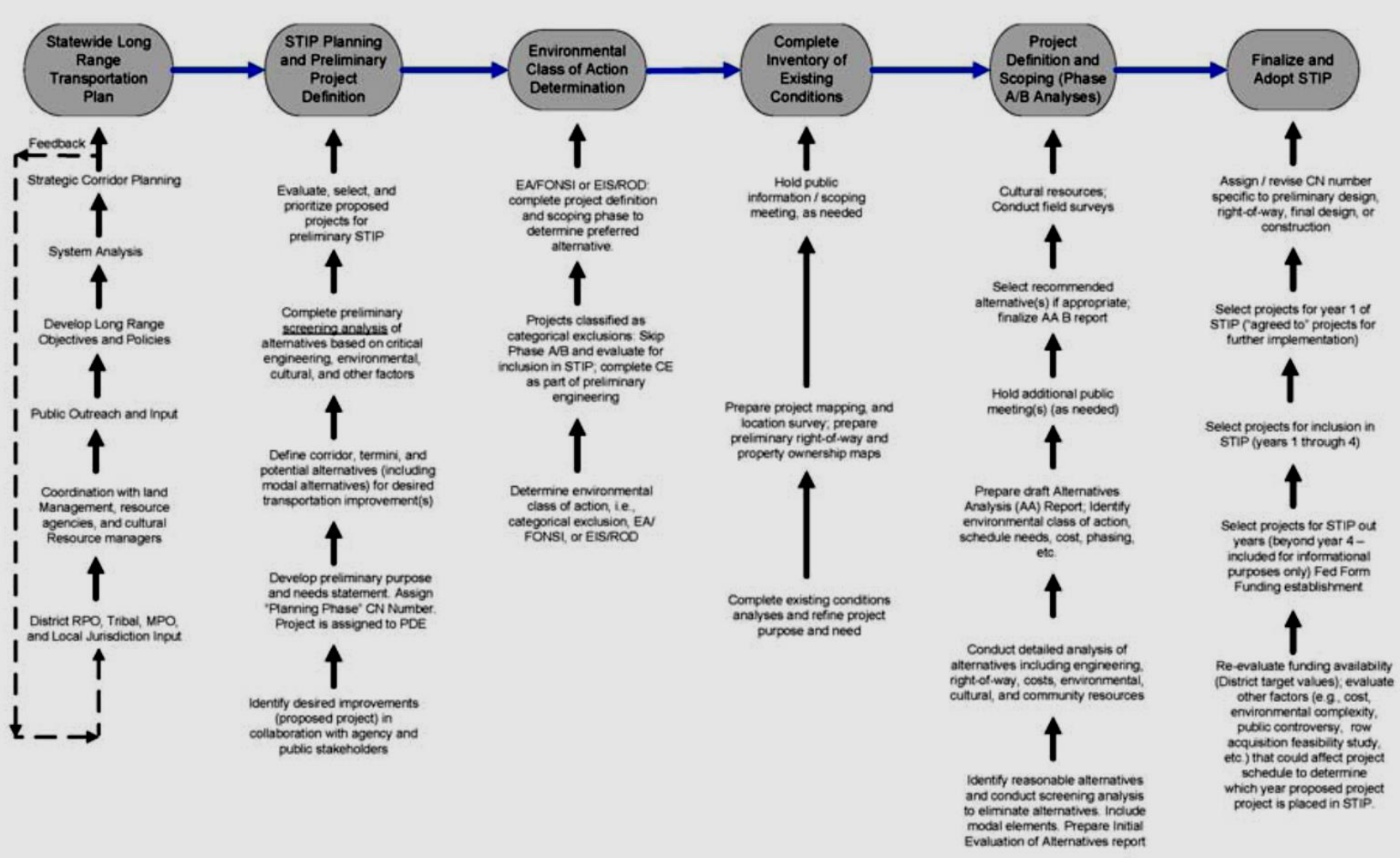
projects funded or approved by FHWA or the Federal Transit Administration will need a conformity determination. This determination demonstrates that implementation of a plan or project will not cause any new violations of the air quality standard, increase the frequency or severity of violations of the standard, or delay timely attainment of the standard or any interim milestone.[5] In the case of the City of El Paso:

- There have been no monitored violations of the carbon monoxide eight-hour standard since 2001.[6] The maintenance plan approved by the Environmental Protection Agency (EPA) in August 2008 was developed to ensure the area remains in attainment of the carbon monoxide standard.[6] The maintenance plan shows that El Paso[7] will remain in attainment of the carbon monoxide standard for at least 10 years following EPA approval.
- The Texas Commission on Environmental Quality submitted *Revisions to the State Implementation Plan for Inhalable Particulate Matter (PM_{10}): Group I Area—El Paso*[8] to EPA. The PM_{10} nonattainment area described in the EPA Green Book is the City of El Paso.[9]

2.1.3 New Mexico Department of Transportation

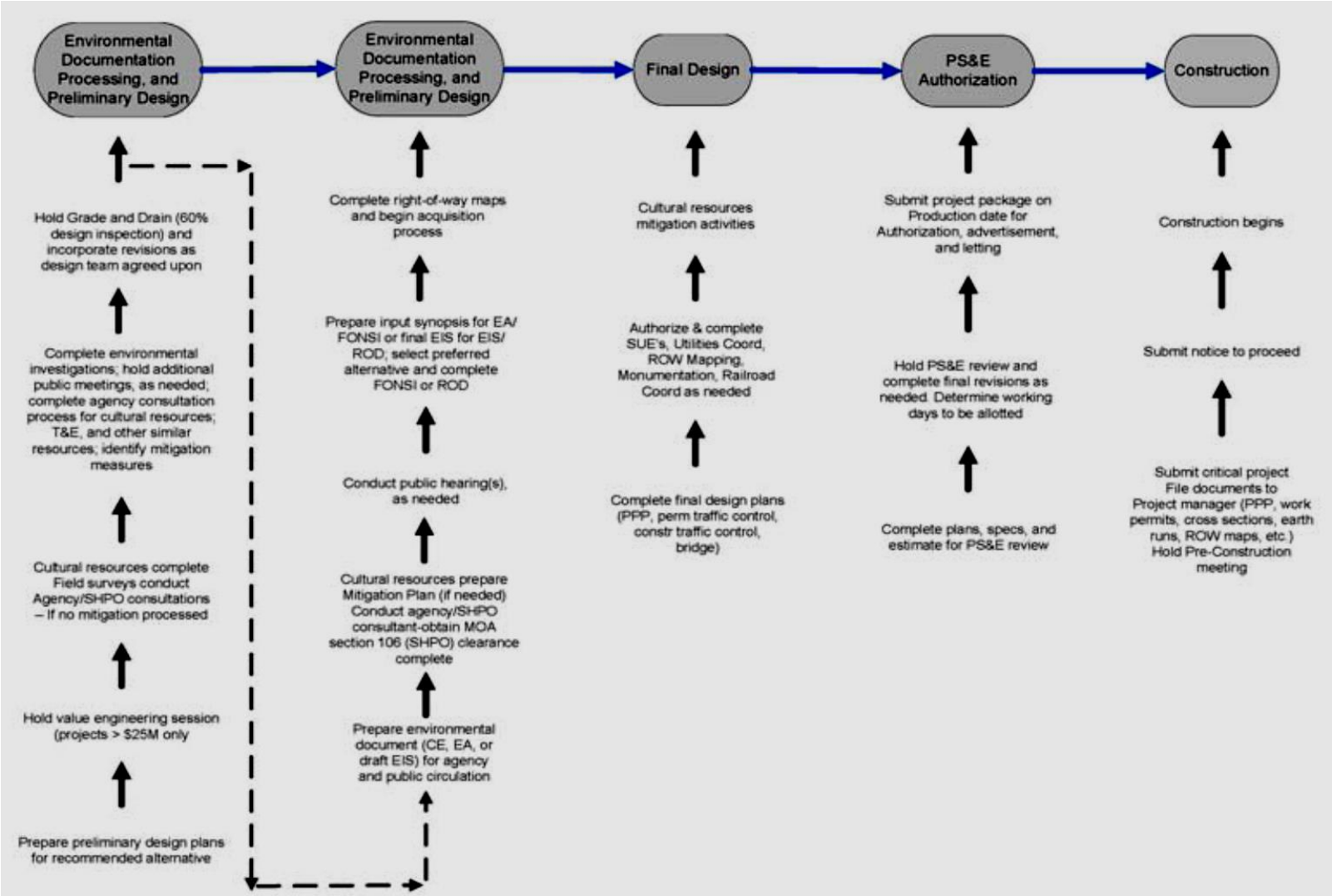
NMDOT participated in BNAC as a voting member because the study area included the Santa Teresa/Jerónimo POE that falls under the El Paso Metropolitan Planning Organization's (EPMPO's) jurisdiction. The other New Mexico crossings, such as Columbus/Las Palomas and Antelope Wells/El Berrendo, were not included in the study area of this Border Master Plan.

Figures 2.4 and 2.5 illustrate NMDOT's planning process for the development of a transportation project from its inclusion in the Long-Range Transportation Plan (LRTP) to construction. These flow diagrams show the 10 main steps or procedures required before NMDOT authorizes construction. The first two steps entail the inclusion of the planned project in the planning documents. Subsequently, an environmental assessment and an inventory of existing conditions are performed. The next steps consist of finalizing the preliminary planning stages and adopting the STIP (a four-year capital improvement program). Thereafter, environmental reviews are finalized before final design and authorization. The last step is the construction stage.



Source: NMDOT[10]

Figure 2.4: NMDOT's Project Development Flow through STIP Stage



Source: NMDOT[10]

Figure 2.5: NMDOT's Project Development Flow Starting at Environmental Assessment Stage

2.1.4 New Mexico Border Authority

The New Mexico Border Authority (NMBA) is a State agency responsible for overseeing development and promotion of New Mexico POEs. This agency promotes efficient partnerships with public and private stakeholders and is involved in international trade activities on both sides of the border. In addition, NMBA assists businesses and travelers crossing the border. It disseminates information about regulations and procedures affecting leisure and commercial travel through New Mexico POEs.

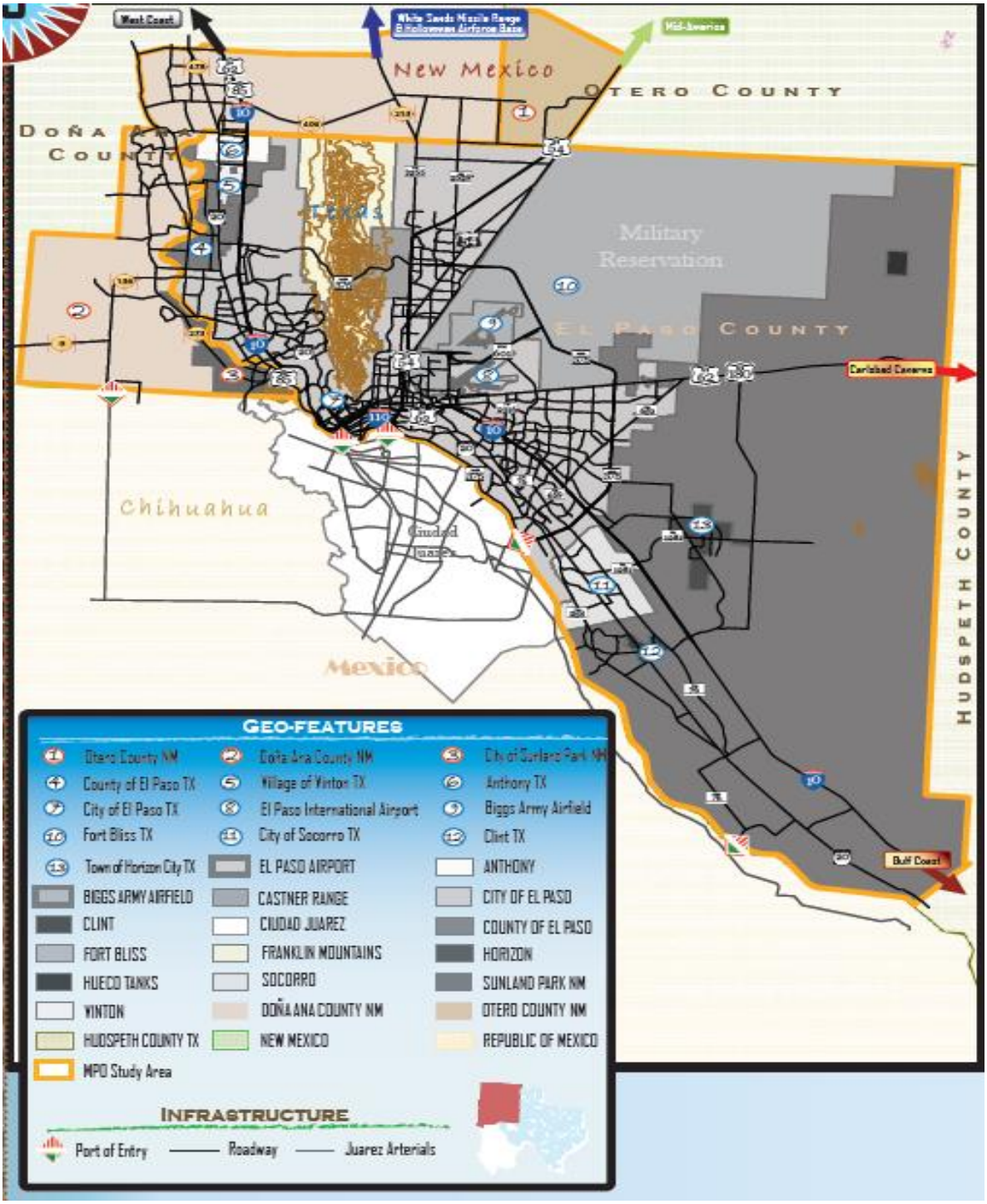
2.1.5 Metropolitan Planning Organizations

As mentioned earlier, MPOs vary greatly in organizational size, structure, funding levels, and program emphasis.[11] MPOs were first established as part of the Federal Aid Highway Act of 1962 to conduct regional transportation planning for metropolitan areas with populations of 50,000 people or more. Subsequently, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Efficiency Act for the 21st Century (TEA-21) extended the MPOs' responsibilities with regard to transportation planning. The latter encouraged a continuing, comprehensive, and cooperative transportation planning process by the States and local communities. The passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005 created further requirements for transportation planning and programs. MPOs are thus designated by the governor in each State to implement this legislative requirement. MAP-21 was signed into law in July 2012 and succeeds SAFEEA-LU.

All State- and federally funded projects in metropolitan areas are selected through the Metropolitan Planning Process (MPP). Any local government anticipating using State or Federal funds for a transportation project must coordinate with the State DOT and the relevant MPO to assure that the project is included in the transportation plans. Also, all projects on the State- or Federal-aid system must be included in the approved transportation plan regardless of funding source to maintain the integrity of the planning process. Local governments are encouraged to coordinate with MPOs for projects off the State and Federal system using no State or Federal funds.[12]

EPMPO is the only MPO in the study area. TPB is the governing body of EPMPO. TPB directs MPO staff through the MPO executive director. TPB is made up of 28 U.S. elected and/or appointed public officials representing local governments that have authority for project implementation. Membership in TPB includes local and county elected officials, State senators, and State representatives.

EPMPO's planning area includes El Paso County, Texas; southern Dona Ana County, New Mexico; and a small portion of Otero County, New Mexico (see Figure 2.6).



Source: EPMPO[13]

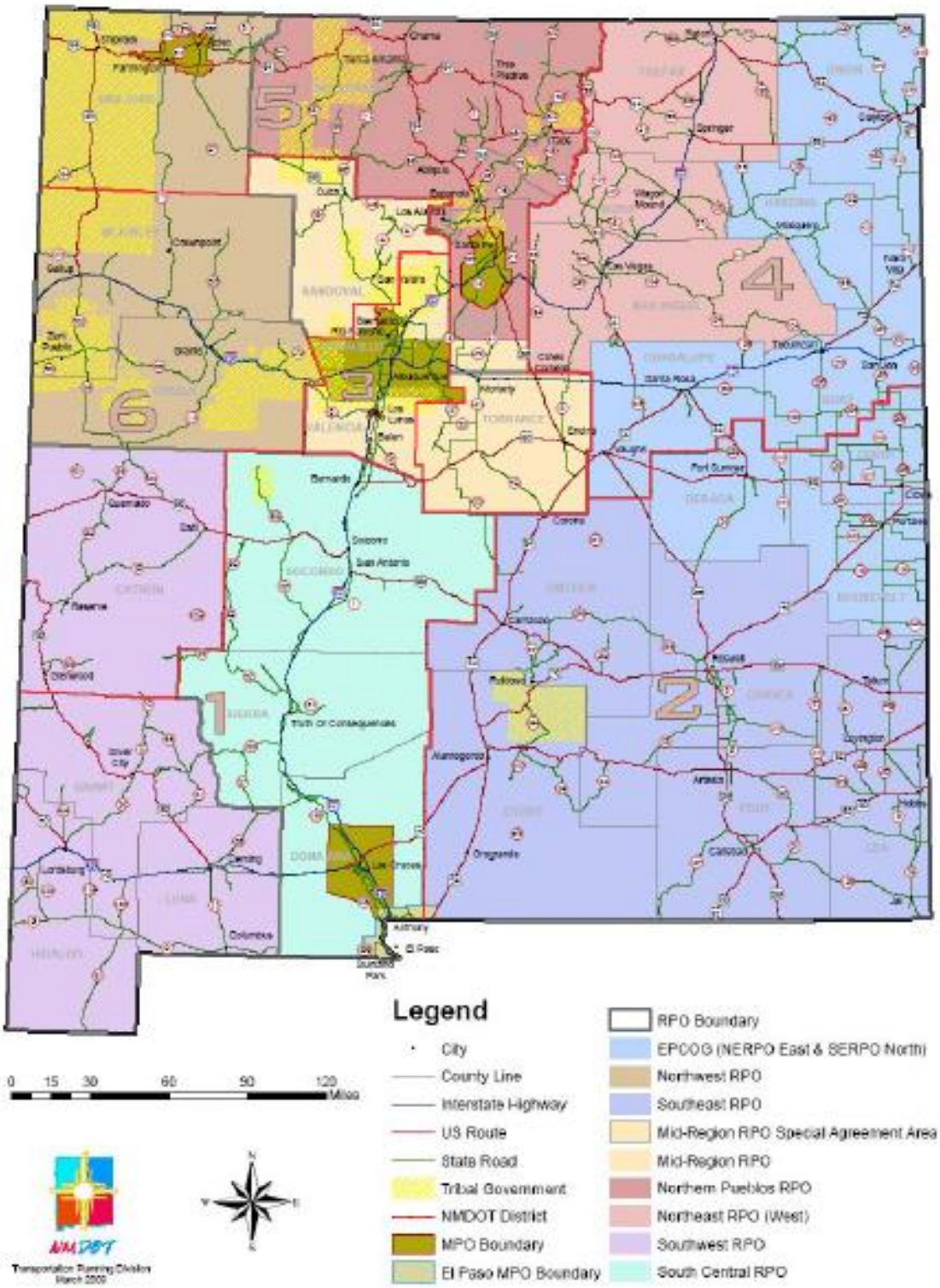
Figure 2.6: EPMPO Jurisdiction

2.1.6 Non-MPO Areas (Texas)

For the areas in the study area that are not within an MPO jurisdiction, TxDOT issued in June 2012 the Texas Rural Transportation Plan (TRTP), which is the rural component of the 2035 SLRTP. As part of the SLRTP, the TRTP outlines the planning processes in the rural areas that will guide the collaborative efforts between TxDOT, local and regional decision makers, and all transportation stakeholders.

2.1.7 Regional Planning Organizations (New Mexico)

MAP-21 requires States to determine the transportation needs in non-metropolitan areas in cooperation with transportation officials as part of a "continuing, cooperative and comprehensive" planning process. This planning process in the State of New Mexico involves State, local, and tribal governments. NMDOT works with and through regional planning organizations (RPOs)—now officially designated by MAP-21 as regional transportation planning organizations (RTPOs)—in the non-metropolitan rural areas. RPOs solicit public input and information in the development of their plans and disseminate information about NMDOT projects and programs.[14] New Mexico has seven RPOs: Northwest (NWRPO), Middle Rio Grande (MR-RPO), Northern Pueblos (NPRPO), Northeast (NERPO), Southeast (SERPO), Southwest (SWRPO), and South Central (SCRPO). The jurisdictions of SWRPO and SCRPO include a section of the U.S.-Mexico border. Figure 2.7 provides a map of New Mexico's RPOs.[14]



Source: NMDOT[15]

Figure 2.7: New Mexico's RPOs

2.2 Transportation Infrastructure Planning Practices: Mexico

Mexico has legislative concurrence in transportation issues; therefore, transportation project planning, financing, and implementation may be regulated by Federal, State, and municipal legislation.

2.2.1 Planning Documents

In terms of planning documents, the National Development Plan (Plan Nacional de Desarrollo) is Mexico's most important document. Issued every six years, when a new president comes into power, the plan provides the blueprint, specific goals, and commitments for the ensuing years. The document is not only updated every six years, but is dramatically changed to satisfy each president's agenda. No specific format is thus established for this document, and some National Development Plans have a longer planning horizon than others.

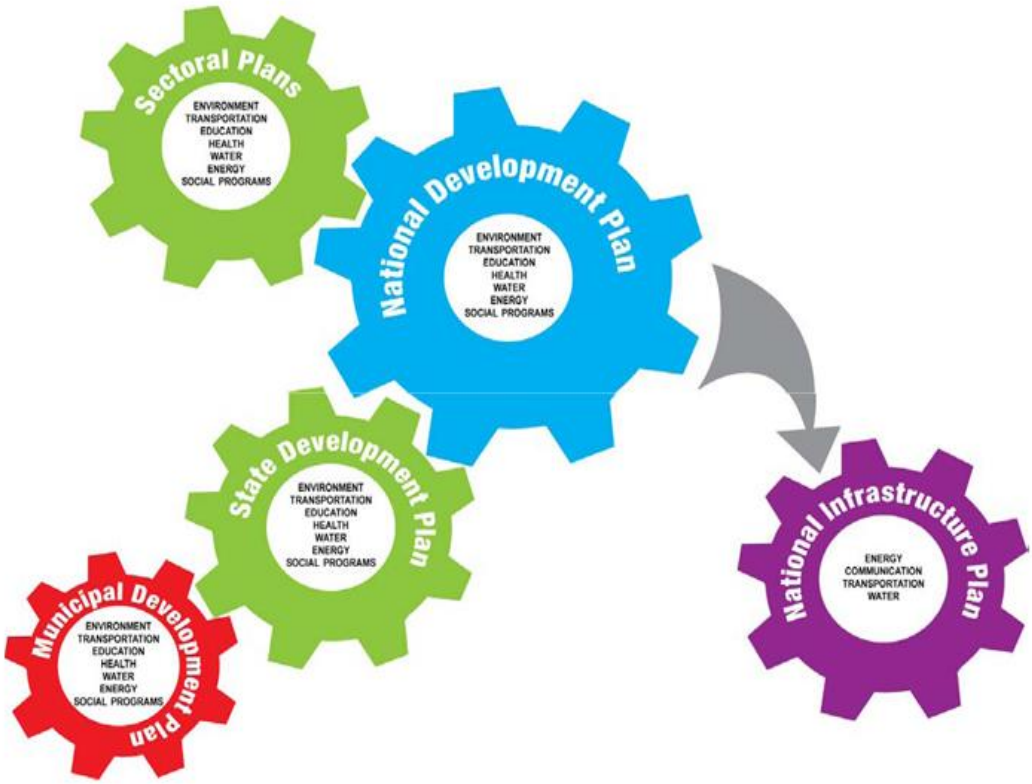
President Felipe Calderón's National Development Plan focused on the rule of law, economic growth, climate change, enhanced competitiveness, and the addressing of monopoly power in Mexico. However, the president's support for infrastructure development was evident in his issuance of a National Infrastructure Plan (Plan Nacional de Infraestructura). In an unprecedented effort to reverse the neglect and decline in infrastructure investment in Mexico, the National Infrastructure Plan focused primarily on transportation infrastructure investments and the encouragement of public-private partnerships. The National Infrastructure Plan thus included significant investments in the expansion of highway, railway, port, and airport infrastructure.

Sectoral plans or programs adopt and elaborate the National Development Plan's goals and commitments in a specific sector. The Communications and Transportation Sectoral Program 2007–2012 (Programa Sectorial de Comunicaciones y Transportes 2007–2012) sets the specific goal for the Communications and Transportation Secretariat (Secretaría de Comunicaciones y Transportes)—a Federal agency—to construct and upgrade 10,835 miles of the national highway network and rural roads, which include 100 high-priority road projects. When complete, these projects would increase the Federal network by 72 percent to 90 percent.[16] By 2012, SCT thus had to conclude the modernization of the north-south and east-west main corridors, including the 100 high-impact road projects. In addition to the Sectoral Program, SCT issues an annual Working Program (Programa de Trabajo) with specific goals and objectives for the fiscal year (January 1 to December 31).

Under a different jurisdiction, State Development Plans are developed to set forth the specific goals the State governor wants to accomplish. The six-year State governor term usually constitutes the planning horizon for State Development Plans.

Because the presidential and governorship terms might cover different time periods, State Development Plans may differ in focus and priorities from the National Development Plan, but the State plan has to include the applicable projects or objectives of the national plan. Finally, Municipal Development Plans have a planning horizon of three or four years (depending on the length of a mayor´s term).

Figure 2.8 describes the interaction among Mexico's most relevant planning documents.



Source: CTR[17]

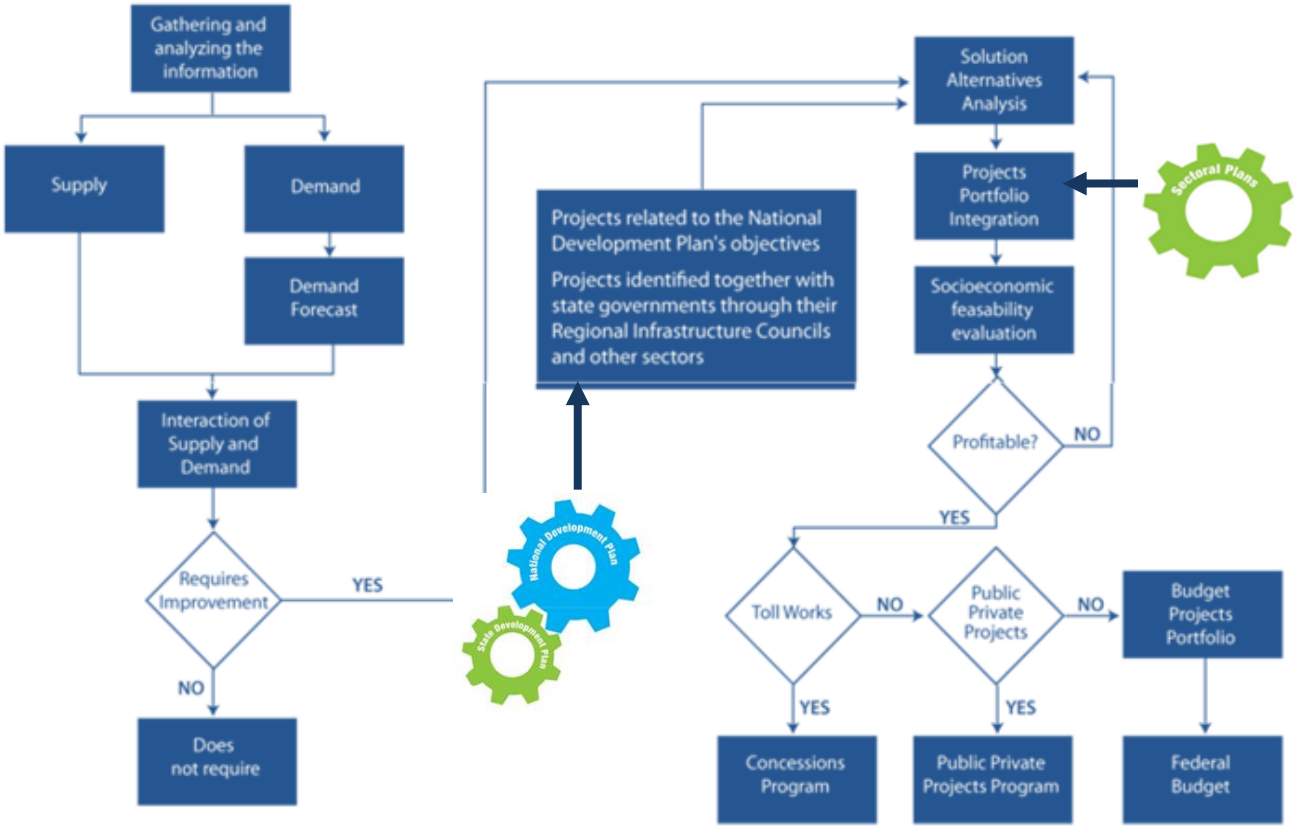
Figure 2.8: Interaction among Relevant Mexican Planning Documents

At the agency level, the most pertinent planning agencies are SCT at the Federal level and the Public Works/Transportation/Economic Development Secretariats in each State.

2.2.2 Federal Project Planning Processes

SCT is responsible for the planning, prioritization, and implementation of all Federal transportation projects. Figure 2.9 illustrates SCT's decision-making process in selecting its project portfolio for funding. During the project portfolio development

process, SCT officials ensure projects are included in national or State planning documents and subsequently in the agency's own sectoral planning documents.

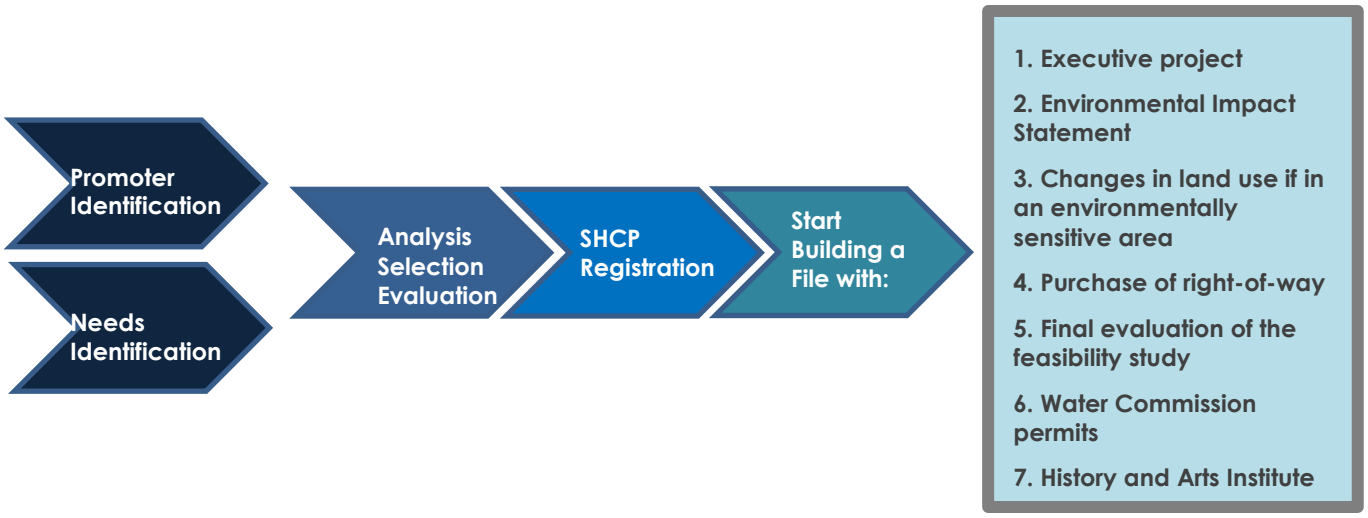


Source: SCT[18]

Figure 2.9: SCT Project Portfolio Development

The project selection process can be initiated by a promoter or by an SCT official identifying a need. Stakeholders such as State and municipal authorities can start to promote a project at SCT's regional office (e.g., Centro SCT Chihuahua). Regional SCT offices might be more familiar with the needs or characteristics of the regions than State or Federal officials and therefore can help to promote the project at SCT´s central offices.

Once a project is selected to be included in the following year's project portfolio, two evaluations are conducted: one by SCT and one by the Public Credit and Treasury Secretariat (Secretaría de Hacienda y Crédito Público [SHCP]). Once an SHCP registration number is issued, SCT officials start the formal planning and permitting procedures as shown in Figure 2.10.



Source: SCT[19]

Figure 2.10: SCT Project Selection: Planning Process

At the Federal level, the Secretariat of Social Development (Secretaría de Desarrollo Social [SEDESOL]) is responsible for preparing the National Program of Urban Development (Programa Nacional de Desarrollo Urbano) and for coordinating planning activities and providing technical assistance (with regard to planning and urban development issues) to State and municipal governments. The agency develops background and supporting material for municipal plans and programs in the border region, such as the Land Port of Entry Urban Development Program (Plan o Programa Parcial de Desarrollo Urbano de Puerto Fronterizo), which is available online.

2.2.3 State and Local Planning Processes

Public Works or Transport Secretariats at the State level and Municipal Planning Institutes (Instituto Municipal de Planeación) at the local level are responsible for preliminary needs and project identification and planning. Municipal Planning Institutes were created to ensure planning continuity at the local level since administrations and officials change every three to four years.

In the case of the State of Chihuahua, the Communications and Public Works Secretariat (Secretaría de Comunicaciones y Obras Públicas del Estado de Chihuahua) is in charge of planning for transportation infrastructure in Chihuahua. In addition, the economic development agency Promotora de la Industria Chihuahuense is an important stakeholder in developing transportation networks in the State.

At the municipal level, Public Works Directorates or Secretariats are responsible for planning and detecting future transportation needs and projects. Municipal

Planning Institutes are autonomous and independent entities responsible for promoting mid- and long-term transportation planning irrespective of government and administration changes. However, in practice, autonomy has not been achieved, and most Municipal Planning Institutes remain funded by municipalities.

IMIP—Municipality of Juárez

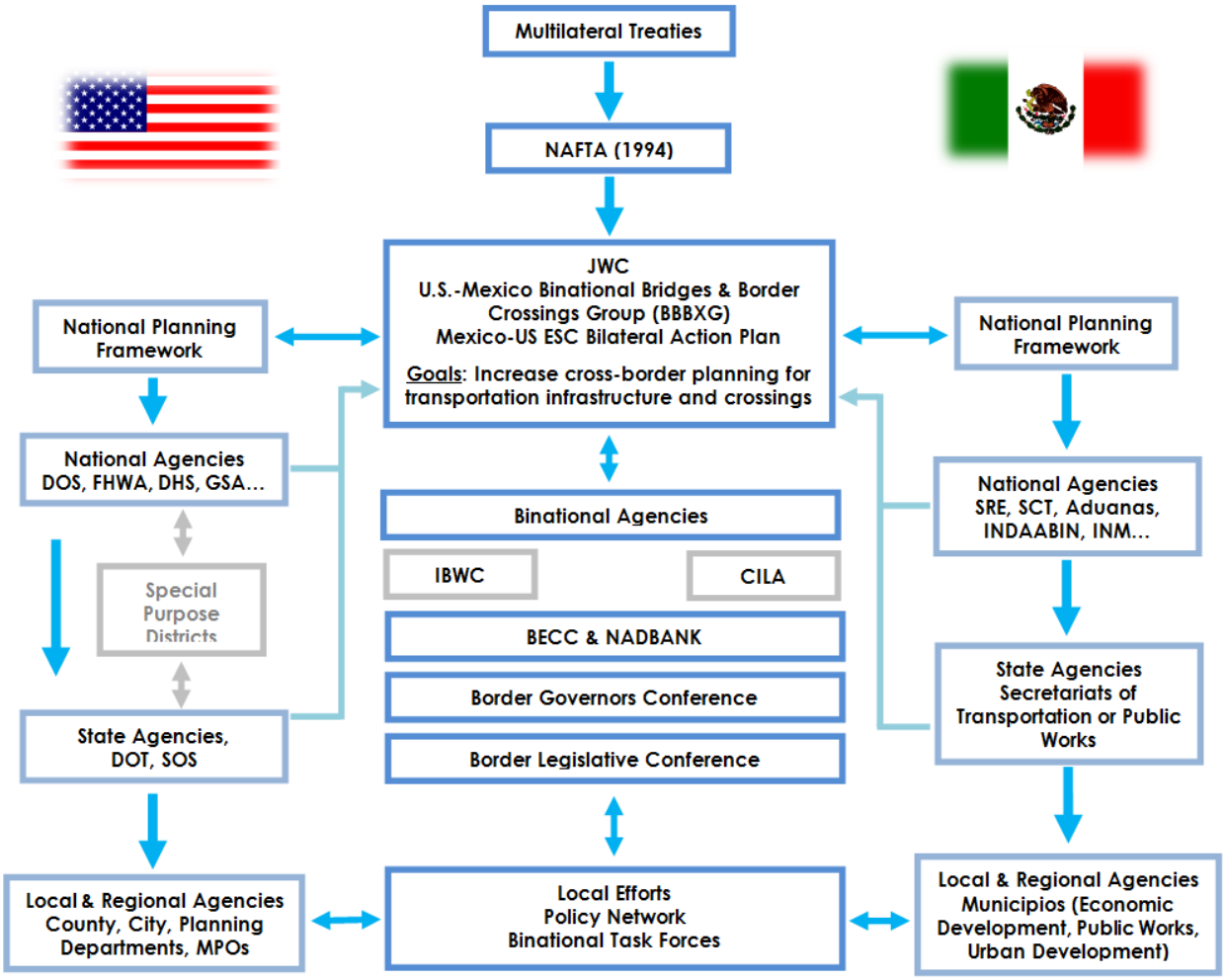
The Instituto Municipal de Investigación y Planeación was created in 1995 to promote continuity in Juarez´s planning process and eliminate the political influence brought about by changing administrations. Although by statute IMIP is responsible for all planning functions of the Municipality of Juárez's Secretariat of Public Works and Urban Development, IMIP's proposed projects and proposals are not binding on the municipality, and all decisions must be approved by the municipality's legislative officials (Ayuntamiento). This agency acts as the municipality's external consultant for planning purposes. Currently, its director also heads the Municipality of Juarez's Urban Development Division.

IMIP employs approximately 50 officials and is governed by a Policy Committee (Consejo Deliberativo) that is made up of 21 Federal, State, and municipal officials. IMIP´s functions include the drafting and coordination of all urban development plans and programs. IMIP's officials draft, review, and update the Urban Development Master Plan (Plan Director de Desarrollo Urbano), the Partial Development Plans, and land use regulations. IMIP develops stakeholder and public involvement processes to obtain input into the planning process. Other important IMIP functions, tasks, and focus areas include geographic information system (GIS) data and maps, urban equipment design, and mobility.

IMIP has received several awards, including the Government and Local Management Award (2001 and 2006), SEDESOL´s "Habitat Agency" designation, and the United Nations HABITAT Scroll of Honor (Pergamino de Honor) in 2008. More recently, as of January 2013, IMIP has received a US $5.4 million grant from the World Bank, through its Global Environmental Facility, that will be managed by Mexico's National Public Works and Services Bank (Banco Nacional de Obras y Servicios Públicos [BANOBRAS]). Some of this grant will be used to develop three studies in 2013—Feasibility Analysis for the "Poniente Aeropuerto" Corridor, a Freight Mobility Regulatory Plan, and a Bicycle Mobility Integration Plan.

2.3 Cross-Border Planning Practices for Transportation Infrastructure and POEs

Figure 2.11 describes the binational planning being conducted for transportation infrastructure, including POEs. Multilateral treaties, such as the North American Free Trade Agreement (NAFTA), prompted coordination and creation of institutions and mechanisms for improving cross-border planning among agencies.



Note: DHS = Department of Homeland Security; ESC = Executive Steering Committee; DOT = Department of Transportation; SOS = Secretary of State; BECC = Border Environment Cooperation Commission; NADBANK = North American Development Bank.

Source: Adapted to Transportation from Sergio Peña[20]

Figure 2.11: Cross-Border Planning for Transportation Infrastructure

2.4 POE Planning Practices: United States

2.4.1 Department of State

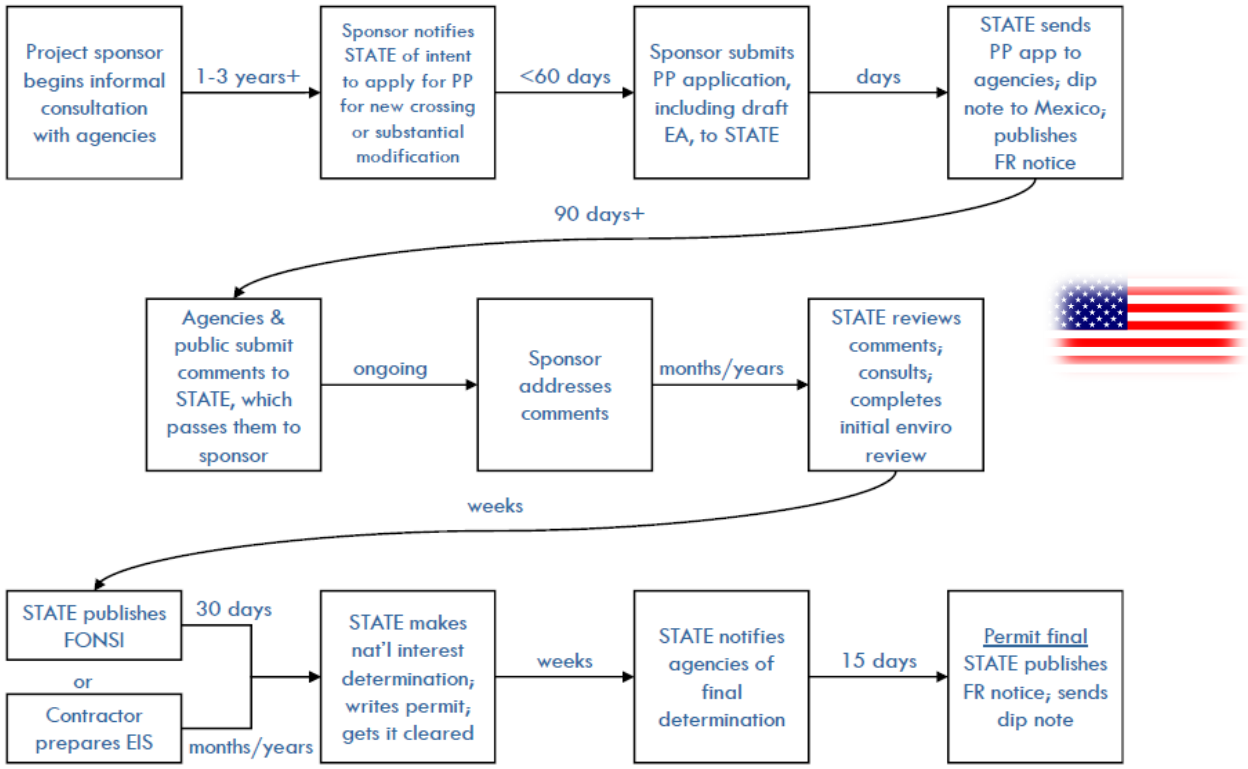
Executive Order 11423 (1968), as amended[21, 22], authorizes USDOS to issue Presidential Permits (PPs) for certain cross-border facilities including, since 2004, land border crossings. Substantial modifications to an existing border-crossing facility also require a permit or amendment. USDOS has identified three categories of projects:[22]

- Notification to USDOS and a new or amended PP are required for all new border crossings and all proposed changes that would substantially modify an existing border crossing.
- Notification to USDOS is required, and USDOS determines whether a PP is required, for proposed changes in capacity, traffic flow, operation, or maintenance responsibility for an existing border crossing that may constitute a substantial modification, including changes that may be expected to have a material effect on the Mexican Government's operations in Mexico.
- No USDOS notification or PP is required for changes in the proximity of the border that are not expected to have a material effect on the Mexican Government's operations in Mexico and are neither a new border crossing nor a substantial modification of an existing border crossing. However, USDOS is responsible for determining whether the change is material, and USDOS should be consulted in the initial planning stages of the proposed project.

To issue a PP, USDOS must determine that the new or modified border serves the "national interest." An Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) is a key element before the national interest determination. Consultations are conducted with other Federal agencies, including CBP and GSA, before USDOS determines whether the facility or improvement serves the national interest. Figure 2.12 explains the process and approximate timeline for obtaining a PP.

The PP process might be initiated by a U.S. Federal, State, or local entity or a private promoter (e.g., a rail company or business group). Cities, counties, and State agencies can identify POE needs in their planning documents. Any one of the agencies specified in the Executive Order may object to the proposed project and request that the decision be referred to the president. In addition, the new POE or improvement has to comply with GSA and CBP's land POE design manuals.

During 2009, USDOS reviewed several PPs that had been issued in the past decades but remained unused. In addition, it established that future PPs would be issued with an expiration date for the commencement and completion of construction.[23]



Note: EA = Environmental Assessment; FR = Federal Register.

Source: Daniel Darrach[24]

Figure 2.12: PP Process and Timeline

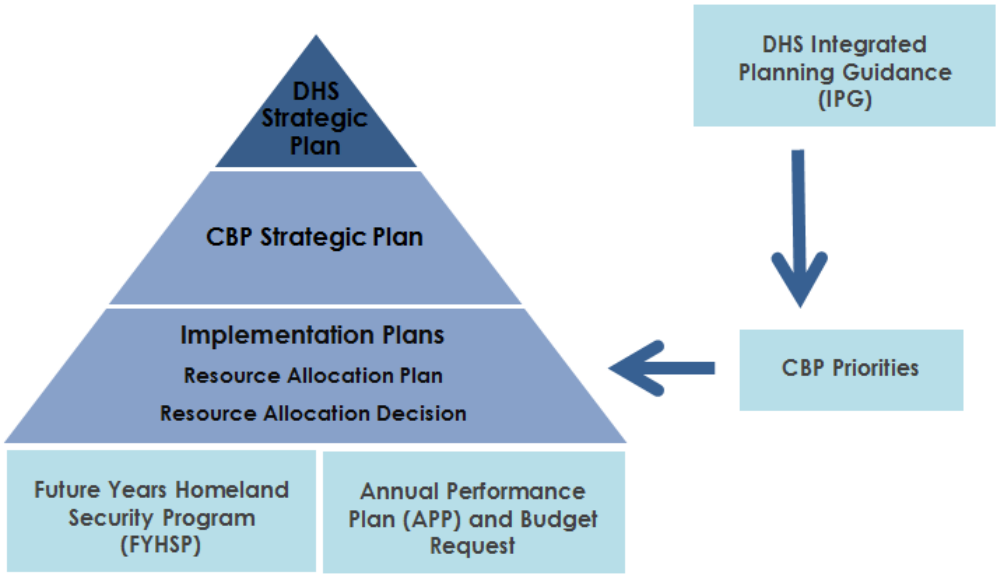
2.4.2 Customs and Border Protection

CBP is part of the U.S. Department of Homeland Security (DHS). As shown in Figure 2.13, several documents assist DHS in developing and implementing multiyear program plans and budgets,[25] including the following:

- *DHS* and *CBP Strategic Plans*—These plans are an important first step in fulfilling DHS's mission by setting long-term direction and enabling decisions on near-term priorities.
- *Integrated Planning Guidance (IPG)*—This guidance is issued each year by the secretary of DHS. It articulates the secretary's investment priorities and guides the development of CBP's Resource Allocation Plan (RAP) and the subsequent Resource Allocation Decision (RAD).
- *Future Years Homeland Security Program (FYHSP)*—FYHSP outlines a five-year plan to achieve long-term performance goals of specific programs. Each program aligns to a DHS strategic objective with a set of measures to demonstrate the program's strategy and progress in meeting that objective. This information is

captured electronically in the FYHSP system, which officially records performance measure results, targets, and annual milestones. Information in the FYHSP is presented to Congress each year.

- *Annual Performance Plan (APP)*—The APP is submitted to Congress along with the annual budget request. The plan links resources to strategic results by displaying what CBP will accomplish during the budget year if given the resources requested.



Source: CBP[25]

Figure 2.13: CBP Planning Documents

POE needs identified by CBP are published in a Strategic Resource Assessment (SRA) report that is prepared for each field office.[26] In addition to planning and programming practices, CBP and Mexico's General Customs Administration (Aduanas) are involved in joint initiatives to improve transportation planning and programming, training, technology exchange, and other activities.

Initiatives by CPB and Aduanas to Improve Planning

The Southern Border Initiative provides for cross-border coordination with Aduanas. Through the initiative, two CBP teams coordinate with their Aduanas counterparts to assess immigration and commerce issues at Mexico's southern border.

The Bilateral Strategic Plan (BSP) was implemented in August 2007. Through the BSP, Aduanas, CBP, and U.S. Immigration and Customs Enforcement (ICE) established working groups to strengthen law enforcement and enhance security, while improving trade partnerships, promoting border efficiencies, and increasing the professionalism of border law enforcement agencies. CBP and Aduanas share information/data and coordinate inbound and outbound enforcement operations to stop the flow of illegal arms and currency across the border. In 2009, two successful pilot operations in Nogales and Eagle Pass provided the necessary impetus to expand the plan to other POEs before the end of fiscal year 2009. Aduanas employed 1,400 new and better trained agents and asked CBP to provide technical support, basic training, and credibility assessment assistance. The latter activities are consistent with the BSP and supported with Merida Initiative (MI) funding.

The MI has provided funding to complement other efforts. Merida funds have been used to train Aduanas agents (using the same criteria applied to other Mexican Federal police forces), to purchase canine and non-intrusive inspection equipment, and to share technical advice and best practices to ensure Aduanas is more closely aligned with CBP.

2.5 POE Planning Practices: Mexico

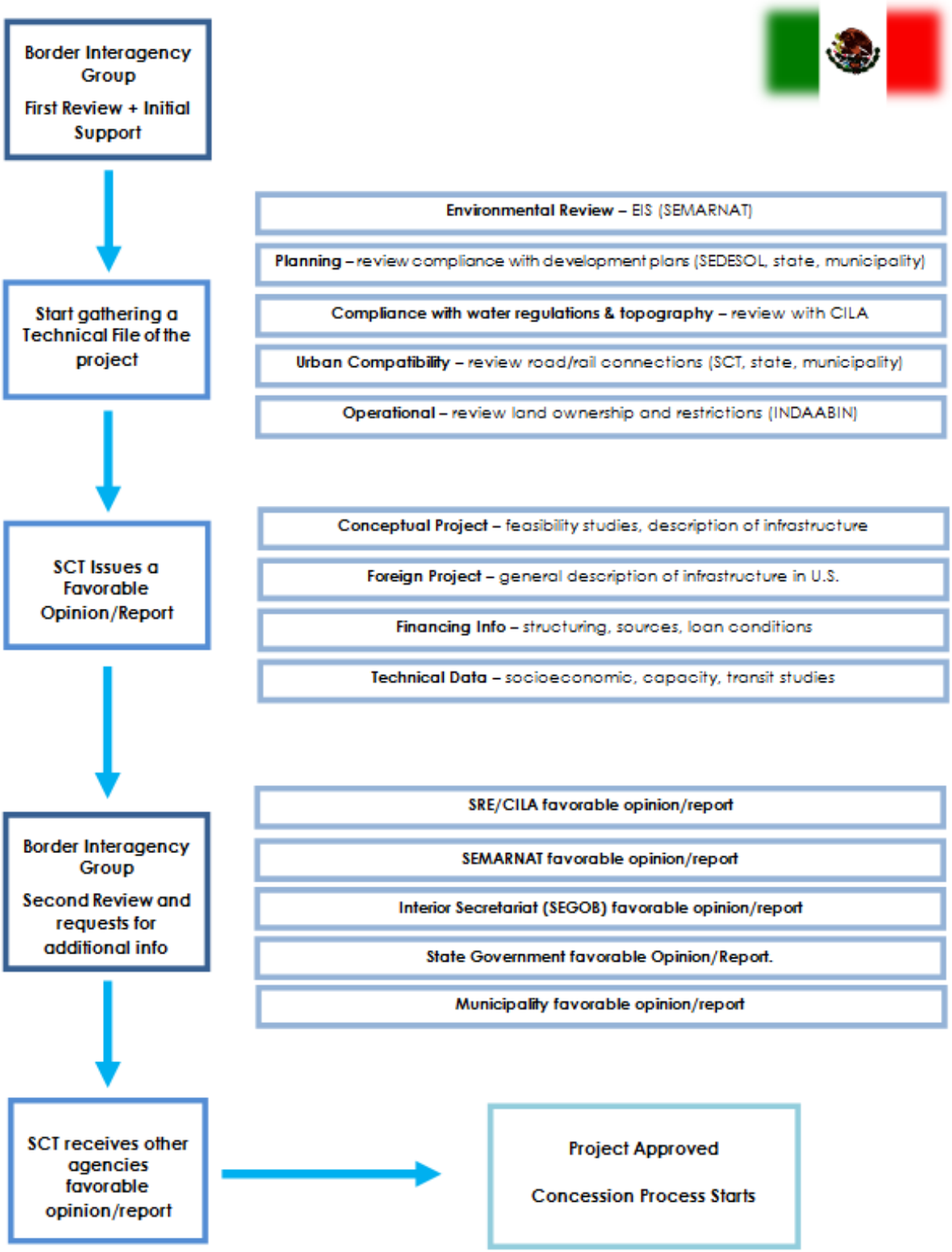
2.5.1 Interagency Group on Bridges and Crossings

In accordance with Mexico´s legislation and Supreme Court rulings, international bridges and crossings are solely under Federal jurisdiction. Projects may be initiated at the local, State, or Federal agency level, for example by Aduanas, SCT, or INDAABIN. In all cases, the Federal Government maintains exclusive power of ownership. The bridge or crossing might be constructed with Federal funding or through a concession given to a private entity, State, municipality, or special-purpose vehicle (called a fideicomiso trust) composed of various stakeholders.

A key first step is that the proposed project secures support at the Interagency Group for Bridges and Border Crossings (Grupo Intersectretarial de Puentes y Cruces Fronterizos, or Border Interagency Group). Created in 1995, the Border Interagency Group is a national gathering where Mexican Federal agencies meet to develop a common position with regard to POEs. The group discusses issues involving negotiations, construction, operations, and maintenance of POEs and the services provided at the POEs. The group also evaluates and approves proposed new POEs and works to implement projects once they are approved. In the past few years, the group has served to establish agreements between State, local, and Federal agencies on actions that benefit border communities in both nations.[27]

The Border Interagency Group meets on an as-needed basis for as many times per year as required to address specific issues. Agreements reached at the national level are then disseminated at regional meetings where specific border projects are discussed. The members of the Border Interagency Group also meet with their U.S. counterpart agencies at the Binational Bridges and Border Crossings Group (BBBXG), co-hosted by the Secretariat of Foreign Relations (Secretaría de Relaciones Exteriores) and USDOS at least twice a year. Regional meetings (for both western and eastern POEs) focusing on regional projects are hosted once every six to nine months. Each meeting traditionally consists of two parts: a public session and a technical session for Federal and State agency participation only.[22]

Figure 2.14 provides a simplified summary of Mexico's planning process for international POEs.



Source: SCT[28]

Figure 2.14: Mexico´s POE Planning Process (Simplified)

2.5.2 Customs General Administration

The Tax Administration Service (Servicio de Administración Tributaria [SAT]) is part of SHCP. SAT was created in July 1997 and celebrated its first 15 years of service in 2012. The agency was established as a decentralized entity with management, technical, and budget autonomy. Based on the SAT mandate, SAT personnel determine and collect Federal taxes and are responsible for customs administration in Mexico. Aduanas is part of SAT.

Documents

During the 2006–2012 presidential tenure, the following planning and guiding documents directed Aduanas's actions:

- SAT's *Strategic Plan 2007–2012*[29] delineated the challenges and initiatives for a six-year period. The objectives of this strategic plan were to facilitate and encourage voluntary compliance; combat evasion, smuggling, and the informal economy; increase the efficiency of tax administration; and integrate the organization to improve efficiency, ethics, and commitment.
- The *Customs Modernization Plan 2007-2012*[30] was developed under three premises: integrate processes to strengthen infrastructure and facilities and introduce technology to better compete globally; end smuggling by detecting and resolving irregularities, optimally through stricter controls applied in the customs system and through national and international collaboration; and ensure transparency and improve the image of customs services.

Aduanas: Future Long-Term Projects

In the last decade, Aduanas has been slowly evolving from a revenue-collection agency to a de facto enforcement agency. However, many internal challenges remain.

Small Steps

In 2009, the Federal Government started to transform its Federal police force and investigators. On paper, Aduanas was not always considered for funding or included in law enforcement programs and training. In practice, not all Aduanas agents carried firearms nor were they authorized to arrest suspects at the border. Aduanas agents relied on Fiscales, the armed enforcement element of Aduanas, for arrests. The Fiscales were Aduanas officials, but they maintained a high degree of operational autonomy. On August 15, 2009, the Government of Mexico announced that Aduanas would not renew the expiring contract of the Fiscales. Backed by the temporary deployment of Mexican military personnel, all 722 Fiscales (the entire armed workforce) were relieved of their responsibilities and replaced by 1,400 newly trained Aduanas agents. While the transition appeared sudden, the agency had worked closely with the United States to train, vet, and polygraph a corps of replacement agents using Merida Initiative funding.

Institutional Strengthening Project

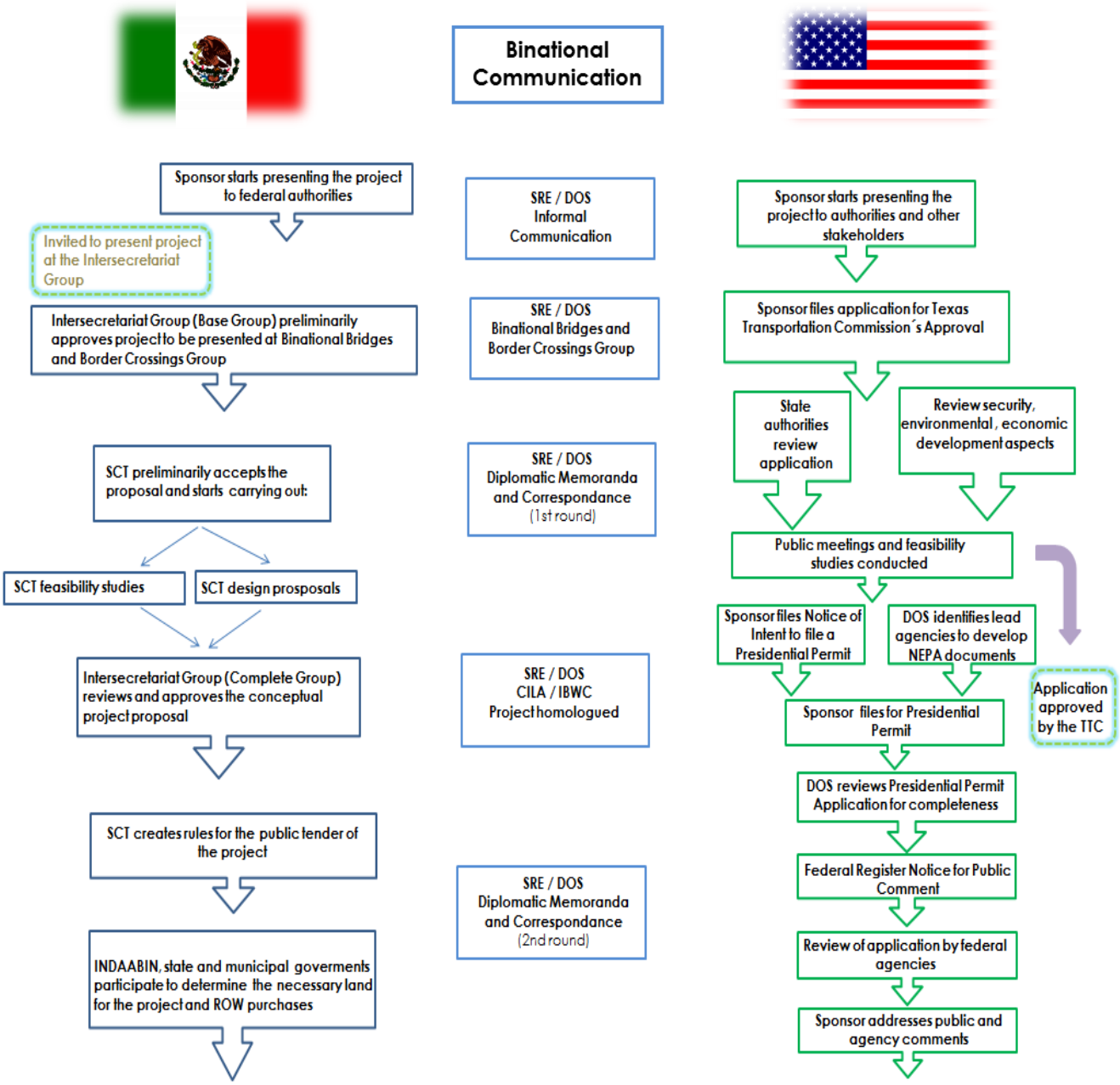
The Mexico Customs Institutional Strengthening Project is a US $54.87 million project, of which the World Bank intended to finance US $10.025 million in loans. The project's development objective was to improve the efficiency of Aduanas's processes, thereby contributing to improving Mexico's competitiveness and facilitating trade with foreign parties. The project intended to aid the institutional redesign and redefinition of the services and processes supporting Aduanas's operations; improve the human capital at Customs by creating an incentive system as part of a Fiscal Career Service Scheme; and improve change management at Customs. The four practical objectives of the project were to strengthen the controls function in Aduanas to minimize internal and external customs irregularities (such as contraband and under-valuation); increase border security; achieve cost reductions for citizens and government; and improve processing times and contribute to improved performance of Customs personnel through increased professionalism and strengthening of the link between pay and performance.

In 2012, the project was canceled. The reasons given were lengthy documentation and bureaucratic procedures in 2009, the project's redesign in 2010, and inadequate time before foreseeable administrative changes (after the election in mid-2012).

Source: World Bank[31]

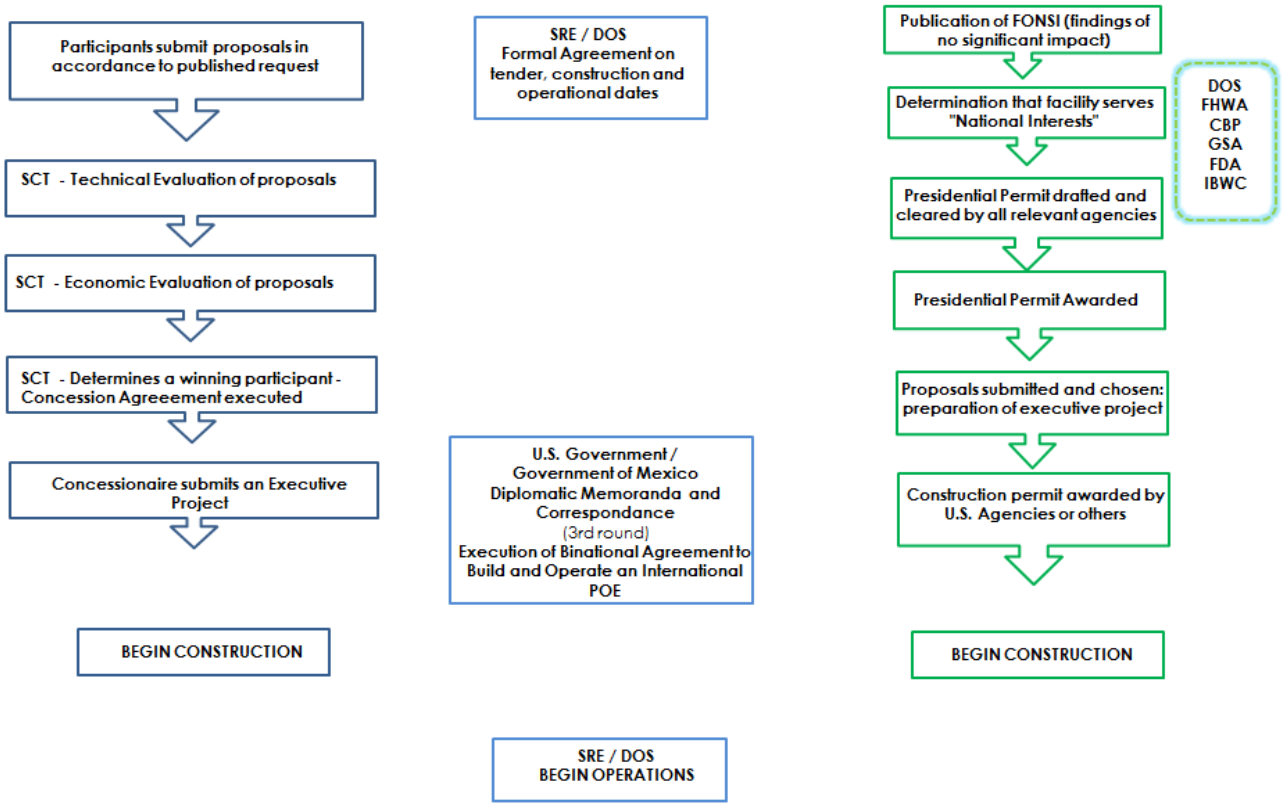
2.6 Summary of Planning Processes and Practices for New POEs

Figures 2.15 and 2.16 provide a simplified summary of processes for authorizing the construction of a new POE for Mexico and the United States. Both processes are coordinated by USDOS and SRE through diplomatic communications (diplomatic notes).



Source: Baltazar Romero, State of Chihuahua[32]

Figure 2.15: New POE Binational Planning Process—Part 1



Source: Baltazar Romero, State of Chihuahua[32]

Figure 2.16: New POE Binational Planning Process—Part 2

2.7 Project Selection, Prioritization, and Funding

Border master plans prioritize planned POE projects and planned transportation infrastructure serving those POEs. Although there are other modes on the border, the emphasis has been on the current planning practices for roads and highways that serve the POEs and facilitate the transit mode. Rail project selection, prioritization, and funding are typically conducted by private rail companies.

2.7.1 United States

Transportation Infrastructure

In the United States, several agencies use quantitative and qualitative data to evaluate, rank, and prioritize transportation projects. For roads and highways, criteria include project cost and cost-effectiveness, current and projected average daily traffic (ADT) or AADT, current and projected LOS, benefits to freight movements, connectivity or modality, traffic accident rates, and environmental and socio-economic impacts, among others.

In the case of TxDOT, project selection involves matching high-priority highway transportation needs with forecasted funding and authorizing the development of selected projects. Projects included in the UTP are to:[33]

- Identify the highest-priority, most-needed, and most-cost-effective projects for development.
- Achieve the transportation objectives established by State and Federal law and by TTC as documented in TxDOT's Strategic Plan and SLRTP.
- Equitably address the transportation needs of the entire State.
- Authorize the development of sufficient high-priority projects to effectively use the anticipated funding in each of the UTP categories.

Transportation projects can be selected in a number of ways. Projects involving the State roadway network or improvements to existing highways are generally selected by TxDOT's districts and divisions unless the project is inside an MPO boundary. Other proposed projects are submitted by government officials, individuals, MPOs, or regional transportation planning committees. The majority of the State's transportation programs are, however, determined by local officials or TxDOT's district offices. Finally, due to project planning and development requirements, projects are selected 5 to 10 years in advance given anticipated funding.[34]

The selection criteria used for highway projects vary by UTP funding category, but a cost-effectiveness measure is used in several funding categories for prioritizing projects on a statewide basis. Although exceptions exist, the measure is usually a ratio of project cost to the traffic (in vehicles per day) served by the project.[33] The TxDOT district engineer determines the selection criteria for highway projects in his or her district, except for projects in UTP categories where the MPO is authorized to select projects. In the latter case, the MPO is responsible for deciding the project selection criteria to be used for those UTP categories. Table 2.1 summarizes the various funding categories and project selection by funding category.

Each project undergoes three funding authorization stages: planning, development, and construction.[34] First, a project will receive approval for its planning phase. Once planning and development are complete, the project must be approved for funding to be constructed or implemented.

Most of TxDOT's highway projects are funded through Fund 6—the State Highway Fund. This fund includes, for example, revenues from the motor fuel tax, vehicle registration fees, oil and lubricant taxes, and federal aid or refunds on federal fuel taxes. Figure 2.17 illustrates all funding sources that enter into Fund 6 for the financing of transportation projects in Texas.

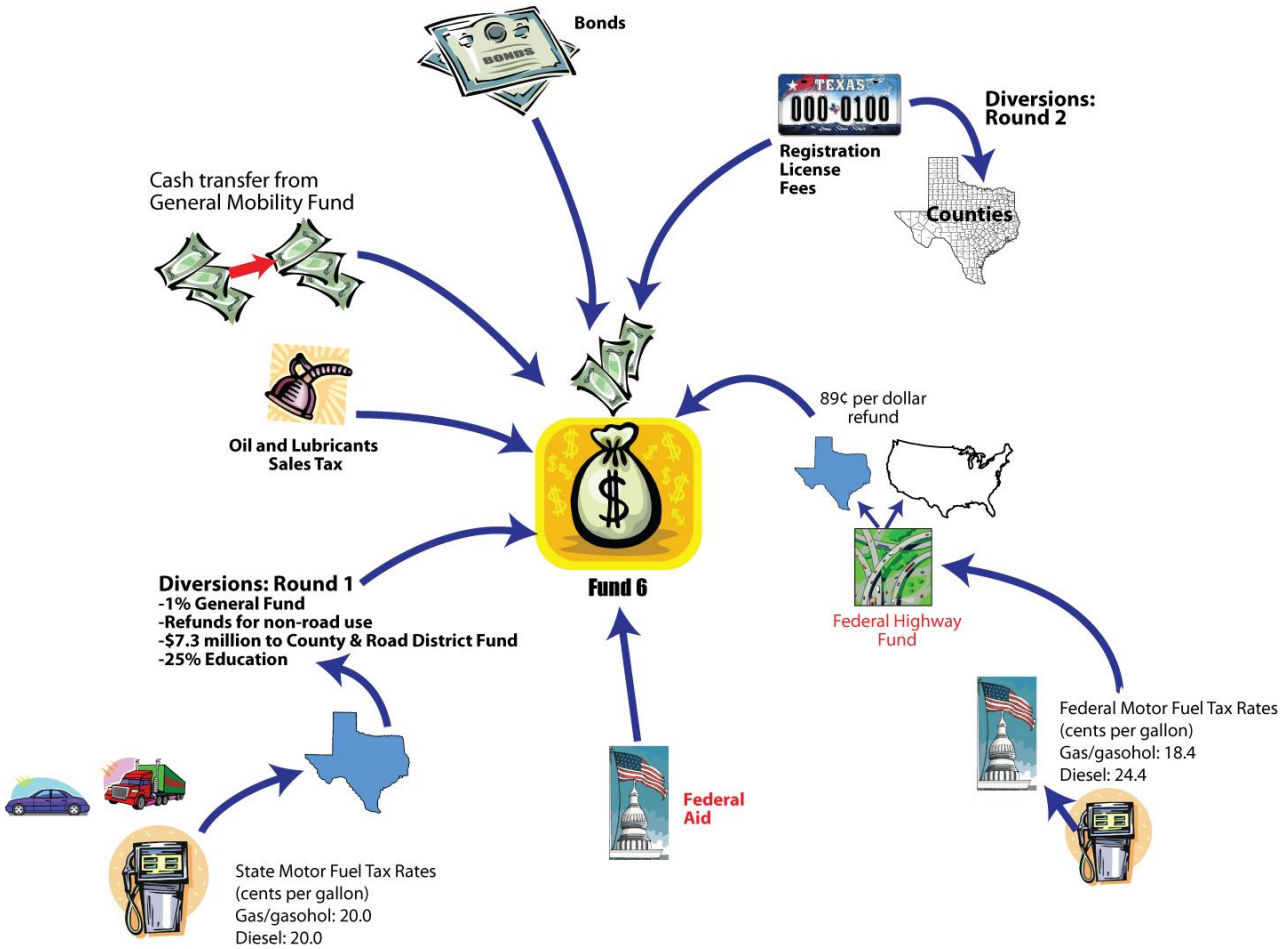
Table 2.1: TxDOT´s Funding Categories and Project Selection

Funding Category	Project Selection	Usual Funding
1—Preventive Maintenance and Rehabilitation	Projects selected by districts. TTC allocates funds through Allocation Program.	Federal 90%, State10% *or* Federal 80%, State 20% *or* State 100%
2—Metropolitan and Urban Area Corridor Projects	Projects selected by MPOs in consultation with TxDOT. TTC allocates funds through Allocation Program.	Federal 80%, State 20% *or* State100%
3—Non-traditionally Funded Transportation Projects	Project selection varies based on the funding source, such as Proposition 12, Proposition 14, Pass-Through Toll Finance, Regional Toll Revenue, and Local Participation.	Federal 80%, State 20% *or* State 100% *or* Local 100% Varies by agreement and rules
4—Statewide Connectivity Corridor Projects	Projects selected by TTC based on corridor ranking. Project total costs cannot exceed TTC-approved statewide allocation.	Federal 80%, State 20% *or* State 100%
5—Congestion Mitigation and Air Quality (CMAQ) Improvement	Projects selected by MPOs in consultation with TxDOT and funded by district´s Allocation Program. TTC allocates money based on population percentages within areas failing to meet air quality standards.	Federal 80%, State 20% *or* Federal 80%, Local 20% *or* Federal 90%, State 10%
6—Bridges: Federal Highway Bridge Program (HBP) and Federal Railroad Grade Separation Program (RGS)	Projects selected by the Bridge Division as a statewide program based on the Federal HBP and RGS eligibility and ranking. TTC allocates funds through statewide Allocation Program.	Federal 90%, State 10% *or* Federal 80%, State 20% *or* Federal 80%, State 10%, Local 10%
7—Metropolitan Mobility/Rehabilitation	Projects selected by MPOs in consultation with TxDOT and funded by district´s Allocation Program. TTC allocates money according to Federal formula.	Federal 80%, State 20% *or* Federal 80%, Local 20% *or* State 100%
8—Safety: Federal Highway Safety Improvement Program (HSIP), Federal Railway-Highway Crossing Program, Safety Bond Program, Federal Safe Routes to School (SRTS) Program, and Federal High Risk Rural Roads (HRRR)	Projects selected statewide by federally mandated safety indices and prioritized listings. TTC allocates funds through statewide Allocation Program. Projects selected and approved by TTC on a per-project basis for Federal SRTS Program.	Federal 90%, State 10% *or* Federal 90%, Local 10% *or* Federal 100% *or* State 100%
9—Transportation Enhancements (TE)	Local entities make recommendations, and a TxDOT committee reviews them. Projects selected and approved by TTC on a per-project basis. Projects in the Safety Rest Area Program are selected by the Maintenance Division.	Federal 80%, State 20% *or* Federal 80%, Local 20%

Funding Category	Project Selection	Usual Funding
10—Supplemental Transportation Projects: State Park Roads, Railroad Grade Crossing Replanking, Railroad Signal Maintenance, Construction, Landscaping, Landscape Cost Sharing, Landscape Incentive Awards, Green Ribbon Landscape Improvement, Curb Ramp Program, Coordinated Border Infrastructure (CBI) Program, Comprehensive Development Agreements (CDAs), and Congressional High Priority Projects (CHPP)	Projects selected statewide by Traffic Operations Divisions or Texas Parks and Wildlife Department; local projects selected by district. TTC allocates funds to districts or approves participation in Federal programs with allocation formulas. Coordinated Border Infrastructure Program funds allocated to districts according to the Federal formula.	State 100% *or* Federal 80%, State 20% *or* Federal 100%
11—District Discretionary	Projects selected by districts. TTC allocates funds through Allocation Program.	Federal 80%, State 20% *or* Federal 80%, Local 20% *or* State 100%
12—Strategic Priority	TTC selects projects that generally promote economic opportunity, increase efficiency on military deployment routes, retain military assets in response to the Federal Military Base Realignment and Closure Report (BRAC), or maintain the ability to respond to both man-made and natural emergencies. Also, TTC approves pass-through financing projects to help local communities address their transportation needs.	Federal 80%, State 20% *or* State 100%

Source: TxDOT[28]

In addition, TxDOT can finance transportation projects through debt financing, pass-through financing, toll revenues, and public-private partnerships (PPPs) or CDAs.[35] Figure 2.4 provides information regarding project planning, prioritization, and funding for New Mexico.



Source: CTR[17]

Figure 2.17: Fund 6—The State Highway Fund

POE

As defined by GSA, a land POE is a facility that provides controlled entry in and out of the United States for people and goods. It houses CBP and other Federal inspection agencies responsible for the enforcement of Federal laws. A land POE is a Federal jurisdiction and includes the land, buildings, on-site roads, and parking lots occupied by the POE. GSA is responsible for building and maintaining most of the nation's land POEs, as well as for maintaining, repairing, and managing the facilities.[36]

For major capital projects, GSA, CBP, FHWA, and USDOS have established a process to develop border master plans to assist in the prioritization of POE and transportation infrastructure projects. Border master plans are developed on a regional basis with Federal, State, and local stakeholders from both the United States and Mexico.

Border master plans have significant impact on what projects are in included in CBP's annual submission of its *Land Port of Entry Modernization: Promoting Security, Travel and Trade* report.[37] This report lays out the basis for prioritizing capital investments in the land POE infrastructure, which factors into safety and site deficiencies in addition to operation and workload considerations. Included in the report is CBP's national list of projects that GSA and CBP have targeted for the next five years.

For those GSA Region 7 land POE projects that are identified in CBP's list of projects targeted for the next five years, Region 7 works with the GSA Central Office to determine the possibility of requesting funds as part of GSA's Annual Capital Program submission. Through direction from the Office of Management (OMB), the GSA Central Office works to establish a budget target for land POEs annually. Many land POE projects have received partial funding (either for the initial phase of a multi-phase project or for site design) and still await the remaining funding piece to complete the project. These projects are considered based on their placement in CBP's five-year plan (issued annually) and on the ability to fund the project per the budget target. If a project has not received any initial funding, GSA works with CBP to establish the best planning/funding scenario (projected budget year request) in the context of the overall land POE inventory nationwide.

Land POEs must be designed in accordance with GSA's Facility Standards for the Public Building Service and the U.S. *Land Port of Entry Design Guide*.[38] Land POEs must also either conform to the building code adopted by the local jurisdiction responsible for fire emergency services or the building code adopted by GSA. Finally, land POEs must conform to State highway regulations.

2.7.2 Mexico

Transportation Infrastructure

SCT has the authority for transportation planning and programming in Mexico. Transportation planning decisions consider available funding resources and the priorities established by the State SCT centers. Local agencies have minimal involvement in transportation planning and programming decisions that address medium- and long-range issues and that formulate future planning solutions since they are not responsible for the development and implementation of infrastructure projects. SCT, as the agency that regulates and administers transportation activities, thus has authority and control in decision making. For example, to receive financial support, the States and municipalities must comply with Federal standards established by SCT. Contrary to the process in Texas, a dedicated funding source for transportation projects

does not exist. Thus, each POE project has to compete with projects related to transportation infrastructure (e.g., highways and interchanges) and non-transportation (e.g., hospitals, schools, and government buildings).

State governments can promote their own projects or serve as an intermediate entity between the strategic transportation planning conducted by SCT and the municipalities' needs. State government funds also represent another funding source for the municipalities although projects frequently have to comply with State government objectives.

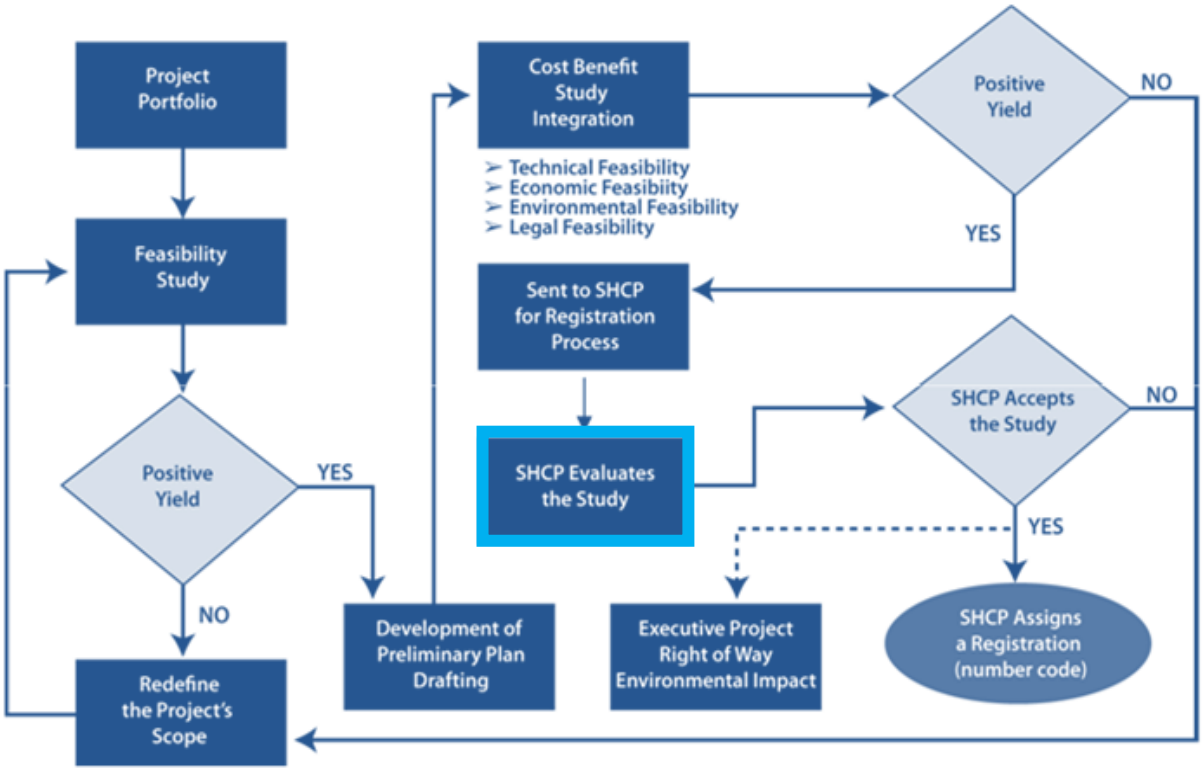
Municipal planning of urban development and transportation systems is directed toward meeting short-term objectives since municipal administrations have a three- or four-year tenure. The municipalities' main planning document—the Municipal Development Plan—therefore lacks long-term goals, is often not comprehensive, lacks specific milestones and objectives, and frequently does not include specific time commitments. Nevertheless, municipalities try to execute and complete as many infrastructure projects as possible because one of the efficiency measures for their administration is typically the number of infrastructure projects completed. For this reason, the organizational structure of most municipalities is directed to the construction of public works and is deficient in terms of planning structure.[39]

State and Federal governments often have a strong planning involvement with municipalities that facilitates binational commercial trade and international cross-border people movements. In these cases, State governments are usually the mediators between local and Federal agencies, and some municipalities may even request the State government to become responsible for local planning. In other cases, State governments may impose planning solutions on municipalities, even when contrary to municipal expectations, because the State provides the funding.

Figure 2.18 illustrates SCT´s methodology for prioritizing transportation projects for inclusion in the official SCT project portfolio. As evident in Figure 2.18, the feasibility and cost-benefit studies have critical decision points concerning whether to move forward with a transportation project.

On April 1, 2006, the Federal Budget and Revenue Responsibility Act (Ley Federal de Presupuesto y Responsabilidad Hacendaria, or the Responsibility Act) established new and concise parameters for public investments in infrastructure projects (Sistema de Inversión Pública). The Responsibility Act thus not only establishes accounting and administrative processes, but also instructs public officials to responsibly budget expenditures in compliance with the principles of legality, honesty, efficiency, efficacy, economy, rationality, austerity, and transparency, among others.

The Responsibility Act requires all projects be given a registration number by SHCP for the project to be included in the annual Federal budget project portfolio.

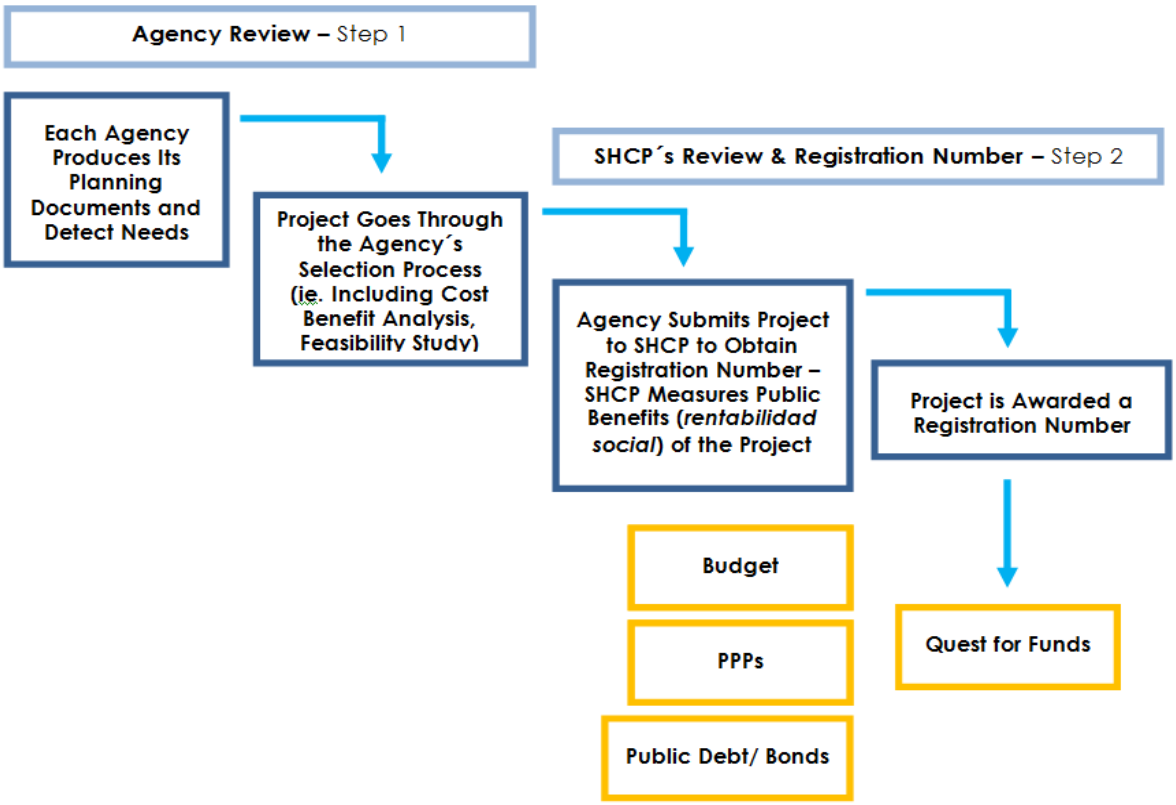


Source: SCT[18]

Figure 2.18: SCT's Decision Tree for Prioritizing Transportation Projects

SHCP has its own rules and programs that establish clear operational procedures for agencies to follow when applying for an SHCP registration number. For example, SHCP requires that the cost-benefit analysis measure public benefits (rentabilidad social) of the project. An SHCP registration number is a prerequisite for any infrastructure project to be included in the Mexican Government´s project portfolio. Regardless of the funding mechanism used for the project (private, public, or a combination), a project cannot be considered without this registration number. Figure 2.19 illustrates this two-step procedure.

Mexico does not have a dedicated funding source for transportation projects. Transportation projects thus compete with education and social programs or other infrastructure projects, among many other categories, for a share of the general revenue. An SHCP registration number does not guarantee that the project will be included in the annual budget. This lack of public funding has translated into an innovative PPP and concession-friendly environment (e.g., SCT's guide to PPPs).[40]



Source: SHCP[41]

Figure 2.19: Mexico's Two-Step Project Selection Process

Contrary to funding access in Texas, State and local governments in Mexico have limited access to transportation project funding. Notwithstanding recent administrative decentralization efforts, States and municipalities still have little to no taxing authority. Public debt and bonds, when executed or issued by a local or State entity, will generally be guaranteed through Budget Account Number 28 (Ramo 28), petroleum revenue distributed by the Federation to States and municipalities. Ramo 28's revenue is distributed by SHCP to all States or municipalities by means of an irrevocable trust (fideicomiso).[42]

States and municipalities need congressional (State) or council authorization to enter into debt or issue bonds. In addition, municipalities have to sign a document titled "irrevocable instruction" that orders SHCP to repay the loan (e.g., 30 percent of the municipality's monthly Ramo 28 Federal revenues goes to the lender). Lenders generally receive repayment directly from the trust. The structure of the transaction determines each bank's or lender's priority in terms of repayment (first, second, or third priority in terms of repayment). Because Ramo 28´s revenue may differ from month to month (e.g., because of changing oil prices), reserve sub-accounts may be created in the

trust for repayment of interest and principal. The State or municipality receives the remnants after all repayments are made. At the local level, debt levels can be dramatic. In some cases, mayors may come into power only to find that more than 70 percent or 80 percent of the municipality's main revenue source, Ramo 28, has been irrevocably committed to repay the loans of previous administrations.

POEs

In accordance with the Roads, Bridges and Motor Carrier Act (Ley de Caminos, Puentes y Autotransporte Federal) and Supreme Court rulings, international bridges and crossings are Federal jurisdictions. At the Federal level, the planning for and prioritization of transportation projects in the border region are accomplished independently by the various Federal agencies (SCT, SRE, Aduanas, and INDAABIN) and through interagency committees (Border Interagency Group, Base Group, and Full Group).

Whenever a new POE is being promoted, INDAABIN determines the suitability of the land for the proposed POE. However, INDAABIN´s mandate does not allow the agency to purchase property. All land thus needs to be donated to the agency for negotiations to proceed. The land is generally donated by an interested municipality or a private party. Administratively, when land is donated to INDAABIN, it becomes the property of Mexico´s Federal Government, which authorizes INDAABIN to build and maintain the POE and SCT to manage or concession the POE.

All donated land needs to be free of buildings and construction and clear of liens. However, in practice, POE promoters who wish to accelerate the process can generally start to construct the POE buildings and facilities, given INDAABIN´s authorization and following all agencies´ instructions and manuals. Aduanas, INDAABIN, and SCT have different requirements for POE design and specifications.[43] Upon completion of the construction, the promoter needs to donate all land and improvements to INDAABIN.

If SCT concessions the POE, the POE promoters receive all international bridge tolls for a specified time period (e.g., 50 years renewable). The promoters may hire CAPUFE, an SCT entity dedicated to manage concessioned infrastructure, or another entity to manage and operate the POE facilities. If SCT does not concession the POE or the concession has expired, then CAPUFE manages and operates the POE. In the latter case, Mexico's Federal Government retains all toll proceeds except for 12.5 percent that reverts back to the municipality and another 12.5 percent that reverts back to the State, to compensate the municipality and State, respectively, for any damages imposed to

their infrastructure.[44] Unless otherwise specified in the concession, 100 percent of customs and related tax proceeds are retained by the Federal Government.

SCT is responsible for identifying the most appropriate funding source for building and maintaining Mexico´s international bridges and border crossings based on the outcome of specific project studies and analyses. The studies include stated preference surveys to estimate value of time. The major funding sources are the public resources identified in the Federal budget, private financing through concessions, or a combination of the two funding sources.

A characteristic distinguishing Aduanas from other Mexican agencies is its project funding mechanism. The agency created an infrastructure fund in which 1 percent of all revenues obtained through its operations (e.g., taxes, duties, and import fees) is deposited. This enables Aduanas to fund projects that are considered a priority, e.g., in terms of security, without competing for Federal funding against social or other infrastructure projects.

Any project wishing to use this Aduanas funding must be submitted to a senior committee composed of three executive Aduanas officials. Once the project is reviewed and approved by the senior committee, it still needs to obtain an SHCP registration number.

2.8 Public Participation

2.8.1 United States

In the United States, State, regional, and local agencies are mandated to establish processes to receive public comment and input. Formal requirements and guidelines for public involvement are included in several laws, including MAP-21, the Council of Environmental Quality regulations, and the National Environmental Policy Act (NEPA).

For FHWA and States, public involvement is recognized as a fundamental component of effective transportation planning, project development, and implementation. MAP-21 considers public involvement a hallmark and establishes opportunities for public participation in transportation decision making. MAP-21 requires that States, MPOs, public transportation providers, and resource agencies be aware of the impacts of the proposed transportation project and how it will be viewed by affected communities. It is argued that early and continuing public involvement allows project sponsors to be aware of the problems and impacts and to avoid, minimize, or mitigate issues early.[45] Specifically, USDOT guidance has argued that "If the demographics, values, and desires of a community and the impacts on the

community are known early and reviewed on a continuing basis through an effective public involvement process in both the transportation planning and the project development phases, then the project sponsor can better incorporate the values and desires of the community into the design of the project."[46]

TxDOT's 2004 *Environmental Manual* regards public involvement as a key element of project planning[47]. According to the manual, public involvement shall be initiated by the TxDOT district office and will depend on and be consistent with the type and complexity of the specific transportation project (see Table 2.2). The manual also states that TxDOT district staff shall maintain a list of individuals and groups interested in transportation project development and shall provide notification of public hearing activities to these individuals and groups.

Table 2.2: Public Involvement Required for TxDOT Transportation Projects

If the project involves…	Then public involvement might be…
Minor improvements; no additional right of way	None needed
Minor improvements; minor amounts of additional right of way; projects with minor design changes; temporary easements	Meetings with affected property owners
Multiple alternatives being analyzed in an early phase; public opinion needed/desirable to make decisions	Public meeting
Added capacity improvements; no/little/some additional right of way needed (minimum typical for EA/FONSI)	Opportunity for public hearing
Roadway on a new location; added capacity improvements; controversial projects (EA and EIS)	Public hearing

Source: TxDOT[47]

Public involvement is required and occurs during all phases of the transportation project life cycle: planning, development, and implementation. At the planning phase, public input is required regarding the strategic direction and long-range objectives of the transportation agency. While it is typically more challenging to engage the public at this stage, doing so can offer tremendous value and benefits.

EPMPO's *2012 Public Participation Program*[48] presents guidance and a roadmap for processes to include residents; community and neighborhood groups and associations; non-profit groups; business-sector groups; transportation providers; Federal, State, and local government agencies; and other stakeholders to participate in a proactive, predictable planning effort that provides full access to making key transportation decisions. EPMPO uses e-newsletters, websites, social media, open houses, and public meetings and hearings to disseminate information and involve as many stakeholders and members of the public as possible.[48]

In the case of POEs, U.S. Government agencies involve the public in the decision-making process regarding POE projects as required by the NEPA process. All agencies, organizations, Native American groups, and members of the public having a potential interest in proposed POE projects are thus invited through published communications to participate in the decision-making process. CBP´s Environmental Planning Program guides the public opportunities for participating in decision making on proposed projects.[49] Outreach sessions conducted by GSA and CBP are a standard component of POE project planning and execution. In addition, a 30-day public comment period allows for the public to provide written comments on shared project planning and environmental compliance information for the project. The public comment period is a requirement for conducting environmental assessments in accordance with NEPA and the general procedures for the FONSI for POE authorizations.

2.8.2 Mexico

In accordance with Article 26 of the Mexican Constitution, all planning activities should be democratic by allowing public participation of diverse social sectors and by incorporating the public's input into the development of sectoral plans (e.g., SCT's Sectoral Plan). Recently, public consultation has been accomplished by inviting associations, stakeholders, and potentially interested parties or experts to provide input regarding a planned project or a potential policy. Public consultation aimed at involving the general population has typically resulted in low participation levels. This is possibly a reflection of the fact that the population generally believes that their input will have no impact. Mexico´s public participation model thus struggles to secure general population input.[50]

When soliciting public input, SCT organizes public consultation forums that bring together academic experts, associations, and other stakeholders. In addition, several task groups, councils, or committees may be created to investigate a specific project or issue in detail. SCT's Comptroller's Office (Contraloría) provides an avenue for citizens to complain or voice their opinions regarding the agency or a specific officer's functions.

Local governments and the IMIP are mandated to involve the public in project planning and implementation. Similar to those run by SCT, public consultation forums are used to bring together academic experts, associations, and other stakeholders during a meeting or through committees that may be created to investigate a specific issue.

The Border Interagency Group, which includes Federal, State, and municipal representatives as well as private-sector stakeholders and academic experts, serves as a public consultation mechanism for the planning of new POEs. Attendance at the group's meetings is by invitation only. The group does not have a website and does not need to comply with Federal Government transparency requirements.

INDAABIN seeks the advice of the Federal operational departments, the occupants of the facility, and the Federal authorities and municipalities responsible for national, regional, and local planning in INDAABIN's development of all POE projects. In addition, INDAABIN participates in the meetings that the local governments organize to present and promote POE projects and to receive comments from different public and private entities.

2.9 Other Study Area Considerations

The study area for this Border Master Plan includes rail infrastructure concerns in City of Juárez and El Paso in need of an operational solution to allow for improved rail service in the area, as well as important livestock crossings. This section of the document discusses these cases.

2.9.1 Municipality of Juárez's Rail Infrastructure: Multiple Dimensions

Rail has served the Paso del Norte region since the end of the 19th century. Rail thus facilitated the development of both the City of Juárez and El Paso for more than a century, and remains important in attracting trade and investment and in serving the maquila[51] industry. Three companies provide rail service in the area. On the Mexican side, the sole rail provider is Ferrocarriles Mexicanos (Ferromex). On the U.S. side, two rail companies—Union Pacific Railroad and BNSF Railway Company—serve the area. Both U.S. rail companies interchange with Ferromex at their respective international rail bridge. For an extensive overview of the POEs and transportation infrastructure serving the POEs in this region, see Chapter 4 of this report. The following sections provide insight into the considerations and challenges associated with the rail infrastructure in the region.

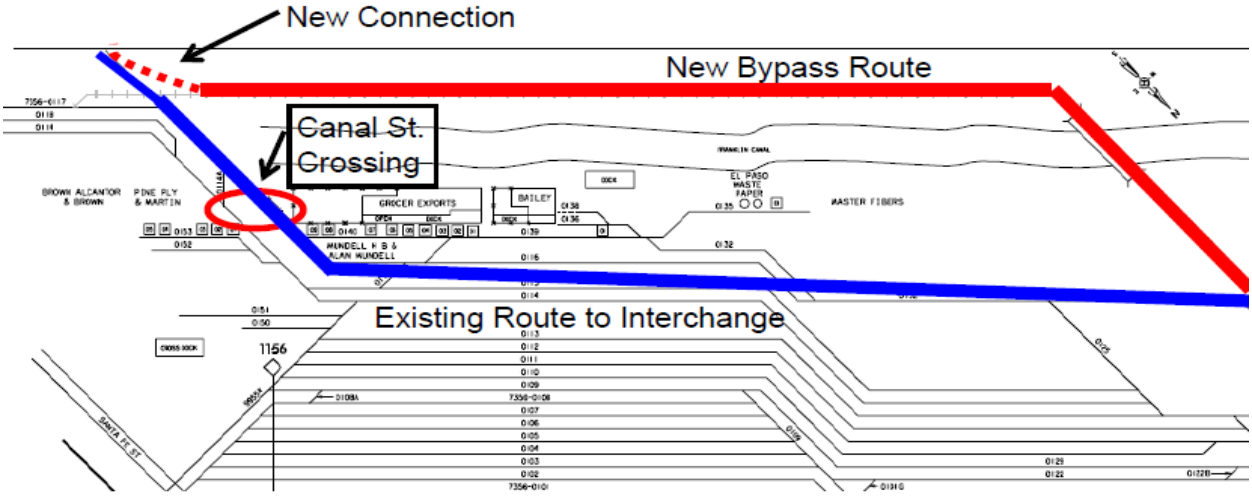
Societal Considerations

Since 1984, the planning documents of the Municipality of Juárez have reported that rail infrastructure inhibits west-east mobility and hinders appropriate urban development in the City of Juárez.[52] The rail tracks divide the city and have resulted in disproportionate development to the east relative to the west side of the rail tracks. Developments west of the rail tracks are mostly disadvantaged residential areas served by an unpaved road network.

Operational Considerations

The window for rail operating between City of Juárez and El Paso is limited to nine hours per day, from 10:00 p.m. to 7:00 a.m. This operational window allows for the interchange of a maximum of 10 trains per day. Trains moving from Mexico must follow CBP directives and change crews at the bridges. Trains moving to Mexico must comply with the regulations of Aduanas. In both cases, Ferromex's yard and the El Paso downtown rail yards are impacted by these inspections and the operating window.

Ferromex's yard is located in downtown City of Juárez, less than a mile from both international rail crossings. Northbound trains encounter four at-grade crossings upon leaving this yard: Heroico Colegio Militar (Fronterizo), David Herrera, 16 de Septiembre, and Vicente Guerrero. BNSF's and UPRR's rail yards are located in downtown El Paso. In 2010, BNSF completed a rail bypass in downtown El Paso (see Figure 2.20). The bypass precludes trains stopping at the Canal Street crossing, which used to block access to the Chihuahuita neighborhood. An American Recovery and Reinvestment Act grant partially funded this project.

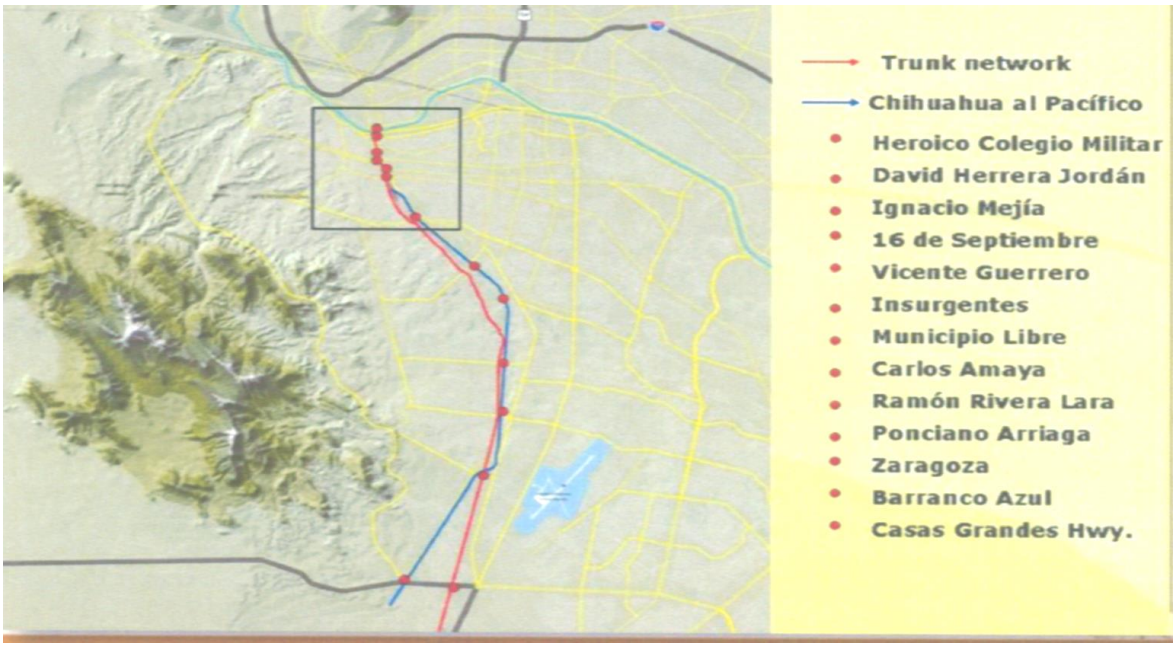


Source: BNSF[53]

Figure 2.20: Rail Yard Improvement: Chihuahuita Bypass

Safety Considerations

Figure 2.21 provides a map of Ferromex's rail infrastructure in the City of Juárez. The red and blue lines depict Ferromex's QA and A lines, and the red dots depict selected at-grade crossings in the city. Figure 2.21 shows that mobility in the City of Juárez is impacted by 13 at-grade crossings, four of which are between the Ferromex rail yard and the international bridges.



Source: IMIP, EPMPO[54]

Figure 2.21: City of Juárez: Rail Infrastructure and At-Grade Crossings

Security and Environmental Considerations

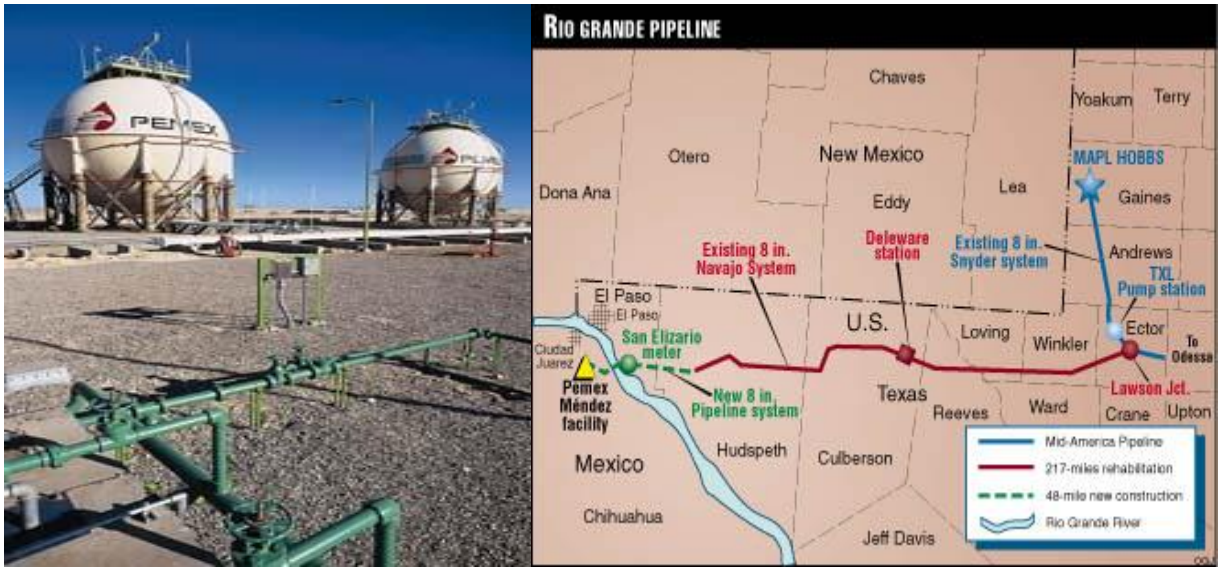
Significant amounts of propane gas[55], toxic chemicals, and fuel are transported by rail in and through the City of Juárez. Grupo Fuentes of the City of Juárez and El Paso provides residential and commercial propane service and product distribution throughout northern Mexico and the southwest United States. The company is one of Mexico's largest propane retailers with more than 30 outlets. The company's fleet is about 800 vehicles (bobtail trucks, tractors, and tank trailers) in Mexico and the United States. In addition to the trucking fleet, two rail sidings provide capacity for 10 tank cars, each capable of moving 30,000 gallons.[56] In addition, Solvay Chemicals' affiliate, Solvay Fluor México S.A. de C.V. (see Figure 2.22), operates a facility in the City of Juárez that primarily produces hydrogen fluoride and ammonium hydrogen fluoride with sulphydric acid as the primary input.[57]

Source: Solvay Chemicals[58]

Figure 2.22: Solvay Chemicals' Fluor Facility

In 2012, two trains transporting fuel derailed in the Samalayuca Ecological Reserve.[59] The cause of the derailments was inclement weather. As of January 2013, the Secretariat of Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales [SEMARNAT]) acquitted Ferromex of any environmental fines or damage because of measures implemented by the rail company to mitigate the environmental damage from these accidental spills.[60]

Pétroleos Mexicanos's (PEMEX's) Méndez receiving terminal near the City of Juárez started receiving liquefied petroleum gas (LPG) shipments on April 1, 1997, from the Rio Grande LPG pipeline originating near Odessa, Texas (see Figure 2.23). The only segment of Ferromex's QA rail line currently under operation connects its downtown yard and A line to PEMEX's Méndez terminal, thereby also resulting in additional hazardous shipments in the area.



Source: Bodenhamer[61]

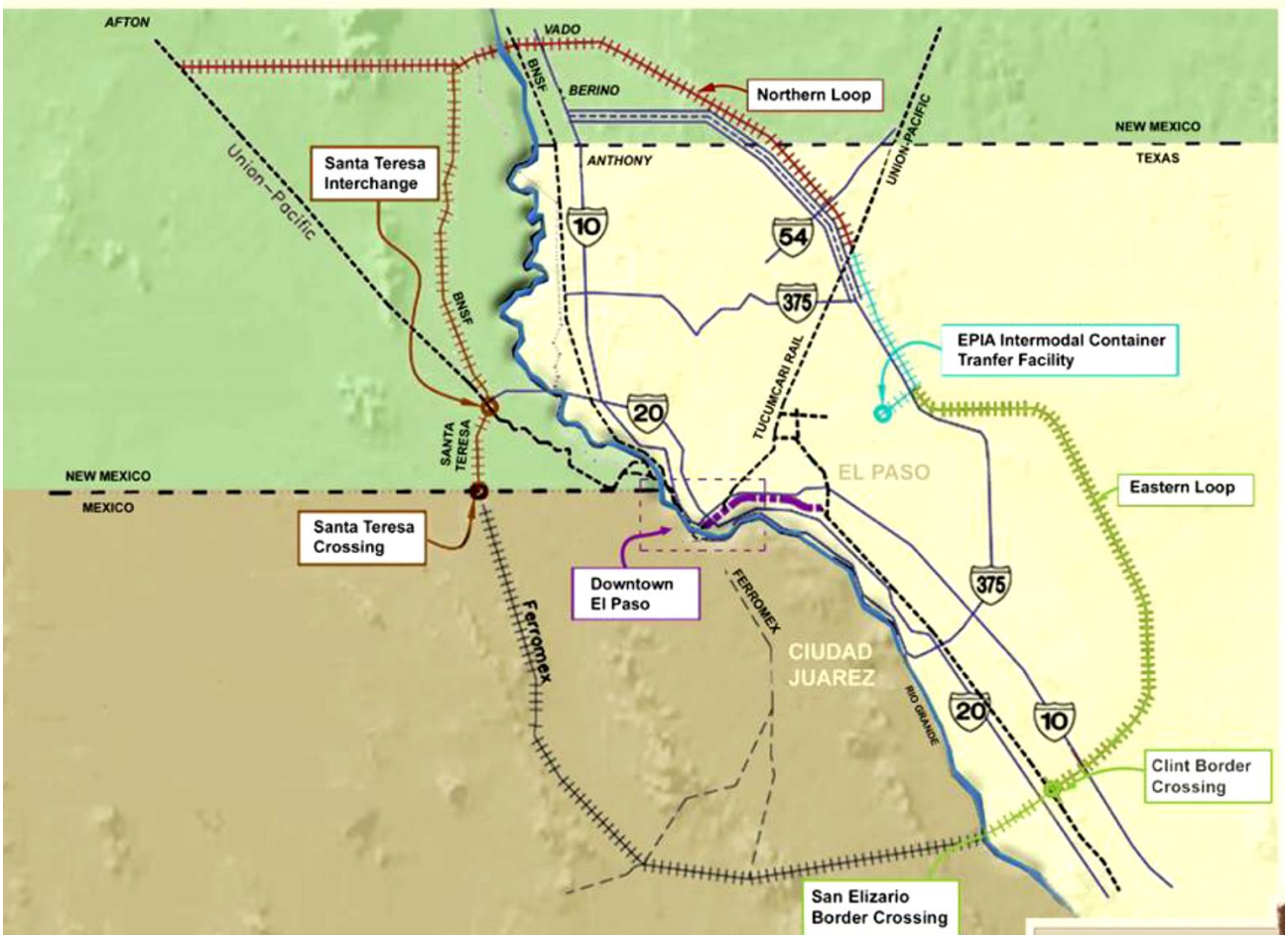
Figure 2.23: Méndez LPG Facility and Rio Grande Pipeline System

Finally, according to U.S. Federal environmental regulations, the City of Juárez–El Paso metroplex is in non-attainment for particulate matter (PM_{10}). Some of the contributing factors are unpaved roads, border traffic bottlenecks and idling, and freight transportation.[62]

Rail Bypass Initiative

President Calderón's 2007 Infrastructure Plan[63] included the construction of two rail bypasses: one in Matamoros/Brownsville and the other in the City of Juárez/El Paso. During the president's term, only the first project came to fruition.

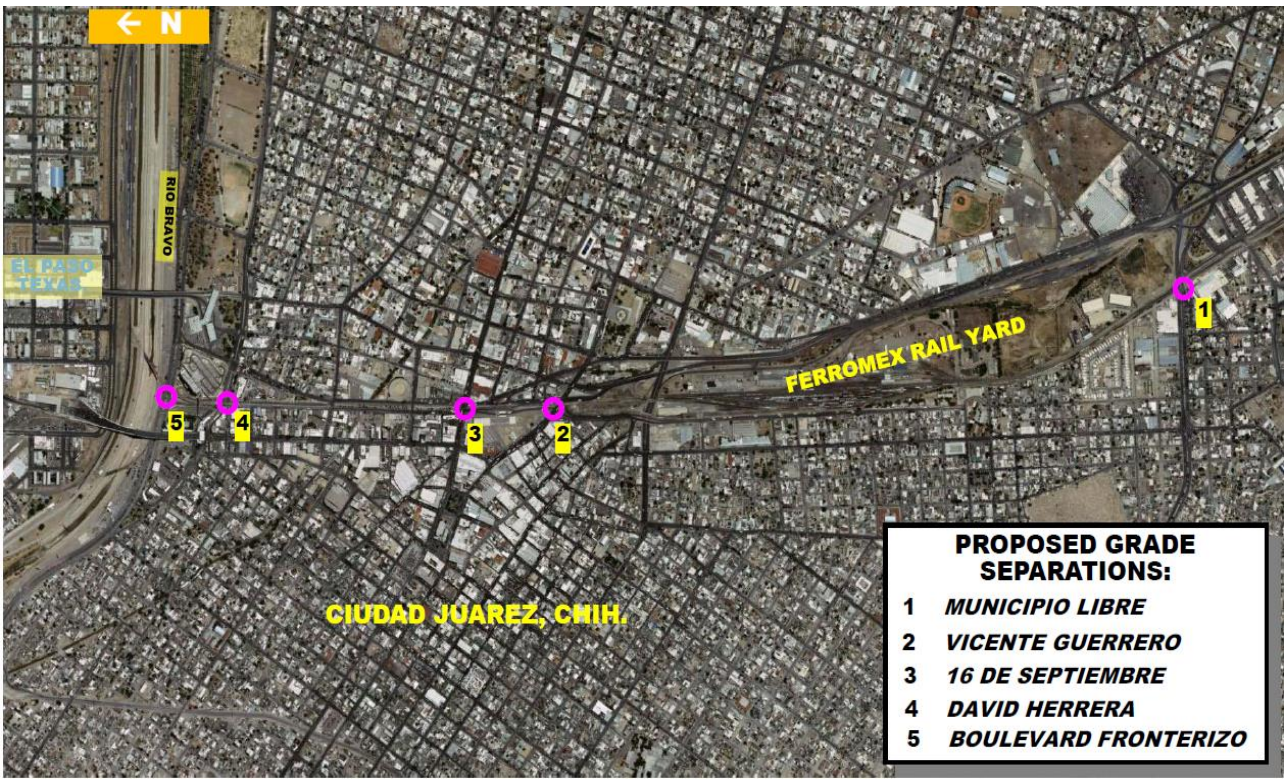
The City of Juárez/El Paso rail bypass was initially included in El Paso's *Project Feasibility and Development Report* in 2003. The initial analysis showed two potential connections: at the Santa Teresa/Jerónimo POE and at a new crossing at San Elizario/Clint (see Figure 2.24).



Source: City of El Paso[64]

Figure 2.24: El Paso Initial Rail Bypass Alternatives

However, in December 2008, President Calderón supported the building of a series of underpasses to facilitate the flow of rail traffic through the City of Juárez´s downtown. Local concern was expressed about the disruption of vehicle traffic in the City of Juárez during the several years of the construction of the underpasses. Concerns were also expressed about the increase in hazardous cargo moving through densely populated neighborhoods and undermining efforts to move cross-border rail traffic to Santa Teresa/Jerónimo. Figure 2.25 illustrates the proposed five grade separations in downtown City of Juárez.



Source: BNSF[53]

Figure 2.25: Proposed Downtown City of Juárez Grade Separations

In February 2010, an agreement to build the Santa Teresa/Jerónimo bypass was executed.[65] Federal (SCT), State (Chihuahua), and local (Municipality of Juárez) stakeholders and Ferromex signed the agreement. The agreement provided for the construction of three grade separations at Vicente Guerrero, David Herrera, and 16 de Septiembre in downtown City of Juárez in Phase 1 of the bypass project. The cost of these overpasses was estimated at MXP $126 million, MXP $115 million, and MXP $196 million, respectively, to total MXP $437 million.[66] SCT agreed to provide 87.5 percent of the funds necessary, and the State of Chihuahua agreed to provide the remaining 12.5 percent. Phase II includes a number of longer-term projects including

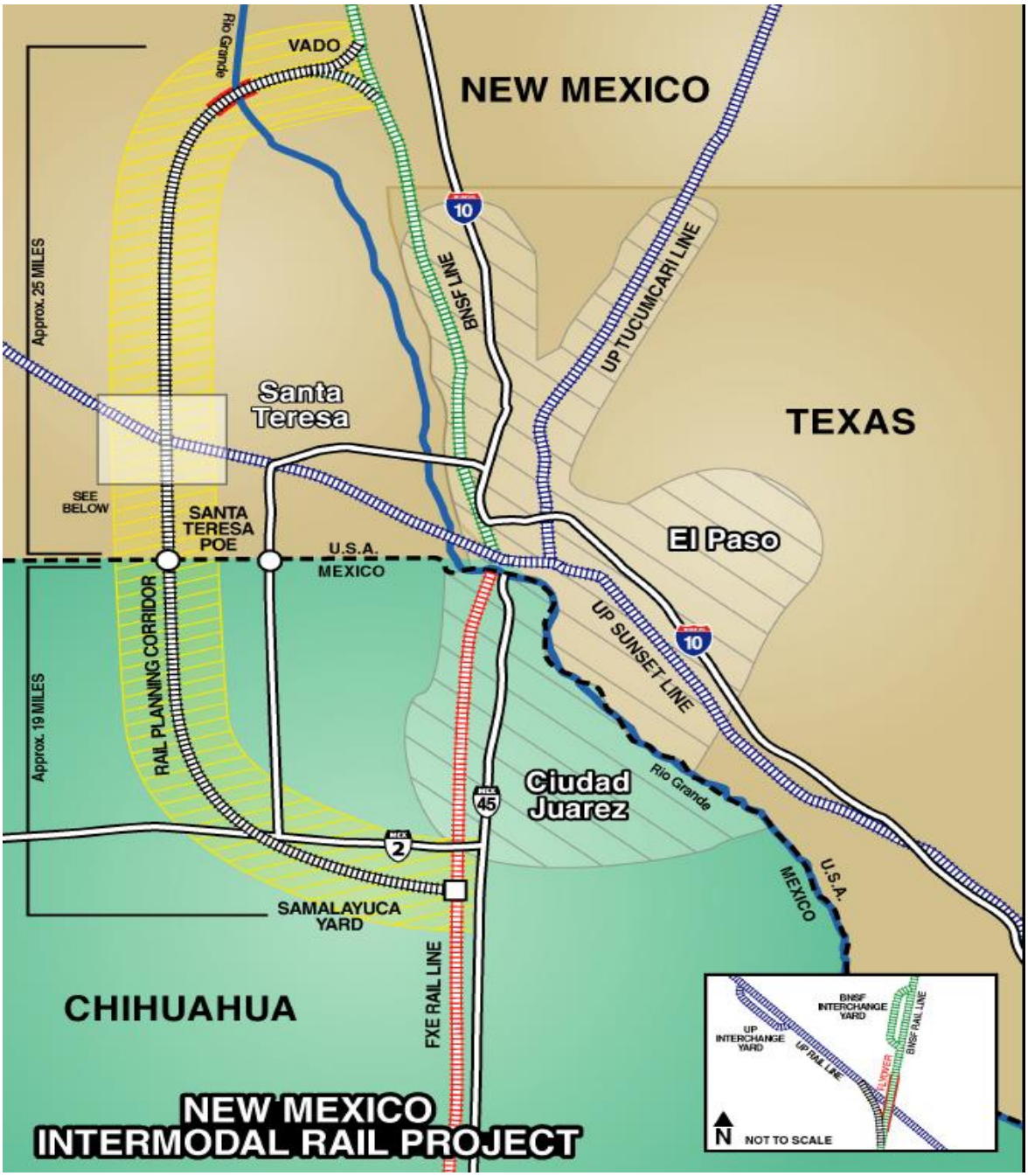
construction of a rail bypass that will cross through the Santa Teresa/Jerónimo POE, the authorization of a new crossing, and construction of a rail yard. The State of Chihuahua and the Municipality of Juárez agreed to take the lead in coordinating all entities to proceed and promote Phase II. Ferromex agreed to deliver the executive studies and analyses for the overpasses in Phase I and to promote the bypass in Phase II.

The first completed underpass at Boulevard Fronterizo (H. Colegio Militar) was inaugurated in September 2012 (see Figure 2.26). On October 26, 2012, however, a group of 13,000 local business owners, citizens, and a municipal officer filed an injunction in Federal courts seeking to prevent the construction of the remaining four grade separations.[67] Work on the remaining four grade separations is, however, expected to move forward under President Peña´s administration.

Source: César Duarte[68]

Figure 2.26: Inauguration Ceremony: First Grade Separation in Downtown City of Juárez

Figure 2.27 provides a more recent proposal for the Santa Teresa/Jerónimo rail POE and bypass. The proposal includes the construction of a new Ferromex rail yard near Samalayuca, a flyover from BNSF over UPRR lines, and a potential rail connection in Vado, New Mexico. This new rail line would measure approximately 19 miles on the Mexican side and 25 miles on the U.S. side.



Source: BNSF[53]

Figure 2.27: Current Options for the Santa Teresa/Jerónimo Rail Bypass

Santa Teresa/Jerónimo Location

The Santa Teresa/Jerónimo POE was inaugurated in 1993. Since then, NMBA has promoted the crossing and attempted to attract investment to the area. On both the U.S. and Mexican sides, most of the land near or leading to the POE belongs to Eloy Vallina,

a former banker. The land on the U.S. side has been developed through the Verde Group, of which Mr. Vallina is the main partner. On the Mexican side, a few communal (ejido) properties and private land owners have interests in the area. UPRR is also an important stakeholder in the area and is currently constructing a US $400 million[69] state-of-the-art rail facility in Santa Teresa. The company is envisioning this area to be a strategic focal point for shipments destined for the southwestern United States. The new facility (see Figure 2.28) will feature an intermodal ramp, fueling facilities, and an intermodal block swap/switching yard. Construction began in early August 2011, and the Santa Teresa Terminal is scheduled to open in March 2014.

Source: Union Pacific Railroad[69]

Figure 2.28: UPRR´s Santa Teresa Terminal

FOXCONN

Hon Hai Precision Industries Co., Ltd., registered the FOXCONN brand as a subsidiary in 1974. This corporate group conducts business in America, Asia, and Europe. FOXCONN provides services related to the design, manufacture, assembly, and post-consumer service of electronic equipment, including computers, communications, and electronic devices. The company manufactures components for Apple, Cisco, Dell, IBM, Motorola, Nokia, and Sony, among others, and is the largest assembler of computer equipment and video games.

FOXCONN invested US $145 million in its industrial campus at Jerónimo and currently employs 4,329 people directly and 1,189 people indirectly, for a total of more than 5,000 employees.

Source: larednoticias.com, 2010

FOXCONN factory at the Santa Teresa/Jerónimo POE

In addition, FOXCONN has invested in two other factories in the State of Chihuahua: in the City of Juárez and in Chihuahua.

Source: PROMEXICO[70]

2.9.2 Livestock Crossings

Cattle producers in northern Mexico have a long history of exporting young feeder animals to the U.S. market. Relationships between cattle industry stakeholders in the U.S.-Mexico border region are thus strong and well established[71]. In 2005, exporting

procedures for cattle from Mexico to the United States changed in response to heightened animal health concerns. Although exported cattle were already subject to extensive inspection and controls, the changes in procedures resulted in the additional scrutiny of animals moving from Mexico to the United States.

Cattle generally enter the United States from Mexico through 10 POEs.[71] The cattle are destined for pasture, backgrounding, finishing, and slaughter. Almost half of the animals cross through the Santa Teresa/Jerónimo and Columbus/Palomas POEs in New Mexico and the Presidio/Ojinaga POE in Texas. Most of the cattle coming to the United States through these ports originate in the State of Chihuahua. Table 2.3 shows that between September 2012 and January 2013, approximately 77 percent of all livestock from Mexico crossed through the Santa Teresa/Jerónimo livestock facilities, and 19 percent crossed at the Presidio/Ojinaga bridge. Table 2.3 also shows that most of the livestock crossings are cattle crossings, with rodeo animals and horses representing less than 2.0 percent of the livestock crossings.

Table 2.3: Livestock Crossings at Chihuahua POEs (September 2012 to January 2013)

	Cattle	Rodeo	Horses	Total
Livestock originating in the State of Chihuahua	*130,062*	3,673	67	133,802
Presidio/Ojinaga	10,273	0	0	10,273
Columbus/Palomas	9,541	0	0	9,541
Santa Teresa/Jerónimo	110,248	3,673	67	113,988
Livestock originating in other States	*89,971*	*291*	*357*	*90,619*
Presidio/Ojinaga	31,449	0	0	31,449
Santa Teresa/Jerónimo	58,522	291	357	59,170
TOTAL	*220,033*	*3,964*	*424*	*224,421*

Source: State of Chihuahua[72]

2.10 Concluding Remarks

The planning of transportation infrastructure and POE projects is a binational, multi-step, multi-agency process that involves all levels of government in both the United States and Mexico. The Federal, State, regional, and local agencies on both sides of the border have different project evaluation processes in the preparation of POE and

transportation planning documents. These evaluation processes range from qualitative assessments to detailed quantitative studies (e.g., feasibility studies and cost-benefit analyses). Furthermore, planning horizons for POE and transportation infrastructure differ.

Collaboration and communication are thus critical to ensure coordinated project implementation. However, staff turnover, budget schedules, and bureaucratic processes have inhibited coordination in the development of POE facilities in the past. The development of border master plans represents an effort to ensure continued coordination and communication among all levels of government in developing a list of binational priorities for both POEs and the transportation infrastructure servings POEs.

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