RAIL IN THE PASS:

Past, Present, and Future

Impacts of Rail in the El Paso Region

El Paso Metropolitan Planning Organization

1.0 Executive Summary

The El Paso del Norte region is the largest metropolitan area along the U.S.-Mexico border. It rests at the intersection of three states and two countries and is now among the largest international commuter and commercial ports in the Western Hemisphere.

Our region serves as an air, truck, and rail hub for commercial traffic. In 2007, there were a staggering 23 million border crossings from pedestrians, commuters and commercial trucks. In order to remain a successful port, enhanced mobility in the region has become increasingly more important. A part of our future success with the mobility puzzle is commuter rail and mass transit.

As in our past, our future is powered by rail!

In its earliest years, El Paso del Norte was an international leader in commuter rail. In 1881, El Paso's street car service consisted of wooden trolleys driven by drivers and mules – the most famous being Mandy the Mule. In 1901, the El Paso Electric Railway Company began electric streetcar operations, running a city streetcar system that grew to 35 miles by 1907. The El Paso Electric Railway Company grew steadily, through World War I and the postwar era, and by 1925 took its name as the El Paso Electric Company.

The first buses to replace streetcars, on the Ysleta line, came in 1925. By 1943, National City Lines/El Paso City Lines-owned by General Motors and Standard Oil-purchased the Transportation Division of the El Paso Electric Co. and shut down the remaining lines, but decided to retain streetcars on the 3.2 mile international line across the border to Juarez.

At the same time a competing vision of transportation emerged on the American landscape. In 1956, the Interstate Highway System was authorized under President Dwight Eisenhower. Today, with gas prices skyrocketing, and with highway costs inflating 75 percent every five years, forty cities across America are re-thinking that model.

Rail has been one of the major drivers in El Paso's economic growth. Before rail, El Paso was a sleepy town of 736. After rail, in one month from May to June 1881, El Paso's population jumped from 761 to 1,500. By 1965, El Paso was America's third most sprawled city. In 1974, the last year our El Paso-Juarez international rail system was up and running, 11,000 people rode rail every day.

With gas at 25 cents per gallon, driving the drive-ins made more sense then than now. Today, gas costs are much more-and those costs are straining family budgets across the country. Only eight years ago at the start of George Bush's first term, gas was $1.40. By 2012, El Pasoans can expect $7 gallon gas-and increased costs for everything from food to concrete whose value is in part linked to transportation costs.

What's more, by 2015, due to massive increase in West Coast port capacity, El Paso will experience a rise from 45 trains per day to more than 130. With a $6 billion port expansion at Punta Colonet, Mexico and increases at Lazaro Cardenas and Long Beach, the West Coast and US-Mexico border is about to explode with trade by rail.

So what do we do?

Meeting the challenge of mobility in the Pass of the North is just as important as meeting the challenge of a new medical school or base realignment. New trade represents new opportunity-and new challenges. How we reduce congestion and pollution, increase trade and mobility will define us against ports all over the Americas.

In Dallas, communities are preparing to invest $5.6 billion into its Dallas Area Rapid Transit (DART) commuter rail system. In Austin, a 32-mile "MetroRail" track is under construction from Leander to downtown. In New Mexico, Governor Bill Richardson has made rail a priority and is working to create a statewide "RailRunner" system.

Today, the El Paso Metropolitan Planning Organization study area must lead with rail again. The City of El Paso should lead an initiative with the City of Juarez and the State of Chihuahua regarding the future use of the Ferromex BNSF line in central El Paso-Juarez; and the City of El Paso should commission a new report on industrial rail options to relocate or minimize congestion with the current alignment.

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2.0 Introduction

Transportation professionals in both countries (U.S. and Mexico) are facing the challenge of addressing the flow of people and goods across the border to be as smooth and efficient as possible. Estimates provided to the El Paso MPO by the Union Pacific in 2007 projected that their train throughput for east-west traffic will increase steadily through the year 2015. Based on current projections from US and Mexican port planned expansions, and UP investments in the U.S. and Mexico, Union Pacific processes 30 trains per day going to and coming from the east, and 47 trains going to and coming from the west per day. Train throughput is expected to increase by approximately 2% per year or up to 80 to 85 by 2016 going into and out of El Paso.[1] By some estimates trains into and out of El Paso will exceed 130 by 2035 and may reach up to 200 or more. [2]

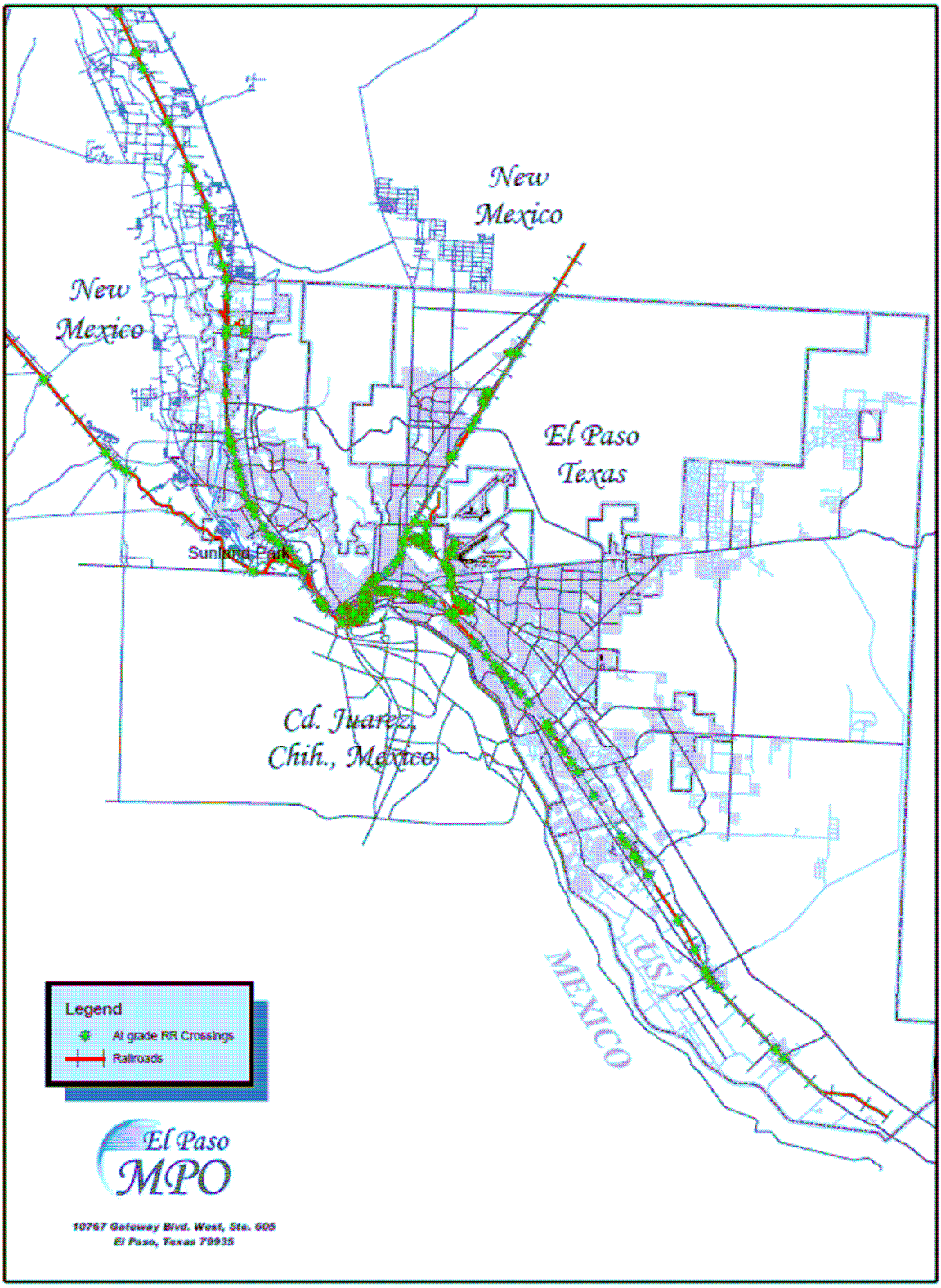
Such dramatic increase will have significant adverse consequences on at grade congestion, air pollution and potential hazardous materials incidents in the El Paso MPO study area, which is expected to have 3.6 million inhabitants by 2035.

The following report examines these challenges and concerns for commercial trucks and rail crossings. Current rail connections, crossings, rail traffic flow, environmental, regional west and international ports impacts are investigated. Finally, an overview of the recommendations and their plan for implementation are reviewed.

2.1 Current Rail Connections – Volumes by line

Please refer to Map 1 below for at grade rail crossings.

Map 1: At Grade Rail Crossings



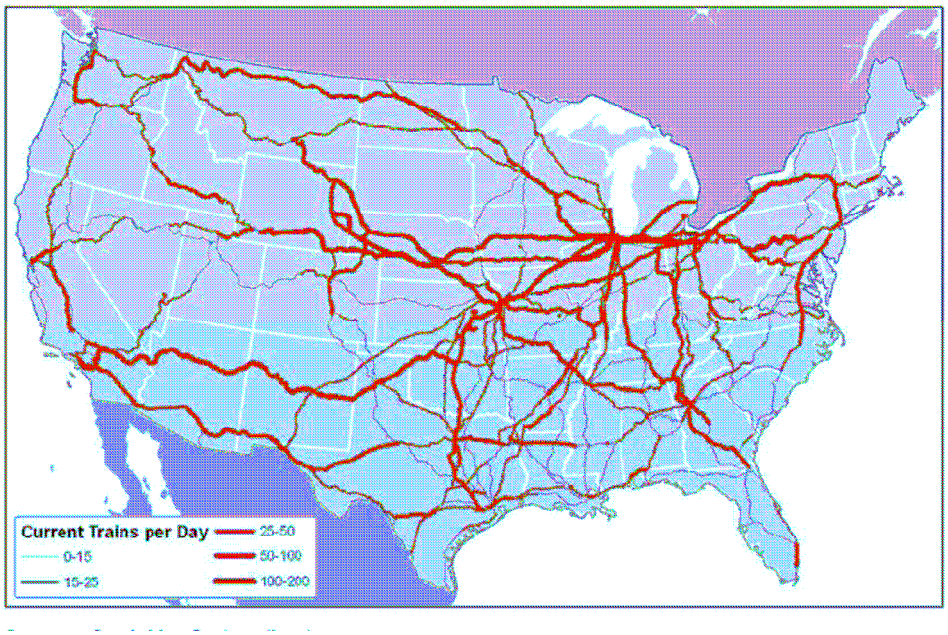
Source: El Paso Metropolitan Planning Organization

Map 1 shows the location of at grade railroad crossings within the El Paso MPO study area. From Map 1 most rail crossings are concentrated in the central area in the vicinity of Fort Bliss. Towards northwest New Mexico and along the eastern border with Mexico, the crossing concentrations are more spread out. The least amount of crossing concentrations can be seen going west and towards the northeast of El Paso.

2.2 Examination of Current Rail infrastructure within the Nation

Figure 1 shows the volumes by primary rail freight corridors for freight and passenger trains per day.[3]

Figure 1: Current Corridor Volumes by Primary Rail Freight Corridor 2005 Freight Trains and 2007 Passenger Trains per day



Source: Cambridge Systematics Inc.

For 2007 the trains per day within the El Paso area show 25-50 trains per day going east and west. The number of trains that run north and south show 15-25 trains per day. Union Pacific accounts for 19 trains that run north and south and 30-47 trains that run east and west[4]. For 2006, Ferromex accounts for approximately 8 trains that run north and south.[5] In 2007, Burlington Northern Santa Fe (BNSF) accounted for 6 trains on average per day that run north and south between El Paso and Belen, NM.[6]

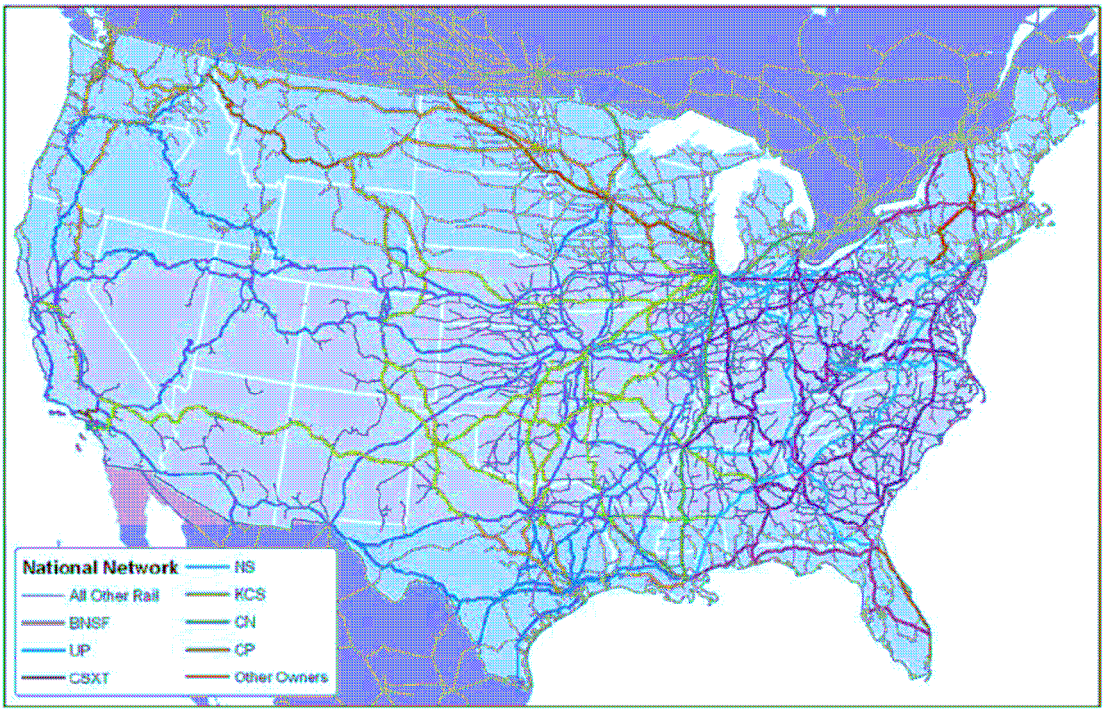
2.3 At Grade Crossings in El Paso

In terms of vehicular traffic congestion, there are approximately 68 rail crossings in an east-central-west direction. In terms of traffic corrective report investigations for fiscal year 2007-2008, the City of El Paso Traffic Department reported one rail related incident, uneven tracks, with regard to 4,883 traffic reports made by the public.[7] Most reports were related to road concerns such as signals, visibility obstructions, pavement markings, etc. With regard to highway-rail incidents, in 2007 the Federal Railroad Administration (FRA) Office of Safety analysis reported for El Paso County 3 incidents at public crossings and 1 highway rail incident injury. There were also 11 Hazmat cars damaged or derailed. The FRA reported no incidents for Doña Ana County and one incident for Otero County with regard to highway- rail incidents.[8] In a FRA study of blocked highway/rail grade crossings, Zaragoza and Doniphan roads were noted to have issues with the delay of emergency responders of which the El Paso MPO has addressed in the 2035 TransBorder Rail & Truck Project list in the appendix of this report. [9]

2.4 Directions of Current Rail Traffic

Figure 2 below shows that Union Pacific and Burlington Northern Santa Fe are the main rail freight carriers for the southwestern part of the U.S. from Los Angeles to El Paso.

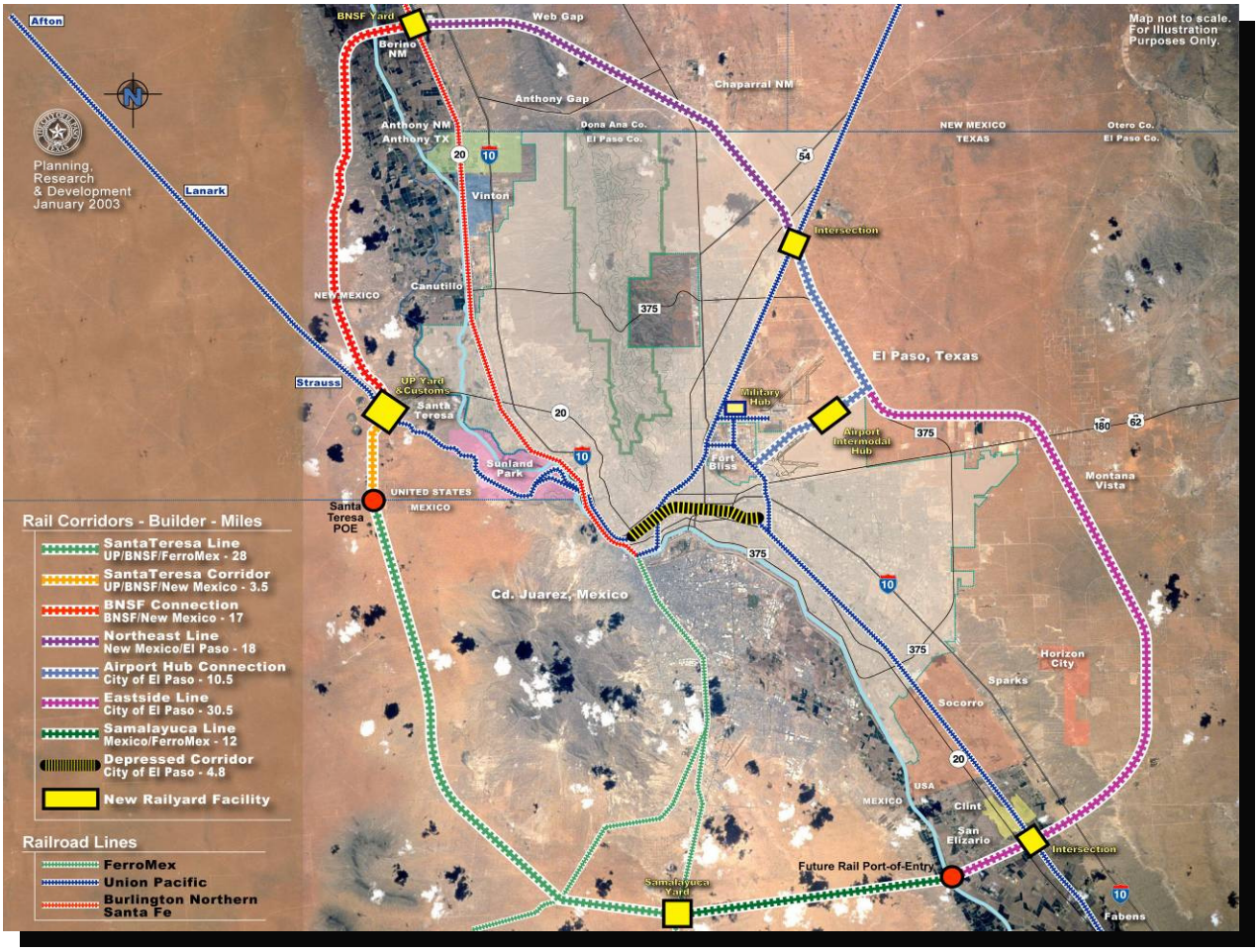
Figure 2: Current Directions of Rail Freight Corridor



Source: Cambridge Systematics

Figure 3 shows all existing railroad lines and proposed rail corridors for Union Pacific, Burlington Northern Santa Fe, and FerroMex rail lines.[10] On October 1, 2003, the Moffat and Nichol study proposed a rail loop on the perimeter of the El Paso MPO Study Area in an effort to facilitate the transportation of goods by rail.[11]

Figure 3: Proposed and Existing Rail lines in the El Paso MPO Study Area



Source: El Paso Regional Intermodal Rail Project, Moffat and Nichol Engineers, October 1, 2003

2.5 Expansion of Long Beach and West Coast US Ports

The growth in U.S.-China trade over the last two decades has impacted the U.S. transportation system by increasing traffic at air cargo hubs and seaports. The highway and rail infrastructure that supports the movement of cargo to and from these facilities has also been affected. In particular, growing air trade with China in

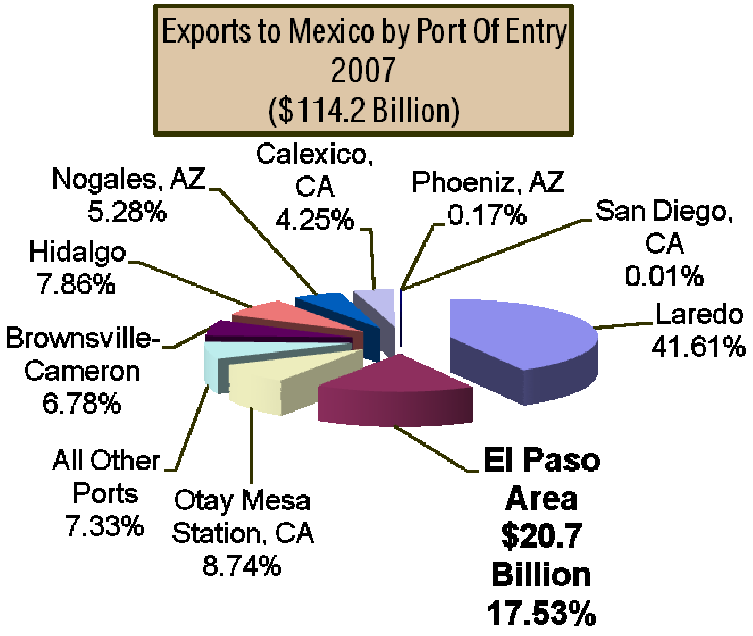
the Southwest and Great Lakes regions of the United States and the increase in water trade at west coast ports have put an even greater demand on the transportation infrastructure serving these areas.[12]

The addition of work shifts at busy sea ports, the use of variable highway tolls to manage freight traffic, shifting trade flows among entry and exit points, and changing domestic trade routes can be attributed to the marked increase in U.S.-China trade.[13]

In 2006, China became America's second largest trading partner (after Canada), up from 10th largest in 1989. The two countries traded goods valued at $343 billion in 2006, compared to just $18 billion in 1989. This compares with trade of $534 billion in 2006 between the United States and Canada, $332 billion in U.S trade with Mexico, and $208 billion in U.S. trade with Japan. The value of U.S. imports from China increased by 2,300 percent and U.S. exports to China increased by 851 percent. U.S.-China trade between 1989 and 2006 grew an average of 19 percent per year.[14]

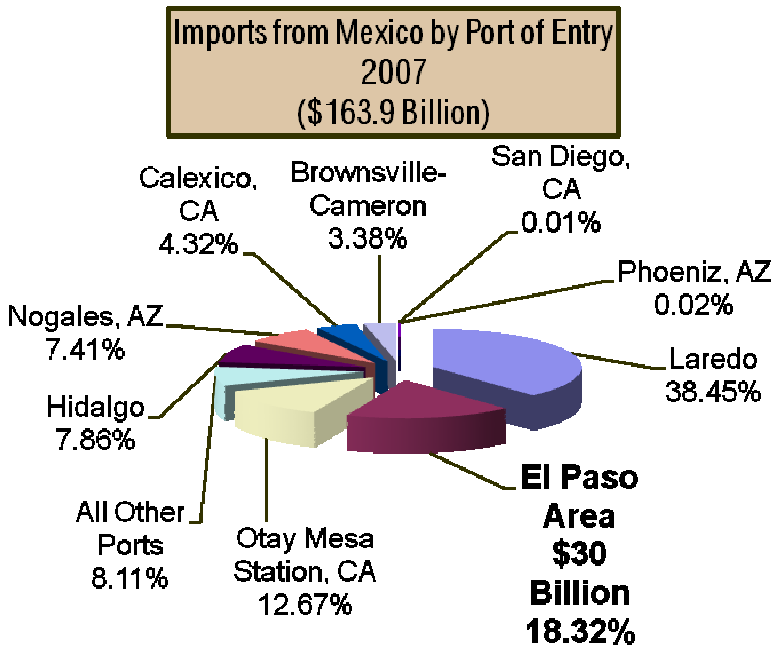
Of the $332 billion in trade last year between the United States and Mexico, more than 80 percent entered Texas' ports-of-entry by truck.[15] Mexico is our country's third-largest trading partner, and Texas' largest trading partner.[16] Texas' exports to Mexico exceed all trade with the European Union countries combined.[17] El Paso MPO area, with its five international bridges, is the second largest importer/exporter along the U.S.-Mexico border, after Laredo, Texas, accounting for nearly $47 billion in trade last year.[18] These imports and exports account for approximately 6 percent of the entire U.S. economy as seen in Figures 4 and 5 below.

Figure 4: Exports to Mexico by Port of Entry



Source: Texas Center for Border Economic and Enterprise Development, Border Trade Data

Figure 5: Imports to Mexico by Port of Entry



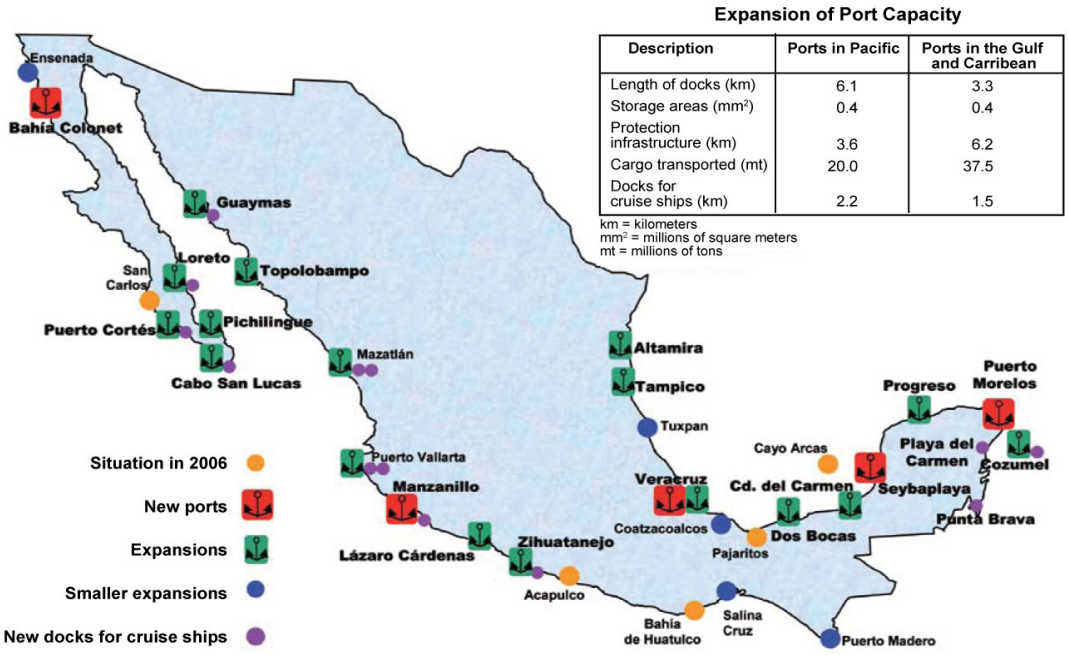
Source: Texas Center for Border Economic and Enterprise Development, Border Trade Data

2.6 Expansion of Mexican Ports

Emphasis is directed at Mexico's need to accelerate its economic development and infrastructure to stay abreast of the challenges the Far East market presents and its importance to have an efficient and effective infrastructure to remain competitive.[19]

Transportation infrastructure is essential to accelerate Mexico's economic development since it lowers transportation costs and travel time, increases domestic and international accessibility, sustains the integration of supply chains and generates employment. To meet demand, Mexican President Felipe Calderon in June 2007 announced that by 2012 many of the major north-south and east-west national highway corridors are to be connected. Approximately 50% of the national highway corridors are publicly funded and 50% are privately funded. Shown in Figure 6, Mexico is looking at an additional 5 new seaports and to greatly improve 22 existing seaports by 2012.[20] Herein below is a summary of rail, ports and highway projects included in the plan:

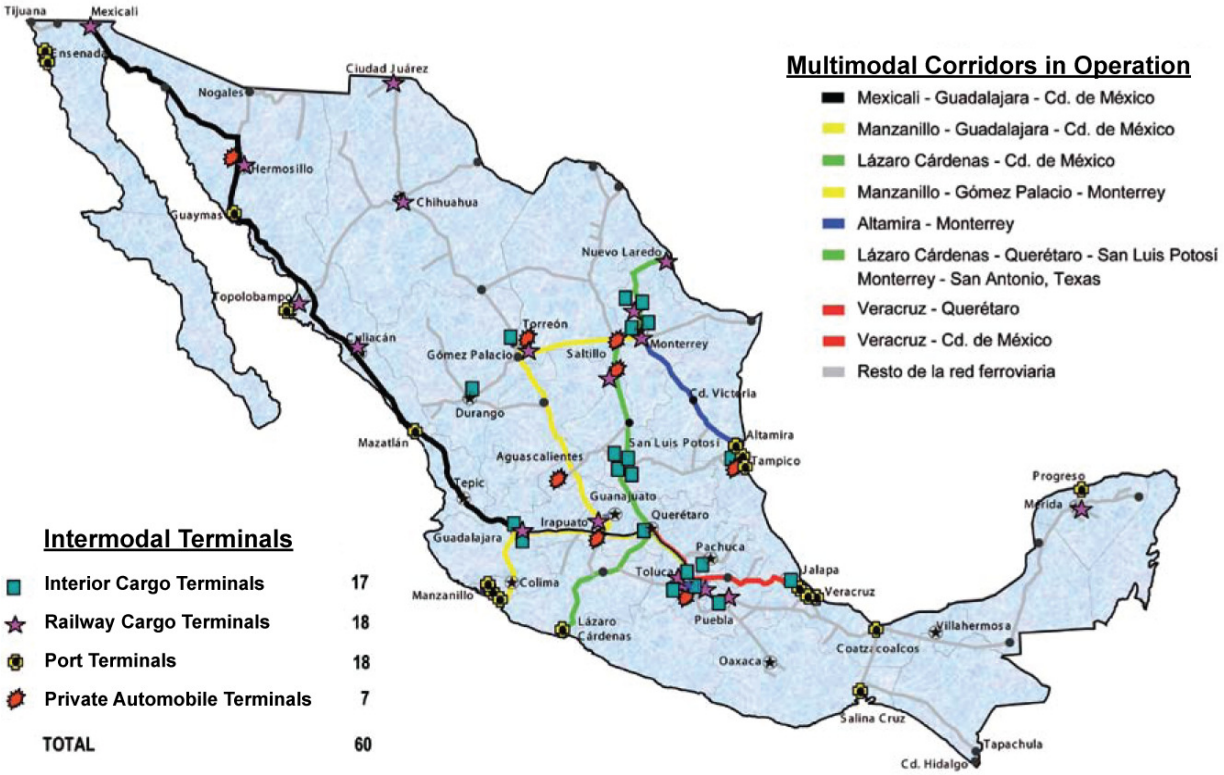
Figure 6 : Mexican Port Infrastructure 2012



Source: Center for Transportation Research

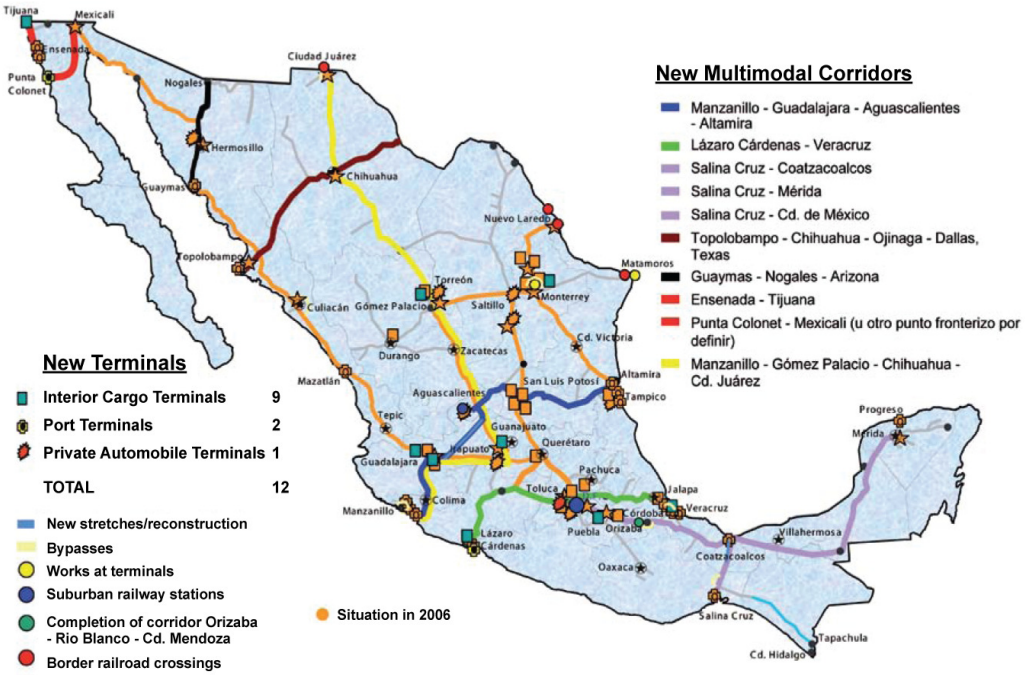
The Mexican seaport system is 17% publicly funded and 83% privately funded. Ferromex owns most of western and northern Mexico railway infrastructure. Figure 7 shows the existing conditions since 2006. Figure 8 shows nine additional freight terminals, two port terminals and one private terminal should be constructed by 2012. Approximately 50% of the national railway corridors are publicly funded and 50% are privately funded. All national transportation projects undergo a master plan study where forecasts are generated, inventories are assessed, recommendations are made to specific corridors, and a prioritized list of recommendations is developed through performance measures, prioritization criteria, and alternative analysis.[21]

Figure 7 : Railway and Multimodal Infrastructure 2006



Source: Center for Transportation Research

Figure 8: Railway and Multimodal Infrastructure 2012



Source: Center for Transportation Research

The demand forecast shows that the Pacific ports of Manzanillo and Lazaro Cardenas will grow rapidly. By 2020, Manzanillo and Veracruz will import 21 million metric tons (MT) each and seaborne imports of multimodal cargo will exceed 69 million MT. Although more import cargo is shipped to the northwest and Yucatan areas, the major growth of cargo flow will be from Manzanillo and Lazaro Cardenas to the central valley of Mexico.[22]

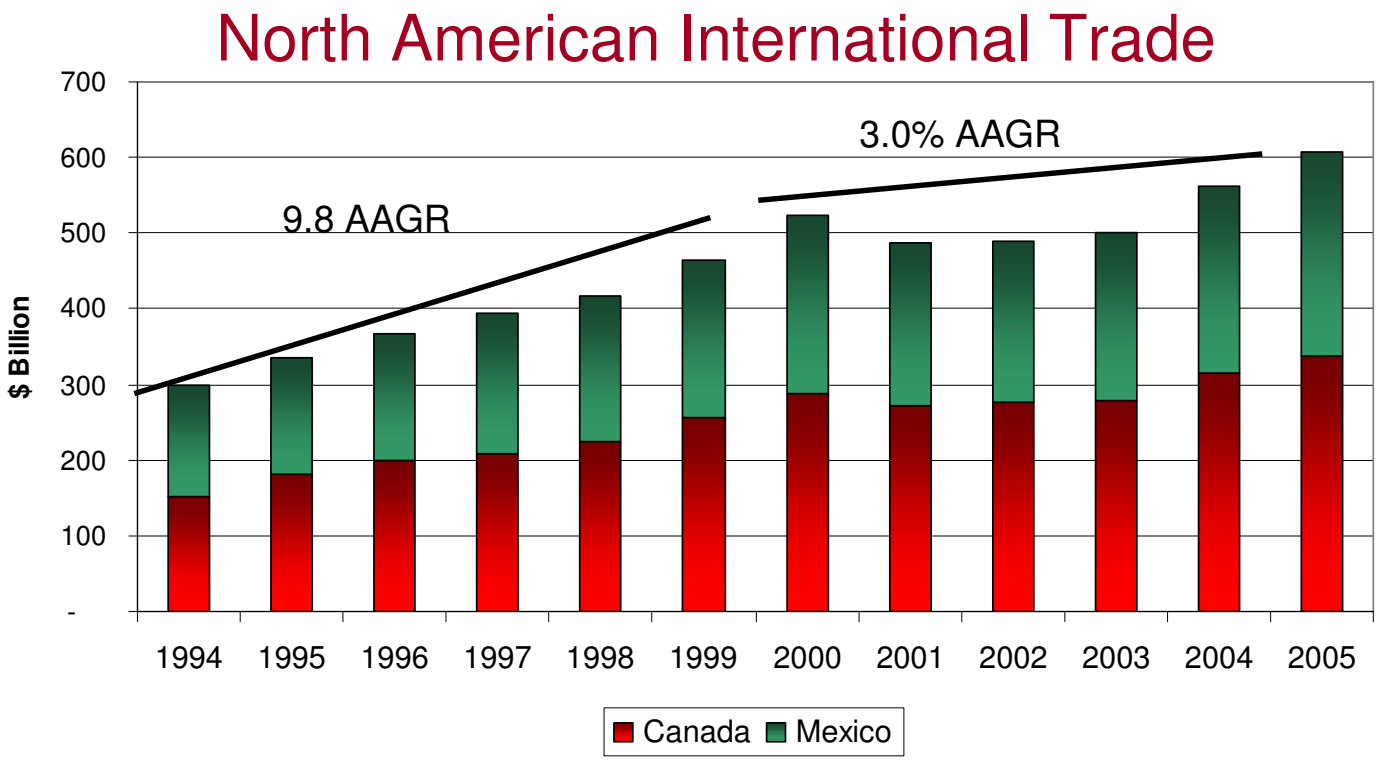
The construction of the Baja California Punta Colonet port is being considered in an effort to relieve congestion on west coast ports. It is to be located at an approximate distance of 219 miles south from the U.S. border. The area where Mexican rail infrastructure is projected to link with U.S. railroads and highways is in the region of Baja California in the border city of Mexicali, California, and San Luis Rio Colorado, at the U.S. border with Mexico in Arizona. The linear distance between the port and the U.S. junction to rail and highways is approximately200 miles.[23]

The projected link is likely to occur east of Mexicali to the Union Pacific line from San Diego to El Paso. [24] The Secretary of Communications and Transport (Secretaria de Comunicaciones y Transportes, SCT) of Mexico is examining the exact locations.[25]

By 2012, if port construction at Punta Colonet is approved, it would have the capacity to move in its first year of operation 1 million twenty foot equivalent units (TEUs) and in its fifth year, have the capacity to process more than 6 million containers annually.[26] This is three times greater than what the Port of Houston currently processes.

If the new port is built, the Mexican government expects the capacity to be approximately half of the Port of Los Angeles 5 million TEUs per year. The Mexican government is expecting a conservative 50% increase in flow of cargo containers.[27]

Figure 9 shows the average annual growth rate for North American trade in terms of billions of U.S. dollars. Due to the North American Free Trade Agreement, from 1994 to 2000 the average annual growth rate was 9.8%. However after 2000, the average annual growth rate since then is 3%. Since the economic growth is directly proportional to transportation infrastructure and demand, it is estimated that rail and truck traffic between U.S. and Mexico will increase to almost 50% by 2025.[28]



Source: Bureau of Transportation Statistics, Analysis by Texas Transportation Institute

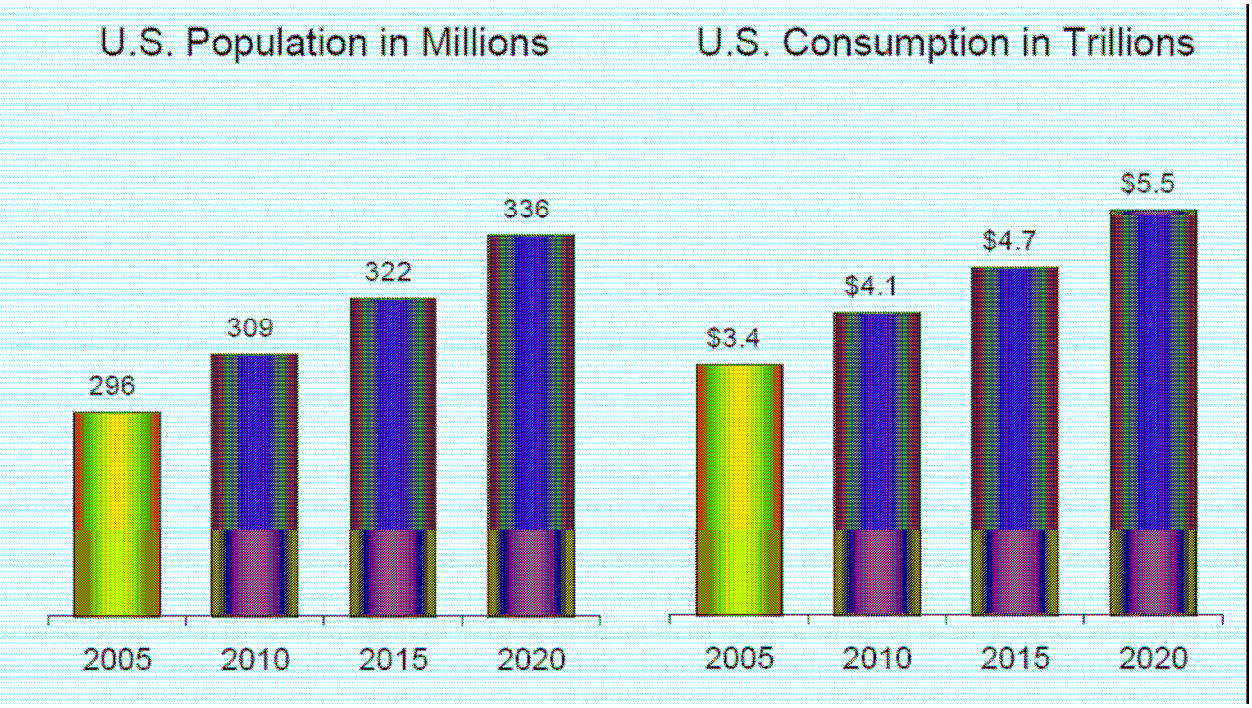
If the containers were to be moved by trucks, the Northeast Parkway would be the main truck route in the El Paso MPO Study Area. By 2025, the Northeast Parkway traffic will use approximately 20% of the facility's capacity for truck commercial traffic. However, if the Punta Colonet containers were to be moved by truck, the Northeast Parkway traffic can expect 30% of its capacity to be utilized by trucks.

Punta Colonet rail infrastructure to the Mexicali area and seaport expects to be privately funded with a total cost of close to $3 billion.[29]

2.7 Freight Impact on U.S. and Rail Impacts on the World

By 2020, the total U.S. population is expected to increase by 14%, however U.S. consumption is expected to increase by 62% as show by Figure 10.[30]

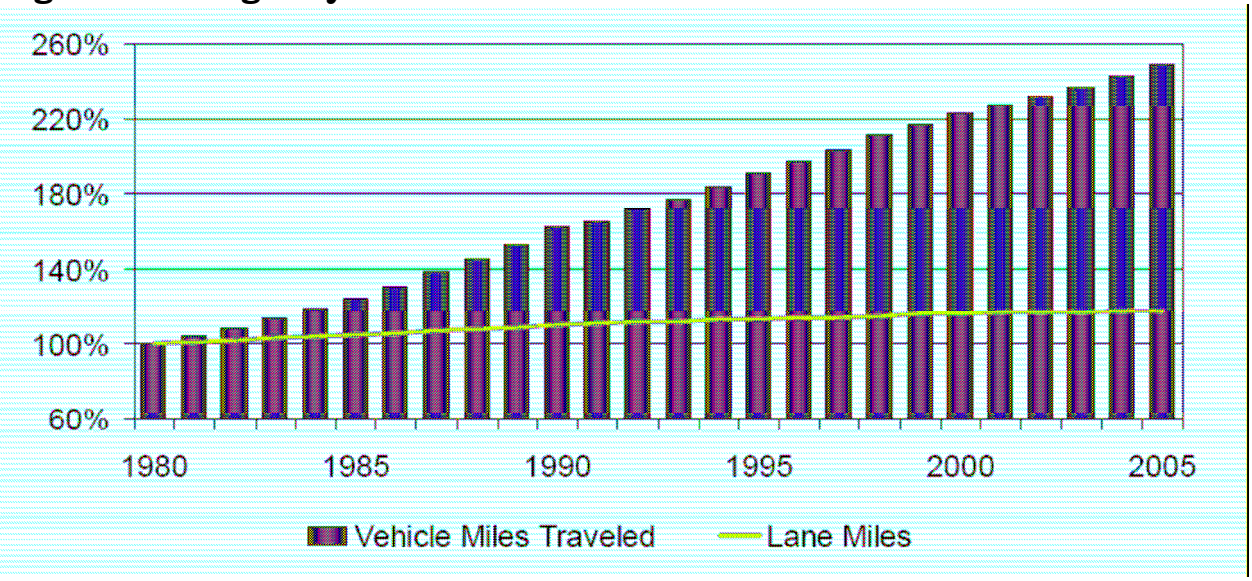
Figure 10: Comparisons between U.S. Population and Consumption 2005-2020



Source: Global Insight

The demand for highways is increasing faster than the amount infrastructure that can be supplied. Using 1980 figures as the unit measure, it is shown in Figure 11 that the amount of vehicle miles traveled have gone up close to 260%, however, the number of lane miles have only increased by approximately 120%.[31] In the 1950's the nation's highways were designed at a time where there were 65 million vehicles on roads. More than anticipated, there are presently 246 million vehicles, and by 2055 it is estimated to reach 400 million. [32]

Figure 11: Highway Infrastructure Versus Miles Traveled Indexed: 1980=100%



Source: Department of Transportation, National Transportation Statistics

There is also a major funding gap between rail and highway capital needs. Figure 12 shows freight rail capital needs by 2035 are estimated at $135 billion where $100 billion is to be provided in private funds. Passenger rail capital needs by 2035 are estimated at $198 billion. The highways capital needs are estimated at $5 trillion by 2035.[33]

Figure 12: Investment Required by 2035

Source: Rail-2007 AAR/ Cambridge Study; Highway – 2007 DOT Surface Transportation Study

Rail companies have been examining freight movements to address the funding gap between rail and highways by studying the effects of increasing rail to relieve highway

congestion. One train can carry the load of more than 280 trucks. Rail is 3 to 5 times more efficient than trucks, moving a ton of freight 423 miles on a single gallon of fuel.[34] On that basis a shift of 10 percent of long-haul freight from truck to train could reduce annual greenhouse gas emissions by more than 12 million tons, provide safety benefits, as well as reduce highway maintenance expenses.[35]

Although rail has a potential of moving more freight than highways, it is limited by length of haul- distance, type of commodity, weight, size and perishability.[36] Trucks are also known for their greater ability to transport lower weight, higher value, time-sensitive cargo over shorter distances than rail.[37]

The movement of goods plays a major economic factor even in a slowing economy with rising energy costs. Trucks and railroads combined bring approximately $700 billion a year in revenue, and this figure continues to grow with an increasing amount of world trade.[38] It is to no surprise that long-standing investors like Warren Buffet have bought stocks such as Burlington Northern.[39] Transportation and railroad companies benefit in that there is limited competition and high obstacles to engage in this industry due to the unfeasibility of readily building new railroads and re-creating global shipping networks.[40] Even as train volumes have reduced, the major U.S. railroads have outdone Wall Streets profit projections in fourth quarter of last year.[41] The demand for commodities such as grain and coal are rising for train cars and help to compensate for the decline in autos and home construction.[42]

2.8 Freight Impact in El Paso MPO Study Area

The higher cost of energy is having a multitude of impacts on both freight and passenger transportation in Texas, New Mexico and Mexico. Traditionally, freight operators are the first to respond when energy costs increase, given that their profit margins are tied to fuel costs. When energy costs first started to increase in 2003, the freight sector began initiating immediate strategies to increase energy efficiency. Truck fuel economy drops significantly at speeds higher than 55 MPH.[43] One of the principal beneficiaries of this shift were rail companies who have posted record profits in recent years as shippers search for more energy efficient alternatives. For this reason, major Texas and New Mexico shippers such as HEB instructed their drivers to reduce their speeds when on the highway.[44] Shippers searching for even greater gains in fuel efficiency are choosing to use rail where possible. According to Money Magazine, "The Environmental Protection Agency (EPA) calculates that for distances of more than 1,000 miles, using trains rather than trucks alone reduces fuel consumption and greenhouse gas emissions by 65%."[45] After struggling to cover their cost of capital for much of the 1990s, Class I railroads have posted record profits in recent years. The Burlington Northern Santa Fe, for example, has seen its stock price more than double since 2005.[46] Some specific trends that have contributed to the railroads success have been:[47]

1. The integration of technology such as onboard electronics and software that calculate optimum train arrangement and speed to conserve fuel;

2. Globalization and growth that have created more business; and

3. Railroads being more energy efficient than their competitors.

According to Barron's, the Dow Jones business and financial weekly, rail congestion is becoming critical.[48] Barron's states, "If significant new track isn't laid, Burlington Northern CEO Matthew Rose predicts a possible, "rail meltdown" and "rail traffic gridlock."[49] The rail lines are doing everything they can to expand their capacity, yet given the fact that they are privately owned companies and have historically had low profit margins, their access to capital is still comparatively limited when compared to that of the Federal government.

For instance, in 2007, Union Pacific was able to invest $550 million into new capacity on its entire network.[50] Therefore, expansions of rail capacity and corridors may not respond to new demand very quickly. Some of the rail corridors that have experienced the most growth are those that run through Texas and New Mexico, specifically Union Pacific that enters the state of Texas at El Paso and the Burlington Northern Santa Fe which enters the state at the panhandle. The Union Pacific's Sunset Corridor grew from 32 trains per day between Los Angeles and Dallas in 1998 to 50 in 2007.[51] North-south shipments of single tracked rail go through the surrounding city and have significant impacts on traffic and safety on both sides of the border. In addition, it has been theorized that the increase in energy costs will lead to a greater number of trains moving north-south through El Paso. According to Joel Rodriguez, head of Mexico operations at the Burlington Northern Santa Fe, a sharp increase in north-south traffic coming from Mexico to El Paso or vice versa is unlikely given the current constraints in infrastructure and the lack of rail manufacturing centers to the south of Juarez that would have ready rail access. [52]

Setting aside traffic congestion impacts, increased freight rail may also have air quality implications. In Los Angeles, the Southern California Association of Governments (SCAG) is already addressing the projected air quality impacts from future freight rail operations by proposing engine upgrades for locomotives and/or electrification.[53] When compared with trucks, freight trains produce a significantly less amount of pollutants per ton than trucks.[54] However, in absolute terms more trains may produce more pollution as the rest of the country continues to rely on the El Paso gateway in order to move consumer goods efficiently to and from the West Coast of the United States to the Midwest. Many of these goods are, and will continue to be, of East Asian origin.

A comprehensive study by Cambridge Systematics for the American Association of Railroads demonstrated that in the next two decades, a substantial percentage of the freight rail network in the United States will become severely capacity-constrained

unless substantial resources, a percentage of which would come from public-private partnerships, are invested into the system.[55] It was estimated that a modest amount of public funding per annum could significantly reduce the severity of bottlenecks in the freight rail system through 2035.[56] It should be noted that the study envisions freight rail playing its traditional role in handling certain key bulk commodity categories as well as a percentage of the transnational intermodal traffic. An expansion of the role of the freight rail system, so that it could transport time sensitive cargoes over shorter distances and compete more directly with trucking across markets, would likely require far more significant investment, most of which would have to come from the public sector. [57]

Trucking companies in Texas and New Mexico are also making strides at improving their total fleet fuel efficiency. Firms are instructing their drivers to reduce their speed in order to minimize drag as well as limiting idling through the installation of alternative power units (APUs). These devices help to improve the environmental performance of trucks as well as their energy efficiency.[58] Another strategy being used by truckers is to increase the average weight of shipments to reduce the number of necessary loads. In the longer term, some trucking companies may adopt hybrid engine designs to further improve their fuel efficiency.[59]

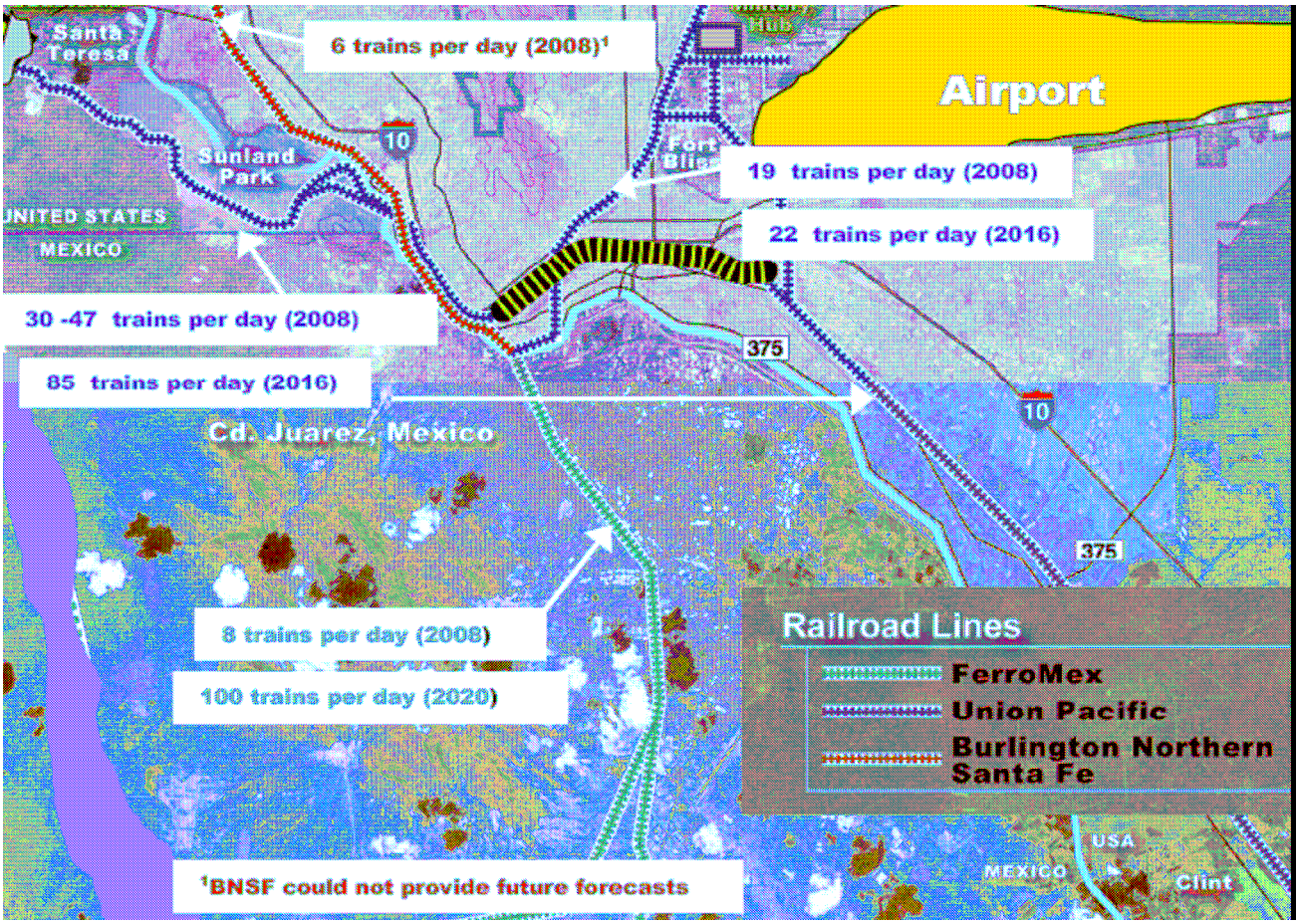
Freight flows to, from, within, and through New Mexico totaled approximately 240.1 million tons in 2002. By 2035, these movements will more than double, growing to 525.3 million tons. This increase represents an overall annual growth rate of approximately 3.6 percent, which is generally in line with national and statewide economic growth. The value of freight shipments to, from, within, and through the state totaled approximately $253.6 billion in 2002. By 2035, the total value is expected to rise to approximately $1 trillion, representing 2.7 percent of the total U.S. freight bill.[60] New Mexico's Gross State Product (GSP) was almost $70 billion in 2005, which accounted for about 0.6 percent of the national GDP. All industries such as retail trade, construction, transportation and public utilities, wholesale trade, agriculture (dairy production), and mining (oil and gas extraction) are expected to grow more than 20 percent by 2030. [61] Transcontinental freight rail services in New Mexico is provided by two Class I freight railroads: the Union Pacific and Burlington Northern Santa Fe. Though in 2005 most of the network operated below capacity (LOS A, B, or C), by 2035 most segments of the rail network are expected to reach, or exceed, operational capacity (LOS D or F).[62]

In the northern section of the City of Juarez from the border to approximately one mile south Paso Del Norte Port of entry, there are not only serious vehicular congestion but conflicts with the railway industries that restrict growth and hinder international railway trade. In order to avoid these conflicts, the City of Juarez, the State of Chihuahua, and the State of New Mexico will build approximately 5 miles west of the Santa Teresa Port of Entry an international railway port. In the City of Juarez, Chihuahua approximately 18 miles of new track will be constructed for Ferromex from Samalayuca to Jerónimo. Approximately 10.5 miles of track will be

shared by both Union Pacific Rail Road and Burlington Northern Santa Fe. Approximately 15.5 miles of track from Vado, New Mexico to the Union Pacific Railyard at Strauss, New Mexico would need to be constructed for the BNSF line. This project is awaiting a presidential permit.[63]

Presently, the El Paso MPO study area and Cd. Juarez transports 102 trains per day going north, south, east and west, and in the future we can expect up to 200 trains or more per day. This is shown in Figure 13.

Figure 13: Current and Future Train Movement in the El Paso-Ciudad Juarez MPO Region



Source: Union Pacific, El Paso MPO, Instituto Municipal de Investigacion y Pleaneacion

Union Pacific is planning for a 2% train growth per year or a high-end figure of 80-85 trains per day in the El Paso area by 2016.[64]

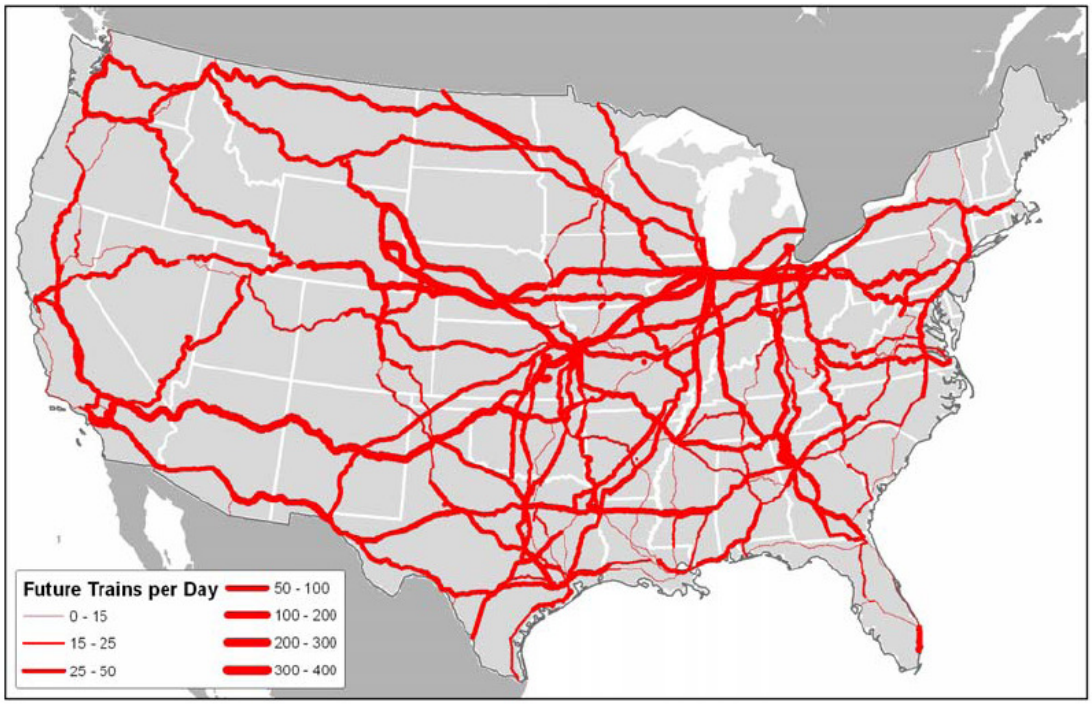
Based on 2006 Juarez-El Paso Border Crossing yearly data trends, it is anticipated that by year 2020 the number of trains crossing in El Paso-Cd. Juarez by Ferromex could increase to approximately more than 100 trains per day.[65]

Although there are no BNSF forecasts with regard to train volumes, BNSF was able to increase their profits in 2008 to 13%.[66] In addition, BNSF earnings have been projected to grow more than 14% annually over the next five years.[67] BNSF invests heavily into their systems.[68] If approximately 10% of those earnings are invested into BNSF systems and compounded annually in the El Paso MPO study area, El Paso BNSF's capacity for railroad infrastructure could double in 7-10 years from 2008. BNSF has also noted that train volumes in El Paso have been down in 2008 due to congestion/capacity constraints within Cd. Juarez. This has caused some shippers to re-route their cargo to less congested border crossing gateways such as Eagle Pass.[69]

In June 2008, *Eye for transport* launched a survey asking 892 respondents to communicate how increasing fuel prices are affecting their businesses and how they are actually trying to address these challenges. The respondents of the survey were senior level executives in America's top logistics providers (3PLs), carriers and shippers (manufacturers & retailers). More than half of the respondents said that inventory costs are considering placing inventory closer to the final destination. Increasing fuel costs are forcing companies to store more inventory on hand, but not all companies are prepared for that strategy. Forty percent of respondents mentioned they are using more fuel efficient modes such as rail and water which allows them to ship larger loads and reduce congestion. Short sea shipping and moving freight along coasts and inland waterways is proving to be a very strong alternative for the logistics industry. More than one-third of respondents have developed more flexible manufacturing strategies to ease the impact of higher fuel costs. Near shoring is being utilized to reduce inventory, optimize inventory and evade congestion. The next low-cost countries that are close in distance are being examined to distinguish which of those countries will allow companies to boost profits by avoiding the fuel price dilemma. [70]

Figure 14 shows future volumes by primary rail freight corridor for freight and passenger trains per day.[71]

Figure 14: Future Corridor Volumes by Primary Rail Freight Corridor 2035 Freight Trains

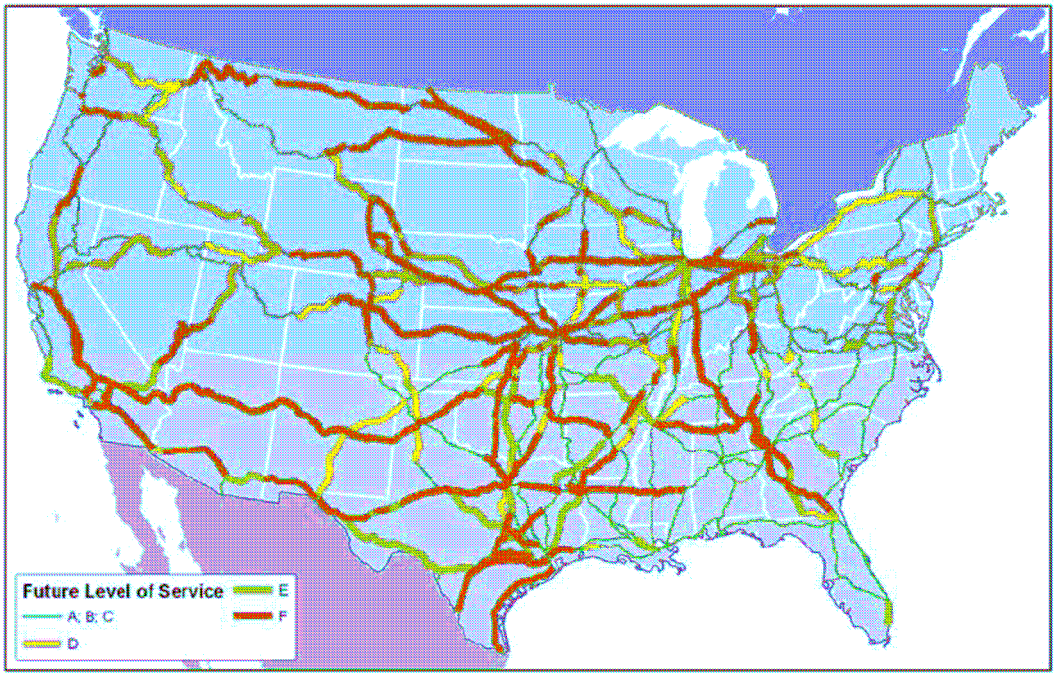


Source: Cambridge Systematics Inc.

By 2035, the trains per day within the El Paso MPO study area show 100-200 trains per day going east and west.

In terms of level of service, Figure 15 shows the El Paso MPO study area as a level of service F in year 2035 for the east and west corridor if no improvements are done by year 2035 going east and west.

Figure 15: Future Corridor Volumes Compared to Current Corridor Capacity 2035 without improvements

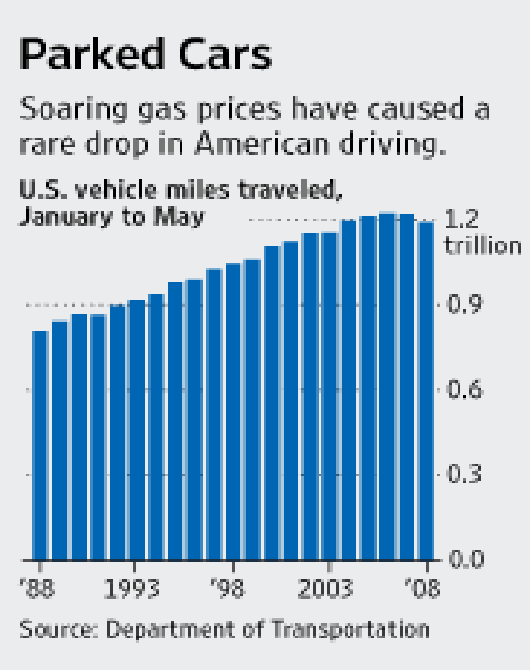


Source: Cambridge Systematics Inc

2.9 Passenger Vehicles and Transit

Higher energy costs have also begun to impact the patterns of activity for light vehicles. On the passenger side, patterns of activity do not change as quickly as is the case for freight. Until this year, vehicle miles traveled continued to increase at a rate that was lower than the rate of increase in the 1990s, but still in a positive direction as shown in Figure 16.[72]

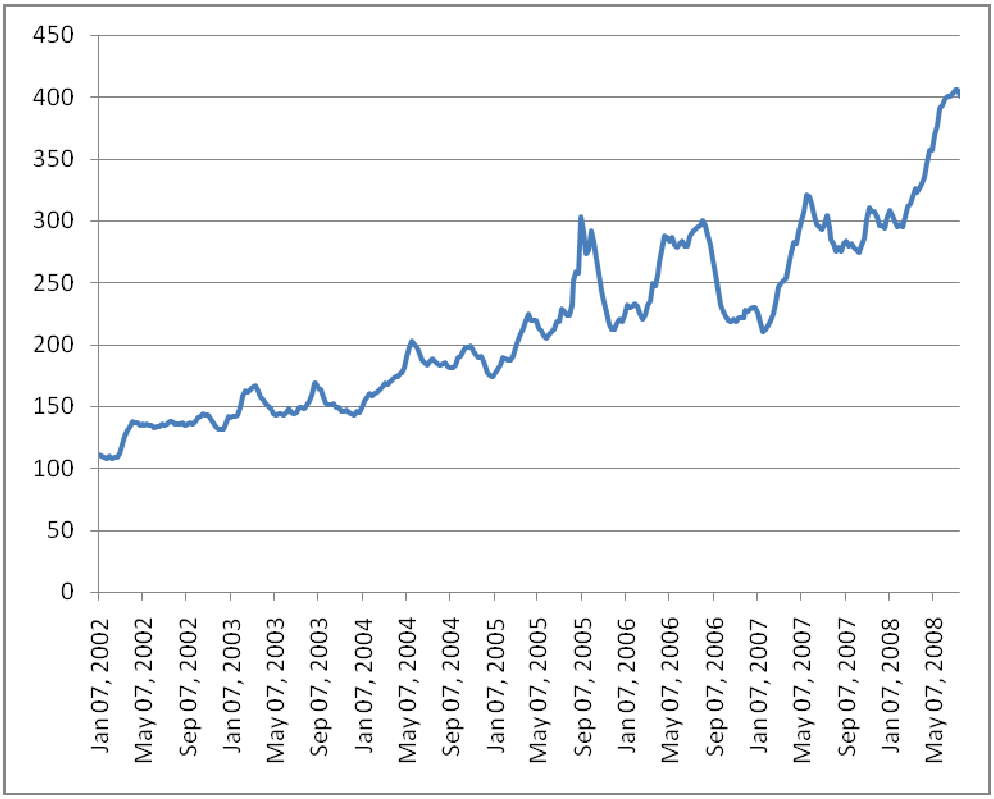
Figure 16: Vehicle Miles Traveled 1988-2008



Source: Wall Street Journal "Funds for Highways Plummet As Drivers Cut Gasoline Use", Christopher Conkey, July 28, 2008

Figure 17 shows the continuing rise of weekly standard grade gasoline since 2002. When the average cost of a gallon of gasoline first rose to over $2 a gallon in 2005 and was not accompanied by a reduction in vehicle use, it was speculated in the United States that no amount of economic incentive could lead to a sustained decrease in demand for driving. Recent evidence shows that a price level of between $3 and $4 a gallon is a threshold above which a significant share of consumers begins to cut back on gasoline consumption. The important variables are not only the spot price of fuel but also the perceived permanence of the change.[73]

Figure 17: Weekly Standard Grade Gasoline Prices 2002-2008



Source: Department of Energy

Around the world, high-speed rail service is being expanded in France, whereas in Spain and Italy it is being created from inception. [74] Germany is planning to sell 25% of its government-owned railway operations in a public offering, which is expected to raise close to $7.8 billion of which two-thirds of the earnings will go into projects such as track expansion. [75] More than 5,000 miles of railway track will be added to Russia by 2015.[76] Beijing, China will spend $160 billion over the next 3 years on its railroads which calls for 10,000 miles of new track to be constructed by 2010 where half will be incorporated into high speed passenger trains.[77]

3.0 What are the Alternatives?

Some alternatives being considered are ideas that have worked in the past. According to the Community Streetcar Coalition, it is estimated that there are 40 cities that are examining the re-introduction of the streetcar to stimulate economic development and attract various professionals, retirees and empty nest baby boomers. [78] Another consideration that has been examined is the introduction of the

electric trolleybus that is powered by electric cables and runs on pneumatic tires. Due to zero emissions that are produced within the city and much less expensive operations and maintenance compared to internal combustion engine busses, they have been considered in California. [79]

In February 1995, the City of El Paso performed a second phase street car revitalization study in which after 39 potential routes with six various types of streetcars. The first phase recommended a 0.64 mile double track streetcar line between San Jacinto Plaza and the U.S. Port of Entry along Oregon, and suggested future expansion to the north and east of downtown El Paso and into downtown Cd. Juarez.

The second phase examined the routing configurations, operational, and design aspects as well as operating costs. At the time, the potential ridership was estimated at 6,500 riders. This is more than sufficient to justify its construction and operation. The costs of all alternatives ranged between $15 million to $18 million in 1995.[80]

Given that most public transportation systems in the United States are relatively underdeveloped, momentary changes in the price of energy do not always lead to a sudden shift to greater utilization of public transportation. For many Americans, public transportation has not been an option due to slow speeds, lack of frequency or unreliability.[81] Once a family decides to try to use public transportation, it can take a large time to plan the logistics. When an auto-dependent family wants to switch to public transportation, several potential questions can be contemplated. Some are: what is the change in travel time from each mode (car, bus, train)? Origin-destination issues such as who will pick up the kids from day care? Scheduling issues such as will I get fired if I miss the bus or what if I have to work late? Is it safe? As fuel prices have surged in 2006 and 2007, these questions are being considered. In 2008, as shown in Figure 17, a transition point may have been reached due to families who have considered these alternatives for years and are prepared to put those plans into action. In addition, the rise of the cost of fuel accelerated the timetable. As Mary Peters, Secretary of Transportation for the U.S. DOT recently noted, “We've passed that tipping point.”[82]

The 2008 decrease in the total vehicle miles traveled (VMT) logged on the nation’s roadways is the first occurrence in decades. Some of this missing VMT can be attributed to optional travel that was abandoned due to high energy fuel costs and carpooling.[83] Yet, a significant percentage of the VMT decrease was shifted to transit. All around the United States in 2008, transit use has been increasing.[84] Although not dramatic, this increase has been consistent and has occurred in all areas of the country. It has also occurred in areas in the country that do not typically use transit on a regular basis.

Evidence from most Texas cities reveals an increase in transit use in 2008, and not only in the largest cities. In Laredo, for example, transit use through the summer of

2008 was up 7% when compared to the same period in 2007.[85] San Antonio's VIA system has seen ridership up 9.8% over 2007.[86] Express routes in Austin have seen a ridership surge of 55% compared to the same period in 2007.[87] John Hendrickson, president of Waco Transit, stated that "ridership is increasing dramatically" and that Waco transit estimates a double-digit increase in ridership for 2008.[88] Mr. Hendrickson stated that he has heard of similar trends occurring in both small and large urban areas. The City of Waco has received several inquiries from local manufacturing businesses who are interested in financially assisting the transit agency in exchange for specialized service to serve their location so that their employees can afford to show up for work.[89]

Given consistent growth in transit usage, several transit operators around the state are under pressure.[90] Transit agencies are some of the highest users of petroleum-based fuels. Across the country, for every penny that fuel increases transit providers incur an additional cost of $7.6 million.[91] Furthermore, transit operators do not recover all of their costs through fares. For every rider, one-half to two-thirds of the cost of providing the service comes from other sources. Therefore, as ridership of transit increases so does the requirement for a transit subsidy. The increased cost of fuel is also leading transit operators to reevaluate their routes given the cost of operating empty or half empty buses at $4.00 per gallon diesel. As costs increase, certain entities such as Laredo are changing their routes in order to improve the efficiency of their operations and enhance average vehicle occupancy. The increase in fuel impacts both small and large transit operators. The City of Waco, for example, has experienced its fuel costs double in 2008. As a countermeasure, the city has also replaced a significant share of its fleet with more modern buses that have significantly improved fuel economy. Mr. Hendrickson stated that the average for the whole fleet serving the city of Waco was 3.2 MPG, while the new busses have fuel economy of 4.5 MPG. This is due to the use of lighter materials in the buses and improved engine technology.[92]

Texas cities are seriously examining electrified forms of transit that mitigate the impact of diesel fluctuations on total transit cost. A recent survey by the American public transit association showed that in 2008 the cost of diesel for transit operators rose by 43% compared to the previous year. However, for those transit operators of electrified systems, their energy costs rose 1.2%.[93] Another option New Mexico and Texas cities are examining is the use of natural gas powered vehicles for transit service. Natural gas was originally introduced as a fuel for transit fleets due to its air quality benefits. Apart from air quality benefits, the relative stability of the price of natural gas when compared to diesel is increasing its attractiveness as a transportation fuel, particularly given the fixed budgets of transit agencies.

However in New Mexico and Texas, transit may not be a viable option. Many areas of the state in which a high proportion of the population is of lower income need affordable transportation, do not currently have access to adequate transit services.[94] An issue that arises for populations that switch from the personal automobile to

transit is that populations often live far from the city centers or in rural regions of the area. Increasing the quality of transit service and a percentage of the population with access to quality transit is being examined as an alternative for New Mexico and Texas. One region of the state that has been particularly impacted by the rising fuel costs has been the border region and South Texas. Cities such as McAllen and El Paso are examining the possibility of light rail and commuter rail, options which could greatly increase the access of transit services into suburban and rural areas.[95] In addition, the El Paso City Council recently endorsed a comprehensive mobility plan that includes a bus rapid transit element.[96]

In this area, states such as New Mexico with areas of large population densities and lower incomes have recently established an intercity commuter rail system that has served as an example for Texas.[97] The Multi-Regional Transit and Commuter Committee established by members of Las Cruces and El Paso MPO, Cities of El Paso, Las Cruces, Sunland Park, New Mexico Department of Transportation as well Cd. Juarez, Chihuahua, Mexico have been examining routes and infrastructure to provide transportation to mobilize populations in remote areas within the region.

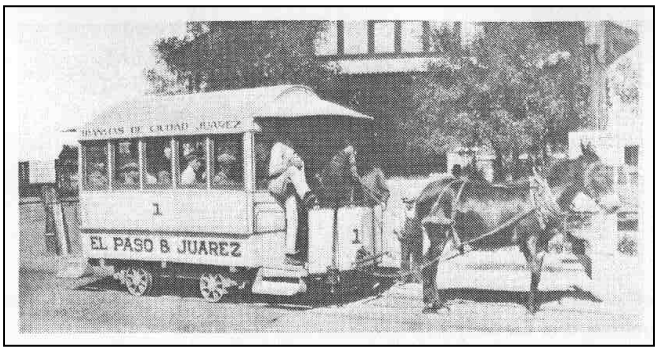
Nationwide, the possibility that transit may be underfunded could arise from transfers from the federal government given revenues from gasoline taxes are decreasing and the administration has proposed using federal transit funds to patch the gap. On July 29, the New York Times reported that Secretary Mary Peters is recommending for the Federal Department of Transportation to borrow funds from the highway trust fund mass transit count in order to finance roadway improvements. This diversion is required, according to Secretary Peters, in order to fill the gap resulting from a reduction in vehicle miles traveled in 2008.[98] This idea is being considered at a time when funding for transit is needed due to the surge in usage. The administration's plan to take money from the mass transit account to place in the highway trust fund is contrary to a bill passed in July of 2008 by the U.S. House of Representatives that would spend eight billion dollars of general tax revenue on transportation, thereby filling the gap created by the drop in VMT. The Bush administration expects to release a projected budget deficit for the highway trust fund of five billion dollars for 2009. This is the first time that the highway trust fund will be in a deficit since its inception in the 1950s. Part of the shift from intercity auto travel is being taken over by Amtrak that has had an increase of ridership of 11% this year.[99] In September 2008, Senate Bill 375 in California was passed, which will have regional planning authorities develop plans to meet emission reduction targets in order to receive transportation funding and lighter regulations for builders.[100] This effort would provide fewer regulation barriers for projects built close to public transportation options. Senate Bill 375, according to some transportation experts, could become a model for state and national policy makers.

3.1 Rail in the El Paso MPO Study Area

3.1.1 Rail in the Pass – Historic Overview

The trains first rolled into El Paso on May 19, 1881, when Southern Pacific, approaching from the west, won the race against competing railway companies.[101] Mule-drawn trolleys, guided by fixed rail, followed shortly thereafter.[102]

On January 14, 1881, Anson Mills and Joseph Magoffin received a franchise under the El Paso Street Railway Company from the City Council of El Paso to build six street railway lines—one connecting Stanton Street to Avenida Lerdo with a bridge to Ciudad Juarez.[103]



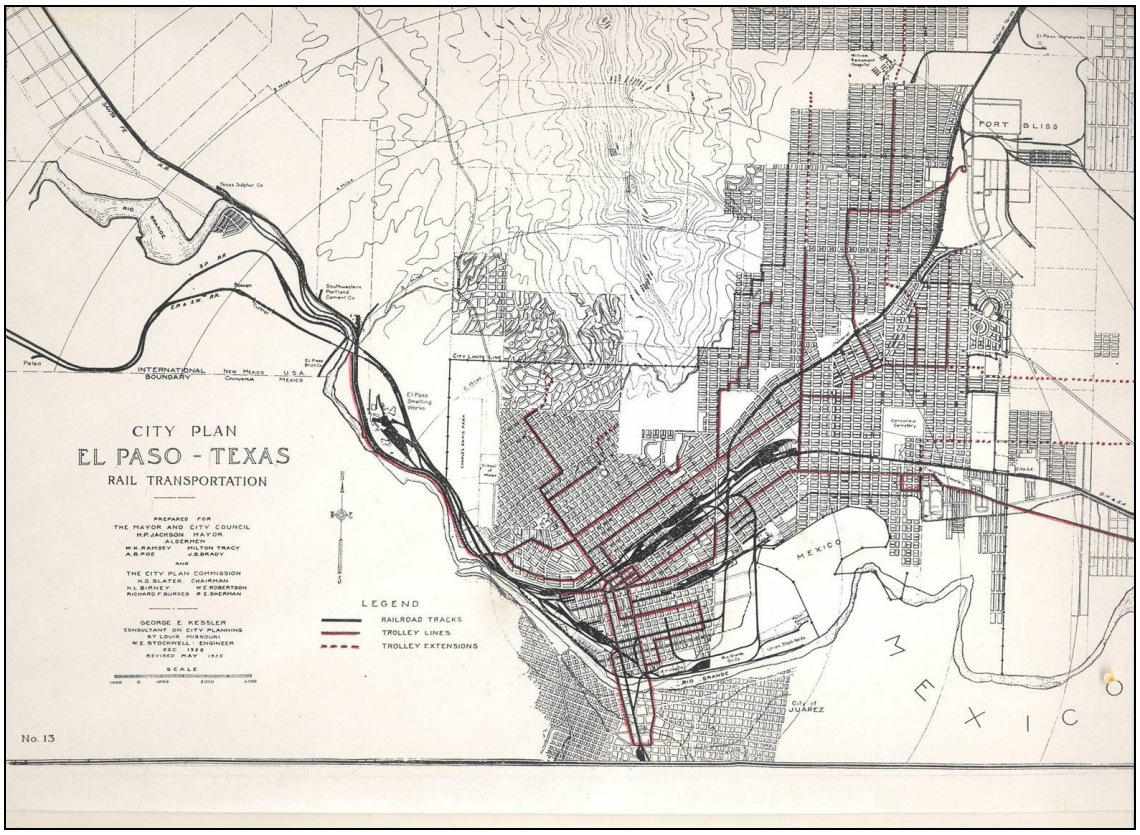
According to historian Thomas Price, the first mule-drawn trolleys of the El Paso Street Railway "used a single track that went from El Paso down Avenida Lerdo in Juarez to the intersection of Calle Comercio, now renamed 16th of September, and then returned over the same route."[104] In 1892, a second railway company was organized under the name Santa Fe and Juarez Railway. This company constructed a second bridge, over the Rio Grande, connecting Santa Fe Street with Avenida Juarez.[105]

As Price explains, "To connect the two street railways, Mexico built a carline that went from the intersection of Lerdo and Comercio, down Comercio, past the Customs House, and then onto Avenida Juarez until it arrived at the foot of the Santa Fe Bridge." In 1895, the two companies consolidated their management and agreed to create an international rail loop, with entry into Mexico passing over the Stanton Street Bridge and return to El Paso passing over the Santa Fe Bridge.[106]

In 1901, the El Paso Electric Railway Company purchased the railway companies, including the concessions from Mexico, and moved toward electrification of the railway system.[107] El Paso's first electric trolley left for Juarez at 11:00 a.m. on January 11, 1902.[108] To celebrate the historic event, a parade was held with Mandy the Mule, a well-known mule from the old trolley system, riding on a flat car on the new electric system.[109]

Mandy the Mule takes a ride on an electric streetcar in 1902.

In 1925, the El Paso Electric Railway Company changed its name to the El Paso Electric Company and folded the streetcar system into the company's transportation division.[110] In addition to the 35-mile international streetcar system, the 1925 City of El Paso map (shown below) illustrates a comprehensive city-wide railway system extending past Asarco on the west, Government Hill and Highland Park in the central area, up to Ft. Bliss on the north, and across to Ysleta on the east. The peak year of operation was in 1920, when 103 cars and 64 miles of track—serving 19 million passengers—were in service.[111]



In 1925, the first line of busses began to replace existing electric trolley lines. By 1943, the division was sold to El Paso City Lines, a subsidiary of National City Lines[112] In 1936, National City Lines was formed as a holding company for General Motors and Standard Oil.[113] Across America, National City Lines acquired municipal trolley lines, allowed them to deteriorate, and eventually substituted them with "modern" bus lines.[114]

As a result, on April 9, 1947, National City Lines, General Motors, Mack Truck, Firestone, Phillips Petroleum, Standard Oil of California, and a group of their key executives were indicted by a federal grand jury in California for conspiracy to acquire control of transit companies to form a transportation monopoly, and conspiring to monopolize sales of buses and supplies to companies owned by the City Lines.[115] In 1948, the venue was changed from the Federal District Court of Southern California to the Federal District Court in Northern Illinois.

According to Edwin Black, author of *Internal Combustion: How Corporations and Governments Addicted the World to Oil and Derailed the Alternatives*, this was a first-of-its-kind prosecution—the first antitrust action against companies that were using exclusivity contracts and "required purchase" contracts in another industry, effectively creating a monopoly. All of the defendants were found not guilty on the first count (conspiracy to control mass transit through systematic acquisition and excluding all competition for motor buses, including electric trolleys), and guilty on

the second ("conspiracy to monopolize" the bus business by creating a network of transit companies that were forbidden to "use products other than the products sold by supplier defendants.")[116]

On April 1, 1949 the judge handed down his sentence: a mere $5,000 fine to each corporate defendant, except Standard Oil, which was fined $1,000.[117] As for the individual co-conspirators, they too were fined—each was ordered to pay "one dollar."[118] The verdicts were upheld by the Seventh Circuit Court of Appeals in 1951.[119]

By the 1940s, only three trolley lines were in service in El Paso.[120] And shortly thereafter, the last El Paso trolley lines were closed—except for the international loop.[121] The extensive railway system depicted in 1925 El Paso was gone.[122] Even then, El Paso City Lines expressed an interest in terminating its last route, however Mexico refused to dissolve its contract—scheduled to expire in 1988.[123] With a standing obligation to operate its international route, El Paso City Lines opted to upgrade its equipment.[124] In 1950, the company purchased 17 single-end PCC (Presidents' Conference Committee) streetcars from the City of San Diego, which was terminating its own streetcar system.[125] In 1952, the city purchased an additional three cars from San Diego, for a total of 20 cars.[126] These cars served El Paso until the international route was shuttered in 1973.

PCC cars serve El Paso-Juarez on the "International Route."

On July 31, 1973, a labor dispute with El Paso City Lines drove former Mexican toll collectors to seize PCC 1516—effectively shutting down the entire international route.[127] Where the toll collectors had demanded higher wages, El Paso City Lines had grown frustrated at Mexico's refusal to increase toll rates and felt that "the collectors were stealing the company blind."[128] Rather than pay higher wages, El Paso City Lines stopped collecting tolls, dismissed the toll collectors, and set the stage for the seizure—leaving 13,000 daily international passengers without transportation.[129]

Two days later, Mexican Secretary of Communications and Transportation, Eugenio Mendez Docurro, cancelled the concession held by El Paso City Lines' Juarez

subsidiary, the El Paso and Juarez Traction Company.[130] Docurro gave three reasons for the cancellation: first, the streetcars were obsolete; second, abandonment of the toll booths violated the contract; and third, control of international bridges by the national government, not the local government, was preferred.[131]

In El Paso, Mayor Fred Hervey worked to negotiate an agreement with Mexico that would bring the streetcars back to service.[132] According to historian Thomas Price, "Hervey's plan was to form a binational corporation to operate the streets and then offer half of the corporation to Ciudad Juarez at a 'minimal cost.'" On October 18, 1973, the City of El Paso purchased from El Paso City Lines its streetcar inventory.[133]

The direct involvement of the City of El Paso in the streetcar dispute prodded the Juarez Chamber of Commerce into action—in opposition to streetcar service.[134] Representing Juarez merchants, the Chamber argued to the Mexican President Echeverria that the streetcars not be allowed to return since they were only "used by the Mexican public to shop in the U.S."[135] In addition to the merchants, Juarez taxicab drivers opposed streetcars as unwanted competition.[136]

On May 31, 1974, unable to reach a workable agreement, Mayor Hervey announced that he was delegating resolution of the matter to the Intergovernmental Relations Board of the El Paso Chamber of Commerce.[137] Shortly thereafter, with the involvement of former Juarez Mayor Rene Mascareñas, a Binational Planning Commission was created to act as a mediator between the various interests.[138] Later that year, the commission issued a report with eight recommendations, including the creation of an international monorail system, however negotiations continued to stall.[139]

On April 15, 1975, El Paso changed its leadership with Don Henderson's victory in the runoff to succeed Mayor Hervey.[140] With public office, Mayor Henderson inherited the burden of the international streetcar dispute.[141] He vowed to work with Juarez Mayor Raul Lezama to reach a resolution.[142] Meanwhile, the Juarez Chamber of Commerce continued to lobby privately and publicly against the return of streetcar service.[143] On February 26, 1977, the Chamber's leadership "went to Mexico City to voice their opposition to officials of the new administration of President Jose Lopez Portillo."[144]

As Mayor Henderson continued to work to restore streetcars, the 1977 mayoral election approached. On the last day of filing, Ray Salazar, a local accountant, entered the race to challenge Henderson.[145] "As he filed," writes Thomas Price, "Salazar said that the purchase of the streetcars by the Hervey administration had been 'ill-advised' and if they could not be put back into operation, the city should sell them. [Salazar] characterized the entire controversy as 'a ridiculous and counterproductive feud.'"[146]

On April 19, 1977, Ray Salazar won the runoff, beating Don Henderson, for mayor of El Paso.[147] After the election, according to Price, Salazar met with Juarez Chamber of Commerce President Alfonso Murguia and said that he was "not the least bit interested" in resuming streetcar service.[148] Soon after, two events sealed the fate of the PCC car in El Paso.

First, the new border inspection station for the modern Stanton Street Bridge was constructed over the Juarez streetcar tracks. Second, a downtown revitalization project called *El Corredor* had been delayed over the question of what to do with the streetcar tracks along San Antonio Street.[149]

While speaking with reporters on June 20, 1977, Mayor Salazar publicly conceded the end of the El Paso streetcar system with the words: "I've told them to pull the tracks up."[150]

Today, nine vehicles from the retired fleet of PCC cars are kept in storage at two separate outdoor locations.[151] Three streetcars are kept in a private construction equipment yard—El Paso Crane and Rigging Company Yard—and six streetcars are kept at the foot of the runways at the El Paso International Airport.[152]

PCC 1513 at the El Paso City Lines car-barn in a rainy day in January 1958 in the "Fruit Salad" paint scheme. (courtesy of the collection of Joseph Testagrose)

3.1.2 STREETCAR & MONORAIL INITIATIVES 1965-2008

INTERNATIONAL MONORAIL CORPORATION (IMC)/MONORRIELES INTERNACIONALES, S.A. (MISA)—1965

On January 20, 1965, El Paso architect Stephen Kent announced the formation of International Monorail Corporation for the purpose of building a modern international transit system modeled on a system displayed at the 1962 Seattle World's Fair.[153] The Mexican counterpart, Monorrieles Internacionales, S.A. received its own charter in 1973.[154] Each company, working in its own country, was required

to support its portion of the project financially and to obtain permits and right-of-way needed to implement the monorail system.[155]

In 1965, a 30-year franchise from the City of El Paso was granted to IMC with the provision that the system be constructed and in operation within 36 months from the date of the franchise—unless extended by City Council.[156] The monorail franchise was renewed in 1967 and 1971.[157] The same year, a Presidential Permit from the United States Government was granted to IMC to construct and operate an "aerial transport ferry service" over international waters.[158] With these U.S. permit assurances in hand, MISA submitted an application for its Mexican permits, which were granted in August 1973.[159]

In January 1974, both IMC and MISA jointly announced the selection of Ford Motor Company to build a $16.5 million Automatically Controlled Transportation (ACT) system on a 1.5 mile route linking the central business districts of El Paso and Juarez.[160] In 1973, Ford had built an ACT research center and, over the course of the program, developed two pilot projects, in Connecticut and Michigan.[161]

Ford Motor Company's Automatically Controlled Transportation (ACT) system near Ann Arbor, Michigan. The elevated guideway that linked the Fairlane shopping center to a nearby Hyatt Regency Hotel was razed in 1988.[162]

The proposed El Paso ACT system consisted of an elevated guideway designed to carry four bi-directional, 70-passanger, driverless, rubber-tired vehicles electronically powered and computer controlled.[163] The proposed vehicles would have carried 25,000 to 30,000 passengers per day at an operating speed of 40 miles per hour.[164] The planned travel time between stations was announced to be two and a half minutes.[165]

Two important factors contributed to the ultimate demise of the proposed monorail system for El Paso-Juarez. First, a severe recession in 1974 and 1975 depressed the economies of the United States and Mexico, and reduced the availability of private capital in both countries.[166] Second, Ford had suffered an unexpected loss on its Connecticut pilot-project and announced in July 1975 that it was terminating the ACT program.[167]

"PROPOSED DOWNTOWN PEOPLE MOVER, EL PASO-JUAREZ" – JUNE 1976

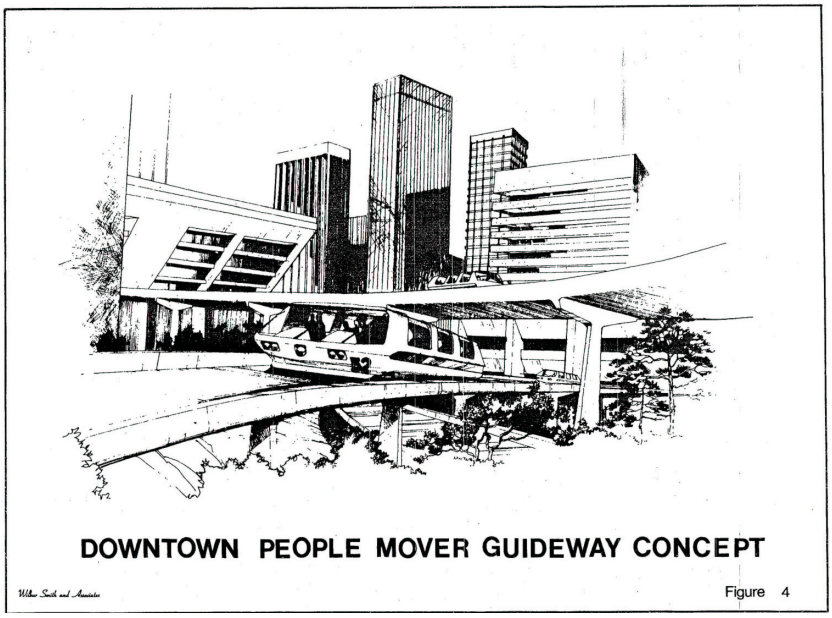
In 1976, three years following the disruption of the El Paso-Juarez international PCC line, the City of El Paso submitted a proposal to the U.S. Urban Mass Transportation Administration (UMTA) to construct a downtown people mover (DPM) for El Paso-Juarez.[168] The technical study was conducted by Wilbur Smith and Associates.[169]

In 1966, Congress created UMTA to develop innovative transit systems and to fund research and development of transit programs in the United States.[170] In 1975, UMTA announced its DPM Program and sponsored a nationwide competition, among U.S. cities, for federal funding to design and built a DPM system.[171]

In response to its announcement, UMTA received 68 letters of interest and 35 full proposals—including the El Paso-Juarez proposal.[172] The El Paso proposal was developed to address the high demand for mass transit in the region. From 1966 to 1969, El Paso added one million transit riders a year, for a total of 22.3 million riders in 1969.[173] (In contrast, the 2006 ridership for Sun Metro, El Paso's bus transit service, totaled 12.1 million).[174] In 1973, the El Paso-Juarez international trolley line, operated by El Paso City Lines, carried 13,000 daily riders alone.[175]

According to the proposal, "This high [transit] user characteristic is due to the lower than average U.S. median income in El Paso and the high number of Mexican nationals who reside in Juarez and who are employed or shop in El Paso."[176]

The El Paso DPM was conceived as a fully automated, international two-mile rail-guided system, capable of 24-hour operation.[177] The envisioned transit system consisted of 50 to 70 passenger vehicles, operating on an exclusive, completely elevated guideway.[178] The study added, “A prime criteria [sic] is an aesthetic, well designed guideway which could be harmonious with the urban cityscape of El Paso and Juarez.”[179]



El Paso Downtown People Mover Guideway Concept[180]

The study for the El Paso DPM included three proposed alternative routes.[181] "Alternative A" envisioned a 10,300 foot route that travelled from the corner of Avenida Paso Del Norte and 16 de Septiembre in Juarez, across the Santa Fe Bridge, to Union Station and across to San Jacinto Plaza.[182] The average travel time for a one-way trip on this route was estimated at 8.5 minutes, with a station dwell time of about 20 seconds.[183] "Alternative B" proposed a 7,000 foot route that travelled from the same location in Juarez, across the Santa Fe Bridge, then up Santa Fe Street to the El Paso Civic Center.[184] The average travel time for a one-way trip on this route was estimated at 5.8 minutes.[185] "Alternative C" proposed a 7,400 foot route that traveled from the same location in Juarez, across the Stanton Street Bridge, then up Oregon Street to San Jacinto Plaza.[186] The average travel time for a one-way trip on this route was estimated at 6.1 minutes.[187]

Additionally, each proposed DPM route was conceived with connectivity to existing bus transit systems—Autobuses Internacionales, Country Club, El Paso, and Lower Valley.[188]

In 1976 dollars, the estimated coast for "Alternative A" was $25.5 million; $18.8 million for "Alternative B;" and $19.4 million for "Alternative C."

Under the proposal, it was estimated that 27,800 passengers would use the DPM System daily.[189] The expected objectives achieved by the construction of the El Paso DPM were to:

1. Enhance the attractiveness of the center city areas in order to attract new development and reduce the effects of urban sprawl;
2. Improve circulation in the center city area for all modes of transportation.;

3. Improve the physical ties between El Paso and Juarez in order to foster continued joint economic growth;
4. Coordinate the transfer of people between modes of transportation by providing a centralized intermodal interface; and,
5. Strengthen international relationships between the United States and Mexico.[190]

Unfortunately, UMTA did not select El Paso for a federal DPM project in 1976. Instead, the UMTA selected Los Angeles, St. Paul, Minnesota, Cleveland and Houston.[191] In the end, all four of the projects initially selected by UMTA later withdrew, but additional cities, Miami and Detroit, stayed the course and eventually built DPM systems.[192]

Today, the Miami and Detroit DPM systems remain in operation.[193]

Detroit's Downtown People Mover

FEASIBILITY STUDY FOR REACTIVATION OF A STREETCAR SYSTEM – APRIL 1981

In May 1981, Bernard Johnson Incorporated submitted to the City of El Paso an engineering feasibility study for the reactivation of the streetcar transit system in downtown El Paso.[194] The study was funded by the U.S. Department of Transportation, Urban Mass Transportation Administration (UMTA) and Pan American Savings of El Paso.[195]

The study recommended a 2.2 mile system to be located on El Paso Street, Missouri Avenue, Stanton Street and Eight Avenue.[196] The proposed system—envisioned to serve (though not cross) the Santa Fe and Stanton Street international bridges, the Civic Center complex, and San Jacinto Plaza—was estimated at a cost of $7.8 million, with the rehabilitation of five PCC streetcars owned by the City of El Paso.[197] At the time, 19 PCC cars were in storage at the "Cotton Street car shop."[198]

In 1980, with a citywide population of about 425,000, public transit ridership in El Paso was approximately 9.2 million.[199] In 1981, the total two-way taxi, bus and pedestrian traffic across the Santa Fe/El Paso and Stanton Street international bridges totaled about 22,000 persons per day.[200] The estimated ridership for a reactivated streetcar system in El Paso was 8,000 persons per day.[201]

As in subsequent studies, this study rates the condition of each PCC car stored by the City of El Paso and attaches an estimated cost for the refurbishment of each car ($30,000 to 475,00 each in this case).[202]

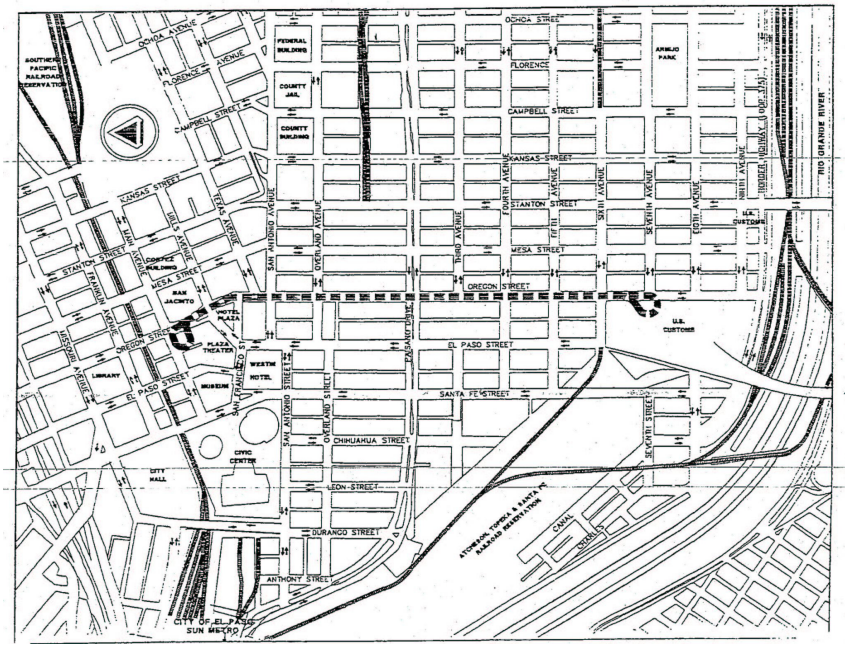
EL PASO STREETCAR-REACTIVATION PROGRAM – JULY 1993/AUGUST 1994

In July 1993, Kimley-Horn and Associates prepared a streetcar feasibility study entitled "El Paso Streetcar-Reactivation Program" for Sun Metro and the City of El Paso.[203] The stated goals of the project were two-fold:

1. Restore a fixed-guideway transit connection to facilitate travel within Downtown El Paso and
   between the El Paso retail and employment core and Juarez, and, in so doing,
2. Provide a unique economic development tool to revitalize commerce and tourism in the Del Norte
   Corridor.[204]

The 1993 study evaluated 39 alternative routing plans using six alternative types of streetcar technologies for connecting Downtown El Paso to Downtown Juarez.[205] The study recommended the implementation of an initial .64 mile double-track streetcar line between San Jacinto Plaza and the U.S. Port of Entry along Oregon Street.[206] The projected ridership for the Oregon route was estimated at 6,000 passengers per day.[207]

Figure 22b
Proposed Oregon St. Alignment Alternative



The study also identified several future potential expansions, including a southern extension to Juarez; an east extension to the Mexican Consulate on Virginia using Overland, San Antonio and/or Texas Avenues; and a west spur line to the Civic Center/City Hall area.[208] In addition, the study recommended restoring the original El Paso PCC cars (built in 1937 and retired in 1973) and two vintage cars (built in 1912 and 1922).[209]

In August 1994, Kimley-Horn prepared a follow-up report based on questions from the El Paso City Council and other community leaders.[210] The additional report evaluated various streetcar technologies—including vintage and replica vehicles, light rail and monorail—and evaluated corridor options for a rebuilt streetcar system in El Paso.[211]

Regarding streetcar technology, the report recommended vintage cars—refurbished and/or replica—for El Paso. "A vintage streetcar system is among the lowest-cost fixed-guideway technologies available," the report said.[212] It continued,

In addition to providing an important transportation service, vintage trolley technology offers a unique urban design tool for recognizing and celebrating the historically significant Del Norte Corridor. The nostalgic quality of the trolley system would reinforce the character and heritage of this vigorous area in the region. Vintage trolleys hark back as a timeless reminder of El Paso's important cultural past.[213]

From an economic perspective, the report added that experience in other cities confirmed that rail vehicles operating on a fixed track communicate a sense of "**permanency** that is not communicated with rubber-tired buses operating on a street." (emphasis in original).[214] Moreover, the report projected that the vintage look of the streetcar would further support the revitalization of Downtown El Paso and other economic development goals of the area.[215]

Vintage trolley operating on McKinney Avenue in Dallas, Texas.

DOWNTOWN SMART BRT/LRT SYSTEM – DECEMBER 2004

In December 2004, the Goodman Corporation prepared a report entitled "Downtown SMART BRT/LRT System" for the City of El Paso and Sun Metro.[216] The report was conducted as part of a mobility needs assessment for the creation of a SMART (Sun Metro Area Rapid Transit) system in El Paso.[217] The SMART system conceived in the report was a multi-phase project that began with bus rapid transit and transitioned to a light rail system as ridership increased over time.[218] As described in the report,

> The initial SMART system project incorporates high-capacity, rapid transit corridor improvements that extend from the international border to Sun Metro's downtown hub at the Oregon Street Transit Pedestrian Mall (OSM). … A second SMART system project is the International Transit Link (ITL). The ITL will create an efficient and cost-effective connection between downtown El Paso and downtown Juarez that will reduce travel time significantly for international commuters riding public transit.[219]

The target date for launching the initial phase of the SMART system was 2006.[220] At the time, the SMART system was reflected in Sun Metro's Long-Range Master Plan and in individual project submittals to the regional Metropolitan Planning

Organization (MPO) and the regional Transportation Plan (MTP) and the regional Transportation Improvement Plan (TIP).[221] In addition, according to the report, in July 2005 the Transportation Equity Act for the 21st Century (TEA-21) included an authorization for design and construction of an international fixed-guideway system between El Paso and Juarez.[222]

The proposed route for the SMART system ran from the corner of Mesa and 8th Street, west on 6th Street, and north on Santa Fe Street to the El Paso Civic Center complex.[223] The rail component to the study was presented as a future initiative without a timeline.

EL PASO HISTORIC TROLLEY STREETCAR INITIATIVE – JULY 2008

In July 2008, Jacobs Carter Burgess submitted a study entitled "El Paso Historic Trolley Streetcar Initiative" to the City of El Paso and Sun Metro.[224] The study is strikingly similar, albeit updated, to the Bernard Johnson streetcar feasibility study conducted in 1981. The purpose of the study was,

primarily associated with the cost of rehabilitating nine PCC—Presidents Conference Committee—streetcars and developing a preliminary cost per mile for implementing all necessary infrastructure required to bring back the historic streetcars in downtown El Paso.[225]

The study cited streetcar success stories from San Francisco, California; Portland, Oregon; Little Rock, Arkansas; Dallas, Texas; Memphis, Tennessee; and Kenosha, Wisconsin.[226]

Today, 9 PCC cars remain with the City of El Paso are stored at two separate outdoor locations: El Paso Crane and Rigging Company Yard and the El Paso International Airport.[227] For the report, a general visual inspection of the vehicles was performed, and information developed from previous inspections in 1993 (Kimley-Horn) and 2002 was used to assess the condition of the vehicles.[228]

The 2008 report concluded that the condition of the vehicles has considerably deteriorated in both storage locations.[229] However, a streetcar manufacturing company consulted for the study found that all 9 PCC streetcars appear capable of being restored or rehabilitated.[230] The cost for vehicle reconstruction was estimated between $15.8 and $20.3 million.[231]

The proposed route for a restored streetcar service was a 2.13 mile loop running along Oregon Street, El Paso Street and West San Antonio Street, and serving the international bridges, San Jacinto Plaza, the Civic Center Complex and Union Depot.[232]

Figure 25: - Conceptual Alignment Characteristics

The cost for rail installation and other infrastructure improvements was estimated at $24.6 million and streetcar reconstruction, at $40.4 million.[233]

3.1.3 THE NEW RAIL CHALLENGE

The El Paso del Norte region is the largest metropolitan area along the U.S-Mexico border. It rests at the intersection of three states and two countries and is now among the largest international commuter and commercial ports in the Western Hemisphere.

Our region serves as an air, truck, and rail hub for commercial traffic. In 2007, there were a staggering 23 million border crossings from pedestrians, commuters and commercial trucks. In order to remain a successful port, enhanced mobility in the region has become increasingly more important.

Today, about 35 trains pass through El Paso every day. By 2035, due to a massive increase in West Coast port capacity, El Paso will experience a rise to 100-200 east-west trains per day.

In Punta Colonet, Baja California, Mexico, a $6 billion Pacific coast container megaport is being planned for operation in four to five years. The megaport would be about 150 miles from San Diego, and it would route Asian cargo through Mexico to the American heartland. In addition, it would be built in tandem with a rail link that would carry containers from Punta Colonet to the U.S.-Mexico border. The megaport is expected to handle up to 6 million containers a year. Luis Téllez, Mexico's secretary of transportation and communications, recently commented on the project, "The

complexity of this project . . . is enormous." With increases also expected at Lazaro Cardenas and Long Beach, the West Coast and US-Mexico border is about to explode with trade by rail.

In the 78th Texas Legislature, Regional Mobility Authorities were created. Realizing that rail traffic in El Paso was going to increase in the near future, Senator Shapleigh added several amendments to the RMA bill including allowing RMA's to contract with Mexico and New Mexico for projects that are mutually beneficial.

3.2 Environmental Concerns- Air Pollution

During peak hours at rail crossings, the estimated congestion at all 68 rail crossings would be 136 veh-hrs.[233] The estimated congestion for all signalized traffic congestion for the El Paso area is 878 veh-hrs.[234] Rail traffic congestion accounts for approximately 15 % of traffic congestion and air pollution in the El Paso area in terms of vehicle-hours at signalized intersections.

4.0 Recommendations

4.1 Current Plans for the El Paso Region

Based on current 2035 projections, the EPMPO has initiated plans for future rail infrastructure to accommodate for rail demand.[235]

4.1.1 Santa Teresa, New Mexico Port of Entry Intelligent Transportation System Improvements

Infrastructure improvements for the Santa Teresa Commercial inspection facilities including FAST lanes will be completed between 2007 and 2015. The low amount of traffic crossing this port-of-entry, provides commercial trucks traveling outside and inside the El Paso MPO Study Area an alternate route and an opportunity to examine land use and the creation of industry between New Mexico and Mexico.

4.1.2 Zaragoza Commercial and Passenger Bridge Lane Improvements

An additional bridge is to be constructed with 6 commercial lanes including a FAST lane. The existing commercial and passenger bridges will be used for passenger and DCL usage. The completion of the project is expected between 2007 and 2015. The Zaragoza POE study that the El Paso MPO conducted, recommended to implement 20 commercial inspection booths by 2035 and the addition of FAST lanes to minimize the number of commercial inspection booths (El Paso MPO, 2008). For arriving commercial vehicles going northbound, the study recommended to keep separate the FAST and non-Fast commercial facilities. Another feasibility study sponsored by the City of El Paso will examine the expansion of Zaragoza POE. Scheduled completion for this study will be between 2008 and 2015.

4.1.3 Guadalupe-Tornillo Port of Entry

The Guadalupe-Tornillo POE will promote commercial free trade by providing a shorter route from parts of Mexico to central/eastern U.S. and Canada. It is currently being constructed and should be completed by 2015. It will have 6 inspection lanes and will accommodate advanced inspection technologies. It will be located 650 yards upstream from the existing Fabens-Caseta POE. It has the potential to relieve commercial traffic from Zaragoza and BOTA. Fabens-Caseta POE's current low utilization provides commercial trucks traveling outside the El Paso MPO study area an alternate route. In addition, it offers an opportunity to examine land use and the increase of partnering industries between Texas and Mexico.

4.1.4 Santa Teresa Inter-modal Rail Station

There has been discussion on establishing an international rail crossing through Mexico and New Mexico. In the short term, NMDOT will soon be building a refueling station for freight trains. It is anticipated that in the future this refueling station will become an inter-modal rail station. The completion of this project is expected to finish anywhere between 2007 and 2015. The project will help Union Pacific Railroad to relieve freight congestion from El Paso to Santa Teresa, New Mexico. In the long term, New Mexico and Mexico are discussing possibilities for an international rail crossing between Mexico and New Mexico.

4.1.5 Fort Bliss Railway

In 2015, construction is scheduled for a 76-mile railway that will connect railheads at White Sands Oro Grande Range and McGregor Range to the existing Biggs Army field. Utilized by the Department of Defense, this railhead is a part of the U.S. commercial system. The estimated cost is approximately $190 million. This rail line will help mobilize thousands of armored vehicles and is expected to save on the cost of gas, maintenance and vehicle replacement. In addition, it will improve environmental and safety conditions by decreasing vehicle emissions, dust, and by reducing the amount of traffic on the roads.[236]

4.1.6 Railroad Overpasses and Truck Road Infrastructure

Many strategic locations for projects are being planned and have been incorporated into the 2035 TransBorder Metropolitan Transportation plan to avoid delay caused by commercial vehicles and train congestion. The projects can be found in the Appendix.

5.0 Conclusion

Policy planners should engage soon on planning and executing the best options to reduce congestion, speed commercial rail traffic, reduce air pollution and decrease potential for homeland security rail events in El Paso. The MPO staff recommends a new study on options and funding to achieve these goals, coupled with MPO—TPB action by 2009 in order to meet the challenge of rail traffic that is about to impact us here in the Pass of the North.

The rising cost of energy has ripple effects throughout the US economy. No state, city or sector is immune. Providers of transportation services, from freight to transit, are taking steps to increase their energy efficiency and reduce their exposure to the expected continued volatility in the energy market. Nevertheless, positive steps taken to improve the overall energy performance of the transportation system may have deleterious impacts for certain populations or for certain periods of time. Examples include the impacts of the unprecedented drop in VMT, which will lead to lower

demand for petroleum and lower congestion in certain areas, yet is simultaneously undermining the trust fund for the road network. Another example is an energy-saving shift from trucking to rail which may have side impacts on cities that are bifurcated by rail corridors. While the provision of new and improved infrastructure is clearly a major component of the solution, the choices made by consumers and freight providers will also play a role. The propensity of society to change its pattern of behavior is infrequent, yet its impact can be felt far more drastically and immediately than the impact of any planned infrastructure project. The federal government at present does not have a coherent plan to accommodate the impacts of these (relatively minor) changes in transportation behavior that have been witnessed so far in 2008. It is up to local stakeholders to fill in the gaps. In the southwestern communities of Albuquerque, Dallas and Austin, local entities have joined to meet the challenge of moving people and products safer, smarter, and faster in the 21st Century.

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[217] *Id.* at 1-1.

[218] *Id.*

[219] *Id.*

[220] *Id.*

[221] *Id.* at 1-4.

[222] *Id.*

[223] *Id.* at 2-3.

[224] *"El Paso Historic Trolley Streetcar Initiative,"* Jacobs Carter Burgess, Prepared for the City of El Paso and Sun Metro, July 23, 2008. ("2008 Trolley Study").

[225] *Id.* at 3.

[226] *Id.* at 4-8.

[227] *Id.* at 16.

[228] *Id.* at 18.

[229] *Id.*

[230] *Id.*

[231] *Id.* at 22.

[232] *Id.* at 24.

[233] *Id.* at 28.

[233] Union Pacific, *Interview of Traffic Impacts in El Paso*, El Paso, Texas, November 2007,

[234] City of El Paso Traffic Department, 2008

[235] El Paso Metropolitan Planning Organization, *2035 Transborder Metropolitan TransportationPlan*, El Paso, TX, 2007

[236] Roberts, Chris, "Planned Railway to prolong life of military vehicles, ease training, " El Paso Times, August 18, 2008

APPENDIX

2035 TransBorder Rail & Truck Project list

Project ID	Project Name	Project Description	Today's Cost	Cost with Inflation
Rail				
M020X	REPLACE RR PLANKING	REPLACE RR X-INGS WITH RUBBER/CONCRETE PLANKING	$8,000,000	$14,611,389
M021X	INSTALL PROTECTIVE RR CROSSING DEVICES	INSTALL 10 RAILROAD X-ING DEVICES PER YEAR	$16,000,000	$29,222,779
P320X	AIRPORT DR	GRADE SEPARATED OVERPASS	$9,372,000	$23,099,314
P321X	AIRWAY BLVD	GRADE SEPARATED OVERPASS	$9,372,000	$23,099,314
A513A-15A	CAROLINA AVE RR OVERPASS	REPLACE OVERPASS FIRST & WIDEN TO 4 LANES WILL HAPPEN BEFORE THE END OF 2015	$4,585,000	$4,585,000
A519X	FM 3380 & ALAMEDA /RR	RR OVERPASS AT (SH 20) ALAMEDA	$4,100,000	$5,395,320

M036X	ON STATE RR OVERPASSES	CONSTRUCT ON STATE SYSTEM RR OVERPASSES	$10,000,000	$17,845,565
M037X	OFF STATE RR OVERPASSES	CONSTRUCT OFF STATE SYSTEM RR OVERPASSES	$10,000,000	$18,264,237
P515B	ZARAGOZA RD RR OVERPASS	GRADE SEPARATED OVERPASS	$10,400,000	$12,653,190
P610X-MOD	SUNLAND PARK DR. EXTENSION	CONSTRUCT 4--LANE DIVIDED PRINCIPAL ARTERIAL WITH GRADE SEPARATED OVERPASS AT RAILROAD TRACKS	$25,000,000	$31,632,975
M613X	RAIL RELOCATION	RAILYARD RELOCATION TO INCLUDE INFRASTRUCTURE AND PLANNING	$11,966,000	$11,966,000

Project ID	Project Name	Project Description	Today's Cost	Cost with Inflation

Trucks

P401E-MOD	SPUR 601 GLOBAL REACH TO LOOP 375 CONNECTOR	BUILD 4-LANES EXPRESSWAY	$41,000,000	$50,000,000

P201A-MOD	NORTHEAST PARKWAY	BUILD 2-LANES WITH PASSING LANES AND OVERPASSES (SUPER 2) - TOLLED FACILITY	$153,200,000	$186,391,225
C015X	TORNILLIO GUADALUPE BRIDGE AND PORT OF ENTRY	DESIGN/CONSTRUCT NEW INTERNATIONAL BRIDGE	$13,204,000	$16,064,685
C017X	FEASIBILITY STUDY	STUDY FOR THE EXPANSION OF YSLETA/ZARAGOZA POE	$1,000,000	$1,000,000
C019X	BRIDGE OF THE AMERICAS (BOTA) FAST LANE REDESIGN PROJECT	CONSTRUCTING A NEW DEDICATED EXIT GATE FOR FAST TRAFFIC	$200,000	$200,000
C023X	ZARAGOZA PORT OF ENTRY WIDENING	WIDENING OF ZARAGOZA POE MAIN LANES (6 ADDITIONAL LANES - 2 REGULAR LANES IN EACH DIRECTION AND A FAST LANE IN EACH DIRECTION)	$20,000,000	$25,306,380
F011A-15A	JOE BATTLE BLVD (LOOP 375) & ZARAGOZA	CONSTRUCT INTERCHANGE AT ZARAGOZA	$16,197,000	$26,969,196
F013X-15A	BORDER HWY (LOOP 375)	WIDEN TO 6 LANES DIVIDED - TOLLED FACILITY ON ADDITIONAL LANES	$64,000,000	$64,000,000
F016A-15A	PATRIOT FREEWAY (US 54)	CONSTRUCT 4 FREEWAY MAIN LANES	$13,845,000	$34,123,987
F017X-15A	SPUR 601	PATRIOT FREEWAY (US 54): RAMP AT FRED WILSON	$26,774,000	$32,774,000

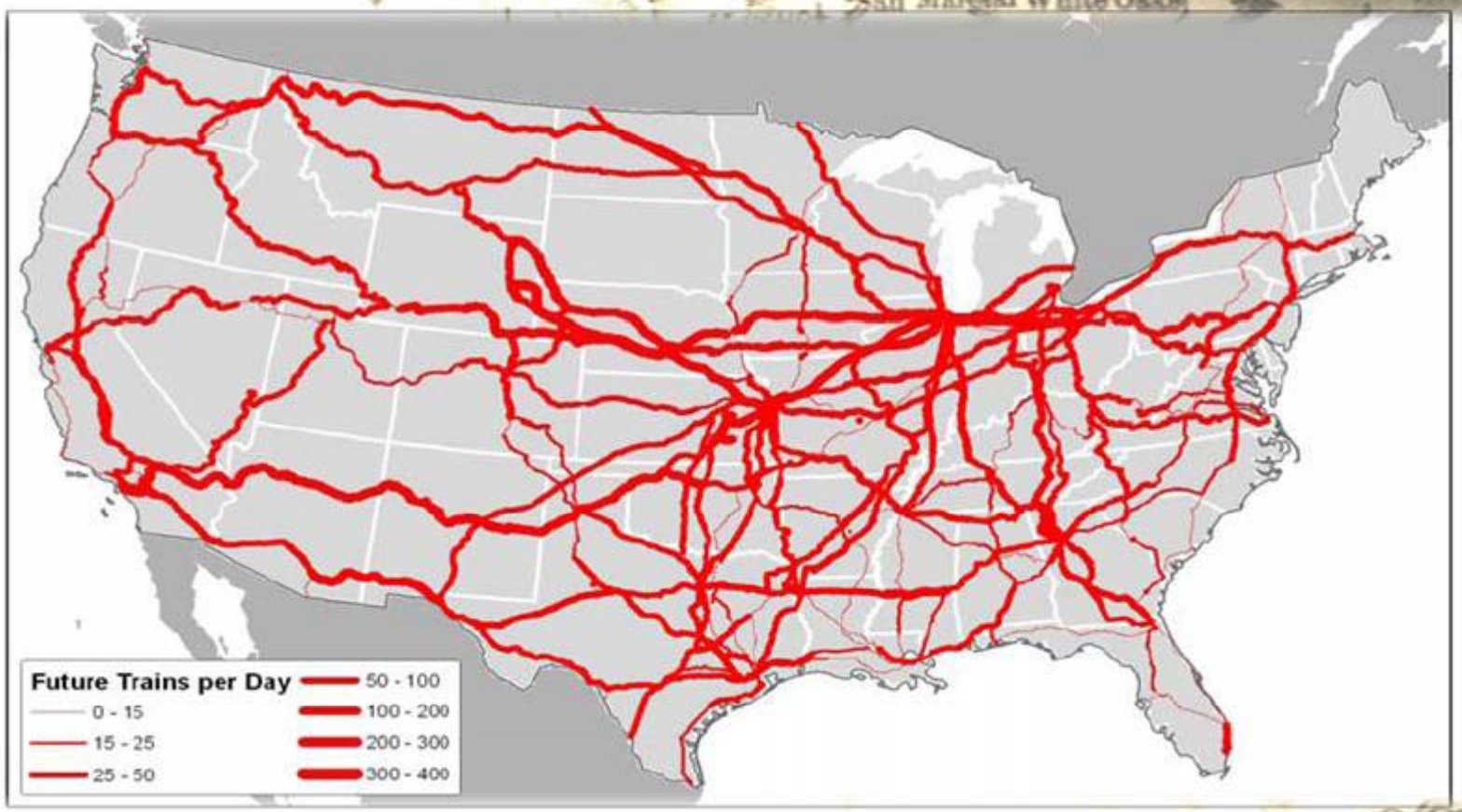
F018X-15A	SPUR 601	PATRIOT FREEWAY (US 54): RAMP AT FRED WILSON	$7,500,000	$7,500,000
F022X	SPUR 601 & LOOP 375	CONSTRUCT INTERCHANGE	$28,000,000	$36,000,000
F033X-MOD	SPUR 601	PATRIOT FREEWAY (US 54): CONSTUCT RAMP AT FRED WILSON	$26,774,000	$32,774,000
F034X-MOD	SPUR 601	PATRIOT FREEWAY (US 54): CONSTRUCT RAMP AT FRED WILSON	$7,500,000	$7,500,000
F037X-MOD	LOOP 375 (AMERICAS)	WIDEN TO 6-LANES & INTERCHANGE AT ALAMEDA/NORTH LOOP	$55,000,000	$135,559,355
F038X-MOD	LOOP 375 (AMERICAS)	CONSTRUCT INTERCHANGE @ BORDER HIGHWAY EAST EXTENSION/PAN AMERICAN	$40,000,000	$98,588,622
NM 136	INFRASTRUCTURE FOR SANTA TERESA COMMERCIAL INSPECTION FACILITIES AND NEW MEXICO BORDER AUTHORITY BUILDING	SANTA TERESA PORT OF ENTRY (POE)	$8,500,000	$10,755,212
NM 136	SANTA TERESA ITS PROJECTS, FIBER OPTIC LEASING AND HARDWARE	SANTA TERESA , NM	$1,663,884	$2,105,344

RAIL IN THE PASS:

Past, Present, and Future

Impacts of Rail in the El Paso Region

Future corridor volumes by primary rail freight corridor 2035 freight trains



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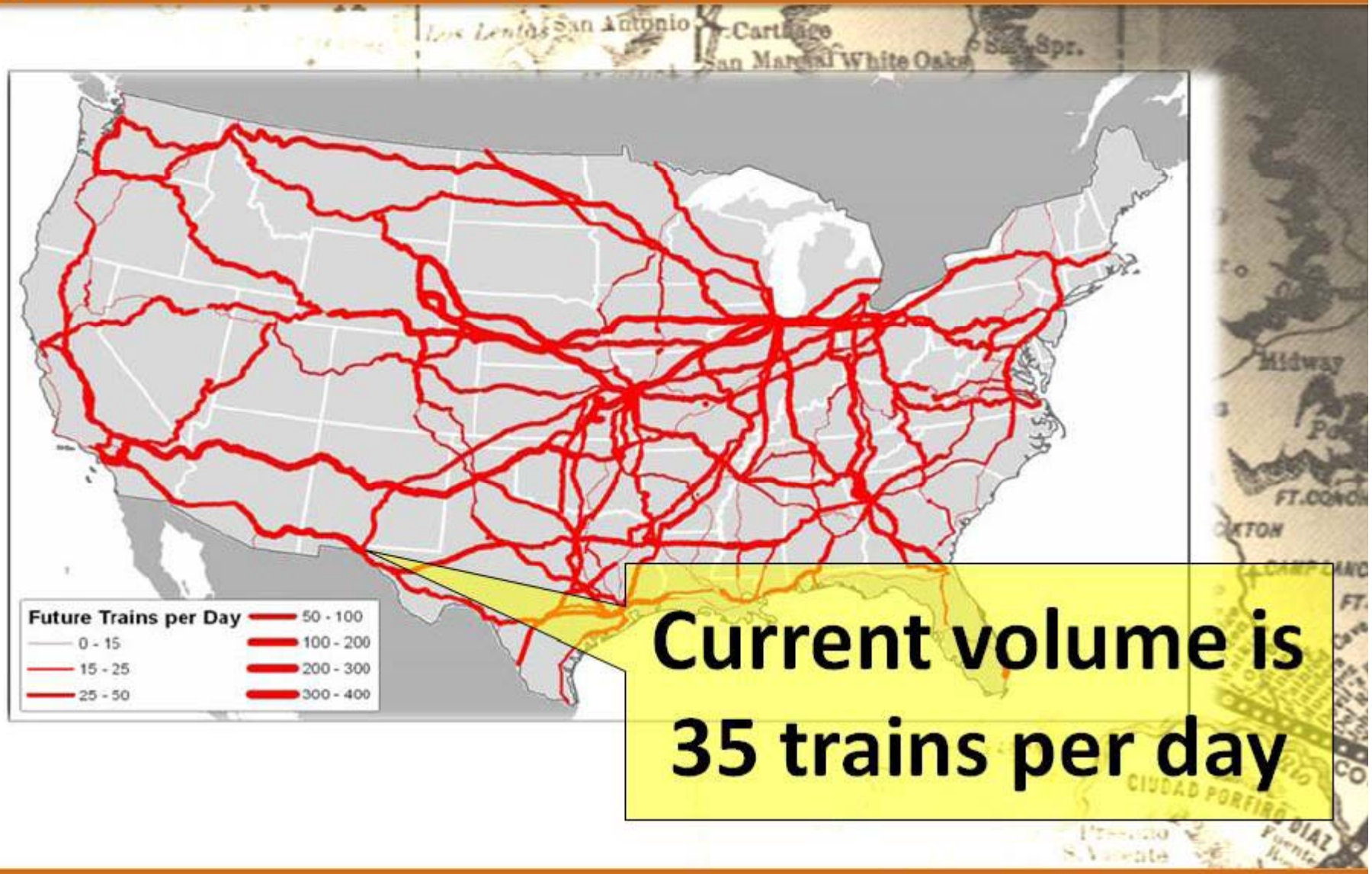

Mexico plans huge Baja port for U.S. trade

By Marla Dickerson, Los Angeles Times Staff Writer

August 28, 2008

MEXICO CITY — Mexico's government is setting sail with the largest infrastructure project in the nation's history, a $4-billion seaport that it hopes will one day rival those of Los Angeles and Long Beach.

President Felipe Calderon is scheduled to travel to northern Baja California today to open bidding on a development that his administration hopes will catapult Mexico into a major player in North American logistics.

Plans call for the construction of a massive port in the tiny coastal village of Punta Colonet, about 150 miles south of Tijuana, along with new rail lines to whisk Asian-made goods north to the United States. Mexico's aim is to snatch some Pacific cargo traffic from Southern California's ports, whose growth is constrained by urban development and environmental concerns.

Punta Colonet is expected to have a capacity of 2 million shipping containers annually when it opens in 2014, Mexico's transportation secretariat told The Times But officials envision it ultimately handling five times that amount. Last year, the ports of L.A. and Long Beach handled 15.7 million containers combined.

The massive development is to be privately funded, with the first phase estimated to cost $4 billion to $5 billion. The government is expected to award the 45-year concession in 2009.

A number of major players are expected to vie for the project, including Mexican billionaire Carlos Slim Helu, the world's second-richest man. Slim's infrastructure company, known as

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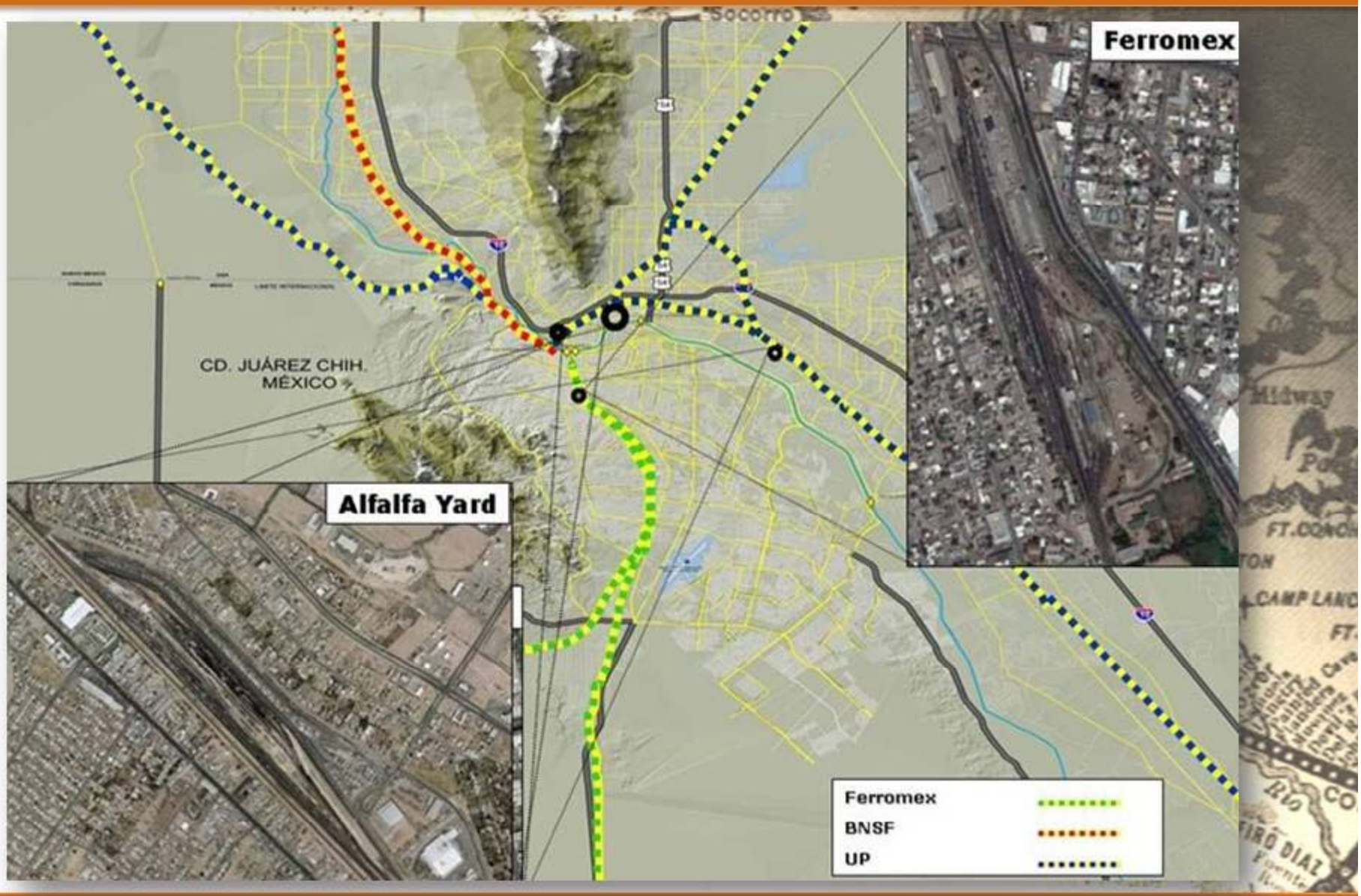
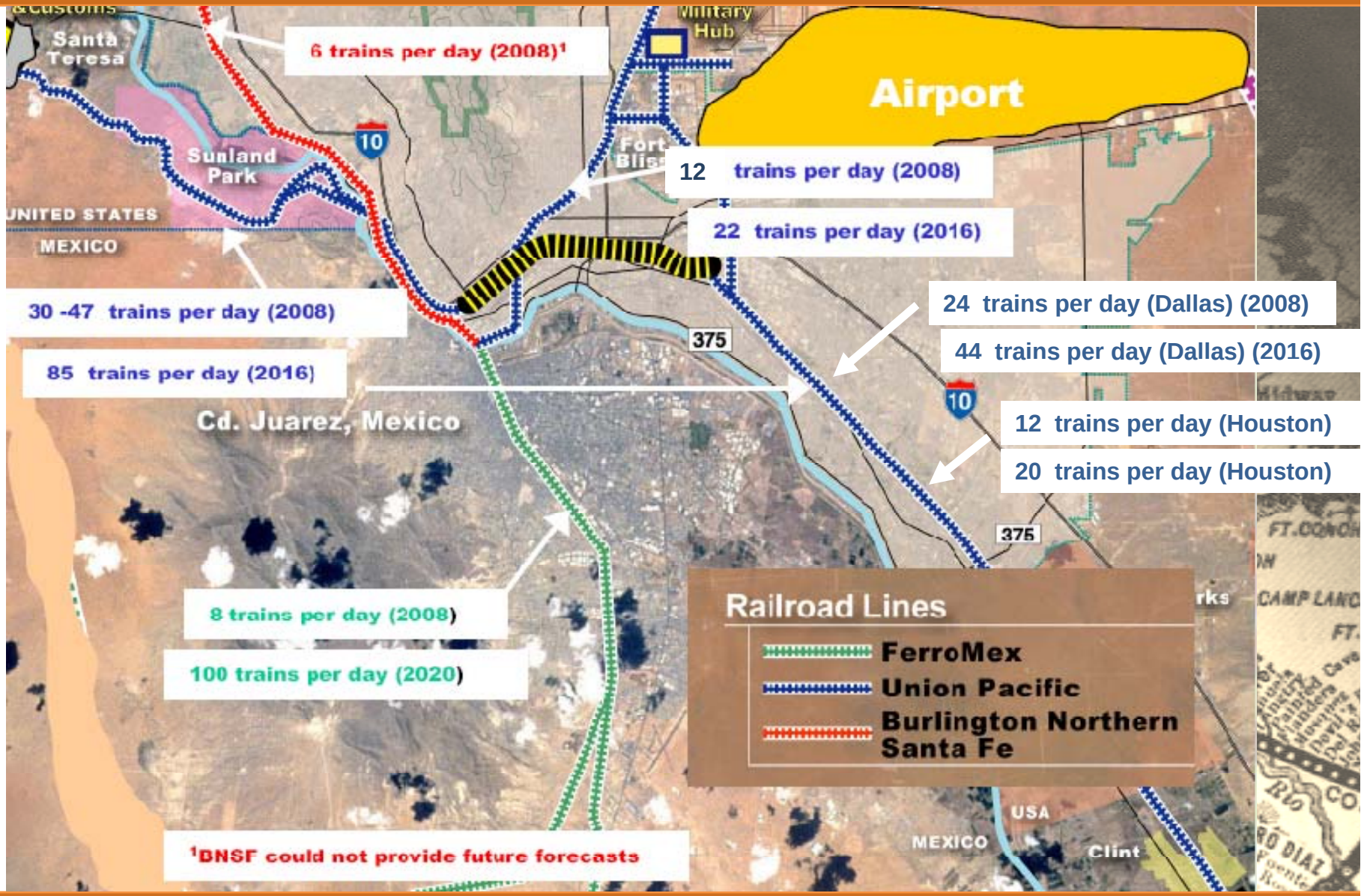
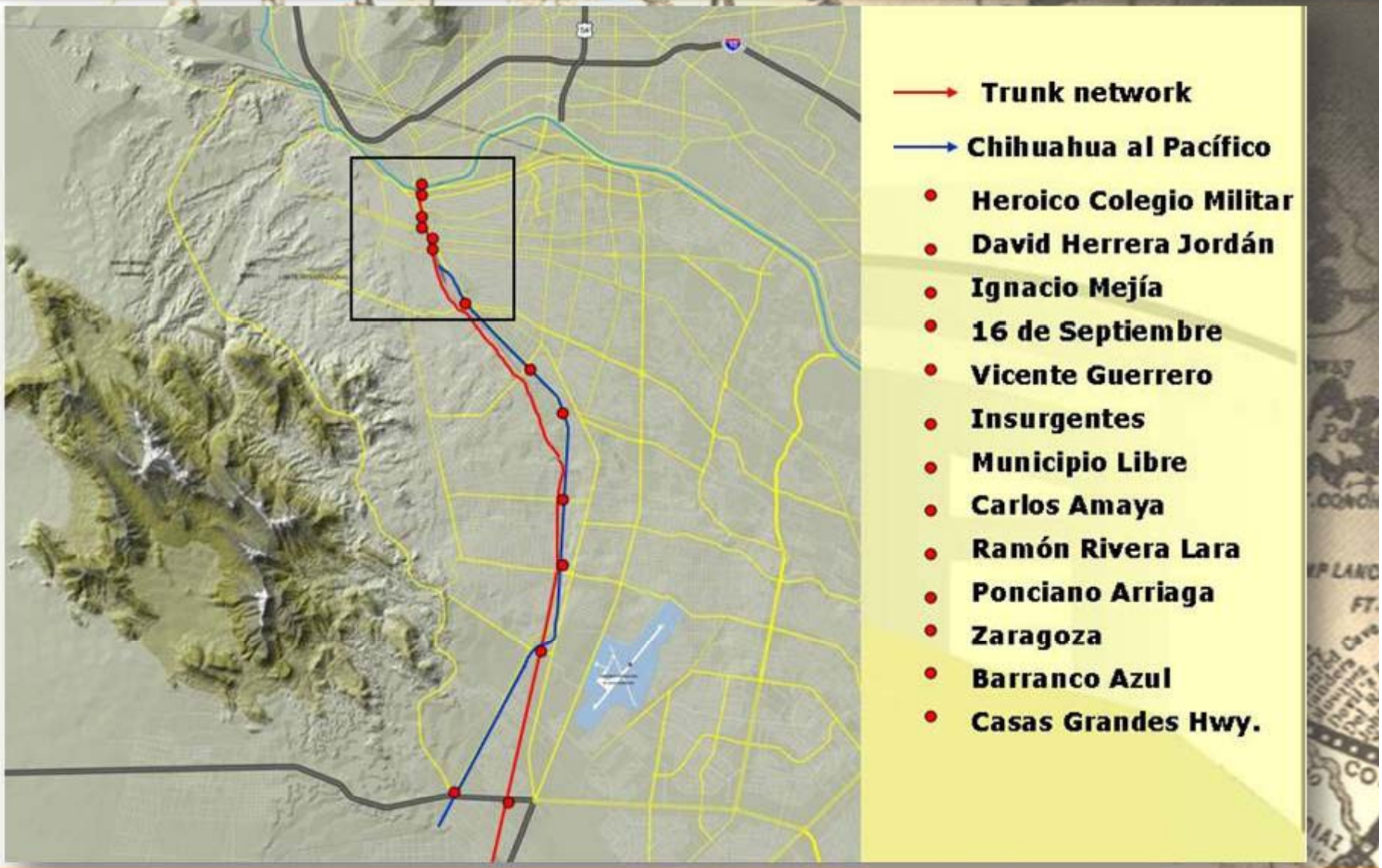
Railway infrastructure in El Paso- Ciudad Juarez

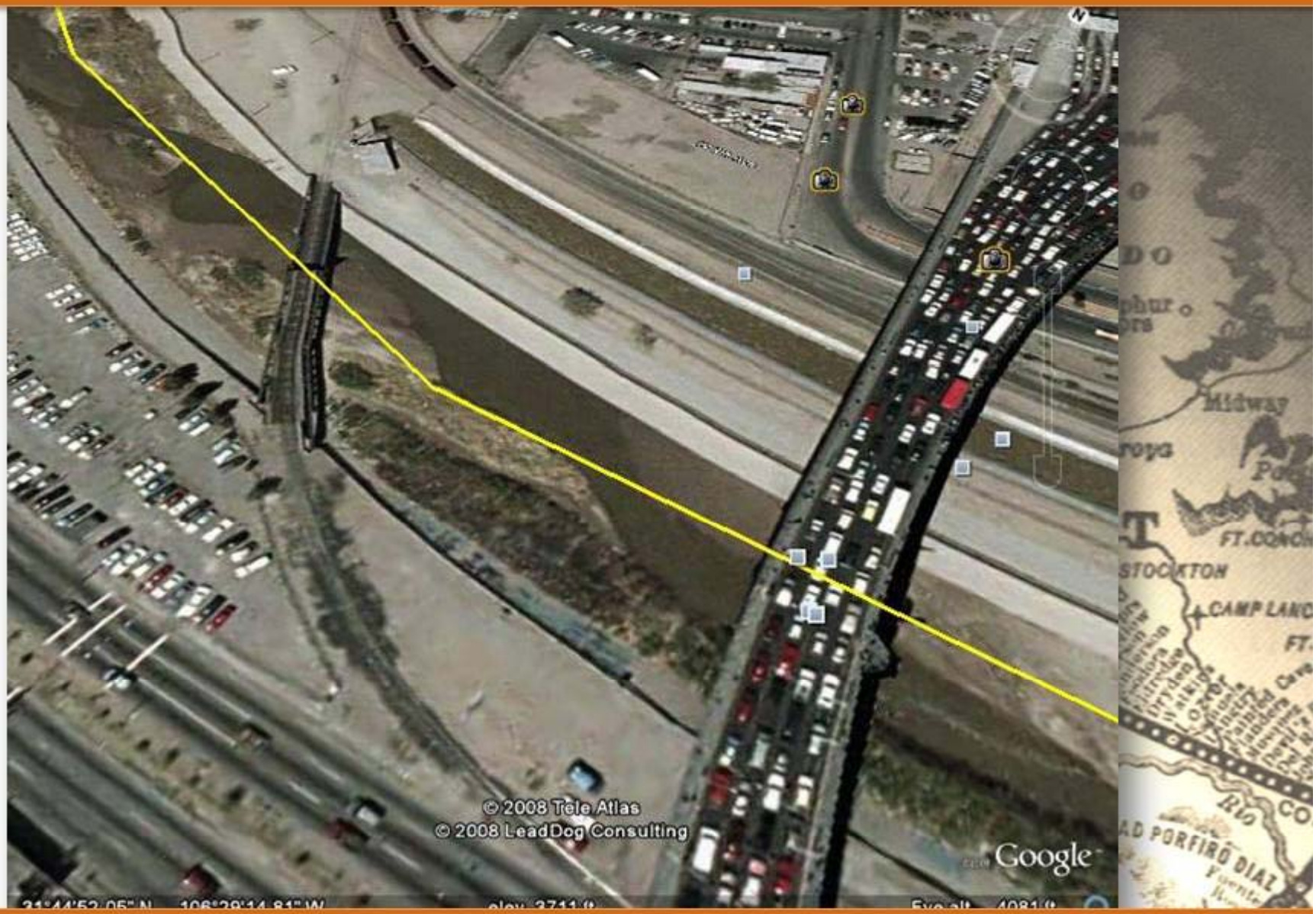


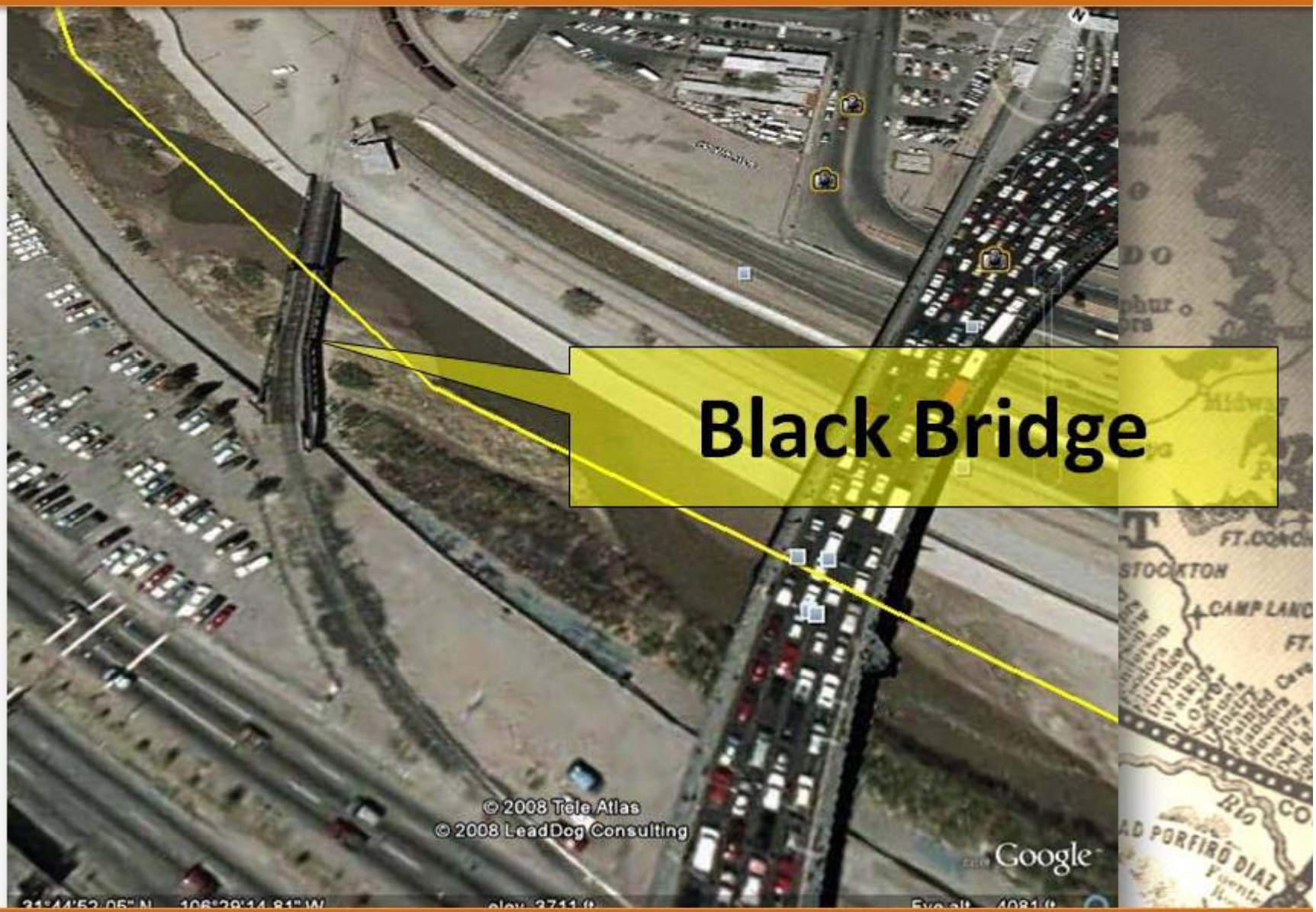
Rail volume projections



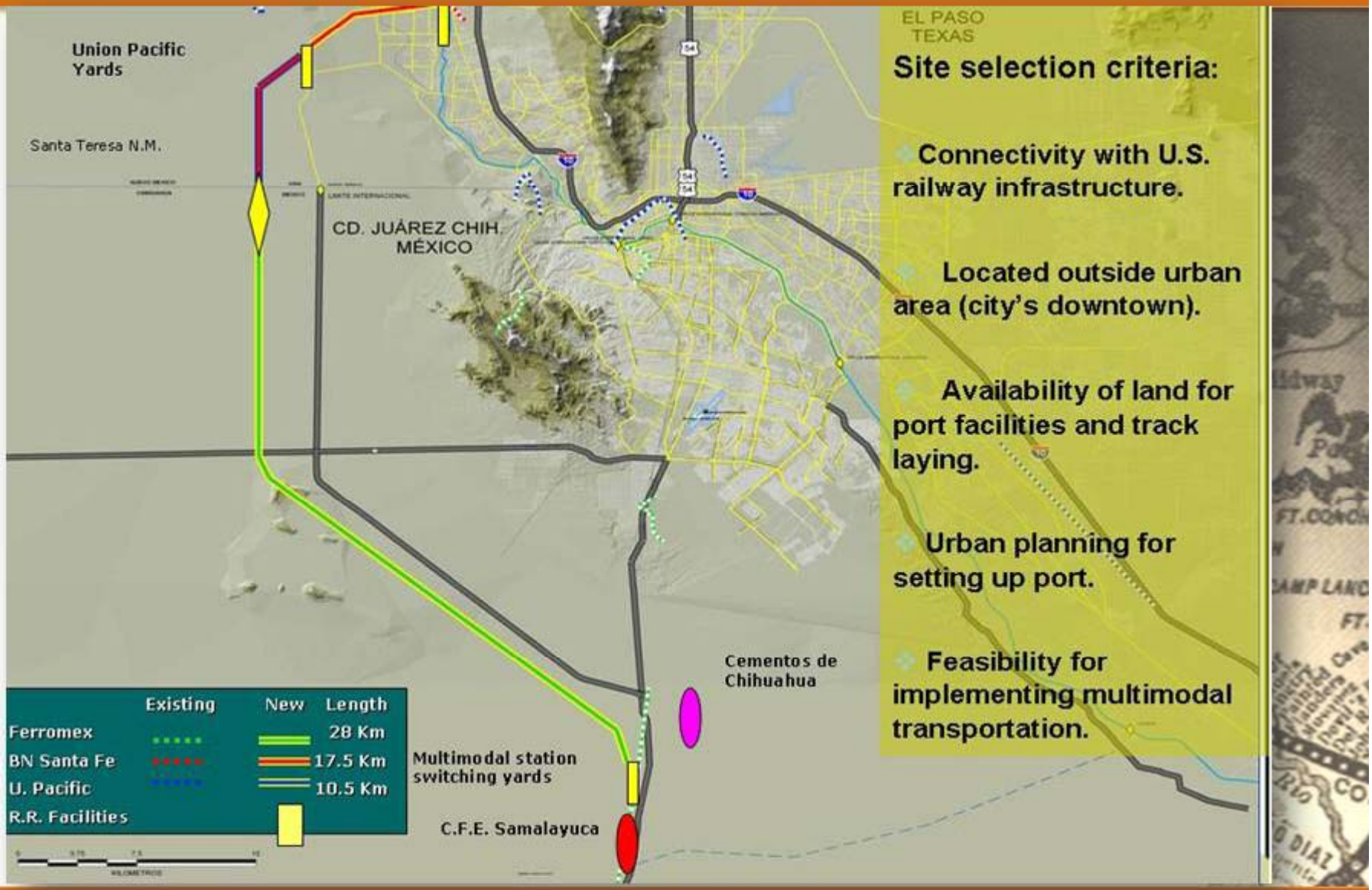
Railway infrastructure vs. street infrastructure in Ciudad Juarez



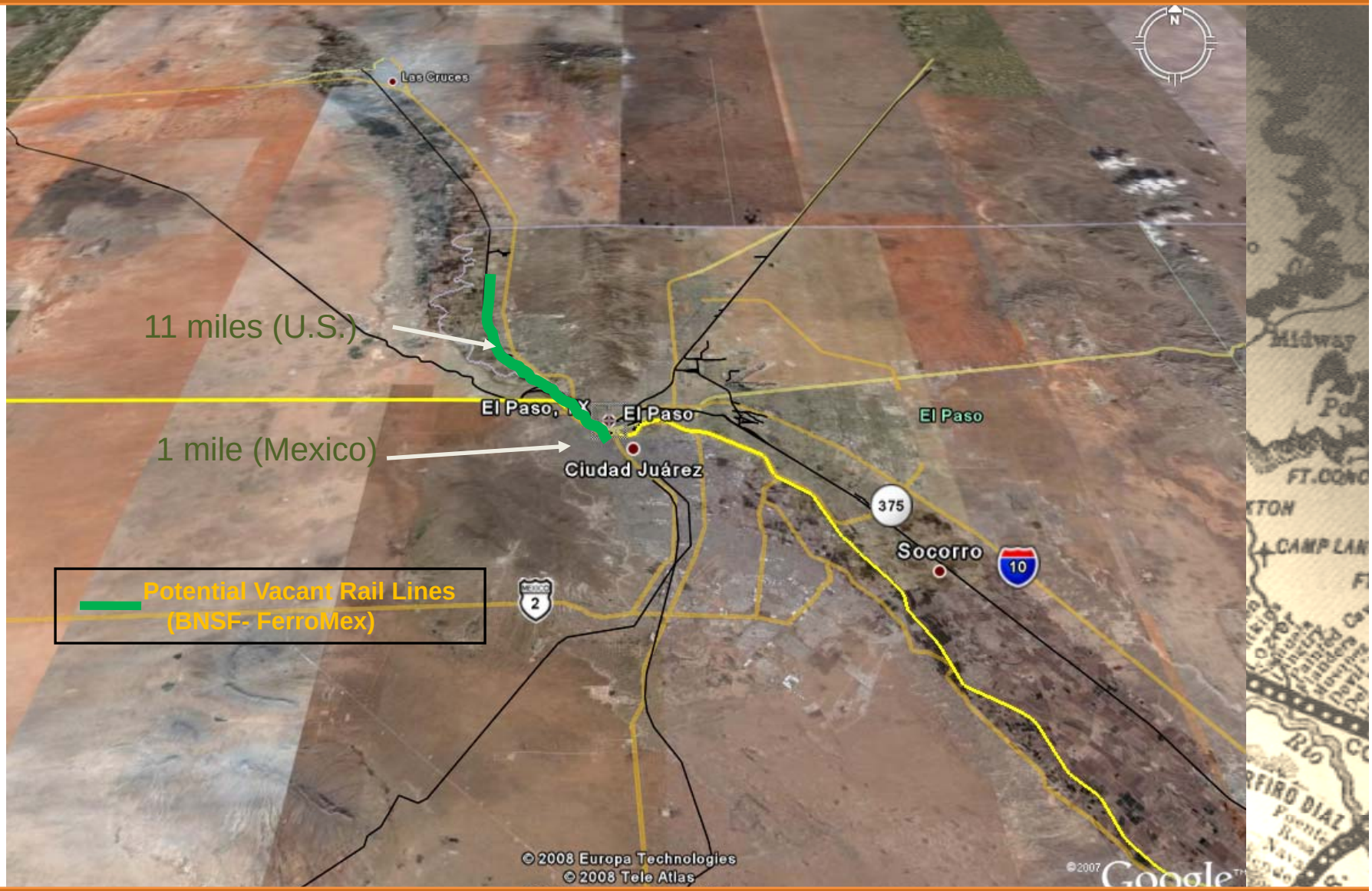

© 2008 Tele Atlas
© 2008 LeadDog Consulting
Google
Midway
STOCKTON
CAMP LANC
PORFIRIO DIAZ


Black Bridge
© 2008 Tele Atlas
© 2008 LeadDog Consulting
Google
STOCKTON
CAMP LANC
PORFIRIO DIAZ

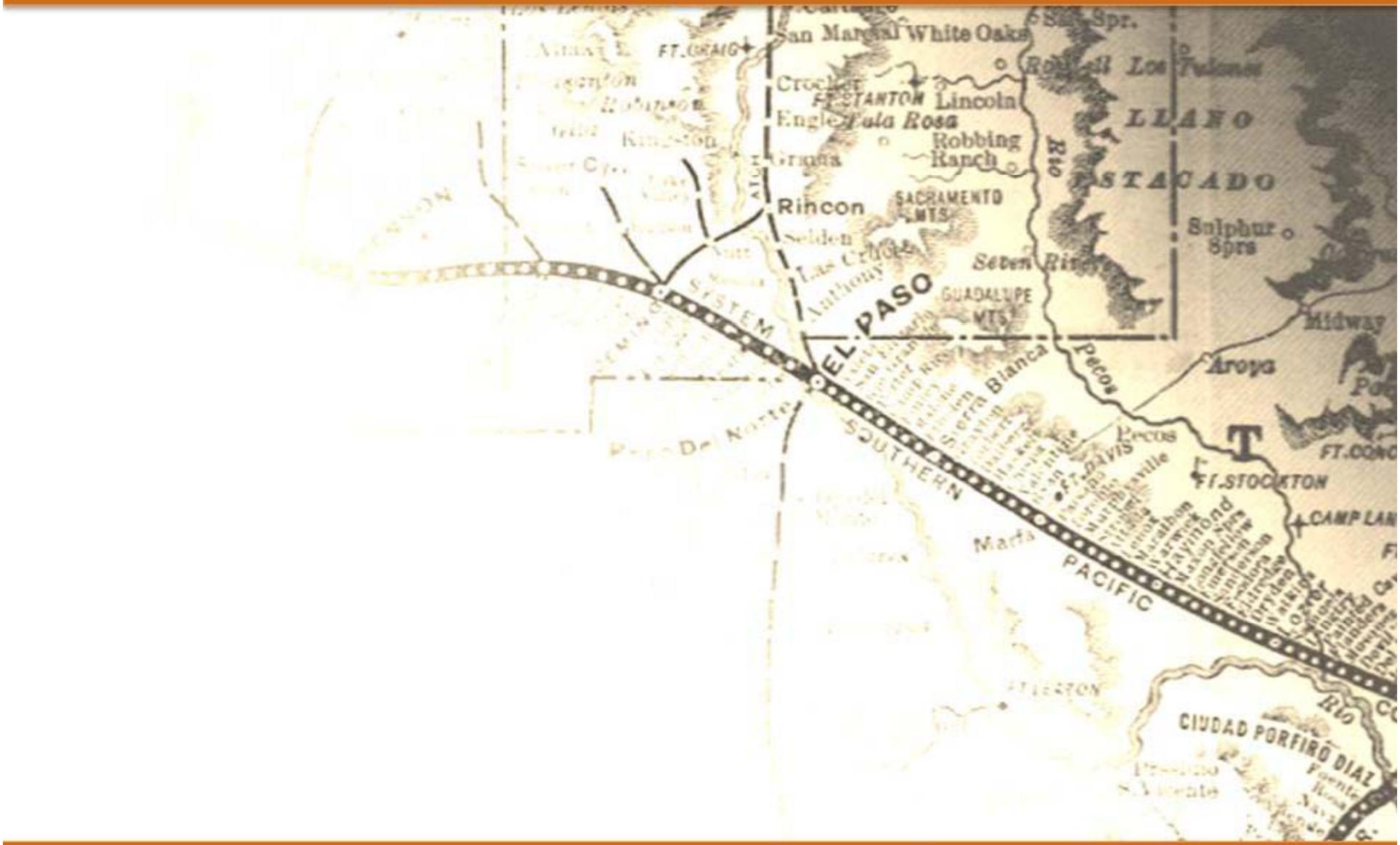
Location of proposed site for setting up port



Historic Opportunity



El Paso's transit past



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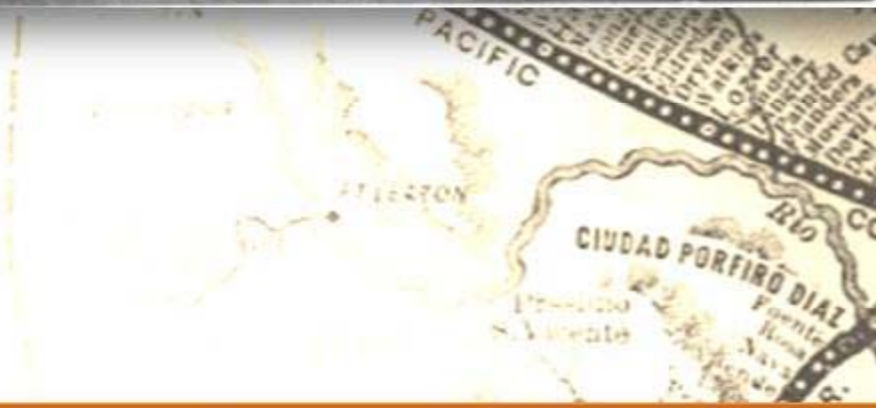

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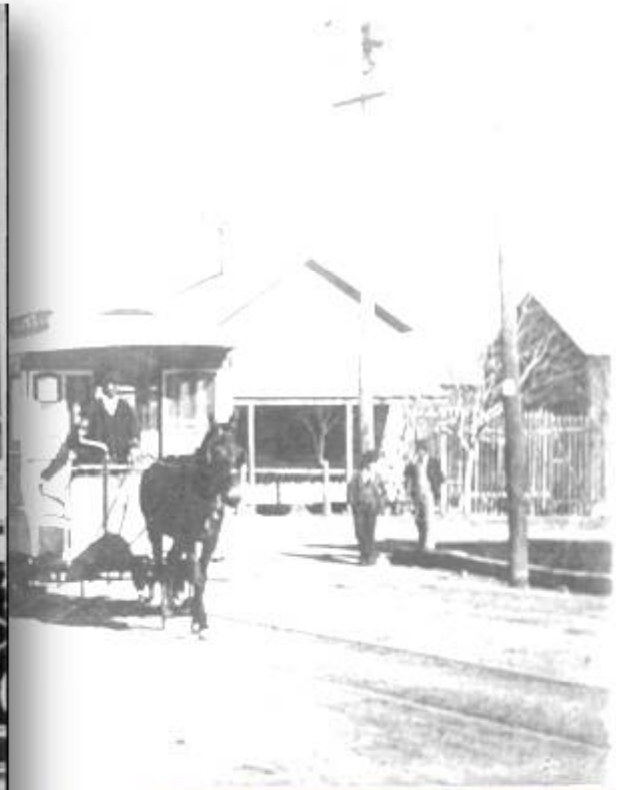

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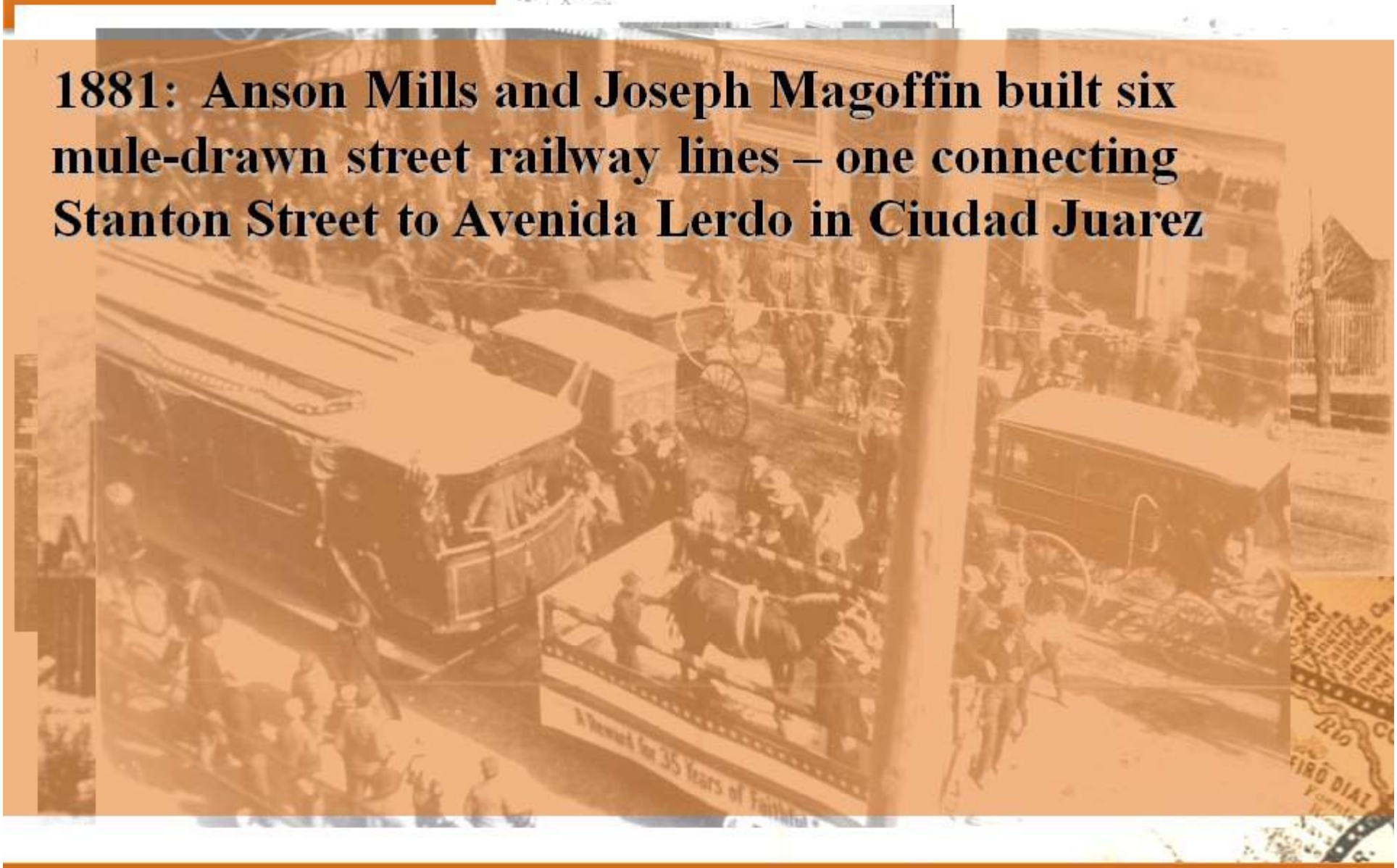

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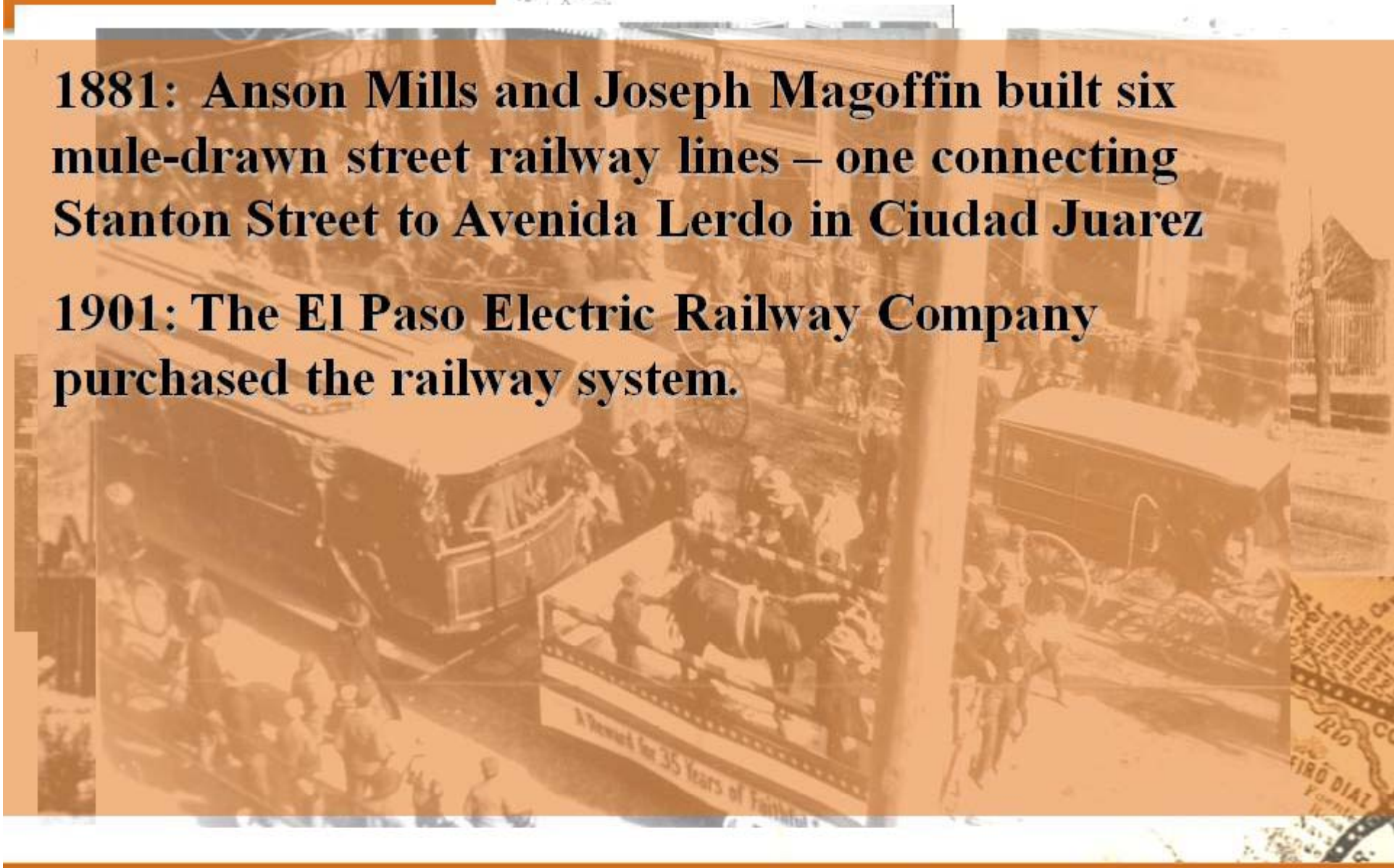

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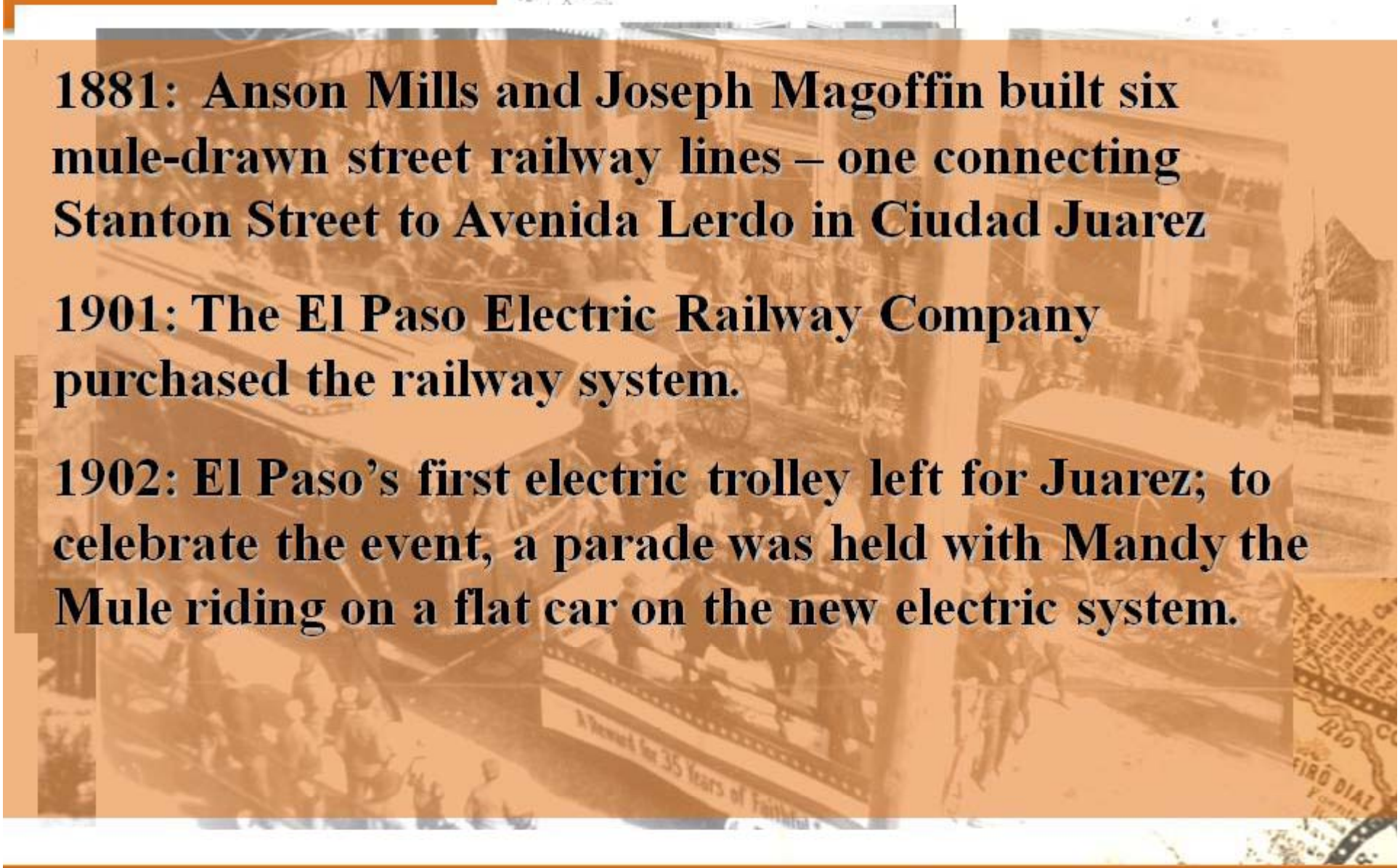

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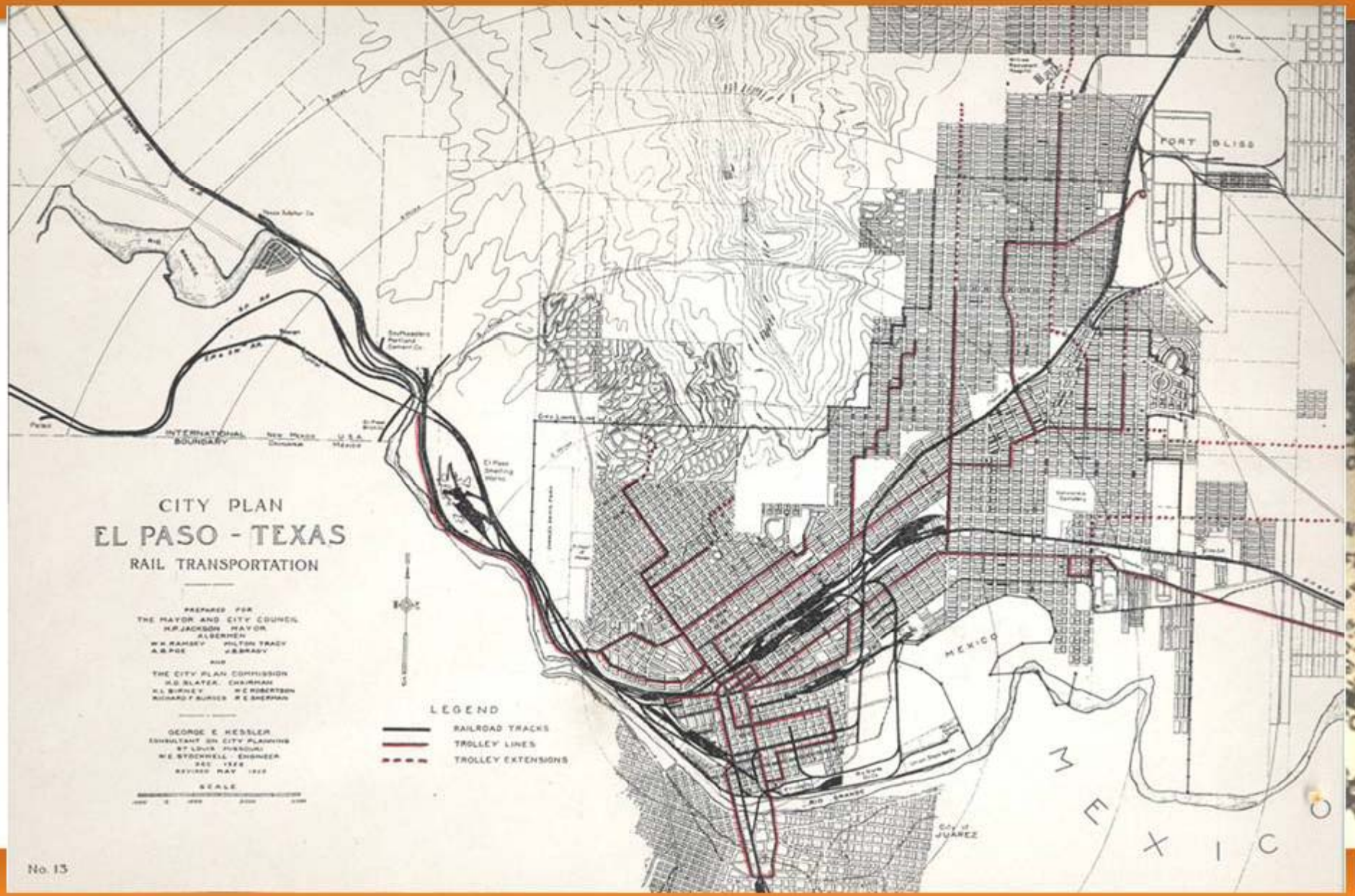

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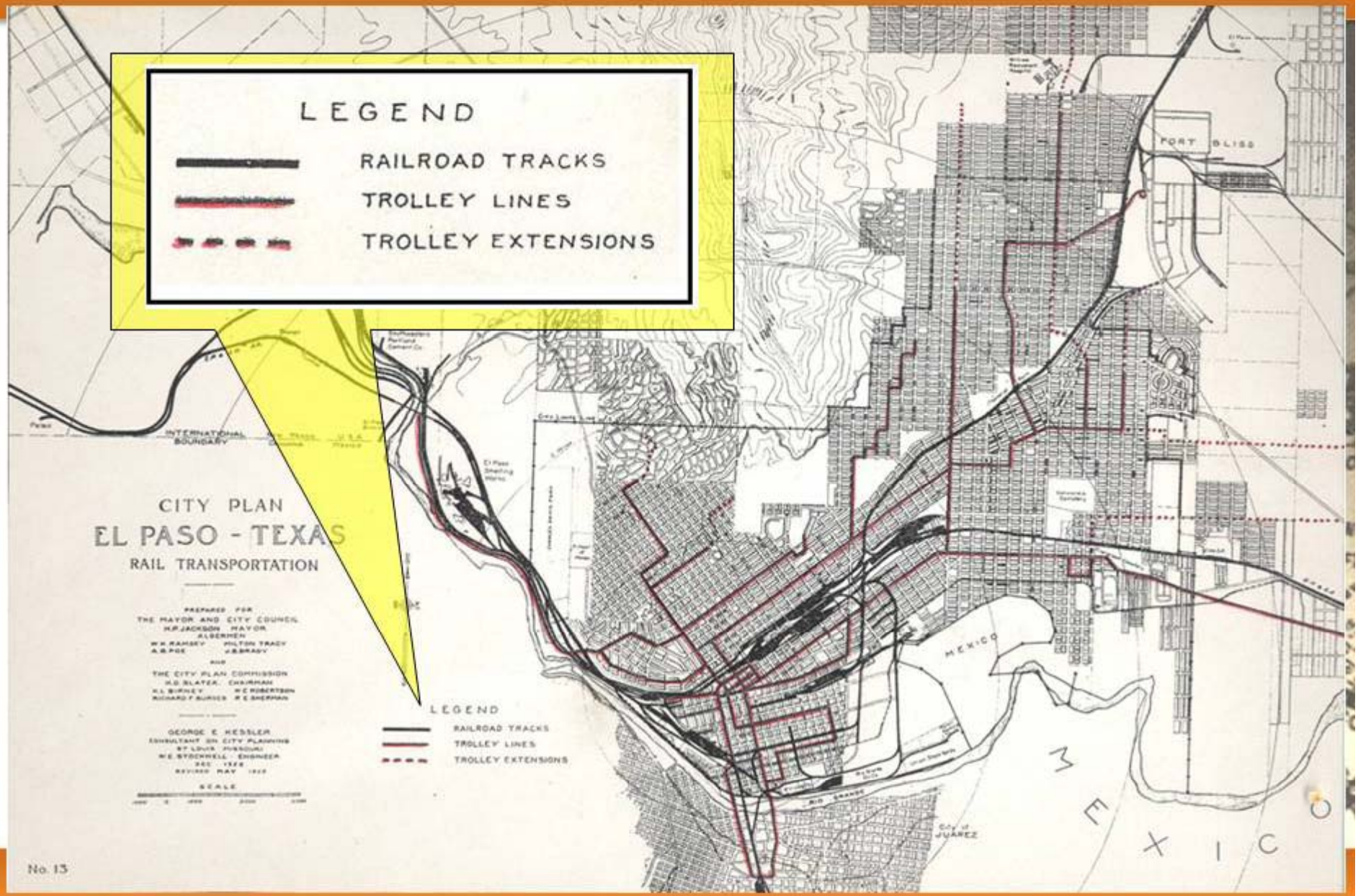

The rise and fall of General Motors

19 April 2006

...The various NCL subsidiaries then sought to abandon rail operation while buying GM buses through GM Finance. Post World War II, faced with falling revenues and the cost of track and rolling stock renewal many non-NCL operations also couldn't resist the deal offered by NCL. And many US cities were applying political pressure to replace "old fashioned" streetcars with "modern" buses, In 1945, nearly every major city in North America had a tramway and/or a suburban light rail system, but by 1970 this was reduced to about a dozen, including Toronto and Mexico City.

The "conspiracy" to abandon Los Angeles' Pacific Electric Railway's passenger service in favour of freeways and buses provided the storyline for the live-animated movie *Who Framed Roger Rabbit* . In reality what happened was this: Pacific Electric had been owned by Southern Pacific Company since 1911. It provided suburban and interurban electric railway passenger service all over southern California surrounding Los Angeles, and promoted itself as the "World's Largest Electric Railway". It also hauled a lot of freight behind electric locomotives, which was the reason Southern Pacific bought it. After WWII the shine had long gone from the passenger trade and a proposal to sell the passenger operation to the City for upgrading to rapid transit fell through in 1949 over many conflicting interests. In 1953 PE passenger service (already much of it bus-operated) was sold to one Jesse L. Haugh, owner of Metropolitan Coach Lines. Haugh was fresh from closing down the San Diego tram system, where, in 1949, he had sold its modern PCC cars to El Paso, Texas. To great public outrage, he immediately, with the connivance of the California Public Utilities Commission, closed the Hollywood, Beverly Hills and Glendale/Burbank lines out of the LA subway, PE's best performing routes. The remaining lines to San Pedro and Long Beach, via Watts and Compton, were taken over by the City buying out Haugh in 1958, but the services was too far gone to be salvaged and they were closed in 1961.

Until 1965, when it lost its separate corporate identity into the SP conglomerate, PE continued to operate diesel-powered freight trains over the lines previously shared with passenger trains. The Los Angeles Railway Co., a separate entity that operated the LA tramway system, was bought by NCL in 1947, renamed LA Transit Lines and began closing down its rail services. In 1958 it too was bought by the City, but tram and trolleybus operation ended in 1963. Many of the modern Los Angeles Railway PCC trams were sold to Cairo.

The Norman Bel Geddes designed "Futurama" exhibit at the New York World's Fair in 1939-40 launched the General Motors' vision of a future of high speed motorways and endless urban sprawl. In the 50s it became reality with the Interstate Highway System started by the

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The rise and fall of General Motors

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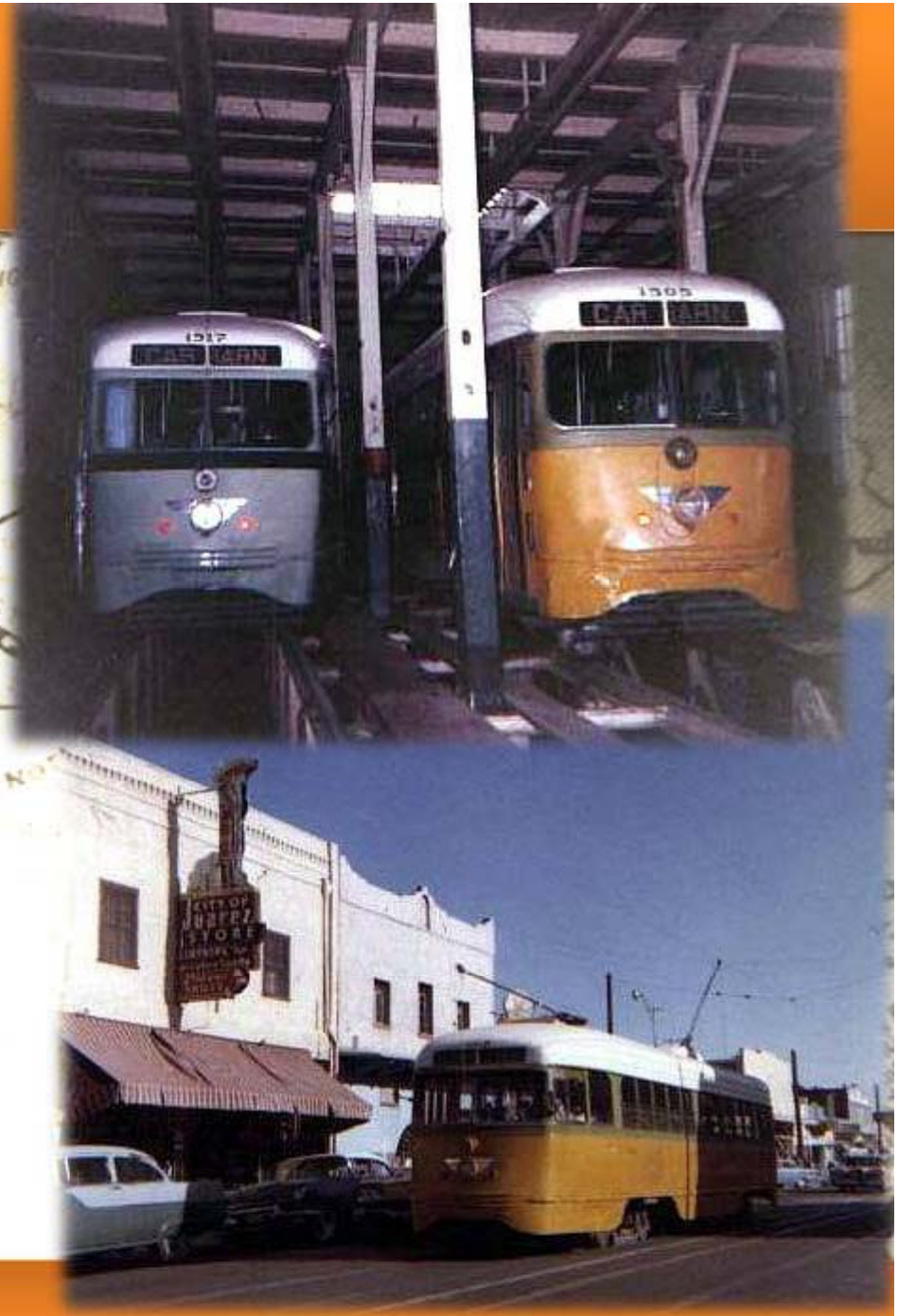
National City Lines decided to retain streetcars on the 3.2 mile international car line across the border to Juarez, Mexico.



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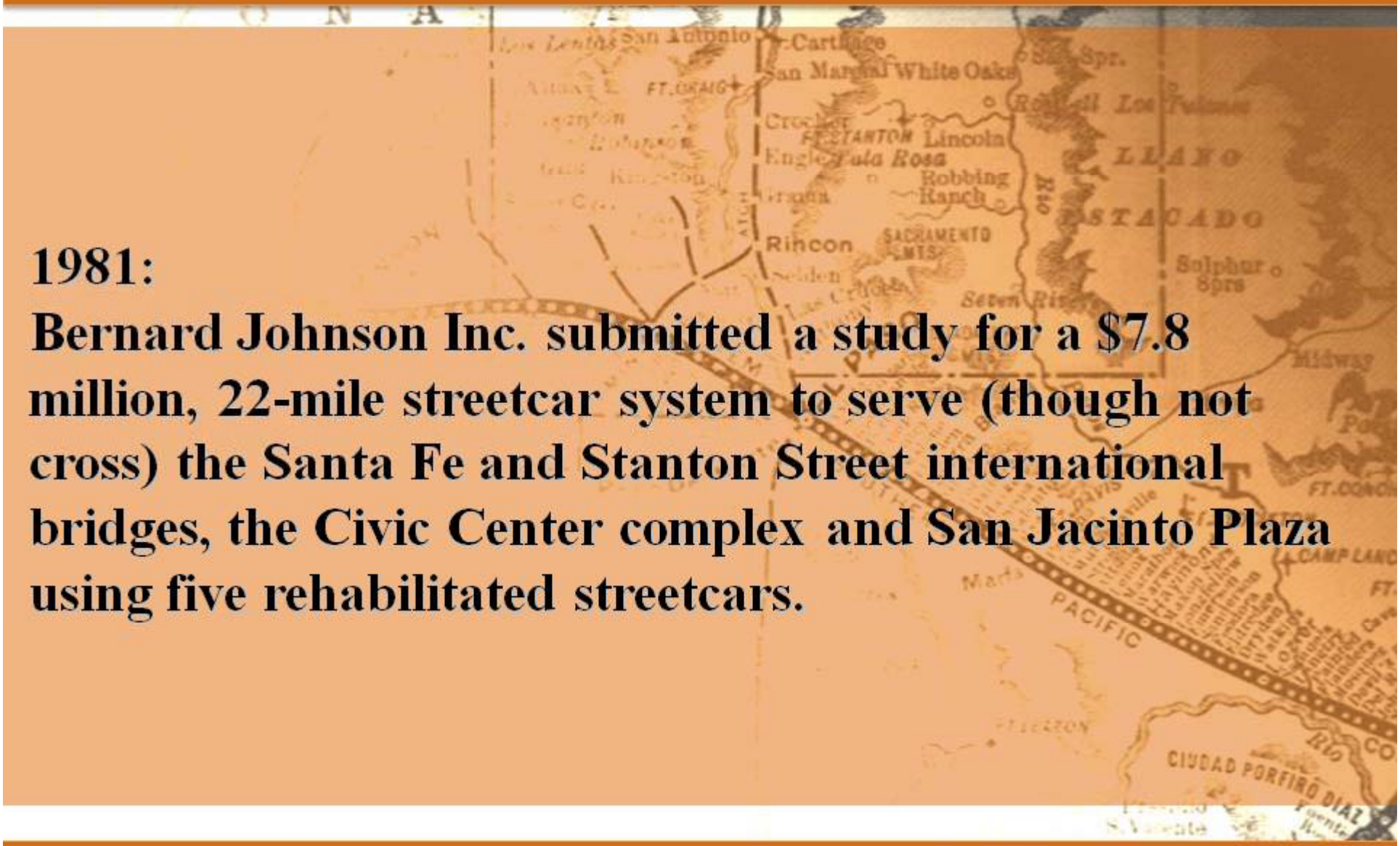
By 1974, 13,000 people used the international line daily; the trolleys were shut down in September 1974, succumbing to pressure from Downtown Juarez shop owners and taxi cab companies.

Initiatives to reactivate El Paso trolley



1981:

Bernard Johnson Inc. submitted a study for a $7.8 million, 22-mile streetcar system to serve (though not cross) the Santa Fe and Stanton Street international bridges, the Civic Center complex and San Jacinto Plaza using five rehabilitated streetcars.

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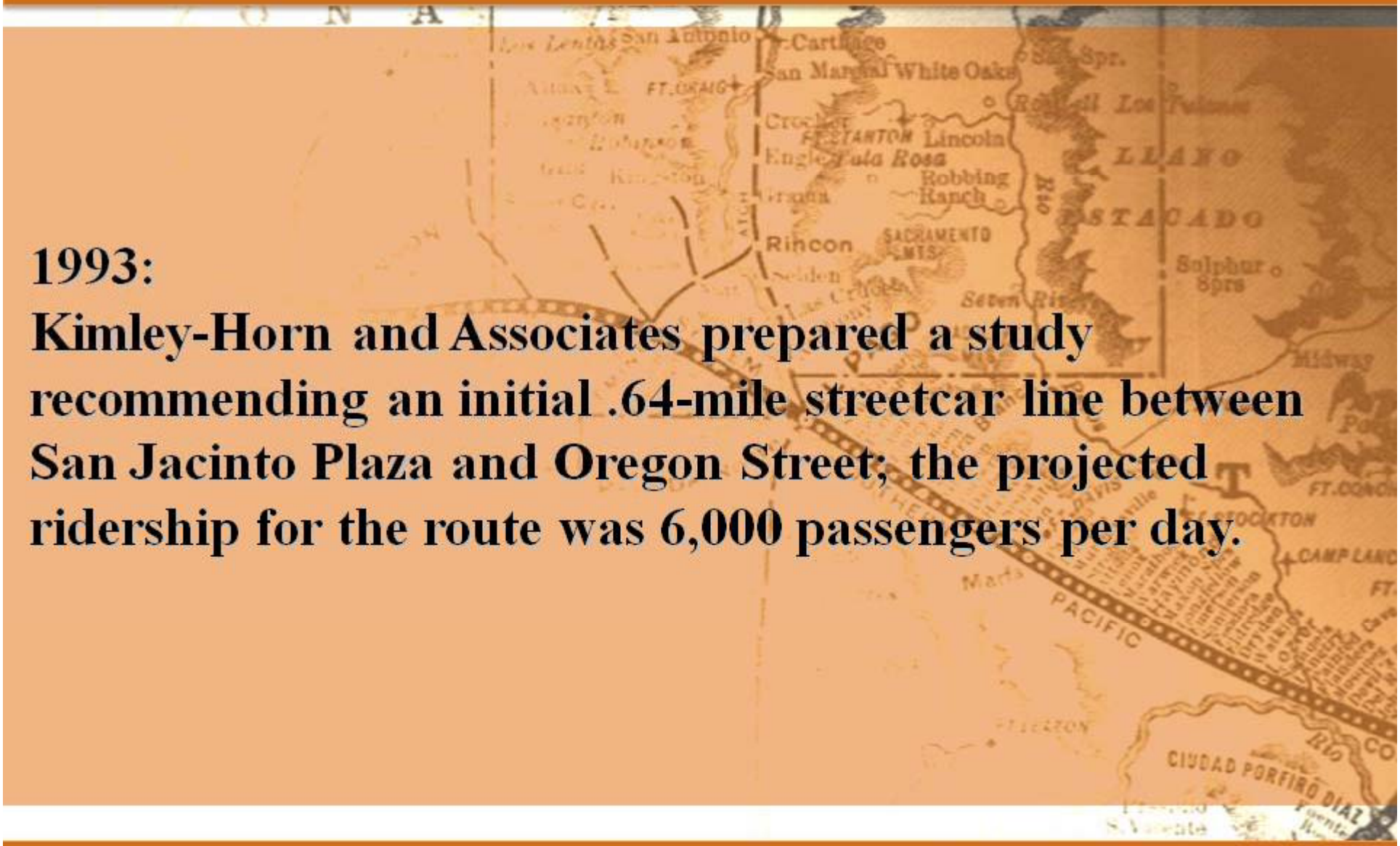
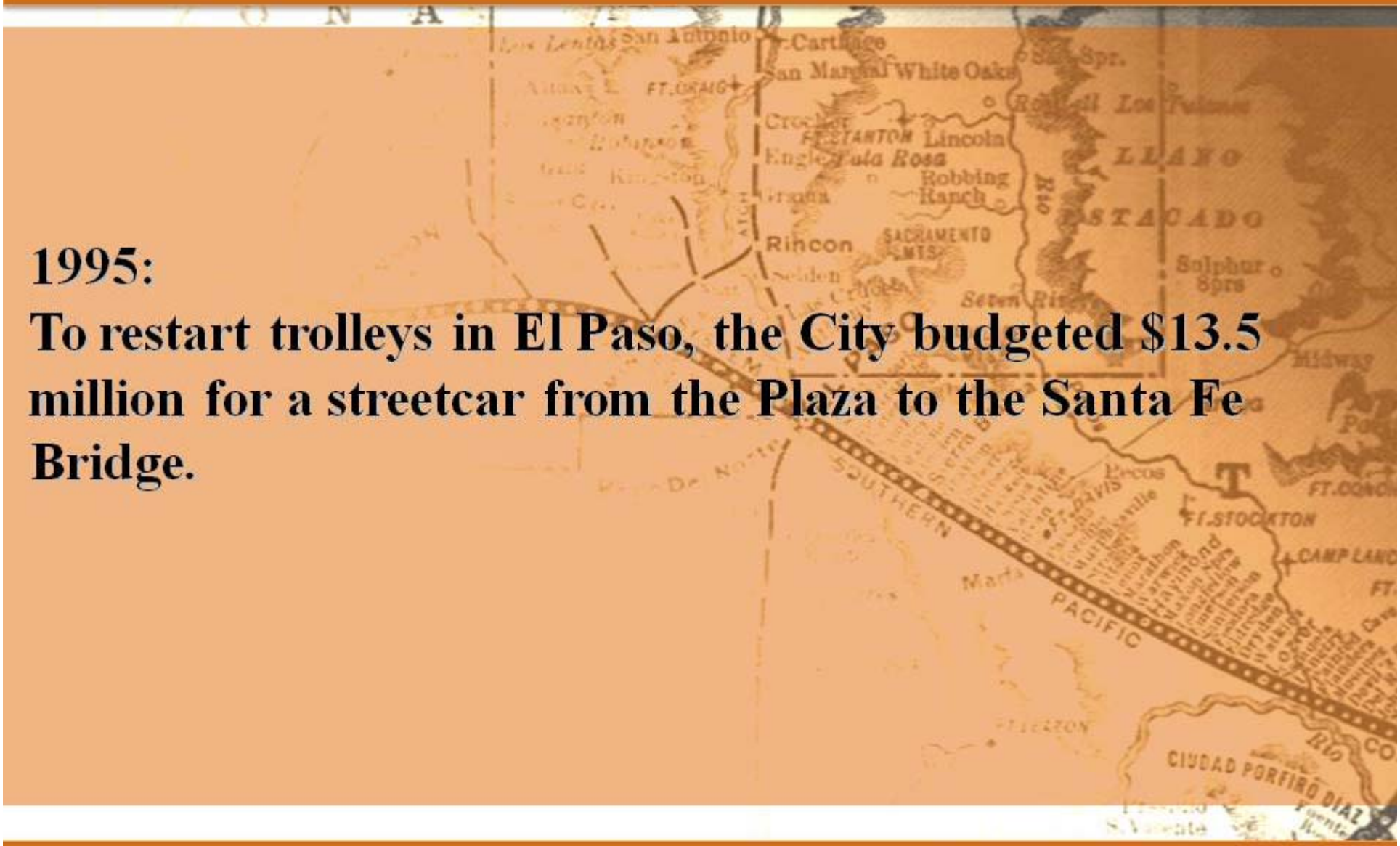


1993:

Kimley-Horn and Associates prepared a study recommending an initial .64-mile streetcar line between San Jacinto Plaza and Oregon Street; the projected ridership for the route was 6,000 passengers per day.

Initiatives to reactivate El Paso trolley

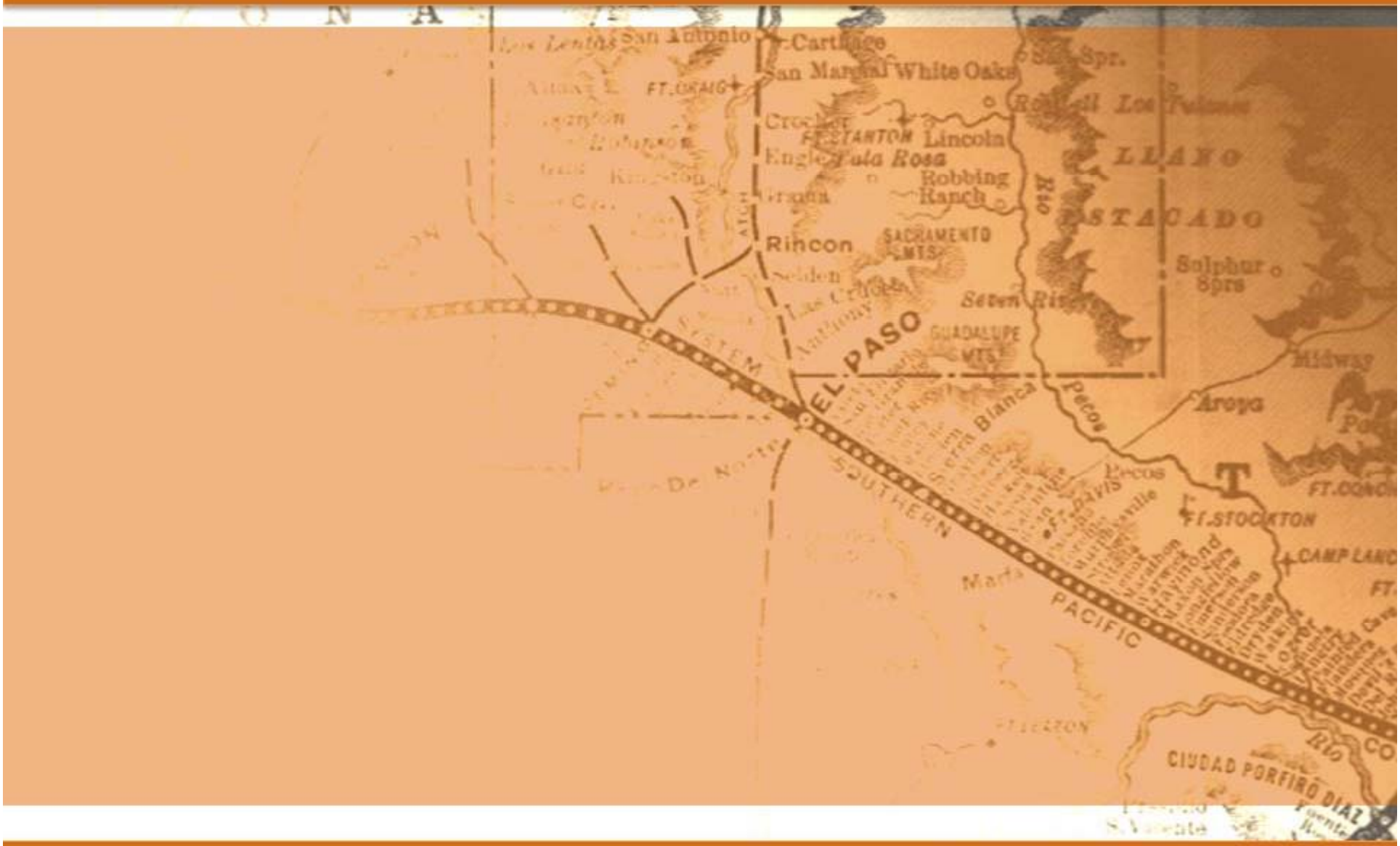


1995:

To restart trolleys in El Paso, the City budgeted $13.5 million for a streetcar from the Plaza to the Santa Fe Bridge.

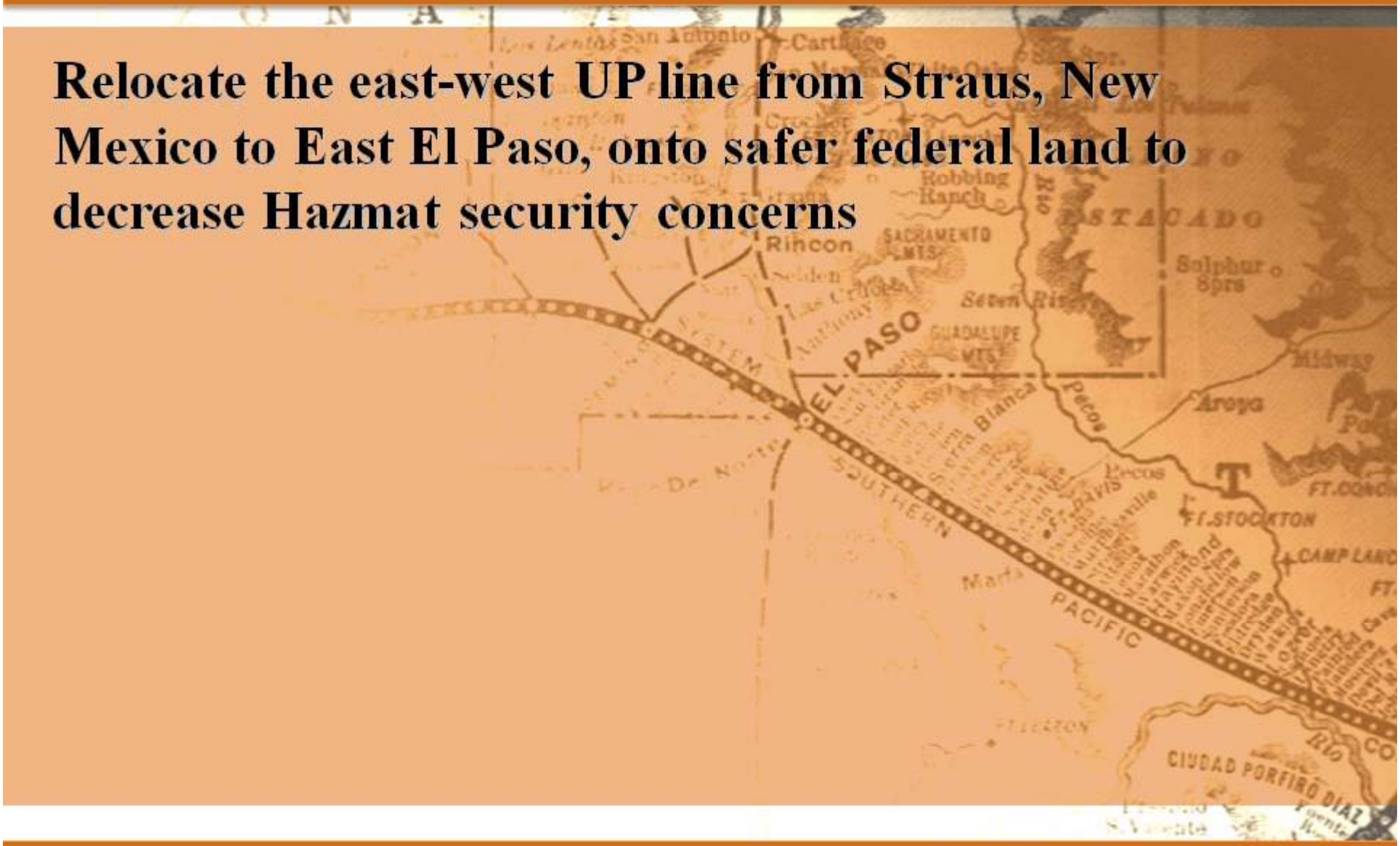
Mayor Caballero's Plan

Mayor Caballero's Plan



Mayor Caballero's Plan

Relocate the east-west UP line from Straus, New Mexico to East El Paso, onto safer federal land to decrease Hazmat security concerns



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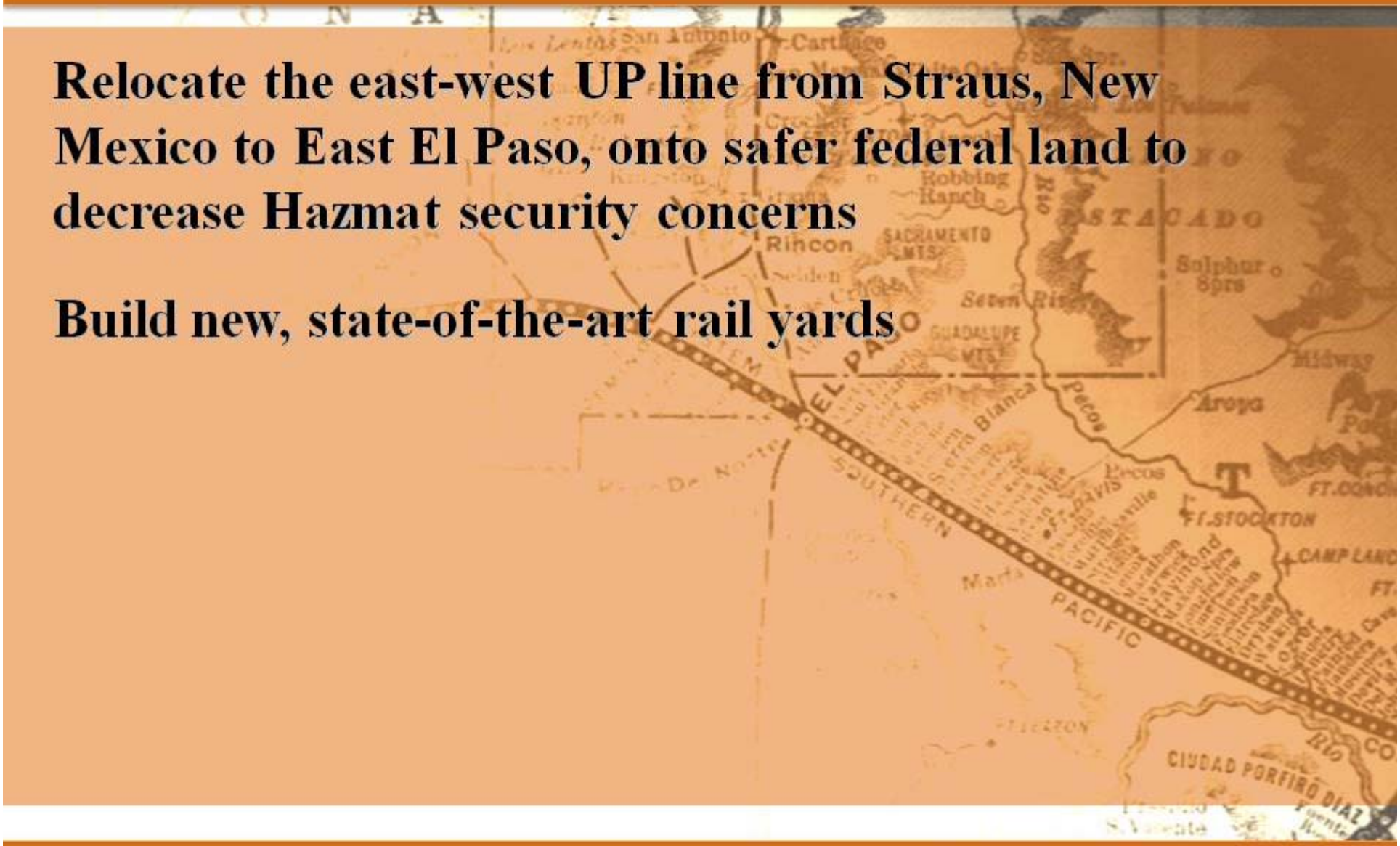
Build new, state-of-the-art rail yards



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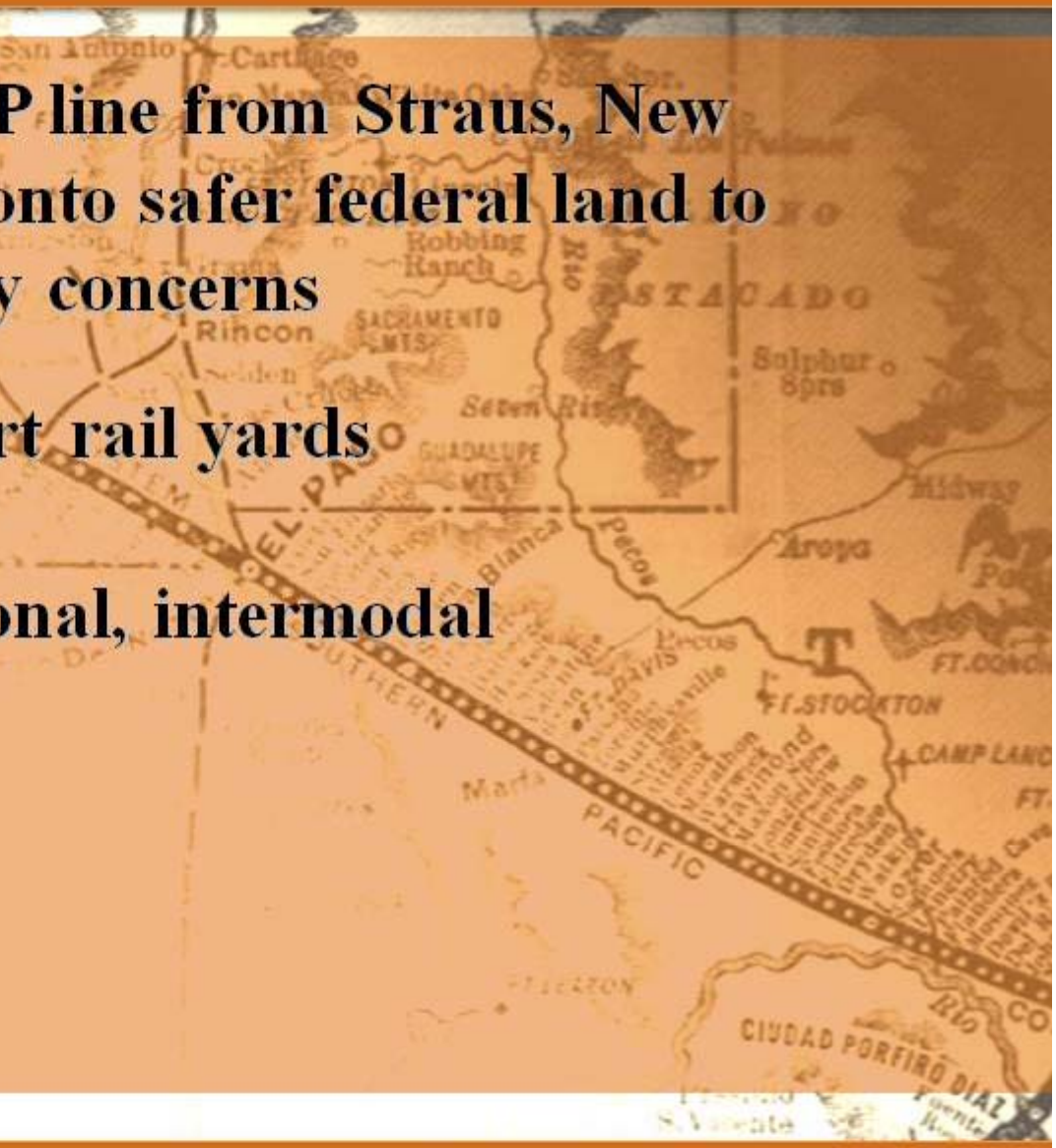

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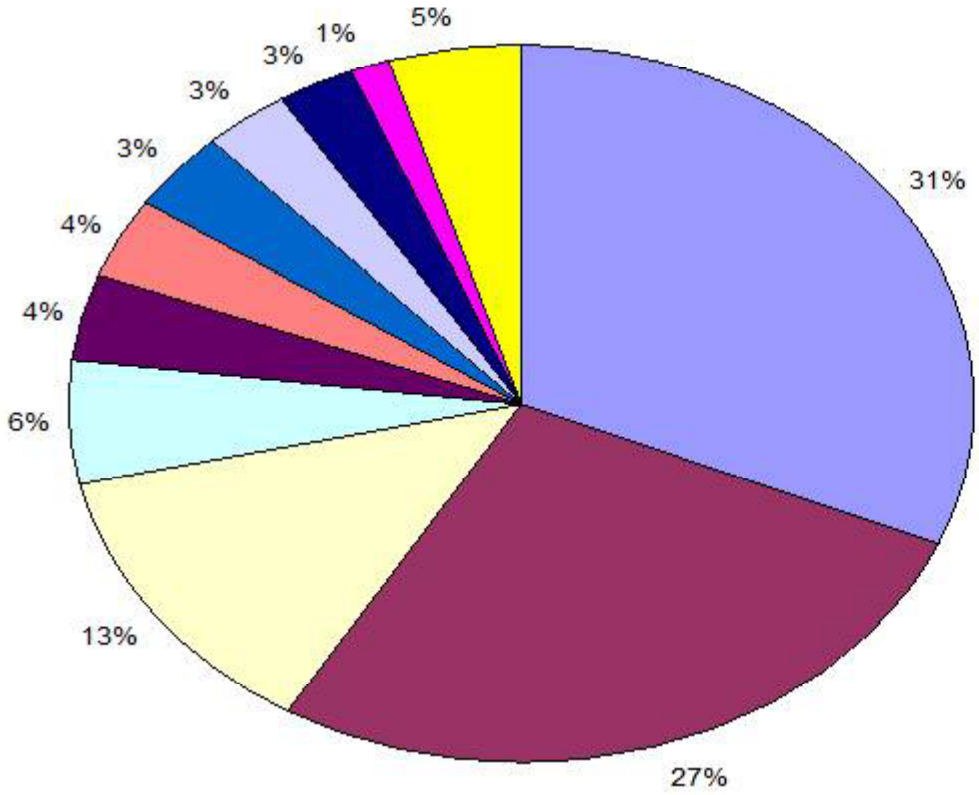
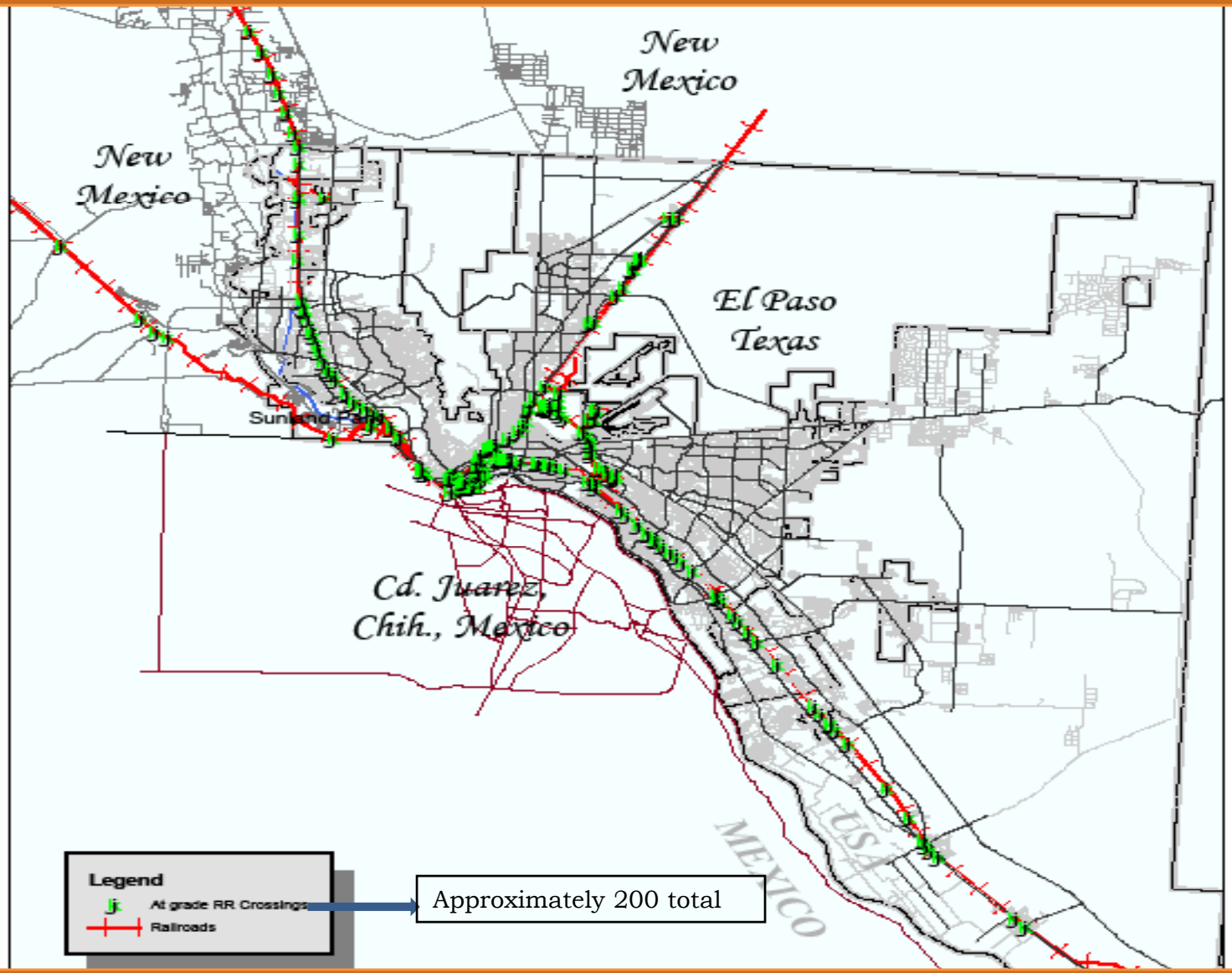
Relocate the Mexican rail line from downtown El Paso and Cd. Juarez to Sta. Teresa and Casetas.

Percentage rail commodity by type for El Paso MPO area

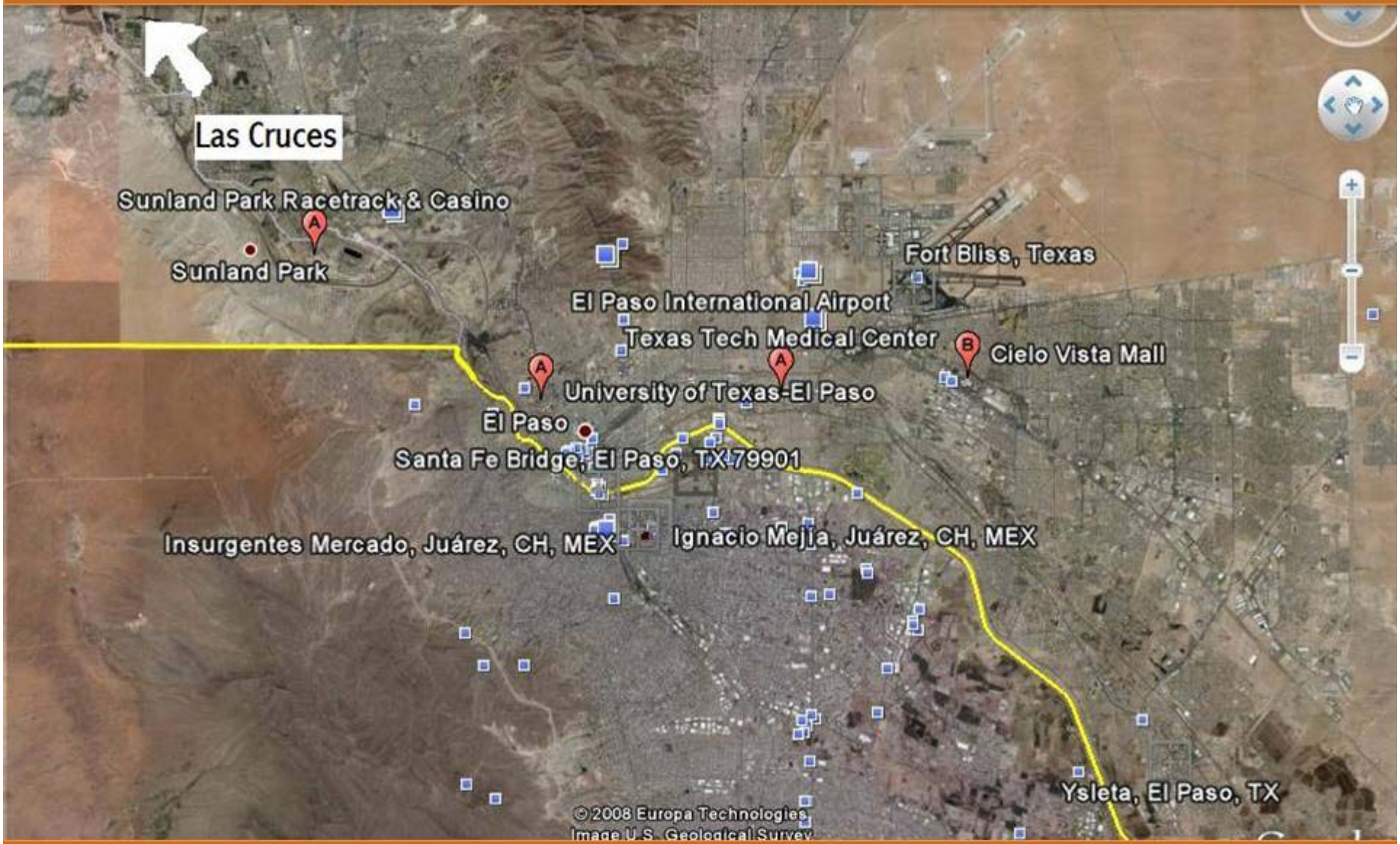


- Pulp of wood or of other fibrous cellulosic material; Waste and scrap of paper or paperboard
- Aluminum and articles thereof
- Cereals
- Residues and waste from the food industries; Prepared animal feed
- Mineral fuels; mineral oils and products of their distillation; Bituminous substances; Mineral waxes
- Lead and articles thereof
- Wood and articles of wood; Wood charcoal
- Organic chemicals
- Sugars and sugar confectionery
- Oil seeds and oleaginous fruits; Miscellaneous grains; Seeds and fruit; Industrial plants
- Other Commodities

At grade rail crossings



Key population centers – transit-related development



New Mexico Rail Runner

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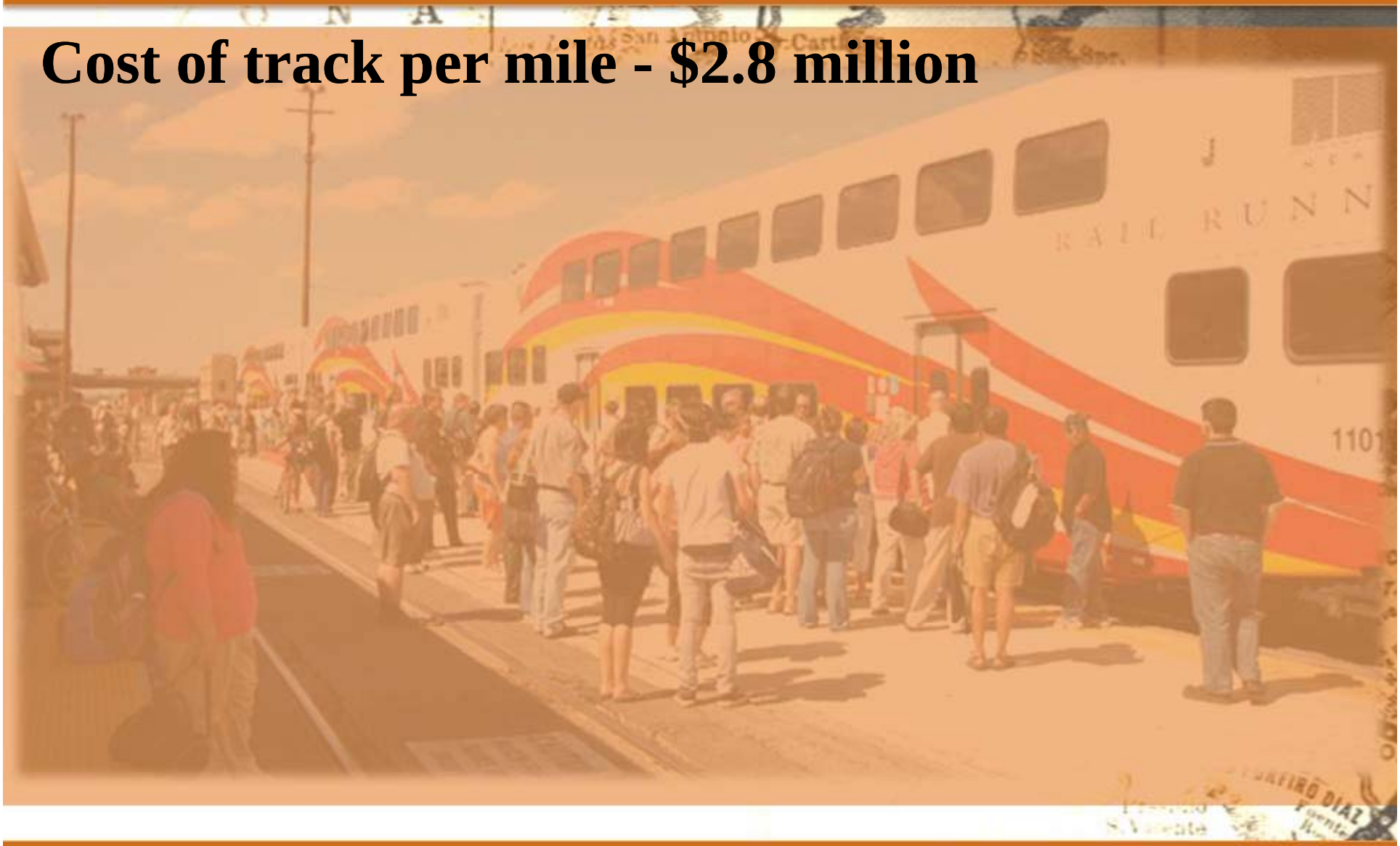
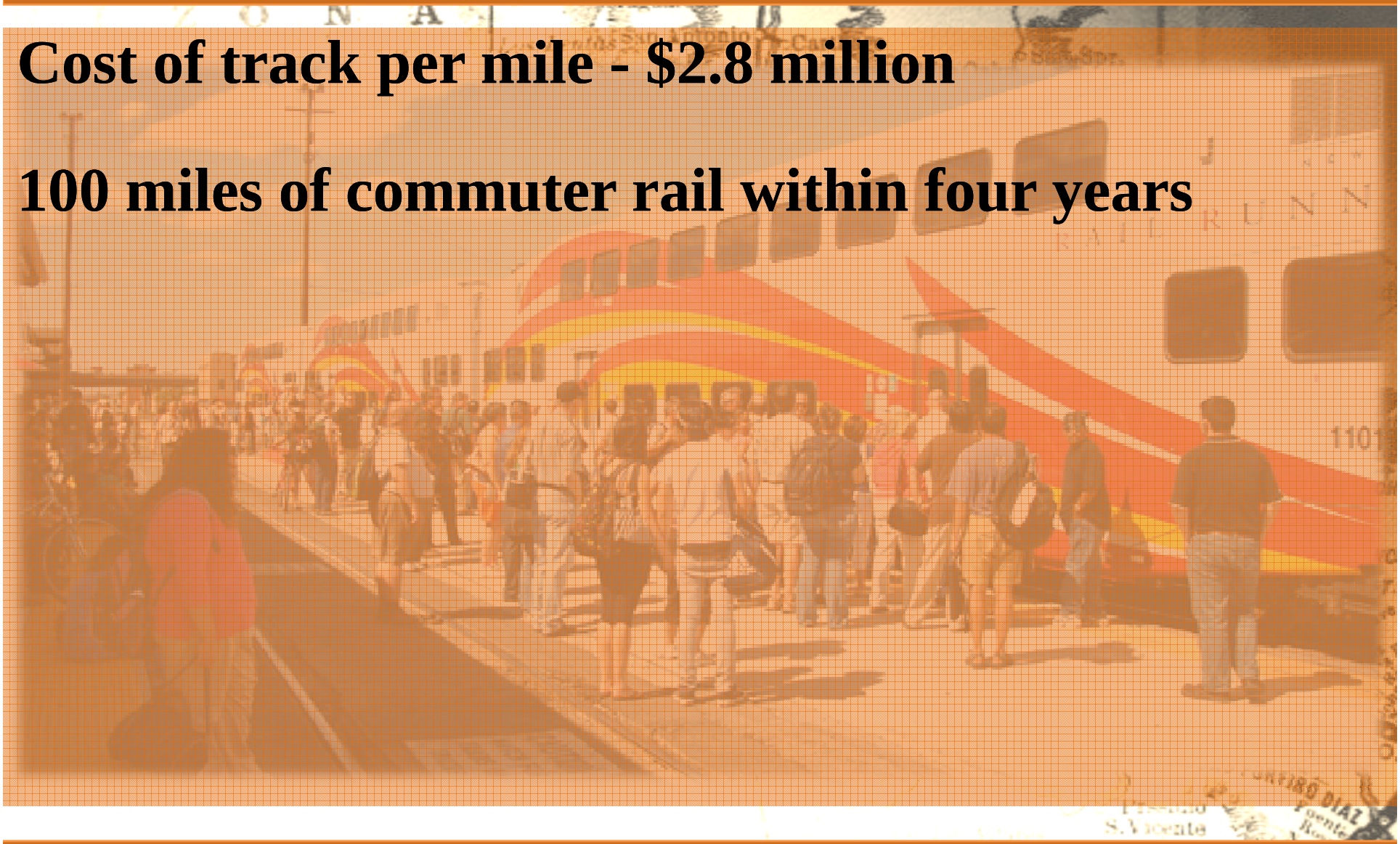


Cost of track per mile - $2.8 million

New Mexico Rail Runner

Cost of track per mile - $2.8 million

100 miles of commuter rail within four years



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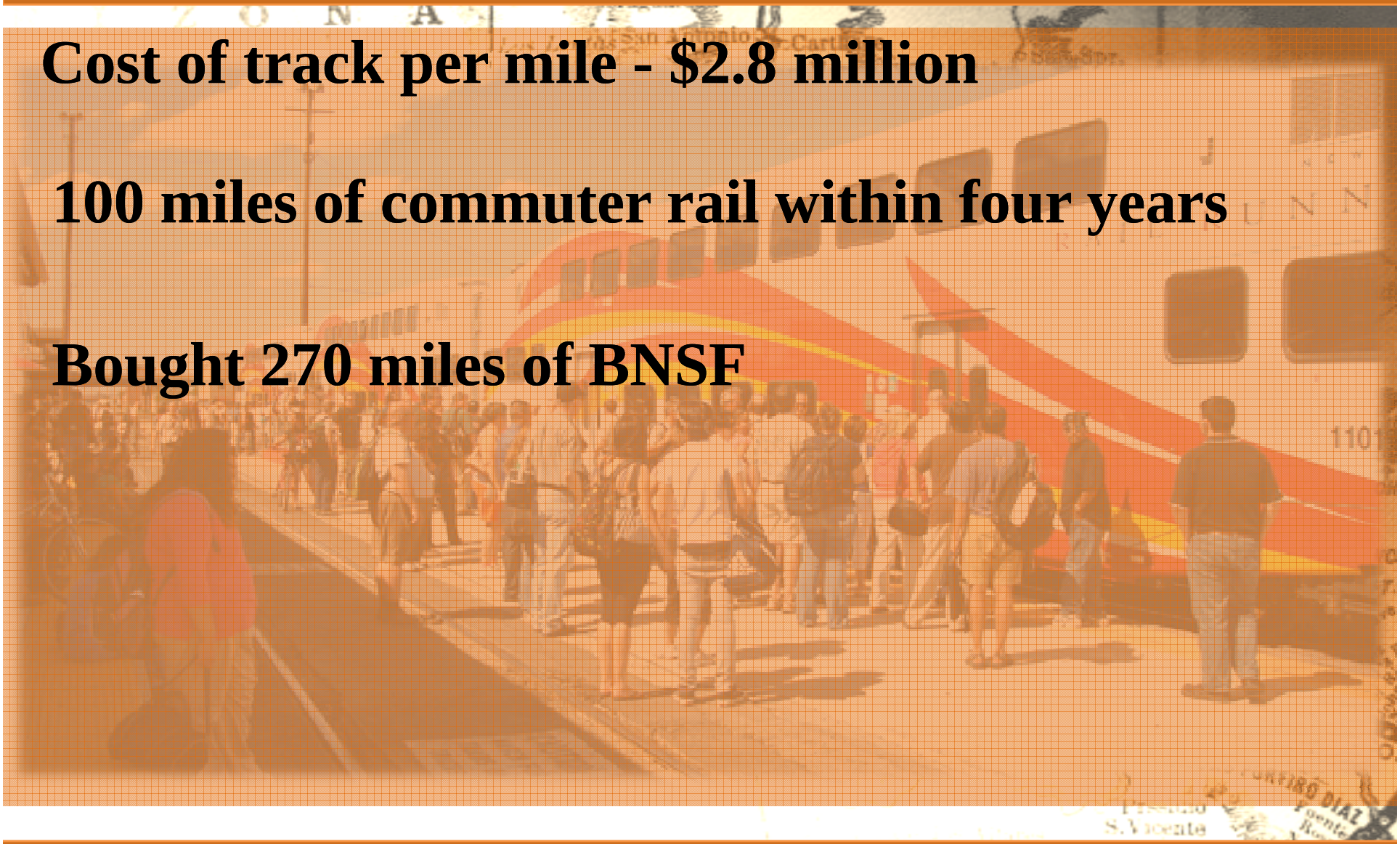

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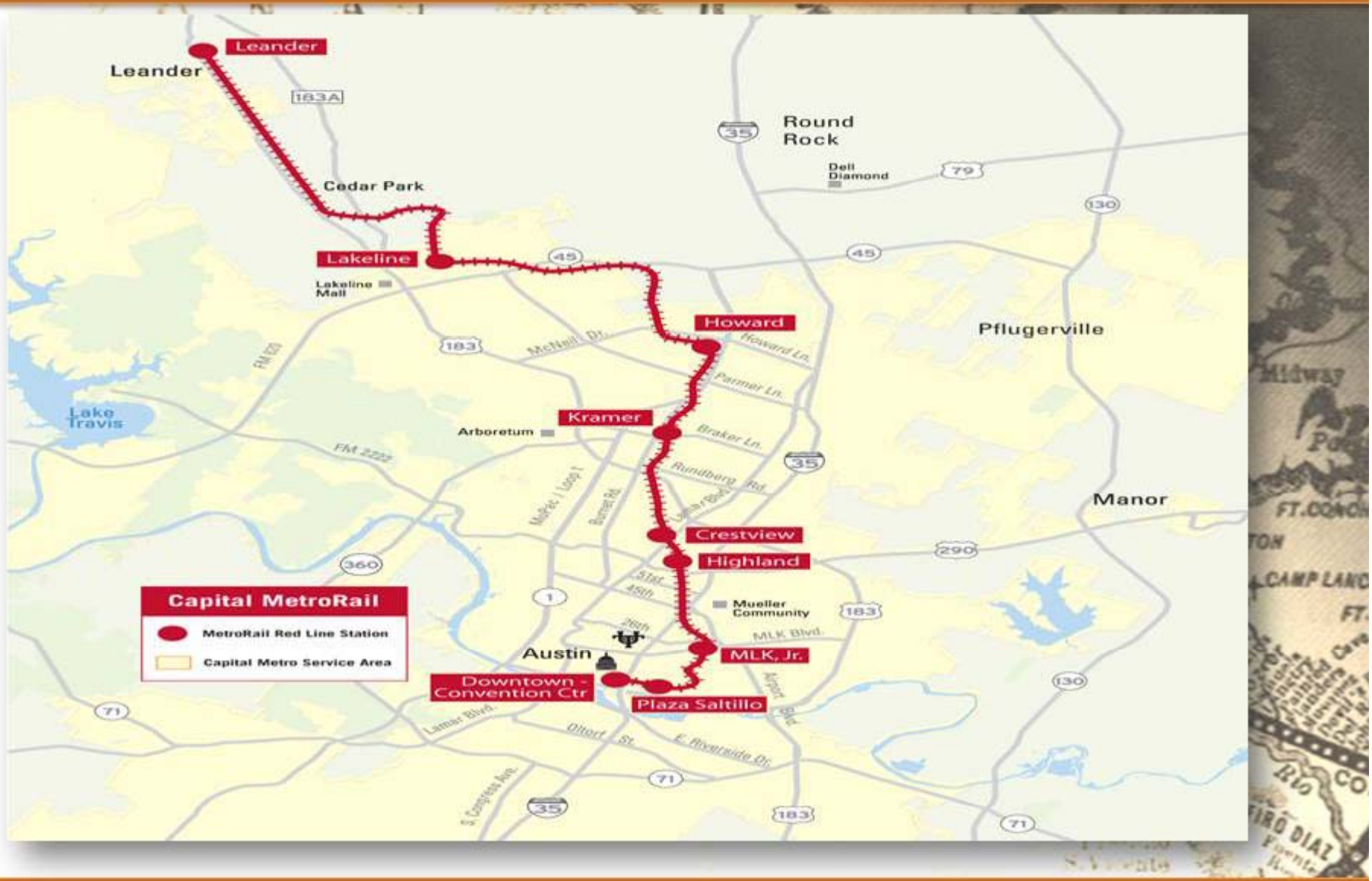
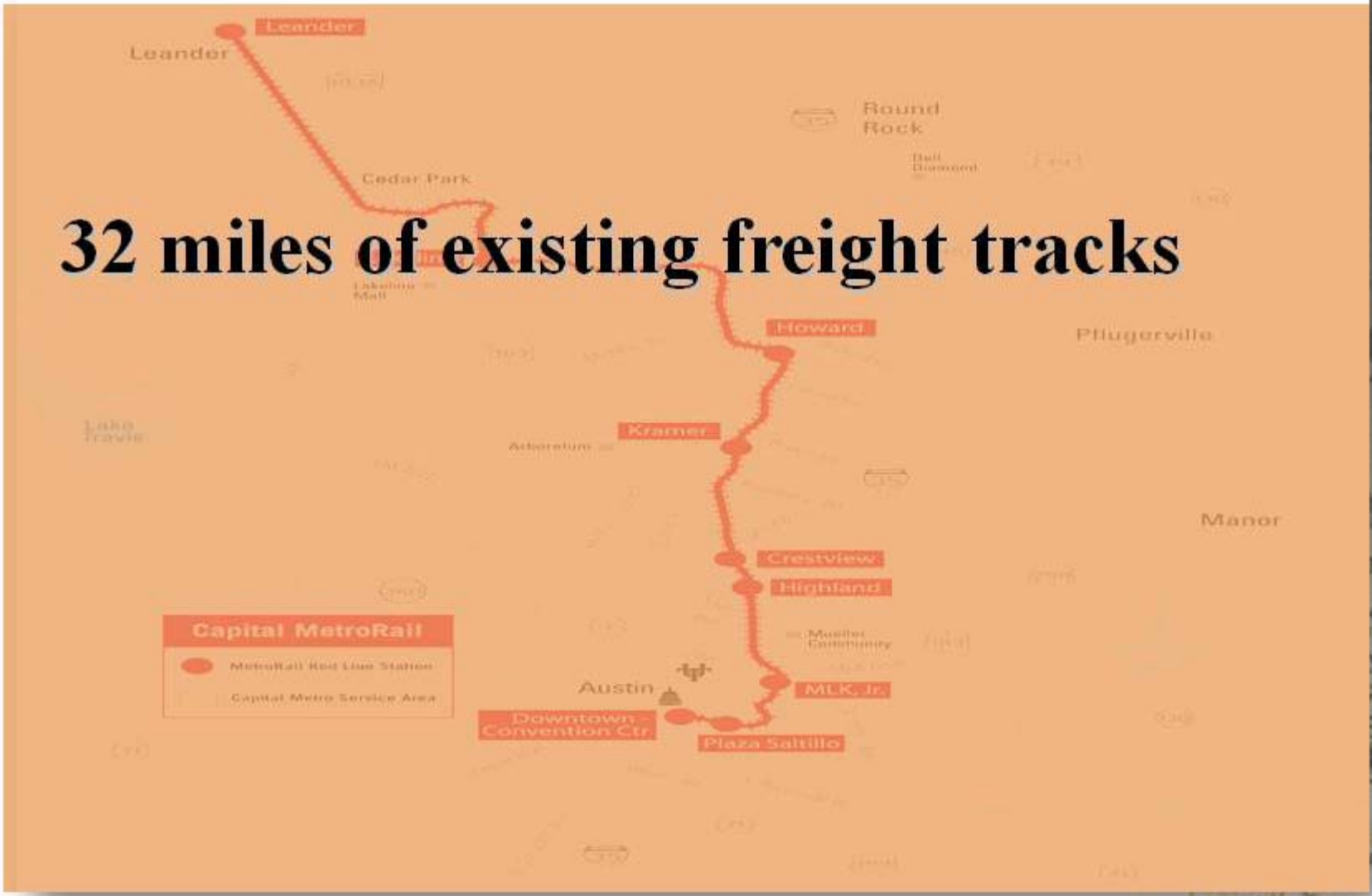
1.2 million riders, 23.4 million passenger miles since opening

Class four track for $75 million

Austin MetroRail



Austin MetroRail



Austin MetroRail

32 miles of existing freight tracks

Future connections are being studied along existing freight tracks

Downtowns across the U.S. see streetcars in their future

The NEW YORK TIMES

August 14, 2008

CINCINNATI— From his months-old French bistro, Jean-Robert de Cavel sees restored Italianate row houses against a backdrop of rundown tenements in this city's long-struggling Over-the-Rhine neighborhood.

He also sees a turnaround for the district, thanks to plans to revive a transit system that was dismantled in the 1950s: the humble streetcar line.

"Human beings can be silly because we move away from things too quickly in this country," Mr. de Cavel said. "Streetcar is definitely going to create a reason for young people to come downtown."

Cincinnati officials are assembling financing for a $132 million system that would connect the city's riverfront stadiums, downtown business district and Uptown neighborhoods, which include six hospitals and the University of Cincinnati, in a six- to eight-mile loop.

Depending on the final financing package, fares may be free, 50 cents or $1.

The city plans to pay for the system with existing tax revenue and $30 million in private investment. The plan requires the approval of Mayor Mark Mallory, a proponent, and the City Council.

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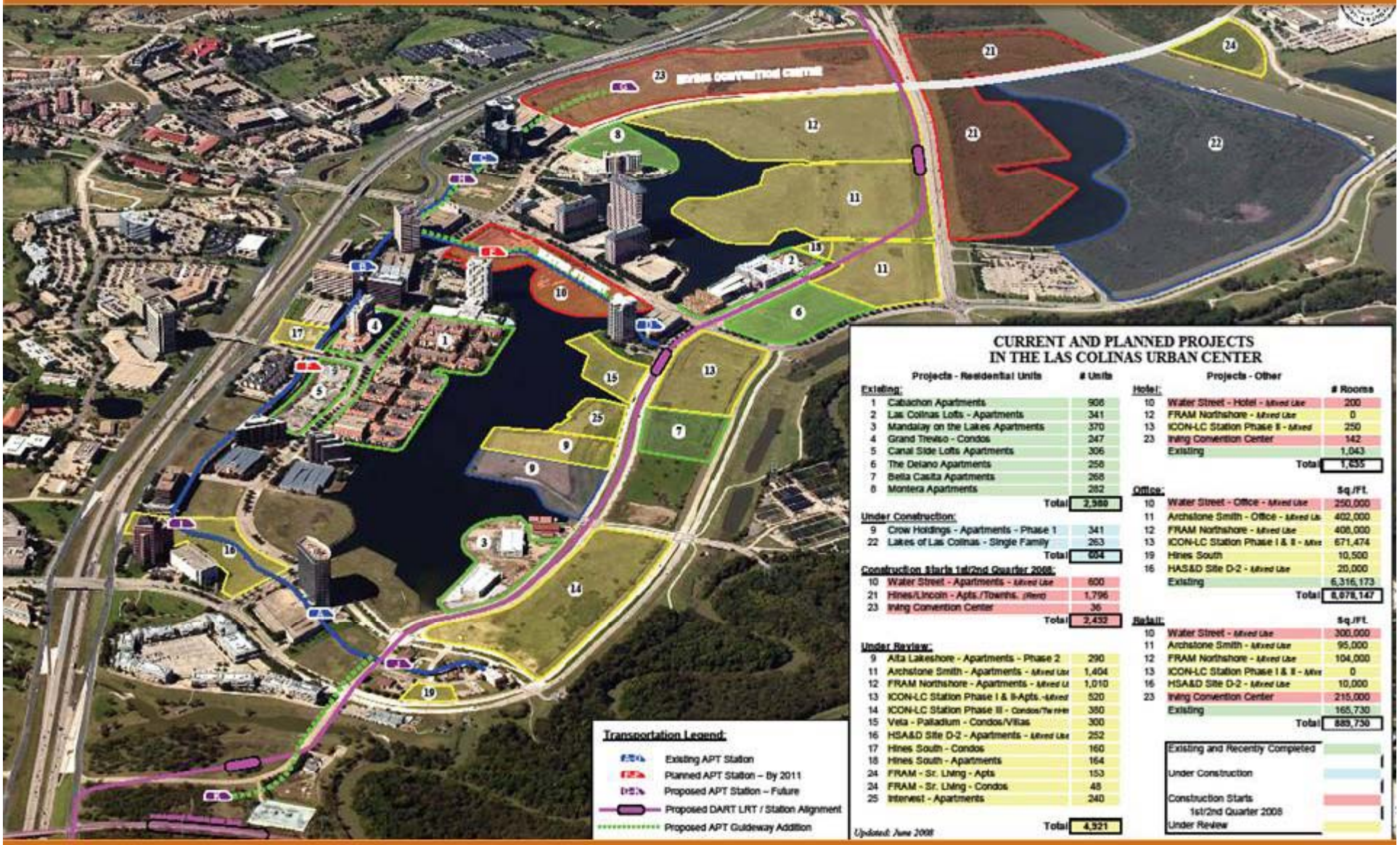
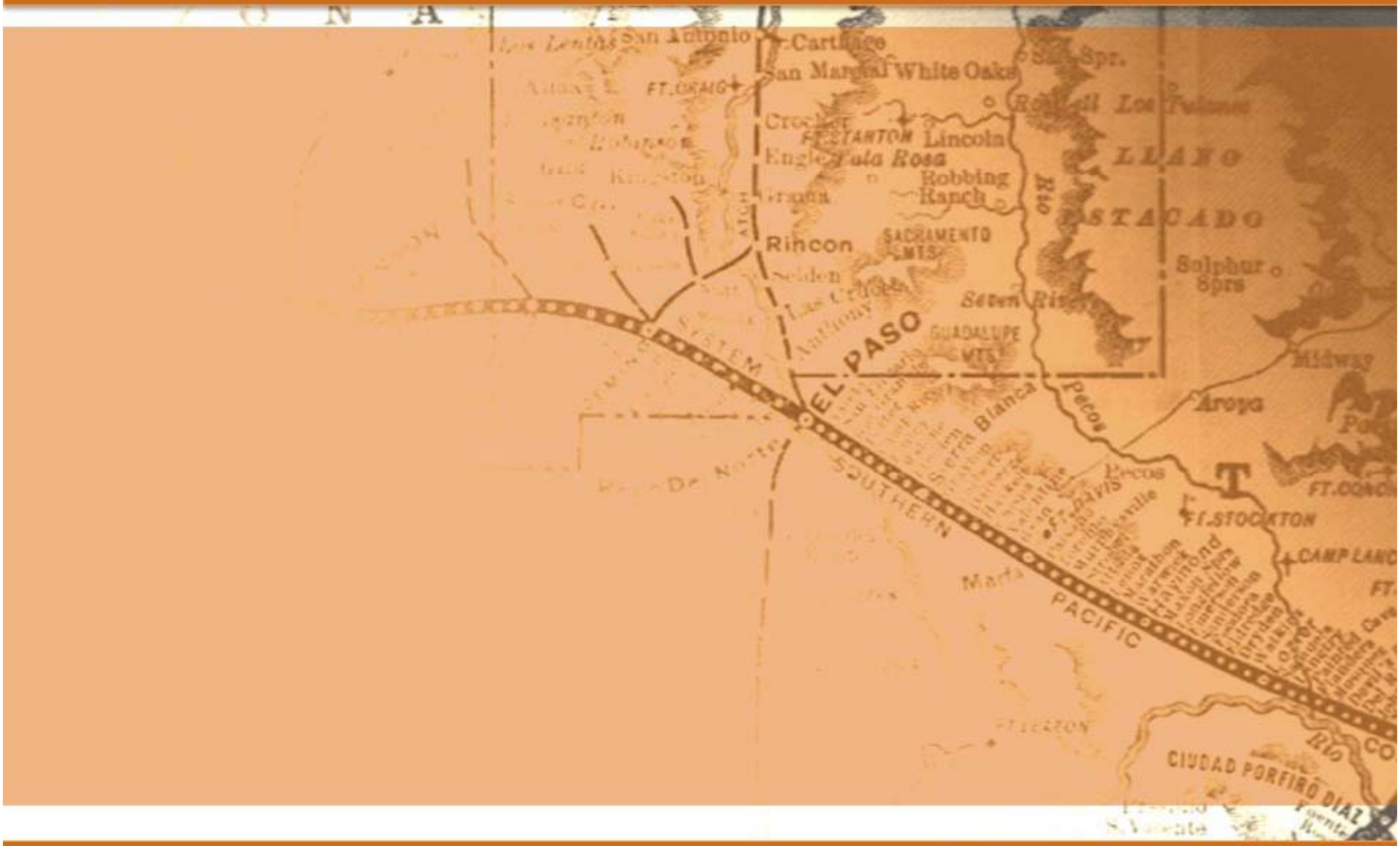
At least 40 other cities are exploring streetcar plans to spur economic development, ease congestion and draw young professionals.

Los Colinas: A look at the future

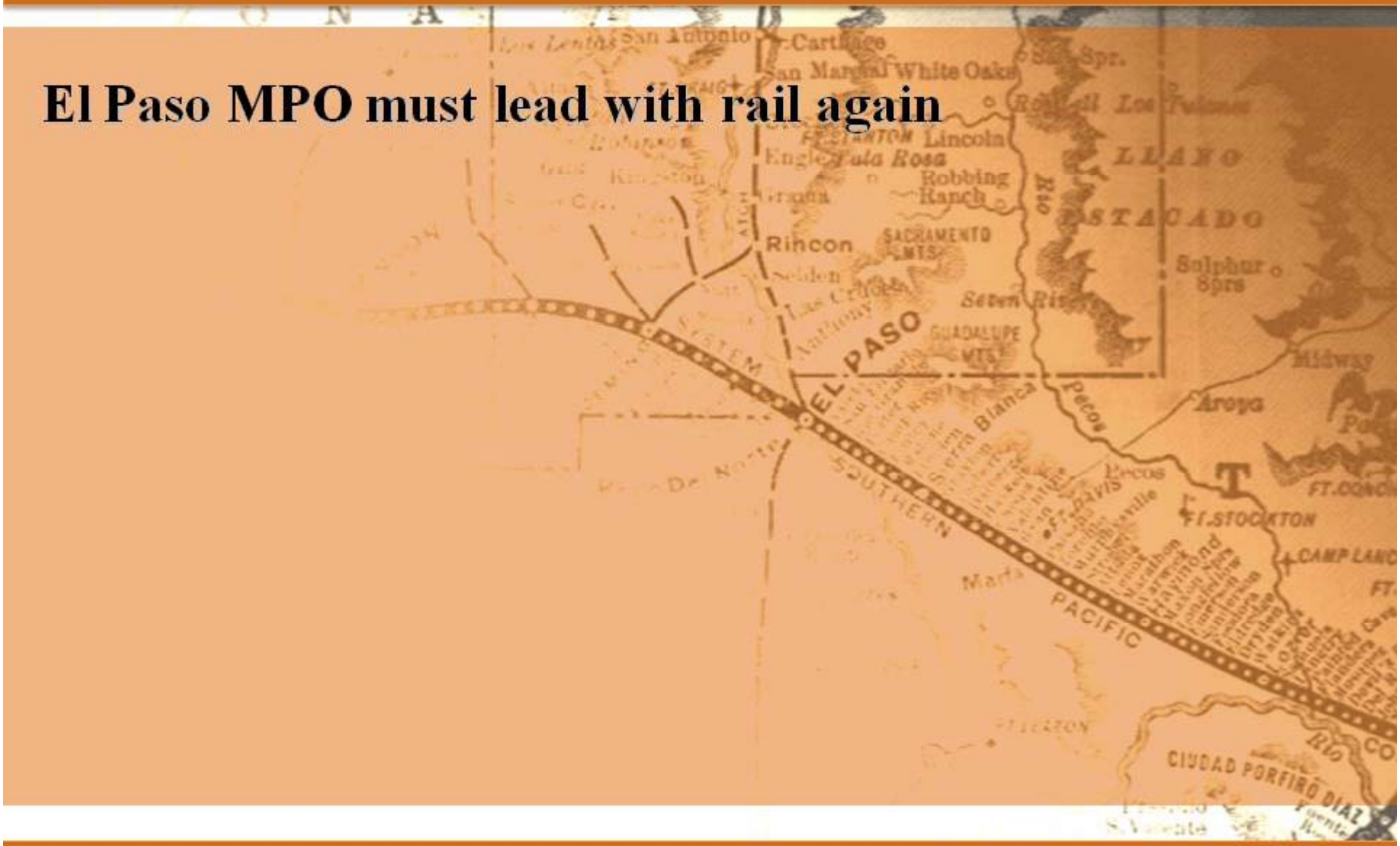


Recommendations



Recommendations

El Paso MPO must lead with rail again



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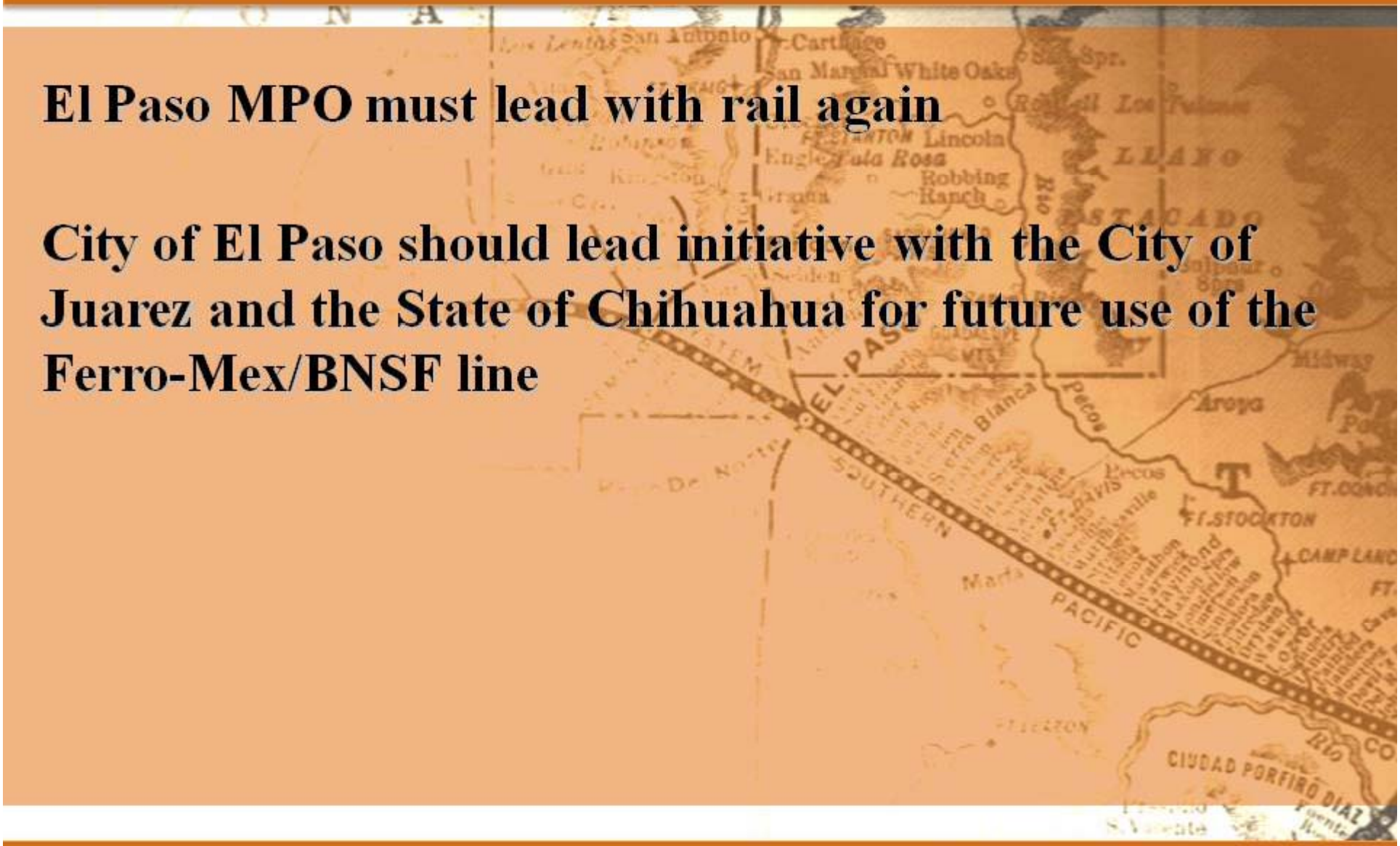

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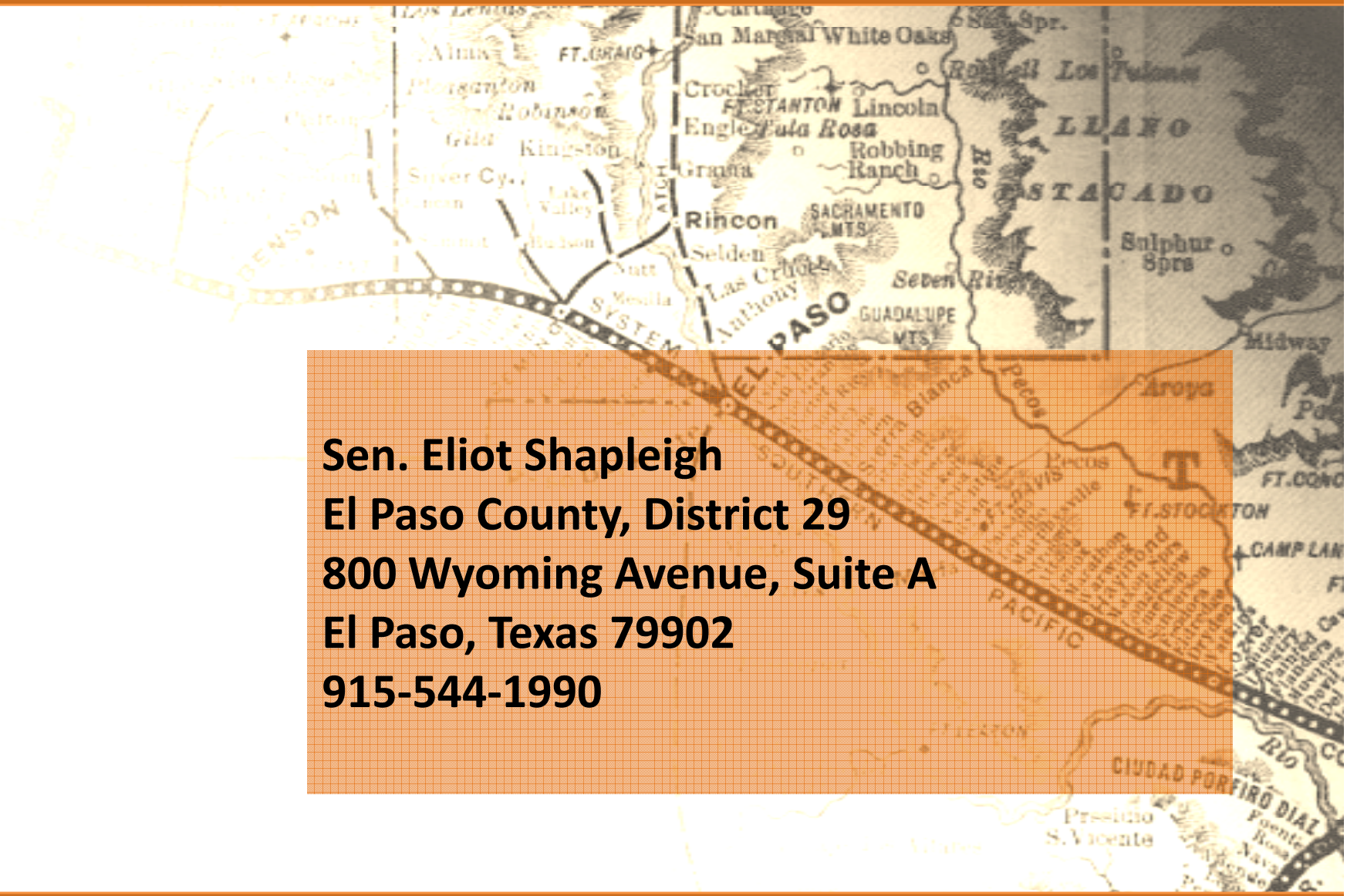
City should commission a new report on industrial rail options for:

- **Relocation of rail lines**
- **Reducing congestion, pollution and hazmat with current alignment**

RAIL IN THE PASS



Sen. Eliot Shapleigh
El Paso County, District 29
800 Wyoming Avenue, Suite A
El Paso, Texas 79902
915-544-1990

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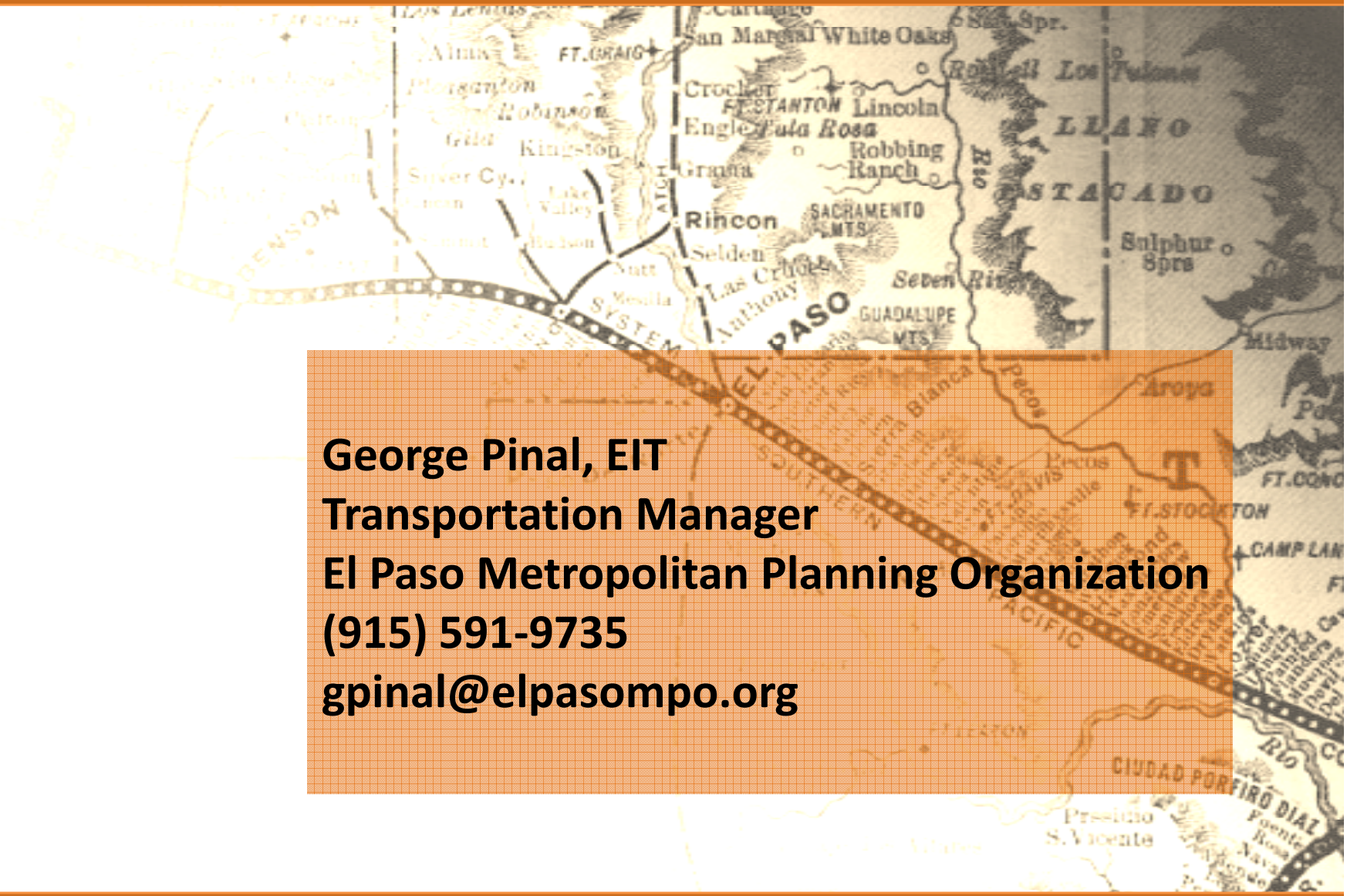

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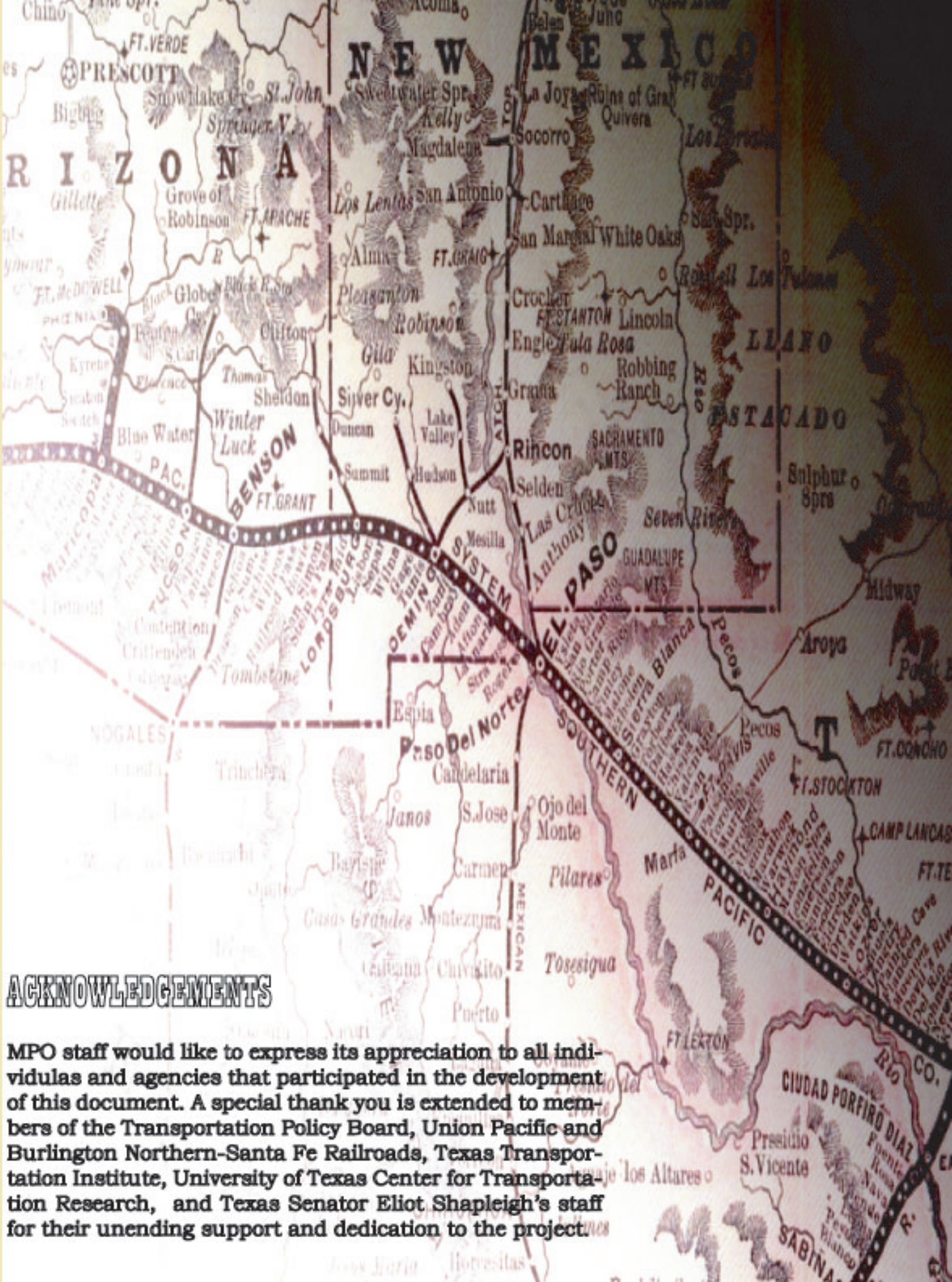

ACKNOWLEDGEMENTS

MPO staff would like to express its appreciation to all individulas and agencies that participated in the development of this document. A special thank you is extended to members of the Transportation Policy Board, Union Pacific and Burlington Northern-Santa Fe Railroads, Texas Transportation Institute, University of Texas Center for Transportation Research, and Texas Senator Eliot Shapleigh's staff for their unending support and dedication to the project.