



Border Area Economic Development Strategy

Final Report | April 2015



DOÑA ANA COUNTY RESOLUTION NO. 2015- 18

A RESOLUTION ENDORSING THE STRATEGIES AND RECOMMENDATIONS OUTLINED IN THE BORDER AREA ECONOMIC DEVELOPMENT STRATEGY

WHEREAS, Doña Ana County is a member of the Camino Real Consortium and the fiscal agent for a \$2 million Sustainable Communities Regional Planning Grant awarded to the Consortium; and

WHEREAS, this grant has supported seven (7) planning projects known collectively as the "Viva Doña Ana!" planning initiative; and

WHEREAS, the Consortium has approached regional planning as an effort that is both practical and inspired, that it is grounded in public engagement, and that it is part of a continuous process that advances and integrates other planning work; and

WHEREAS, the Camino Real Consortium authorized development of the "Border Area Economic Development Strategy" to address specific issues associated with the border area of Southern Doña Ana County; and

WHEREAS, the goals of the "Border Area Economic Development Strategy" are to expedite business development through leveraged investment & coordination of public policy, diversify economic activity, strengthen existing communities, and expand job opportunities for unemployed and underemployed residents of Doña Ana County; and

WHEREAS, regional issues associated with the Border Area include: unbalanced but dynamic growth, a need for substantial financial resources and organizational capacity to address the scope and fragmentation of issues, necessary improvements to water quality and supply, and workforce challenges; and

WHEREAS, major elements identified in the strategy to address these issues include: (a) continued dialog and exchange of information among all stakeholders leading up to consideration of new organizational capacity or expansion of existing organizational capacity, (b) coordination of regional planning efforts by Doña Ana County with those of El Paso, Texas, and Mexican jurisdictions, (c) continuous collection and sharing of information about traffic patterns, housing availability, freight movement, business sector linkages, and related topics, and (d) exploration of revenue alternatives sufficient to fund essential improvements to roads, housing, industrial and business facilities, retail business space, public transit, and community facilities.

NOW THEREFORE, BE IT RESOLVED that the Board of County Commissioners of Doña Ana County, New Mexico, hereby endorses the strategies and recommendations in the "Border Area Economic Development Strategy"; and

BE IT FURTHER RESOLVED that the Board of County Commissioners of Doña Ana County commits to actively support the direction of work outlined in the "Border Area Economic Development Strategy" and pledges to do so in the spirit of partnership with other stakeholders and interested parties who live and work in the Paso del Norte region.

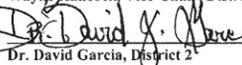
RESOLVED this 10th day of March 2015.

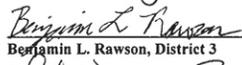
BOARD OF COUNTY COMMISSIONERS OF DOÑA ANA COUNTY, NEW MEXICO




Billy G. Garrett, Chair, District 1 For / Against


Wayne Hancock, Vice-Chair, District 4 For / Against


Dr. David Garcia, District 2 For / Against


Benjamin L. Rawson, District 3 For / Against


Leticia Duarte Benavidez, District 5 For / Against

ATTEST:


Lynn J. Ellins
County Clerk



COUNTY OF DONA ANA) RESOLUTION
STATE OF NEW MEXICO) ss PAGES: 2

I Herby Certify That This Instrument Was Filed for
Record On MAR 11, 2015 08:47:12 AM
And Was Duly Recorded as Instrument # 1504918
Of The Records Of Dona Ana County



Witness My Hand And Seal Of Office,
Lynn J. Ellins, County Clerk, Dona Ana, NM
Deputy Alexandra Chavarria

CAMINO REAL CONSORTIUM RESOLUTION NO. 2015-01

RESOLUTION RECOMMENDING THAT THE BOARD OF COUNTY COMMISSIONERS OF DOÑA ANA COUNTY NEW MEXICO ENDORSE AND ACTIVELY SUPPORT THE STRATEGIES AND RECOMMENDATIONS OUTLINED IN THE BORDER AREA ECONOMIC DEVELOPMENT STRATEGY

WHEREAS, the Camino Real Consortium was created to oversee the programmatic activities of the \$2 million Sustainable Communities Regional Planning Grant; and

WHEREAS, this grant has supported seven (7) planning projects known collectively as the “Viva Doña Ana” planning initiative; and

WHEREAS, the Camino Real Consortium consists of the City of Las Cruces, New Mexico State University, the South Central Council of Governments, the Mesilla Valley and El Paso Metropolitan Planning Organizations, the Colonias Development Council, Tierra del Sol Housing Corporation, the Town of Mesilla, the City of Sunland Park, the South Central Regional Transit District, La Semilla Food Center, and Doña Ana County; and

WHEREAS, the Consortium has approached regional planning as an effort that is both practical and inspired, that it is grounded in public engagement, and that it is part of a continuous process that advances and integrates other planning work; and

WHEREAS, the Camino Real Consortium authorized development of the “Border Area Economic Development Strategy” as one of the seven (7) planning projects to address specific issues associated with the border area of Southern Doña Ana County; and

WHEREAS, the goals of the “Border Area Economic Development Strategy” are to expedite business development through leveraged investment & coordination of public policy, diversify economic activity, strengthen existing communities, and expand job opportunities for all residents of Doña Ana County; and

WHEREAS, regional issues associated with the Border Area include: unbalanced but dynamic growth, a need for substantial financial resources and organizational capacity to address the scope and fragmentation of issues, necessary improvements to water quality and supply, and workforce challenges; and

WHEREAS, major elements identified in the strategy to address these issues include: (a) continued dialog and exchange of information among all stakeholders leading up to consideration of new organizational capacity or expansion of existing organizational capacity, (b) coordination of regional planning efforts by Doña Ana County with those of El Paso, Texas, and Mexican jurisdictions, (c) continuous collection and sharing of information about traffic patterns, housing availability, freight movement, business sector linkages, and related topics, and (d) exploration of revenue alternatives sufficient to fund essential improvements to roads, housing, industrial and business facilities, retail business space, public transit, and community facilities.

NOW THEREFORE, BE IT RESOLVED that the Camino Real Consortium hereby recommends that the Board of County Commissioners of Doña Ana County, New Mexico and other entities as appropriate endorse and actively support the strategies and recommendations in the “Border Area Economic Development Strategy”.

RESOLVED this 13th day of February 2015.

CAMINO REAL CONSORTIUM, OF THE VIVA DOÑA ANA INITIATIVE

Doña Ana County:
For/Against Absent/Abstain

City of Sunland Park:
For/Against Absent/Abstain

City of Las Cruces:
For/Against Absent/Abstain.

South Central Council of Governments:
For/Against Absent/Abstain

Town of Mesilla:
For/Against Absent/Abstain

New Mexico State University:
For/Against Absent/Abstain

Colonias Development Council:
For/Against Absent/Abstain

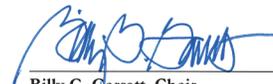
Tierra del Sol Housing Corporation:
For/Against Absent/Abstain

South Central Regional Transit District:
For/Against Absent/Abstain

Mesilla Valley MPO:
For/Against Absent/Abstain

El Paso MPO:
For/Against Absent/Abstain

La Semilla Food Center:
For/Against Absent/Abstain


Billy G. Garrett, Chair

03/04/15
Date



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Executive Summary



Introduction

In 2011, the Camino Real Regional Consortium (“the Consortium” or CRC), a partnership of Doña Ana County, the City of Las Cruces, New Mexico State University (NMSU), the South Central Council of Governments, the Las Cruces Metropolitan Planning Organization (MPO), the El Paso MPO, the South Central Regional Transit District, the Colonias Development Council, the Tierra del Sol Housing Corporation, and the La Semilla Food Center secured a three-year, \$2-million-dollar Partnership for Sustainable Communities Regional Planning Grant from the U.S. Department of Housing and Urban Development (HUD). This grant launched Viva Doña Ana, a multi-faceted project that addresses community issues with the overall goal of improving quality of life for all residents in Doña Ana County and the larger Paso del Norte.

As part of Viva Doña Ana, the Consortium authorized development of the Border Area Economic Development Strategy (BAEDS), one of seven collaborative efforts designed to address a specific community challenge. In early 2013, the Consortium secured the services of AECOM Technical Services Inc. (AECOM) and Border Research to assist in developing the BAEDS for the Border Area in southern Doña Ana County.

Goals of the Border Area Economic Development Strategy are simple:

1. Expedite business development through leveraged investment & coordination of public policy, diversify economic activity,
2. Strengthen existing communities,
3. Expand job opportunities for unemployed and underemployed residents of Doña Ana County

A deliberate and proactive strategy is needed to prepare the Border Area and Paso del Norte for a better economic future, with enhanced quality of life for its citizens.

A Deliberate Approach

It is now apparent that southern Doña Ana County (the Border Area) has arrived at a point of departure. Major investment by Union Pacific (UP) in Santa Teresa, aligned with recent and continued growth in Maquiladora investment, as well as broader supply chain shifts across North America all point to the need for a more proactive strategy that prepares the Border Area and Paso del Norte for a better economic future, one that enhances quality of life for its residents. These goals sit at the heart of the broader Viva Doña Ana effort, in which this Border Area Economic Development Strategy (BAEDS) is positioned.

The Paso del Norte (the Region), encompassing El Paso County, Doña Ana County, and Ciudad Juárez is today situated at a key junction of North American commerce, supporting more than 800,000 jobs and some \$70 billion in annual international trade. While the Paso del Norte has benefited greatly since the 1960’s with introduction of the Maquiladora in Mexico and through the North American Free Trade Agreement (NAFTA) in the 1990’s, El Paso and Doña Ana Counties have not benefited equally, with poverty and unemployment exceeding U.S. national averages, and an economic base that remains highly dependent on Federal Government spending.

Further, while El Paso and Doña Ana Counties have been slow to recover from the Great Recession, Ciudad Juárez has experienced dramatic growth in manufacturing-linked foreign direct investment (more than \$2 billion) and astonishing growth in employment (70,000 new jobs) since 2010. The Mexican state of Chihuahua has witnessed an equally dramatic wave of manufacturing-linked foreign investment, which has now ignited debate about infrastructure investments that will facilitate movement of Maquiladora goods to their North American destination markets.

Recent dramatic growth in Ciudad Juarez and across Chihuahua has triggered interest in industrial development in Santa Teresa and San Jerónimo, as well as residential and commercial projects. With recent UP investments that link with broader changes in North American supply chains, the elements of location and timing are fully in place to support accelerated growth and investment in the Border Area, but only if proactive policy decisions and infrastructure investments are made.

It is the intent of the BAEDS to provide recommendations that will enhance the economic and community resiliency of the Border Area as well as the Paso del Norte, positioning them both to respond positively as growth opportunities unfold.

Link Freight Movement & Economic Development Outcomes

While the UP Santa Teresa intermodal yard is a strategic Border Area opportunity, its opening raises equally significant questions that, if not addressed, could impede economic development potential and impact quality of life for the Border Area and Region. The new yard will provide enhanced operational flexibility for UP along their entire Sunset Corridor to better manage surging freight volumes. Intermodal yards like Santa Teresa are part of a broader Class 1 Railroad strategy to capture a larger share of freight that currently moves by truck. The new yard will benefit from ongoing Maquiladora investments, providing enhanced connectivity between production centers in Chihuahua and U.S. destination markets. As shown in the map below, these destination markets (otherwise known as Mega-regions), will increasingly be the targets of future supply chains. For Doña Ana County and the Border Area, implications are clear:

Shifting supply chains and increasing freight volumes have implications for the entire Paso del Norte.

While supply chains will not react immediately, Maquiladora operations across Ciudad Juárez and Chihuahua will re-evaluate transportation costs associated with their US markets in coming months; for freight moves beyond 900 miles, UP intermodal service will likely be competitive;

Additional development is to be expected in Santa Teresa.

Recently-built intermodal yards have attracted significant, directly adjacent distribution and logistics activity. Companies seek out these locations to lower their drayage, distribution, and transportation costs;

Doña Ana County faces a decision.

The UP yard is positioned geographically to see dramatic growth in the number of container “lifts”, growing from a current capacity of 250,000 lifts / year up to a design capacity of 700,000 annual lifts, according to UP. It is not certain that Border Area roads are ready for growth in truck traffic, many of which are county-owned or maintained, and will eventually require repair and replacement as overweight truck volumes increase.



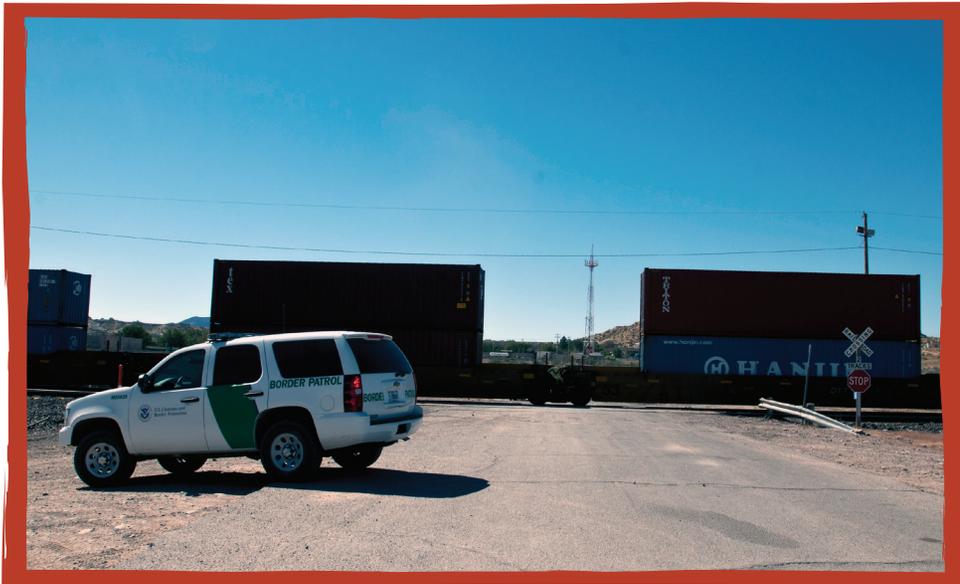
Call to Action

These realities are one reason why Doña Ana County needs to make deliberate decisions regarding infrastructure and organizational capacity in the Border Area. Short-term questions focus specifically on whether the County's role in the Border Area should expand or be delegated to a special purpose, multi-jurisdictional entity.

For the Paso del Norte Region, anticipated growth must serve as a catalyst for better integration of transportation planning with land use planning and economic development. It also requires the Region to face broader issues that require focused and collaborative responses.

The worst case for Doña Ana and El Paso Counties would be dramatic growth in truck volumes combined with an inability or unwillingness to fund infrastructure that will allow for proper connections across the border between Texas and New Mexico. While the Region has found ways to manage these challenges in the past, it is now clear that recent private investments will be significant for the Border Area.

Active steps are needed to prepare for a future that should be defined by growth and opportunity, but only if specific investments in infrastructure and organizational capacity are made.



Regional Issues

These issues should be a focus of Regional action.

1. The reality of unbalanced economic growth across El Paso and Doña Ana Counties offset by dramatic growth across the border in Mexico.
2. The US General Services Agency's limited resources to sustain funding for Port of Entry improvements, meaning that local resources will be needed.
3. That existing Border Area economic development organizations lack the resources and focused organizational depth to fully unlock the economic development opportunity that otherwise appears to be in place in the Border Area; additional resources, capacity, and coordination are needed.
4. Water availability and quality remain a focus of considerable debate and concern. The State of New Mexico is currently undertaking a state-wide study to confirm water availability. Outcomes are expected in 2015.
5. The workforce needed to support economic growth is distributed across the Paso del Norte, raising concern about how workers manage the cost of commuting in an area with few transportation options, and the adequacy of the planned supply of workforce housing units close to job opportunities.
6. USDOT indicates that freight volumes will grow by an additional 45% by 2045; areas like Santa Teresa will see growth in freight volumes that needs to be planned for.

Major Changes

This project has unfolded at a unique moment in time

1. 2015 is arguably the first “new normal” year in economic terms, going back to 2006.
2. The U.S. produced enough oil by 2015 to instigate an oil price war with Saudi Arabia.
3. Opening of the UP Santa Teresa intermodal terminal.
4. Agreement with Chinese investors to build a rail bypass from south Juárez to San Jerónimo .
5. The rail bypass from Juárez to San Jerónimo / Santa Teresa will force US Class 1 Railroads to react.
6. Adoption of a new rail law in Mexico that provides a legal framework for new rail concessions to compete with Ferromex and KCS.
7. Adoption of a new tax framework in Mexico that eliminates geographical advantage in conducting business along the Border.
8. Ownership of real estate around the Santa Teresa POE has evolved considerably, with a Canadian company now holding a majority stake in the property.
9. Passage of a new workforce development act by U.S. Congress.
10. By early 2015, six additional automotive assembly plants have been announced in Mexico, including \$1.3 billion by Ford to expand their engine plant in northern Chihuahua; a dramatic shift in North American auto assembly capacity.
11. US laws now permit Mexican trucking companies to operate in the U.S.
12. The El Paso / Santa Teresa / Chihuahua Border Master Plan process was reactivated.
13. Juárez Municipal Council approval of the partial master plan for development of its border area;
14. NMDOT is studying the proposed High Mesa road to handle future POE traffic.
15. The NM Border Authority has engaged a consultant to study rail relocation in Santa Teresa.
16. Plans for two new industrial projects at Santa Teresa have been announced; Rail Park and Westpark.

Role of Doña Ana County

Doña Ana County Government needs to define its role in the Border Area as a partner, rather than as the sole authority or leader of last resort. It is already clear that:

- > Doña Ana County owns or maintains a significant percentage of roads in the Border Area. Many of these roads are older, and will need to be replaced or upgraded, particularly as the percentage of overweight trucks grows.
- > Doña Ana County currently provides public safety services in unincorporated areas proximate to the border.
- > Doña Ana County faces a number of financial constraints which limit its ability to quickly absorb additional infrastructure costs.
- > While the Camino Real Regional Utility Authority (CRRUA) manages water and wastewater infrastructure and serves as the planning and zoning authority for the Border Area, they rely on Doña Ana County to provide staffing capacity for planning.

Enhanced coordination across borders with Mexico and Texas is needed to ensure that investments made in the Border Area actually connect into the Paso del Norte; Doña Ana County needs to play a significant role in these conversations.

Organizational Capacity

The BAEDS confirms that additional local organizational capacity and financial resources are needed. Alternative operating structures for the Border Area include:

- > A Border Development Authority, a Freight District or Port Authority
- > A Joint Powers Authority
- > Border Zone Development Corporation
- > Business Improvement District/Community Development Corporation
- > Expanded local municipal capacity

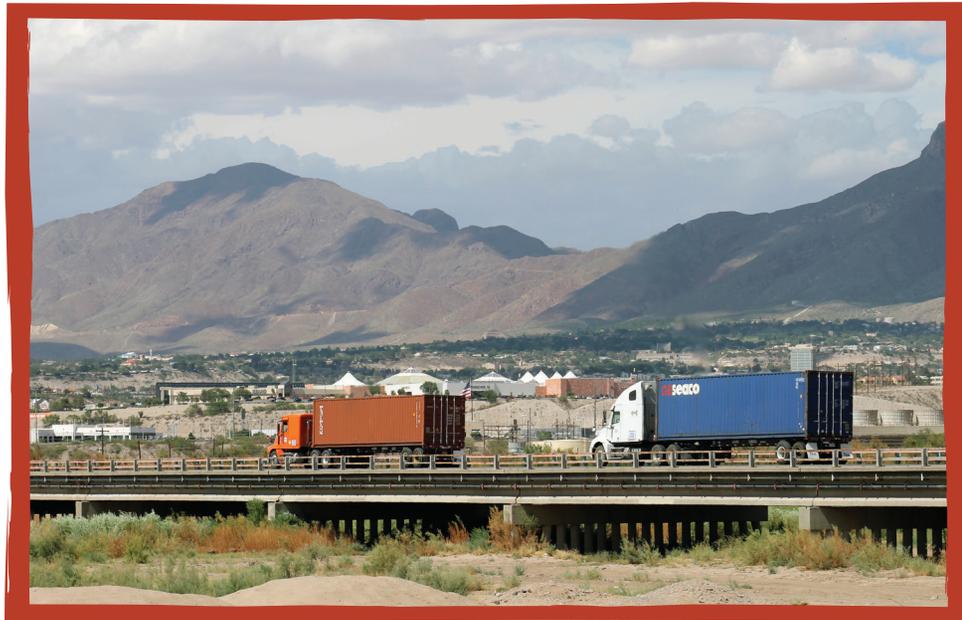
Each structure varies in terms of governance, the ability to issue debt and enter into contracts, acquire land, and own assets. The added consideration for the Border Area is the impact of freight, and the requirement for a broader regional view of freight network connections and land use impacts. Challenges with how freight currently interacts with land use, as identified by the Federal Highway Administration, are apparent:

- > Land use policies are not coordinated across jurisdictions, which can lead to

encroachment by non-compatible land uses

- > Growing freight volumes and congestion create conflicts, particularly in residential areas, if not planned and coordinated;
- > The challenge that “freight doesn’t vote” argues for a more cohesive strategy for regional engagement with movers of freight and the local jurisdictions they impact;
- > Economic development and transportation planning are often disconnected;
- > Connections between freight, land use, sustainability and public health are increasingly important, with the impact of diesel emissions of concern for at-risk populations.
- > High velocity intermodal yards generate unique truck traffic impacts, which need specific monitoring.

Regional authorities and special districts are now being established to better manage and benefit from freight movement. Examples include the Port Authority of New York New Jersey and the Kansas City Transportation District. The Northwest Infrastructure Exchange involves the states of California, Oregon and Washington, as well as the province of British Columbia; Port Metro Vancouver – Vancouver Fraser Port Authority is an example of a multi-site, multi-state special transportation district.



Regional Organization

The Paso del Norte is affected by a unique degree of political fragmentation, linked with jurisdictional boundaries and organizations (effectively silos) in two countries, three states, and three counties, which constrains the economic performance of a region with 2.4 million residents. Fragmentation is most evident in economic development, with the Border Industrial Association, the Mesilla Valley Economic Development Alliance, the New Mexico Border Authority, the Borderplex Alliance, City of El Paso Development Department, and Economic Development of Ciudad Juárez all actively trying to “sell” a region the size of Metropolitan Denver. In addition, Doña Ana County and El Paso County are each associated with state-centric workforce investment boards, which have different boundaries than the region’s economic development entities. The impact of these organizational impediments on economic development cannot be understated. The region needs to work toward a more integrated organizational model for economic development.

Short-Term Recommendations

The following specific recommendations have been identified. Further information regarding these ideas is contained within the body of the attached Border Area Economic Development Strategy report:

- > Doña Ana County needs to identify a point person to manage border area affairs.
- > Doña Ana County needs to implement an asset management program for roadways that it owns and/or maintains. The effort may need to incorporate life cycle costs as well as current pavement conditions and traffic volumes.
- > Doña Ana County needs to play an active role in the future of the Sunland Park POE, including consideration of an active partnership with the Town of Sunland Park.
- > Doña Ana & El Paso Counties, the New Mexico and Texas DOT’s and the El Paso MPO need to establish annual monitoring regimes for truck counts on key arterials across the Border Area, as well as the number of annual lifts at UP Santa Teresa. There is also a broader need to re-evaluate existing truck routes and identify improvements, including turning lanes, signal timing, etc. This point is essential, given anticipated residential growth in the Border Area.
- > The El Paso MPO, with support from NMDOT, TXDOT, and Doña Ana County should initiate a regional freight movement study to document recent shifts in what commodities and manufactured goods are moving, and where they are going. Outputs will frame support and priorities for candidate infrastructure projects, noted below.



The study will need to evaluate truck impacts, as well as how industrial development patterns on both sides of the border align with transportation infrastructure.

- > Detailed field surveys of existing housing stock need to be undertaken to identify housing inventories and levels of affordability. Current plans for a Doña Ana County-led Affordable Housing Plan align with this goal, in cooperation with the Mesilla Valley Public Housing Authority; the study is expected to be completed by June of 2015. Resulting information (housing unit size, condition, amenities, and valuation) should be incorporated in a regional GIS framework.
- > The Region needs to undertake a detailed economic analysis of the Paso del Norte using input-output data, to clarify how linkages between industry sectors across Doña Ana County, El Paso County, and Ciudad Juarez have changed over the past 10 years, and how they may change with investments associated with the Santa Teresa POE, UP investments. While local companies have learned how to work within constraints created by local borders, resulting sector linkages across borders are not readily apparent in a political context, and need to be better defined.
- > Border Area economic development organizations need to ensure that companies

in Doña Ana County are benefiting from July 2014 approval of the Alternative Site Framework for Foreign Trade Zone 197; further discussions regarding the role for a “single operator” are needed.

- > NMDOT is currently undertaking a border master plan to collect data, identify planning issues on both sides of the border, and engage with stakeholders to build consensus around priorities. Outcomes from this study will influence mid-term priorities

Mid-Term Recommendations

- > One Initiative of Viva Doña Ana is to create a GIS web portal through a partnership with New Mexico State University (NMSU). Once implemented, this program should aspire to be regional in scope, moving beyond the existing GIS clearing house associated with the Paso del Norte. More robust traffic data should be incorporated, along with expanded land use and property record information.
- > As local economic recovery strengthens, conversations regarding public transit will need to continue. Partnerships with the private sector will be required to sustain support of future bus connections in the Border Area. As well connectivity with existing regional transit systems will need to be confirmed through conversations with SunMetro, including the new El Paso Bus Rapid Transit Mesa Corridor line.
- > The Border Area is served by two Council of Government (COG) organizations, both of which have authored comprehensive economic development strategies (CEDs). As such, the Border Area should be eligible for US Economic Development Administration (EDA) infrastructure grant funding. Further investigation of EDA opportunities by local economic development representatives is imperative.

Planning Recommendations

Planning recommendations for the Border Area build from three central tenants. First, the UP Santa Teresa yard is now open and residential development is beginning to accelerate, even as existing local roads do not appear adequate. Second, the Border Area is a unique place because of the existing covenants, conditions, and restrictions (CC&R's) that are in place for private industrial development. Third, outcomes from Viva Dona Ana will include a new county-wide comprehensive plan and unified development code (UDC). Recommendations presume a continued joint effort between CRRUA and Doña Ana County Planning to evaluate the impact of the new county-wide comprehensive plan and unified development code on the Border Area. One goal will be to confirm if existing CC&R's are consistent with new UDC guidelines. Given the amount of time that has passed since the original Verde Master Plan was announced, the two organizations

should re-examine the plan and amendments to ensure that the Border Area can support a sustainable balance of residential and industrial uses in relation to transportation system improvements that can sustain growth.

The Border Area also contends with unique freight impacts, and that county-wide standards may not be appropriate. Considerations include:

- > As freight rail corridors are valuable, best practices include minimum setbacks to prevent encroachment, and to mitigate vibration and noise associated with freight trains.
- > Identification of specific at-grade railroad crossings that eventually need to be grade-separated.
- > Protect industrial areas from encroaching commercial and residential uses, while ensuring that industrial areas have access to supporting services.
- > Link industrial building types to their anticipated trucking requirements.
- > Consider introducing workforce housing in locations proximate to employers but not in conflict with trucking corridors.

Priority Infrastructure Projects

Enhanced freight monitoring efforts and data analysis will allow regional officials to make informed decisions regarding infrastructure projects that will enhance how traffic flows through the Region. For example, county officials have already identified the need for a crosswind runway at Doña Ana International Jetport as well as reconstruction of 1.3 miles of Airport Road from Pete V. Domenici Hwy. as part of current capital improvement plans. Other proposed projects could include:

- > NMDOT, TXDOT and the El Paso MPO should re-evaluate Pete V. Domenici Hwy. & Artcraft Rd., working toward a grade-separated limited-access route between the Santa Teresa POE and I-10. Dedicated truck lanes or a toll road should be considered.
- > The UP Santa Teresa yard has increased truck movements along Airport Rd. from Pete V. Domenici Hwy. to McNutt, and eventually to I-10. Of concern is the location of Santa Teresa High School along Airport Rd., a two-lane facility at present. Presuming that Airport Rd. continues to be an option for trucks making connections eastward, widening of this road near the school needs to be studied.
- > NMDOT, TXDOT and the El Paso MPO should study the need for a truck focused interstate way-finding system, which provides specific guidance to thru-trucks

regarding congestion on local interstates.

- > NMDOT, TXDOT and the El Paso MPO should evaluate improvement of Highway 9 connecting to McNutt for commercial traffic.
- > NMDOT and the El Paso MPO needs to continue to evaluate the West Mesa Corridor connection from the border area northward to I-10 near Las Cruces, aligned with updated traffic and freight demand studies that factor in the new UP yard.
- > NMDOT and the El Paso MPO need to evaluate corridors to connect the Santa Teresa Area with NM State Route 404, to support east and northeast bound truck movements.
- > The New Mexico Border Authority is evaluating a rail connection between the Santa Teresa POE and existing UP and BNSF mainlines. Experience suggests that an entirely railroad-funded solution is unlikely on the US side, as Class 1 railroads remain hesitant about mismatches between benefits and costs, and are concerned about the introduction of additional traffic on already congested mainlines. For this reason, the Border Authority and / or NMDOT will need to consider financial and operational roles in the project. Nationally, DOT's are partnering with railroads to enhance rail capacity.
- > There is growing national interest in compressed or liquid natural gas (CNG/LNG) as a truck fuel, linked with lower fuel costs and reduced emissions. Although diesel fuel in Mexico is less expensive, consideration should be given to a regional natural gas fueling strategy for municipal fleets and trucking companies, as a response to air quality concerns.
- > With news reports indicating that BNSF will expand intermodal service between Mexico and Chicago, Officials from NMDOT, Doña Ana County and the City of Las Cruces should begin to plan for growth in traffic along the BNSF main line that runs parallel with NM 478 toward Las Cruces with eventual need for grade-separations.
- > Infrastructure funding remains a topic of national debate. While Public Private Partnerships (3P) are popular, these structures are tied to revenue streams that can support investor interest. The Region should consider enabling legislation for "impact fees" on trucks that cross the border; resulting revenues could be allocated for Border Area improvements. Projects such as the Sunland Park POE should be pursued, in part because POE projects are tied to crossing fees.

Funding considerations include:

- > Officials should evaluate the applicability and need for impact fees, assessments or special tax districts on all development and properties that utilize and benefit from the infrastructure, spreading the cost of infrastructure among more and higher value land uses, reducing the cost burden on industrial uses alone.
- > Tax Increment Financing can be used to fund infrastructure improvements, to the extent that specific projects do not otherwise benefit from property tax abatement. Experience in other border areas also suggests that industrial values alone may not be sufficient to drive sufficient tax increment to pay for necessary improvements.
- > Given the sustainability implications associated with rapid growth in freight volumes, El Paso and Doña Ana Counties would be an ideal candidate for future rounds of Tiger Grant funding.
- > Future rounds of HUD funding appear to be shifting toward investments that enhance regional resiliency; future announcements by HUD will confirm the amount of grant funding that will be available.
- > Experience in Detroit and Windsor, Ontario associated with the planned construction of the New International Trade Crossing provides a case study for the plausible role of the Mexican Government to fund improvements on the US side of the border that have obvious benefits to citizens in Juarez. The new bridge between Canada and the US is being funded largely by the Canadian government using a 3P structure, in response to traffic problems on the Canadian side of the border

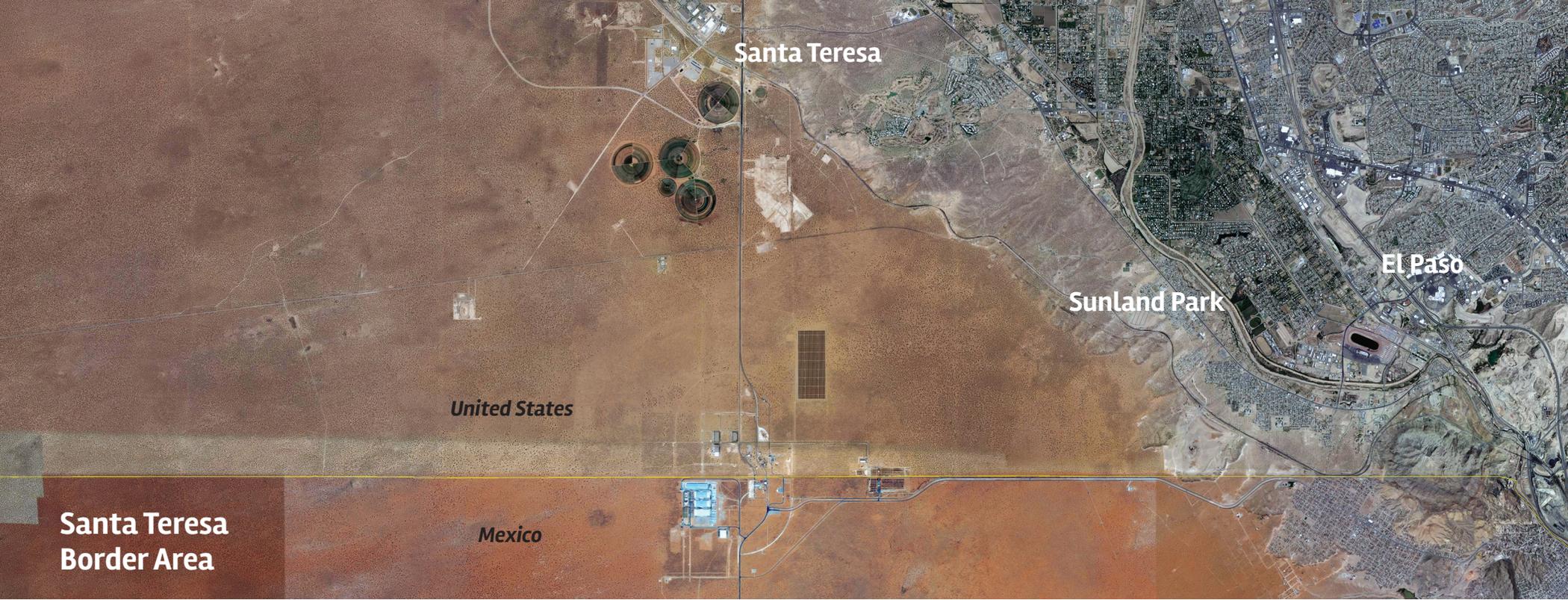


Perspectives & Precedents

San Diego/Tijuana Border Zone

The San Diego / Tijuana border zone is a major border industrial area. The U.S. side includes three border crossings, a general aviation airport, a planned cross-border airport terminal, and sensitive habitat. The San Diego region also lacks local water resources. Lessons from the Border Area include:

- > Cumulative demand for industrial and distribution space over the past 40 years has been insufficient to absorb the thousands of acres of industrially zoned land adjacent to the border within the City of San Diego and San Diego County. More development has occurred south of the border.
- > While local jurisdictions are primarily responsible for financing and developing infrastructure on the US side, dedicated industrial projects have found it difficult to raise sufficient funds for infrastructure through impact fees alone. As a result, planned residential and commercial development has been introduced to provide more housing opportunities, and to finance transportation infrastructure costs.
- > Regional, state, and federal funding sources, and tolls, have been important for financing and building improvements to the major freeway, tollway, and customs inspections facilitates to improve goods movement flow.
- > The State of California has passed legislation allowing for creation of Border Zone Infrastructure Financing Districts, a form of tax increment financing district, that the City of San Diego has investigated for facilities financing, but has not yet utilized.
- > Community Plans have been prepared and adopted to coordinate land uses within each jurisdiction (City of San Diego and unincorporated County of San Diego) to diversify land uses and avoid conflicts between residential, commercial, and industrial activities, plan for public facilities and infrastructure, and protect sensitive habitat and land forms.
- > With multiple jurisdictions involved in the financing and development of infrastructure, and with land use authority resting with local agencies, there was a clear need for enhanced border area coordination; local mechanisms were established to coordinate land use, transportation, infrastructure, and environmental planning on both sides of the border.
- > At a mega-regional level, the California border counties and Baja Norte region of 6.6 million people is jointly promoted to global investors as the CaliBaja economic region by economic development corporations on both sides of the border.





01. Project Introduction



INTRODUCTION

In 2011, the Camino Real Regional Consortium, a partnership of Doña Ana County, the City of Las Cruces, New Mexico State University (NMSU), the South Central Council of Governments, the Las Cruces MPO, the El Paso MPO, the South Central Regional Transit District, the Colonias Development Council, the Tierra del Sol Housing Corporation, and the La Semilla Food Center, secured a three-year, \$2-million-dollar Partnership for Sustainable Communities Regional Planning Grant from the U.S. Department of Housing and Urban Development (HUD). This grant launched Viva Doña Ana, a multi-faceted project that addresses community issues with the overall goal of improving quality of life for all residents in Doña Ana County and the larger Paso del Norte.

As part of Viva Doña Ana, the Consortium authorized development of the Border Area Economic Development Strategy (BAEDS), one of seven collaborative efforts designed to address a specific community challenge. In early 2013, the Consortium secured the services of AECOM Technical Services Inc. (AECOM) and its partner, Border Research, to assist in developing the BAEDS for the Border Area in southern Doña Ana County.

Strategy Goals

Core goals enshrined in the BAEDS include:

- > Expedite business development in the Santa Teresa Port of Entry (POE) through leveraged investment and coordination of public policy;
- > Capitalize on existing and emerging conditions in the Border Area to diversify economic activity including the recruitment of new businesses, the retention and growth of existing businesses, and support for start-ups and micro-businesses;
- > Leverage transcontinental rail connections and

trade across the US–Mexico border to strengthen existing communities in southern Doña Ana County by creating affordable housing; supporting transportation system infrastructure (including intermodal connectivity between truck, rail, and air); strengthening workforce development capacity; and supporting community facilities such as schools, parks, utilities, libraries, community centers, and roads;

- > Benefit from economic activity in and around the Santa Teresa POE—and broadened coordination of economic development efforts—to expand job opportunities and increase hiring rates for unemployed and underemployed residents of Doña Ana County; and
- > Enhance Border Area organizational capacity and resources for economic development and infrastructure.

These goals must be part of the measurable outcomes of any economic development strategy and, accordingly, should be incorporated into infrastructure plans for, Doña Ana County; state governments of New Mexico and Texas; US federal agencies involved in border trade and security; current bi-national planning between New Mexico and Mexico’s State of Chihuahua; and local, state and federal units of government in Mexico.

Geography

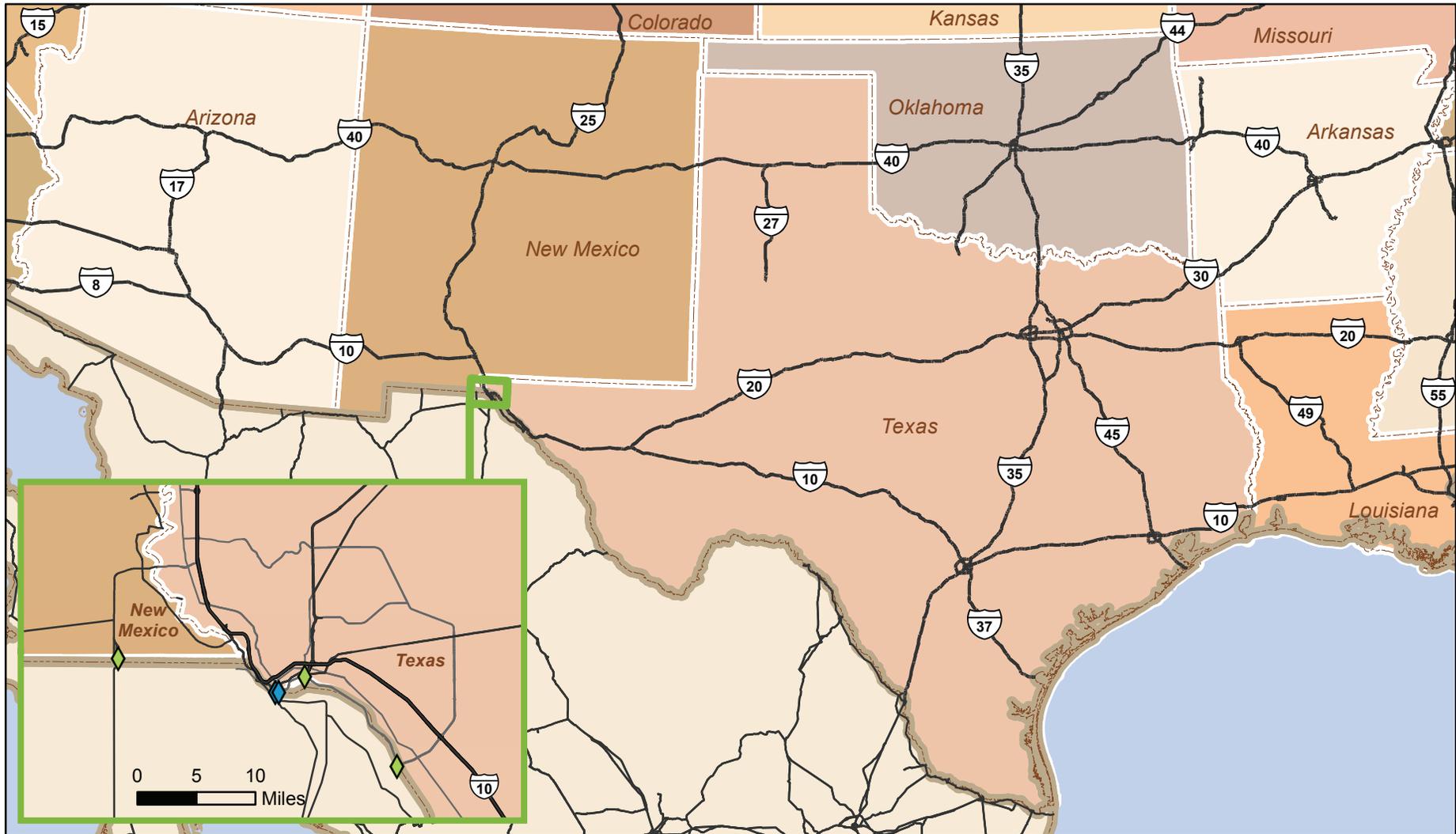
Initially, the BAEDS focused on the broad 53-mile southern border of southern Doña Ana County in New Mexico as the primary study area. The report has also focused on a smaller core study area that includes the Santa Teresa POE, as well as the adjacent municipality of Sunland Park. Over the course of the study, this core study area was refined to follow the existing border for the Camino Real Regional Utility Authority (CRRUA), which is an independent legal and separate

governmental entity created jointly by Doña Ana County and Sunland Park. CRRUA is authorized to own, operate, and maintain public water and wastewater systems, and to provide public water wastewater utility services, and is responsible for planning and developing infrastructure improvements in the Border Area definition. Maps depicting these areas are on the following page.

The report also considers the influence of three broader metropolitan area definitions that impact this effort:

- > The Paso del Norte (the Region), which includes portions of El Paso County, Otero County, Doña Ana County, and Ciudad Juárez in Mexico’s State of Chihuahua.
- > The El Paso Metropolitan Statistical Area (MSA), including El Paso and Hudspeth Counties in Texas
- > The El Paso–Las Cruces Combined Statistical Area, including El Paso and Hudspeth Counties in Texas and Doña Ana County in New Mexico.

In thinking about these geographies, it is significant that Doña Ana County is not included in the MSA definition for El Paso. For this reason, the effort has relied on additional data to clarify trends in Doña Ana County, as well as the El Paso MSA.



Legend

- Interstate
- Federal Route
- State Route
- ◆ Port of Entry - Commercial and Passenger
- ◆ Port of Entry - Passenger
- ▭ Country Boundary
- ▭ State Boundary

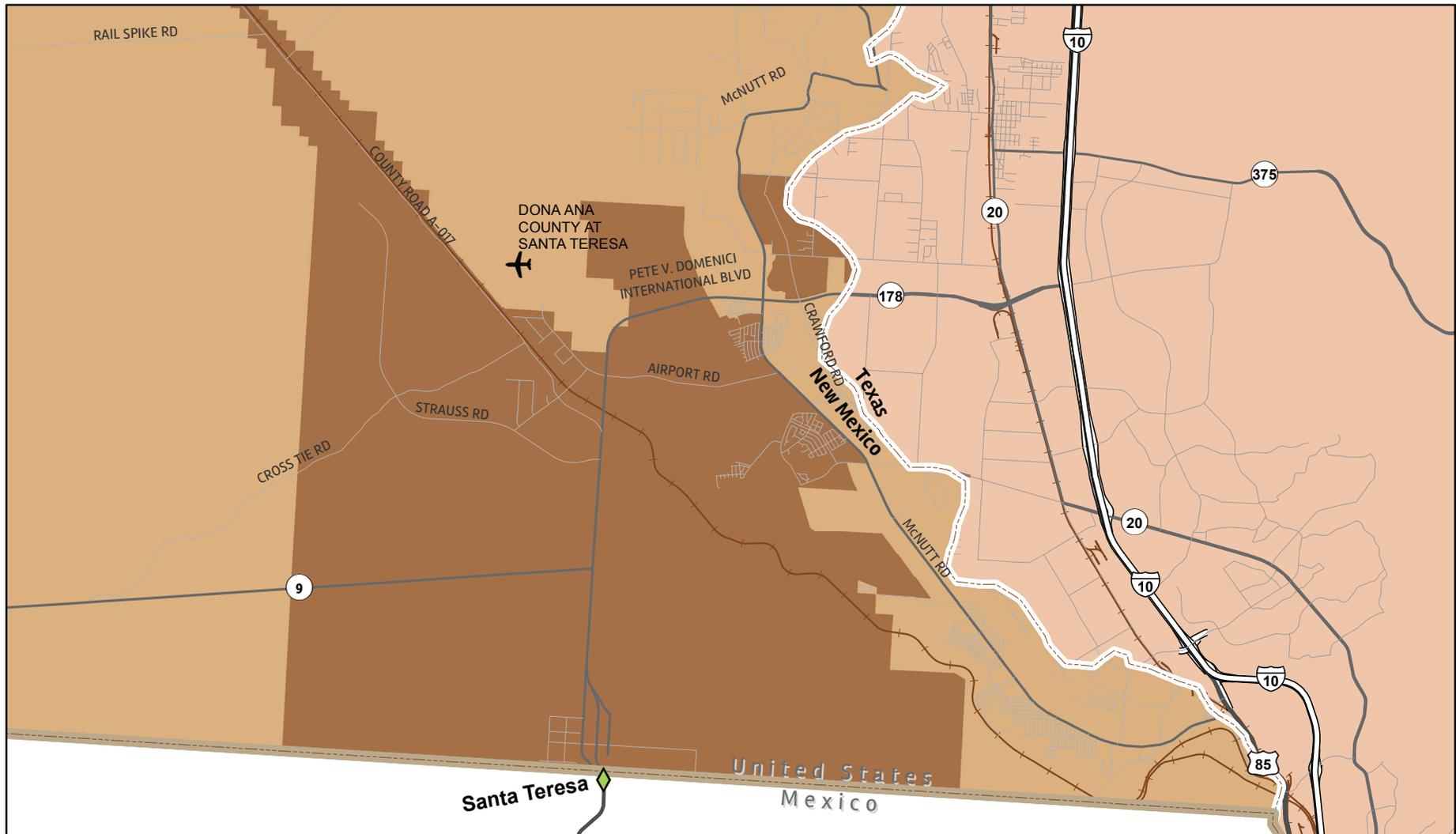
Data Sources: El Paso MPO, ESRI, NMDOT, NMRGIS, TXDOT, USDOT



Regional Map

Border Area Economic Development Strategy

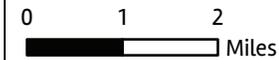




Legend

- Study Area
- Country Boundary
- State Boundary
- Interstate
- Federal Route
- State Route
- Other Roads
- Airport
- Railroad

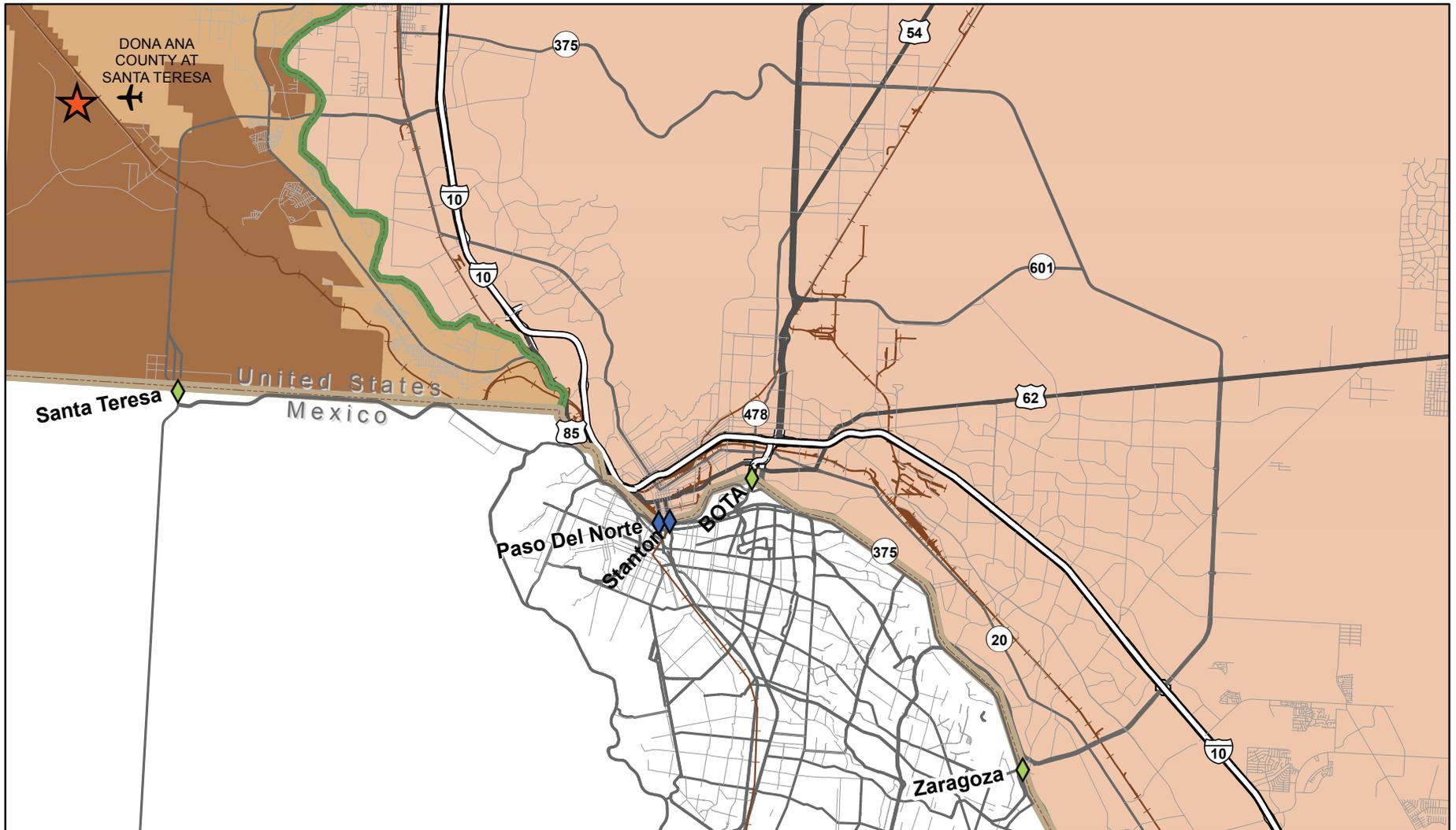
Data Sources: El Paso MPO, ESRI, NMDOT, NMRGIS, TXDOT



Santa Teresa Border Area

Border Area Economic
Development Strategy





Legend				Border Area Border Area Economic Development Strategy
Study Area Country Boundary State Boundary UP Yard	Port of Entry - Passenger Port of Entry - Commercial/Passenger Primary Roads in Mexico Secondary Roads in Mexico	Airport Railroad Interstate U.S. Route State Route Other Roads		
<i>Data Sources: El Paso MPO, ESRI, NMDOT, NMRGIS, TXDOT</i>				

Data Sources

Economic and demographic performance metrics have been extracted from a number of sources. The information was evaluated to help frame an understanding of strengths, weaknesses, opportunities, and threats that will influence the Region.

Federal Sources

- > Congressional Budget Office
- > Federal Aviation Administration
- > U.S. Census Bureau
- > U.S. Council for Automotive Research
- > U.S. Department of Agriculture
- > U.S. Department of Commerce, Bureau of Economic Analysis
- > U.S. Department of Commerce
- > U.S. Department of Energy
- > U.S. Department of Labor, Bureau of Labor Statistics
- > U.S. Department of Transportation (USDOT)/ Federal Highway Administration (FHWA)
- > U.S. Energy Information Administration
- > U.S. Federal Reserve System
- > U.S. Government Accounting Office

Mexican Data Sources

- > Banco de Mexico – www.banxico.org.mx/estadisticas/statistics.html#GI
- > Centro de Información Económica de Social (CIES)
- > Instituto Nacional de Estadística y Geografía (INEGI)

- > Instituto Municipal de Investigación y Planeación (IMIP)
- > Pacto por México – www.pactopormexico.org
- > Programa de Importación Temporal para Producir Artículos de Exportación
- > State of Chihuahua

News and Other Publications

- > Bloomberg News
- > The Economist
- > Journal of Commerce
- > New York Times
- > Wall Street Journal

Other Sources

- > American Railroad Development Association
- > American Transportation Research Institute
- > ACCRA Cost of Living Index
- > The Brookings Institution
- > Carnegie Mellon Center for Economic Development
- > Center for Automotive Research
- > CBRE
- > The CoStar Group
- > The Council for Community and Economic Research
- > Council on Competitiveness
- > ESRI Business Solutions
- > Institute of Transport and Logistics Studies, University of Sydney
- > International Economic Development Council

- > International Trade Commission
- > Texas Transportation Institute
- > Transportation Research Board
- > McKinsey & Company
- > Pew Center on the States
- > Price Waterhouse Coopers

The effort acknowledges several studies that have been completed recently, which have influenced and shaped this effort:

- > FHWA Freight and Land Use Handbook, April 2012
- > Best Practices in Urban Freight Management: Lessons from an International Survey, July 2012
- > Texas Department of Transportation (TxDOT) State Rail Plan, 2012
- > New Mexico Department of Transportation (NMDOT) State Rail Plan, 2012
- > Freight Facts and Figures 2012, Office of Freight Management and Operations, USDOT, 2012
- > U.S. Port and Inland Waterways Modernization: Preparing for Post-Panamax Vessels, U.S. Army Corps of Engineers, 2012
- > Preserving & Protecting Freight Infrastructure and Routes, Transportation Research Board, 2012
- > Performance Measures for Freight Transportation, Transportation Research Board, 2011
- > Building the Supply Chain of the Future, McKinsey Quarterly, 2011
- > The Impact of the Maquiladora Industry on U.S. Border Cities, Dallas Federal Reserve, 2011

Abbreviations and Acronyms

- > 3PL – Third Party Logistics Provider
- > AD – anaerobic digestion
- > AECOM – AECOM Technical Services Inc.
- > ARRA – American Recovery and Reinvestment Act
- > BAEDS – Border Area Economic Development Strategy
- > BIA – Border Industrial Association
- > BID – Business Improvement District
- > BIP – Border Industrialization Program / Maquiladora Program
- > BNSF – Burlington Northern Santa Fe Railroad
- > CAGR – Compound Annual Growth Rate
- > CBP – US Customs and Border Protection
- > CC&R – covenants, conditions, and restrictions
- > CDC – Community Development Corporation
- > CJS – Abraham Gonzales International Airport
- > CNG – Compressed Natural Gas
- > COBRO – Committee on Binational Regional Opportunities
- > CRRUA – Camino Real Regional Utility Authority
- > EDA – Economic Development Administration
- > ELP – El Paso International Airport
- > FAST – Free and Secure Trade Program
- > FHWA – Federal Highway Administration
- > FTZ – Foreign Trade Zone
- > GDP – gross domestic product
- > GIS – geographic information system
- > GSA – General Services Administration
- > HUD – U.S. Department of Housing and Urban Development
- > I – Interstate
- > IDI – Industrial Developments International
- > IMIP – Instituto Municipal de Investigación y Planeación
- > INEGI – Instituto Nacional de Estadística y Geografía
- > ILSR – Institute for Local Self Reliance
- > JWC – U.S.–Mexico Joint Working Committee
- > LCOE – Levelized Cost of Electricity
- > LNG – Liquefied Natural Gas
- > LQ – location quotient
- > MSA – Metropolitan Statistical Area
- > MVEDA – Mesilla Valley Economic Development Association
- > MOU – Memorandum of Understanding
- > MPO – Metropolitan Planning Organization
- > NAFTA – North American Free Trade Agreement
- > NMDOT – New Mexico Department of Transportation
- > NMSU – New Mexico State University
- > NS – Norfolk Southern Railroad
- > POE – Port of Entry
- > PV – photovoltaic
- > SANDAG – San Diego Association of Governments
- > SF – square feet
- > SWOT – strengths, weaknesses, opportunities, and threats
- > TEU – twenty-foot equivalent unit
- > TIF – Tax Increment Funding
- > TSF – The Solar Foundation
- > TxDOT – Texas Department of Transportation
- > UA – Urban Agriculture
- > UDC – unified development code
- > UP – Union Pacific
- > UPS – United Parcel Service
- > USDOT – U.S. Department of Transportation
- > WIOA – Workforce Innovation and Opportunity Act



02. Stakeholder Engagement Insights



INTRODUCTION

A cornerstone of the BAEDS community engagement process was to ensure participation with individuals and organizations that play a present or future role in Border Area economic development. The process was intended to address the need for relationship building among stakeholders, be sensitive to “public meeting burnout” as expressed by some members of the community, and complement the broader engagement and education efforts that are unfolding through Viva Doña Ana.

The AECOM team met with a broad array of public and private organizations associated directly and indirectly with the Border Area. The outreach effort included formal stakeholder meetings, as well as one-on-one interviews, phone interviews, and small group meetings. Organizations included the New Mexico Border Authority, the City of Las Cruces, Mesilla Valley Economic Development Association (MVEDA), local real estate brokers and developers, local planning organizations, private sector logistics providers, customs brokers, manufacturers, workforce intermediaries, Institutions such as NMSU, federal agencies such as General Services Administration (GSA), Bureau of Land Management, US Customs and Border Protection (CBP), and local municipalities including Sunland Park and Deming.

During initial stakeholder committee meetings, specific strengths regarding the Border Area were identified:

- > The Santa Teresa POE is a major strength, anchored by the new \$450-million-dollar UP intermodal yard adjacent to the POE. Recent investments by Foxconn, a Taiwanese multi-national electronics firm, across the border in Mexico should be viewed with similar importance.
- > The Border Area is seeing increased interest as a business location by companies currently based in

El Paso.

- > The Santa Teresa POE benefited from recent completion of a \$10-million-dollar American Recovery and Reinvestment Act (ARRA) project that expanded vehicle lanes from two to four; expanded commercial inspection lanes from two to three; and expanded passenger and commercial vehicle queuing areas. This project is among a small number of US-Mexico POE improvements that have received federal funding, placing Santa Teresa in a more competitive position compared with larger, more congested regional POEs.
- > The overweight cargo zone designation is an asset, allowing companies to move overweight cargoes directly into the U.S., reducing costs associated with breaking down truckloads to meet US road weight limits; southbound cargo can also be loaded to a higher weight limit.
- > The Governor of New Mexico, Suzana Martinez, is from southern New Mexico and has placed increased emphasis on the Border Area. Looking forward, interest from state elected officials can be leveraged to attract new Border Area investment and infrastructure.
- > The potential Anapra-Sunland Park border crossing is an opportunity. The proposed non-commercial POE has attracted public and private interest and, if approved, could lead to additional development, investment, and job creation.
- > The Santa Teresa POE affects several jurisdictions, including the States of Texas, New Mexico and Chihuahua; El Paso (City and County); the City and Municipio of Juárez; Doña Ana County; and municipalities such as Sunland Park. While each of these entities has different resources, together they can support expansion and diversification of

the Paso del Norte’s economic potential.

- > Santa Teresa is located along significant North American east-west and north-south freight rail corridors that connect both US West Coast ports and manufacturers based in Mexico with US destination metropolitan areas, including Chicago, Dallas, and Houston.
- > Housing development is unfolding in the Border Area, which is expected to help the area develop a greater sense of community and quality of life. At the same time, increased traffic will also drive conversations about limited connectivity between Santa Teresa and El Paso, with clear implications for increased traffic congestion.
- > MVEDA and the Border Industrial Association (BIA) provide leverage for economic development activities. MVEDA works “on the ground,” to pursue and develop leads for new businesses, while the BIA works at the state level to support economic development policy initiatives and remove barriers to bi-national trade.
- > The U.S. Department of Homeland Security now allows Mexican citizens holding a Border Crossing Card to travel up to 55 miles into New Mexico for personal purposes (shopping, visiting family or friends, attending conferences, vacationing, medical visits, recreation, and entertainment) without having first to stop at the border and fill out a visa application. These visitors are permitted to stay in the New Mexico Border Area for up to 30 days, spending dollars in the local economy.
- > Uniquely, the Santa Teresa POE offers an abundant supply of vacant land to support further expansion of distribution and manufacturing activities. It is also one of a very small number of POEs that are not impacted by infrastructure requirements to

cross the Rio Grande.

Initial stakeholder committee meetings also identified specific challenges, which are summarized below:

- > Lack of adequate education, job readiness, and workforce skills among job seekers. Stakeholder interviews reinforced that many residents possess life experience, but lack certifications (high school diploma / GED) that are required for U.S. employment. Addressing these challenges will require an understanding of the type of jobs being created and the entry-level skills required for these new positions. Improving graduation levels at high schools, vocational institutions, and colleges will require long-term investments by many organizations, public and private.
- > Transportation network connections between the Border Area and I-10 are a concern. These connections are important avenues for commercial and non-commercial traffic and will require expansion. New and expanded roads are likely to be required as the current road network does not adequately accommodate large commercial trucks. Options for improved transportation for travel between Santa Teresa and Las Cruces were discussed, including the High Mesa Road.
- > While it is clear that regional utility infrastructure (water, sewer, communications, and electricity) must be expanded, it also apparent that improvements to water and wastewater infrastructure are a challenge in arid regions; creative and proactive solutions will be needed.
- > Water quantity and quality remains a concern in the Border Area. Groundwater supplies are the only reliable source of municipal and industrial water, containing naturally occurring concentrations of arsenic that exceed federal standards for safe drinking water. The process of removing arsenic from groundwater is expensive when

spread over the small number of businesses and users currently living in the Border Area.

- > The Doña Ana County International Jetport at Santa Teresa has plans for a longer crosswind runway to meet future business growth along the border, linked in part with plans by companies such as Foxconn for expedited air cargo.
- > Border Area communities will require additional infrastructure, social institutions, and services, including retail shops, medical facilities, and social and educational services. Most people who live in southern Doña Ana County currently travel to El Paso to shop or obtain services.
- > While there is general agreement on the need for coordination between US and Mexican government agencies on cross-border development, there is concern that current channels of communication are inadequate to address the requirements for border planning and infrastructure. U.S. and Mexican government agencies sometimes do operate under different policies or conflicting rules.
- > Recent announcements by New Mexico's Governor Martinez and Chihuahua's Governor Duarte regarding a cross-border master plan bode well for improved cooperation and coordination.

The stakeholder interviews furthered AECOM understanding of key infrastructure, community, and organizational issues related to the Border Area. Stakeholders identified the following major themes:

- > Property taxes are lower in New Mexico than Texas, offset by the lack of state income taxes in Texas. The residential market in Sunland Park and Santa Teresa was reportedly slower in 2013, with fewer transactions and few units available for sale; the pace has improved in 2014, reportedly.
- > For freight that crosses the border, operational

decisions made by CBP have the largest single impact on the predictability and velocity of freight movement.

- > For logistics companies, the decision over which POE to use is not made by the individual truck driver. Rather, as CBP requires paperwork and prior notification of commercial cargo, the decision regarding POE choice is made by the company, customs broker, or Third Party Logistics Providers (3PL). Information for all incoming commercial cargo is electronically submitted to CBP at least two hours prior to arrival at a POE. Customs brokers typically prepare and submit all information and should be specifically included as one of the decision makers for port selection.
- > The Santa Teresa POE was authorized as a pilot location for testing under the U.S. Department of Homeland Security Pre-Clearance Program, whereby exports are pre-approved for importation.
- > As a general rule, companies located in Ciudad Juárez have a general preference for border crossings in El Paso. For companies that are located farther south of Ciudad Juárez in Chihuahua, Santa Teresa is a more viable option. Factors that influence the POE decision relate to fuel costs and destinations on the US side.
- > As logistics is largely a cost of doing business, logistics providers will look at sites in Santa Teresa in part due to lower land costs and property taxes as well as immediate proximity to the new UP intermodal yard.
- > Existing industrial parks near the POE have covenants, conditions, and restrictions (CC&Rs) in place that require property owners to maintain higher standards for their buildings and landscaping. As growth in the Border Area

unfolds, how these CC&Rs will be managed and maintained is important.

- > Interviews pointed to concern over access to potable water supplies, focused on tension between considerable “paper” water rights (the amount of water owners are legally allowed to withdraw) and uncertain actual water availability. For the Border Area, there are practical concerns that owners of larger distribution buildings may not have sufficient water to meet fire suppression requirements.
- > Over the course of this study, the evolution of Verde Realty into relationships with Brookfield Properties LLC and a merger with Industrial Developments International (IDI) Gazeley was noted. In December of 2014, IDI then sold off 35 properties and 395 acres of land to Mexican developer FINSA and an affiliate of U.S. private equity firm Walton Street Capital.
- > Manufacturers noted concern over Mexican government policy shifts regarding taxation of exports. Particularly for manufacturers that export to the US, evolving legislation would likely shift how freight is moved, and impact treatment of “virtual exports,” which relates to how semi-manufactured goods are moved domestically in Mexico between Maquiladoras from a customs duty standpoint. For companies exporting less to the US, the new policy would appear to have more significant implications. Increased taxes are also a reaction to reports from organizations such as the Organization for Economic Co-operation and Development; these reports point to unusually low Mexican federal tax rates in general.
- > Interviews suggest that the Maquiladora industry is changing, as well as the Mexican government’s criteria for what qualifies as a Maquiladora operation. Originally, the Maquiladora qualified for duty-free status based on the percentage

of sales being exported to the US (>90%). With these companies increasingly moving beyond final assembly into R&D as well as design, the nature of what they produce, their productivity, and their end markets are changing.

- > Concerns regarding perceived infrastructure shortcomings in the areas of water, wastewater, and electricity must be addressed. Interviews also mentioned concern regarding internet connectivity.
- > Opportunities exist for renewable energy development and businesses focusing on new or emerging technologies, particularly if relationships can be strengthened with entities such as NMSU and White Sands Missile Range.

Implications

The interviews uncovered several key findings that were not previously well understood.

Prepare for Growth

While Doña Ana County is already the fastest growing county in the Paso del Norte by some measures, it is equally apparent that growth across the border in Mexico is creating significant challenges for the Border Area. A share of regional growth is shifting toward Santa Teresa (linked with perceived lower costs of business). However, the new UP intermodal yard is expected to trigger additional growth, as supply chains shift, and distributors choose to locate close by. As a result, local governments face looming infrastructure issues, principally the need to significantly improve the quality and number of connections between the Border Area with I-10. The inability to plan for both commercial and residential growth and sustain infrastructure reinvestment will otherwise reduce Doña Ana’s future pace of growth.

Monitor Freight Impacts

The new UP intermodal yard is going to alter regional supply chains, shift how trucks move through the Region, lead to increased truck traffic through the Border Area, and influence the location decisions of companies involved in manufacturing and distribution. From interviews with MPO and USDOT officials, as well as a review of collected data, it is apparent that existing data regarding truck traffic through the region is both fragmented and limited. Issues include:

- > Traffic counts for Doña Ana County included truck average daily traffic, but the heavy vehicle counts seemed low.
- > While the El Paso MPO has traffic count information, truck counts do not appear to be included.
- > TxDOT has traffic volume maps on their website that include trucks. Efforts to acquire geographic information system (GIS)-based truck counts were unsuccessful.

Other inland ports that have experienced the opening of new and larger intermodal yards reinforce the need to plan for growth in truck volumes at a faster rate, and to prepare for significant shifts in how freight moves through regions. While these new yards do create new economic opportunities and are instrumental in allowing companies to control their distribution costs, they also create challenges for host communities, such as the Town of Ellwood (near Joliet, IL). The Town initially supported companies such as Centerpoint with incentives for new distribution centers aligned with adjacent UP and Burlington Northern Santa Fe Railroad (BNSF) intermodal yards. However, reports increasingly suggest that the Town now finds the resulting truck traffic to be a problem that is difficult to mitigate. Emergence of these new yards and evolving concern over localized impacts are a clear rationale for better strategic land use planning in these areas.

Regional Fragmentation

The Paso del Norte is unique in how multiple levels of political fragmentation impact the economic performance of what is otherwise a metropolitan area with 2.4 million residents, which would rank as the 21st largest metropolitan area in the US (between Pittsburgh and Denver in population). Broader fragmentation builds from the reality of lines drawn between two countries, three states, and three counties, linked with the ongoing challenge of securing the border and ensuring the flow of goods across the border. Fragmentation concerns focus on the number of organizations tasked with selling the Paso del Norte as a distinct brand, as well as the reality of transportation planning influenced by two state transportation departments.

More specifically for the Border Area, it is clear that several organizations play a role in Border Area economic development, broadly defined, including:

- > Border Area private property owners
- > Doña Ana County
- > Camino Real Regional Utility Authority
- > New Mexico Border Authority
- > Sunland Park (incorporated)
- > Santa Teresa Area (unincorporated)
- > BIA and MVEDA
- > The New Mexico Partnership
- > El Paso Electric
- > Doña Ana County International Jetport at Santa Teresa
- > Regional workforce development intermediaries

While organizations such as MVEDA and BIA have a clear tasking to focus on economic development, these

groups lack sufficient resources to significantly enhance Border Area economic opportunities; additional partnerships and resources are needed.

The Role of Doña Ana County Government

For Doña Ana County, concerns begin with acknowledgment that many secondary roads near the POE appear to be county-owned. When combined with increased use of the overweight truck route along Pete V. Domenici Highway, these secondary roads are experiencing greater wear and will require maintenance / upgrades to offset the impact of heavier trucks. As well, growth in truck volumes associated with the UP yard is leading to increasing truck traffic on other routes that have not seen significant truck volumes in the past.

With growth in infrastructure costs as a specific driver, Doña Ana County will need to define its long-term role in the Border Area, particularly as it relates to road infrastructure. The core question relates to whether the County should serve as only an enabling organization, or should it be the entity that can lead on a day-to-day basis, funding infrastructure and making decisions that will dictate the pace of future growth. If Doña Ana chooses a modest role, the interviews reinforce the need for additional financing mechanisms or other governing entities to step forward, ensuring that basic municipal services and infrastructure needs will be provided.

At a broader level, the County will need to focus on several additional elements:

- > While CRRUA capability and responsibility for implementation of Border Area water infrastructure projects has been advanced, they currently contract with Doña Ana County to provide capacity for planning and zoning, and have no explicit responsibility for transportation infrastructure.
- > Advance a regional agenda for the Paso del Norte, working toward and supporting the development

of a regional leadership structure, similar to Calibaja, a mega-region economic development initiative that started in 2008, to reinforce broader opportunities in San Diego County, Imperial County, and Baja California. The structure is anchored by a memorandum of understanding that lays out the “ground rules” for how participating economic development organizations on both sides of the border will “sell” the region from an economic development standpoint.

- > With Viva Doña Ana moving toward conclusion, it is apparent that the Camino Real Consortium (CRC) and Regional Leadership Committee (RLC) committee structures should continue, with a focus on regional cooperation and integration. County resources may be needed to support this effort.



LAS C

KINETICO
Pure Water Systems
523-2400

LAS CRUCES

03. Economic Analysis

RUCES

A photograph of a railway yard. In the foreground, several parallel steel tracks run across a bed of gravel. To the left, a wooden utility pole stands with a white sign that reads "RUCES". Below the sign is a small white electrical box. In the background, there are several industrial buildings, some with corrugated metal roofs. A green container with the word "EVERGREEN" is visible. Utility poles with power lines are scattered throughout the scene. The sky is a clear, bright blue.

INTRODUCTION

This section begins with a summary of population and economic data for Doña Ana and El Paso Counties, jurisdictions that make up the Paso del Norte. As the US Census MSA definition for El Paso does not include Doña Ana County, the effort has relied on available county-specific data. The effort compares population and job growth in reference to national averages and offers insight into employment by industry sector. Tables are included that show labor quotients for Doña Ana and El Paso Counties, providing insight on the strengths and weaknesses that make Doña Ana County and the border region unique.

Border Region Employment Change

Table 1 summarizes employment trends for Doña Ana and El Paso Counties as well as Ciudad Juárez. Employment trajectories for the three jurisdictions are notable, with Ciudad Juárez seeing a significant decline in employment between 2000 and 2010, offset by dramatic growth in employment since 2010, adding nearly 63,400 jobs. While growth rates in Doña Ana County were similar, the total increase in employment was much lower, about 11,700 jobs, representing about 10% of total employment in the Paso del Norte. As this table combines employment from US and Mexican data sources, the total employment numbers and

relationships between the geographies should be viewed in “order of magnitude” terms. This is one of several examples where differences across borders make it more difficult to tell the complete story of the larger Paso del Norte.

Chart 2 highlights unemployment rate trends for Doña Ana County and El Paso County updated through the end of 2014. While the chart reinforces historic differences in unemployment rates, with El Paso County typically experiencing significantly higher rates, trends for 2014 would suggest that the two counties are moving closer together economically. For Doña Ana County, unemployment peaked in 1996 at about 9.7%; while the county avoided the worst aspects of the “Great Recession,” unemployment rates have remained consistently higher than average since 2010. Lastly, that national unemployment rates are now lower (6.2%) also speaks to a lagging recovery locally.

Border Region Population Change

Looking at population (Tables 3 and 4), Among the three regional counties, Doña Ana again ranks at the top in compound annual growth with a calculated rate of 1.7%. This compares with 1.6% for El Paso County and 1.1% for Ciudad Juárez over the same period.

Annual shifts in population also seem to favor Doña Ana County with a compound rate of 0.37% compared to 0.29% for El Paso and 0.22% for Ciudad Juárez, as shown below. These tables also speaks to the apparent shift in population at least through 2010, with Doña Ana increasing its share of the regional population at a faster pace. Trends from 2010 to 2012 do point to a modest reversal for Ciudad Juárez, which may have increased its share of regional population, based on the estimates.

Chart below summarizes population growth forecasts for Doña Ana and El Paso Counties out to 2030. The forecasts, developed by Woods & Poole, speak to expectations for growth. Key drivers include the notion that Doña Ana will capture an increasing share of regional population growth over the next 20 years, with an anticipated annualized growth rate of 2.2%, compared to El Paso County’s anticipated growth rate at 1.5% on an annualized basis. For Doña Ana, the forecast portends an increase in market share from 21% to 23% of regional population by 2030.

Table 1 – Total Employment Trends, Bi-National Context, 2000 to 2014

Area	2000	2005	2010	2011	2012	2013	2014	CAGR	CAGR
								00 to 10	09 to 12
Ciudad Juárez	420,557	370,538	332,075	360,361	366,153	348,024	378,100	-0.76%	4.69%
El Paso County	324,080	346,369	390,092	392,396	397,825	255,436	260,275	0.54%	-0.01%
Doña Ana	74,819	85,708	92,057	92,733	93,431	72,121	74,431	1.99%	4.38%
Total	819,456	802,615	814,224	845,490	857,409	675,581	712,806	-0.05%	2.82%
Doña Ana County %	9.10%	10.70%	11.30%	11.00%	10.90%	10.70%	10.40%		

Note: CAGR=Compound Annual Growth Rate

Source: Sistema Estatal y Municipal de Base de Datos (SIMBAD), INEGI. Quarterly Census of Employment & Wages, Bureau of Labor Statistics

Chart 2 – Unemployment Rate Comparisons

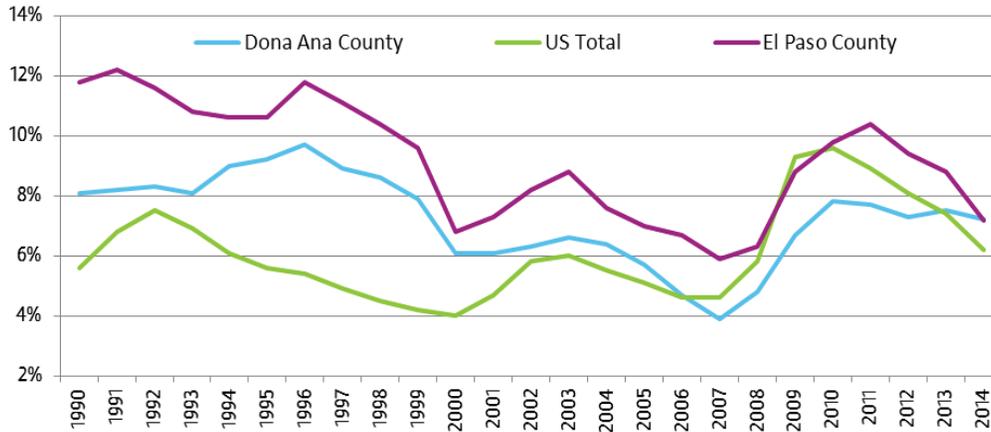


Chart 5 – Future Population Growth Comparisons

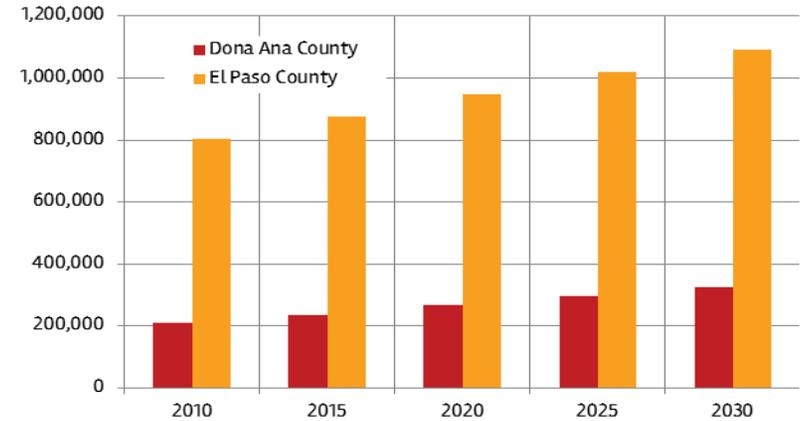


Table 3 – Total Population Trend, Paso del Norte, 2000 to 2012

Year	Doña Ana County	El Paso County	Juárez Municipio	Combined Region
2000	175,098	681,729	1,218,817	2,075,644
2005	189,199	728,095	1,301,452	2,218,746
2010	210,325	803,506	1,332,131	2,345,962
2011	212,944	817,982	1,381,953	2,412,879
CAGR	1.70%	1.60%	1.10%	1.30%

Note: CAGR=Compound Annual Growth Rate

Source: US Census / Centro de Información Económica de Social (CIES), State of Chihuahua. 2010

Table 4 – Shift in Total Population, Paso del Norte, 2000 to 2012

Year	Doña Ana County	El Paso County	Ciudad Juárez
2000	8.40%	32.80%	58.70%
2005	8.50%	32.80%	58.70%
2010	9.00%	34.30%	56.80%
2012	8.80%	34.00%	57.20%
CAGR	0.37%	0.29%	-0.22%

Source: US Census / Centro de Información Económica de Social (CIES), Chihuahua. 2010

Manufacturing Employment Comparison

Organizations ranging from the Federal Reserve to MVEDA have all spoken to the pronounced importance of manufacturing to the Paso del Norte; MVEDA data suggests that the region would rank as the 7th largest manufacturing hub in North America. To frame manufacturing, Table 6 summarizes manufacturing employment trends for the Paso del Norte. Between 2007 and 2010, total manufacturing increased at a modest rate across the region (1.4%), which included a significant decrease in El Paso County. Since 2010, growth in manufacturing in both Ciudad Juárez and Chihuahua City has exploded, with both jurisdictions adding almost 68,000 jobs. In total, the share of manufacturing in Mexico has increased from 91.7% to 93.7%.

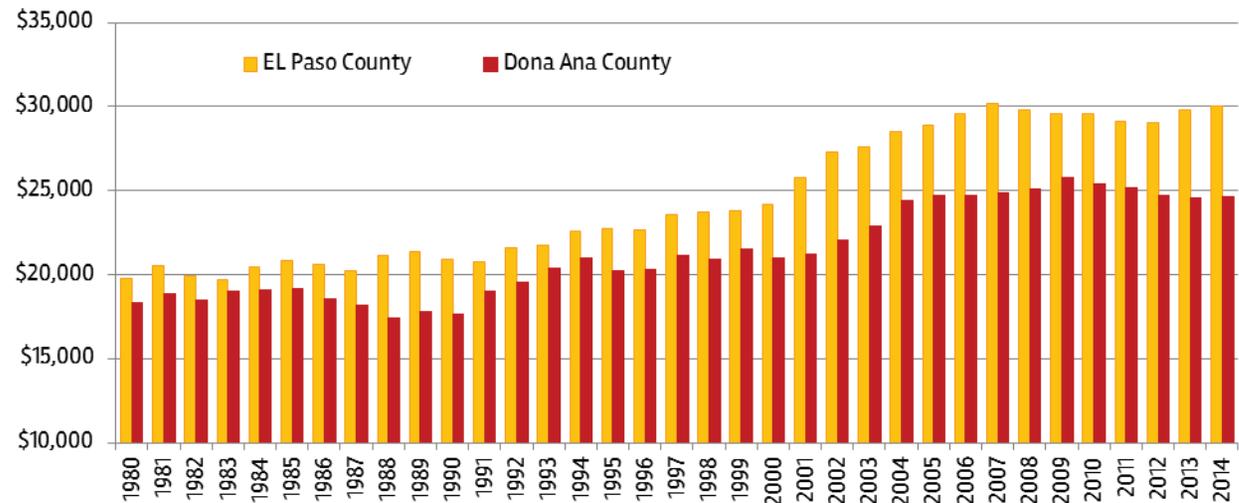
Chart 7 summarizes growth in per capita gross domestic product (GDP) for El Paso and Doña Ana Counties between 1980 and 2012. The analysis shows that GDP growth has been generally positive, with El Paso County seeing generally stronger growth over the period, at an annualized rate of 1.2%. In comparison, Doña Ana County grew at a slower 0.9% annualized rate. Of greater significance, since 2005, annual growth in per capita GDP has slowed markedly in comparison to long-term averages. For El Paso County, the average annual growth rate since 2005 is about 0.4%. Trends for Doña Ana County are of concern, with a post-2005 growth rate of effectively 0%.

Table 6 – Changes in Manufacturing Employment, Paso del Norte, 2007 to 2014

Jurisdiction	2007	2008	2009	2010	2011	2012	2013	2014	CAGR 07 to 10	CAGR 10 to 14
El Paso & Dona Ana	23,535	22,797	20,144	19,411	20,513	20,732	20,738	19,609	-6.20%	0.30%
Chihuahua City	48,175	41,046	39,940	46,390	57,295	63,950	68,721	68,226	5.10%	10.10%
Ciudad Juárez	211,906	183,806	168,011	178,282	178,185	194,657	205,355	224,294	0.80%	5.90%
Total Employment	283,616	247,649	228,095	244,083	255,993	279,339	294,814	312,129	1.40%	6.30%

Source: BLS / IMMEX and CIES (Centro de Información Económica y Social - Estado de Chihuahua)

Chart 7 – Gross Domestic Product Growth, Doña Ana and El Paso Counties, 2007 to 2014



Employment by Sector Comparison

Tables 8 and 9 summarize employment by sector breakdowns for Doña Ana and El Paso Counties between 1990 and 2014 (fourth quarter). For Doña Ana County, the analysis (Table 8) shows a heavy, but decreasing, reliance on government employment, a metric that has been reported at length in local newspapers. Between 1990 and 2014, the share of total employment under government fell from 33% to 25%. El Paso County also has demonstrated significant reliance on government-funded employment, increasing from 21% to 23% of total employment over the same period, linked with a build-up in recent years at Fort Bliss. While manufacturing remains a small share of local employment in Doña Ana County (3.4%), manufacturing in El Paso County saw a significant decrease, falling from 19.6% to 6.1% of total county employment.

The tables indicate that Doña Ana County added private employment at a faster rate compared to El Paso County (2.4% compared to 1.2% annualized growth). The education and health services sector in Doña Ana County saw the largest increase of all sectors in both counties (6.7% between 1990 and 2014). Government was the second largest sector in terms of total job creation, adding about 1,600 positions. Lastly, for both counties, employment growth since 2010 has unfolded at a slower rate, about 50% of the long-term 1990 to 2014 pace. While local interviews reinforced a notion that the Paso del Norte has a historical tendency to lag behind in recovering from periods of recession, it is apparent that the “Great Recession” was a unique event, raising concerns about how the region moves forward from 2014. At the broadest level, the above tables reinforce a regional economy that remains both out-of-balance economically, and overly dependent on government spending.

Table 8 – Employment by Sector Analysis, Doña Ana County, Noted Years

Sector	1990 Q4	2000 Q4	2005 Q4	2010 Q4	2014 Q3	CAGR 90–14	CAGR 10–14
Goods-producing	9,578	11,422	11,784	9,905	9,931	0.20%	0.10%
Natural resources and mining	4,435	4,890	3,740	3,406	4,074	-0.40%	4.60%
Construction	2,074	3,242	4,558	3,643	3,443	2.10%	-1.40%
Manufacturing	3,069	3,290	3,486	2,856	2,414	-1.00%	-4.10%
Service-providing	20,960	31,303	36,672	40,646	43,641	3.10%	1.80%
Trade, transportation, & utilities	7,654	9,331	10,120	10,175	10,643	1.40%	1.10%
Information	812	853	1,292	854	887	0.40%	1.00%
Financial activities	1,703	2,049	2,336	2,243	2,529	1.70%	3.00%
Professional & business services	2,696	5,164	5,610	7,770	7,289	4.20%	-1.60%
Education & health services	2,826	7,042	9,460	11,231	13,378	6.70%	4.50%
Leisure & hospitality	4,311	5,618	6,532	7,051	7,617	2.40%	1.90%
Other services	958	1,233	1,310	1,322	1,298	1.30%	-0.50%
Total Private, all industries	30,538	42,725	48,456	50,551	53,572	2.40%	1.50%
Federal Government	4,495	3,440	3,568	4,124	3,587	-0.90%	-3.40%
State Government	4,015	5,158	6,247	6,007	5,571	1.40%	-1.90%
Local Government	6,275	7,560	8,635	8,926	9,066	1.50%	0.40%
Total Covered	45,323	58,883	66,906	69,608	71,796	1.90%	0.80%

Source: U.S. Bureau of Labor Statistics, QCEW

Table 9 – Employment by Sector Analysis, El Paso County, Noted Years

Sector	1990 Q4	2000 Q4	2005 Q4	2010 Q4	2014 Q3	CAGR 90–14	CAGR 10–14
Goods-producing	50,988	50,905	36,145	32,217	31,029	-2.00%	-0.90%
Natural resources and mining	1,719	1,689	1,199	1,254	1,074	-1.90%	-3.80%
Construction	8,427	12,413	12,281	14,264	12,624	1.70%	-3.00%
Manufacturing	40,842	36,803	22,665	16,699	17,331	-3.50%	0.90%
Service-providing	113,323	148,163	167,127	175,968	187,109	2.10%	1.50%
Trade, transportation, & utilities	47,204	55,765	57,809	58,267	61,314	1.10%	1.30%
Information	3,550	5,033	4,656	4,971	5,558	1.90%	2.80%
Financial activities	8,552	9,681	11,664	11,664	11,308	1.20%	-0.80%
Professional & business services	14,069	24,124	28,364	31,680	30,018	3.20%	-1.30%
Education & health services	15,280	23,361	32,451	34,532	39,417	4.00%	3.40%
Leisure & hospitality	17,465	22,856	25,323	28,227	32,873	2.70%	3.90%
Other services	7,203	6,944	6,621	6,489	6,570	-0.40%	0.30%
Total Private, all industries	164,311	199,068	203,272	208,185	218,138	1.20%	1.20%
Federal Government	9,171	8,781	9,455	12,624	12,238	1.20%	-0.80%
State Government	4,161	7,732	8,289	9,485	8,237	2.90%	-3.50%
Local Government	30,561	41,213	42,648	45,709	44,822	1.60%	-0.50%
Total Covered	208,204	256,794	263,664	276,003	283,435	1.30%	0.70%

Source: U.S. Bureau of Labor Statistics, QCEW

Location Quotient Analysis

Location quotient (LQ) analysis provides a way to quantify the regional concentration of a particular industry compared to national averages. It reveals what makes a region unique compared to national averages (an LQ that is greater than 1.0). For example, Table 10 shows that, in 2014, federal government employment in Doña Ana County had an LQ of 2.5, down slightly from 3.47 in 1990. For Doña Ana County, the LQ points to a stronger regional concentration in education & health care (1.24 in 2014), local government (1.26), and federal employment (2.52). The analysis also shows that Doña Ana County is under-represented in every other sector, including trade, transportation, and manufacturing.

Comparable trends for El Paso County are shown in Table 11. Federal Government employment remains the defining local sector, with a location quotient that has grown significantly since 1990, from 1.54 to 2.18, reflecting growth at Fort Bliss (the U.S. Army's second largest installation by land area), due largely to the return of the 1st Armored Division from Germany, in 2011. The table also speaks to declines in manufacturing, offset by growth in leisure and hospitality.

Weekly Wage Insights

Average weekly wages for Doña Ana County between 1990 (Q4) and 2014 (Q3) were also studied. Manufacturing weekly wages grew at the strongest rate, about 3.9%, followed by federal government wages (3.5% growth) between 1990 and 2014. The top weekly wage by far is supported by federal government employment, at \$1,556 in 2014. Manufacturing supports the second highest wage of the noted sectors, at \$813 per week. While sectors such as Leisure and Hospitality have seen growth, associated wages remain modest, at \$272 per week in 2014. Professional & business services wages (at \$775 per week) were the 4rd highest, after state government employment wages.

Table 10 – Location Quotient Analysis, Doña Ana County, Noted Years

Sector	1990 Q4	2000 Q4	2005 Q4	2010 Q4	2014 Q3	CAGR 90–14	CAGR 10–14
Goods-producing	0.96	1	1.01	0.99	0.92	-0.20%	-1.80%
Natural resources and mining	6.45	6.83	4.52	3.67	3.55	-2.50%	-0.80%
Construction	1.01	1.09	1.23	1.26	1.04	0.10%	-4.70%
Manufacturing	0.42	0.43	0.49	0.46	0.38	-0.40%	-4.70%
Service-providing	0.75	0.81	0.82	0.85	0.87	0.60%	0.60%
Trade, transportation, and utilities	0.8	0.78	0.76	0.75	0.78	-0.10%	1.00%
Information	0.7	0.51	0.84	0.59	0.62	-0.50%	1.20%
Financial activities	0.61	0.6	0.57	0.56	0.63	0.10%	3.00%
Professional & business services	0.62	0.68	0.65	0.85	0.73	0.70%	-3.70%
Education & health services	0.62	1.08	1.13	1.1	1.24	2.90%	3.00%
Leisure & hospitality	1.13	1.07	1.04	1.02	0.98	-0.60%	-1.00%
Other services	0.67	0.66	0.6	0.56	0.59	-0.50%	1.30%
Total Private, all industries	0.81	0.86	0.86	0.87	0.88	0.30%	0.30%
Federal Government	3.47	2.78	2.61	2.67	2.52	-1.30%	-1.40%
State Government	2.41	2.61	2.74	2.42	2.32	-0.20%	-1.00%
Local Government	1.37	1.29	1.22	1.16	1.26	-0.30%	2.10%

Source: U.S. Bureau of Labor Statistics, QCEW

Table 11 – Location Quotient Analysis, El Paso County, Noted Years

Sector	1990 Q4	2000 Q4	2005 Q4	2010 Q4	2014 Q3	CAGR 90–14	CAGR 10–14
Goods-producing	1.11	1.03	0.79	0.81	0.72	-1.80%	-2.90%
Natural resources and mining	0.54	0.54	0.37	0.34	0.24	-3.30%	-8.30%
Construction	0.89	0.96	0.84	1.24	0.96	0.30%	-6.20%
Manufacturing	1.22	1.1	0.81	0.68	0.69	-2.30%	0.40%
Service-providing	0.89	0.88	0.95	0.93	0.95	0.30%	0.50%
Trade, transportation, and utilities	1.07	1.06	1.1	1.08	1.14	0.30%	1.40%
Information	0.67	0.69	0.77	0.86	0.99	1.60%	3.60%
Financial activities	0.66	0.65	0.73	0.74	0.71	0.30%	-1.00%
Professional & business services	0.7	0.73	0.83	0.87	0.76	0.30%	-3.30%
Education & health services	0.73	0.82	0.98	0.85	0.93	1.00%	2.30%
Leisure & hospitality	0.99	1	1.02	1.03	1.07	0.30%	1.00%
Other services	1.09	0.85	0.77	0.7	0.75	-1.50%	1.70%
Total Private, all industries	0.95	0.92	0.92	0.91	0.91	-0.20%	0.00%
Federal Government	1.54	1.63	1.76	2.06	2.18	1.50%	1.40%
State Government	0.54	0.9	0.92	0.96	0.87	2.00%	-2.40%
Local Government	1.45	1.62	1.53	1.5	1.57	0.30%	1.10%

Source: U.S. Bureau of Labor Statistics, QCEW

Border State Economic Trends – Mexico

Across the border in Mexico, employment in the “formal” sector is well documented due to government reporting requirements and employer tax obligations. After the downsizing that occurred in the U.S. as the result of the 2008 recession, growth in employment slowed throughout Mexico. By 2010, however, Mexico began to witness a surge in Direct Foreign Investment, as shown in Chart 12, with Nuevo León and Chihuahua seeing exceptional growth.

Table 13 summarizes population trends for border states in Mexico. Chihuahua saw the smallest total increase in population from 2005 to 2013, adding about 357,000 residents. States such as Baja California and Nuevo León experienced more pronounced growth (2% and 1.9%, respectively) on an annual basis, faster than the overall rate of population growth for the Country of Mexico (1.6%).

Chart 12 – Cumulative Foreign Direct Investment, Mexico Border States, Millions of \$

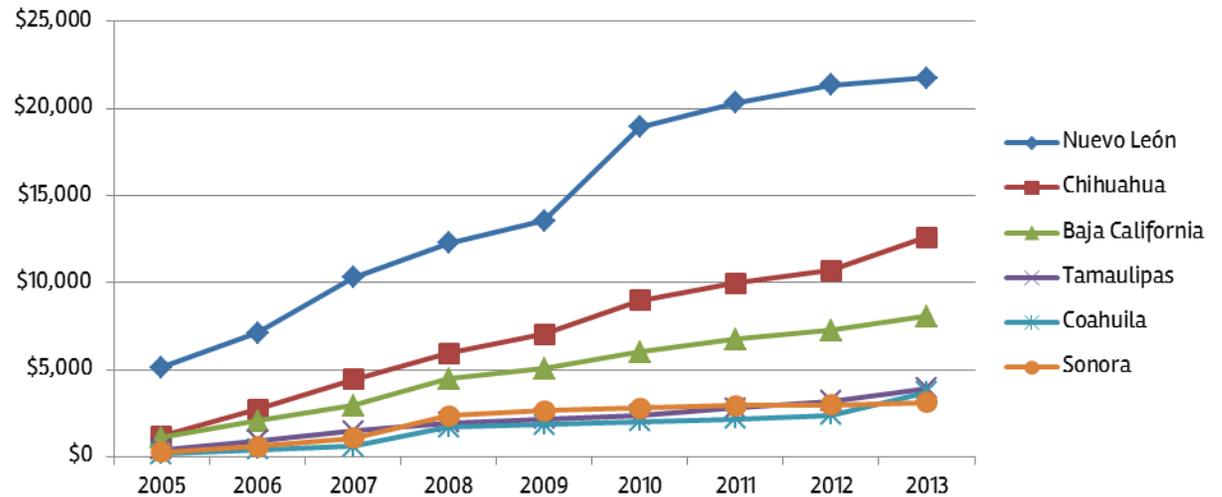


Table 13 – Total Population, Mexican Border States, Noted Years

Year	Baja California	Coahuila	Chihuahua	Nuevo León	Sonora	Tamaulipas	National Total
2005	2,844,469	2,495,200	3,241,444	4,199,292	2,394,861	3,024,238	103,263,388
2006	2,912,674	2,587,518	3,270,309	4,330,486	2,501,653	3,075,303	107,151,011
2007	2,977,440	2,625,332	3,322,439	4,408,836	2,542,078	3,129,386	108,408,827
2008	3,041,783	2,664,019	3,376,544	4,487,206	2,586,060	3,184,546	109,787,388
2009	3,105,709	2,703,905	3,431,517	4,566,871	2,632,192	3,239,174	111,299,015
2010	3,155,070	2,748,391	3,406,465	4,653,458	2,662,480	3,268,554	112,336,538
2011	3,224,844	2,782,013	3,525,273	4,723,273	2,727,032	3,334,664	114,255,555
2012	3,275,399	2,818,077	3,559,248	4,797,263	2,767,364	3,376,515	115,682,868
2013	3,328,623	2,854,334	3,598,792	4,868,844	2,809,806	3,419,338	117,053,750
CAGR	2.00%	1.70%	1.30%	1.90%	2.00%	1.50%	1.60%

Source: Sistema Estatal y Municipal de Base de Datos, Instituto Nacional de Estadística y Geografía. 2005 and 2010; Data for 2006–2009 and 2011–2013 data are provided as mid-year estimates released by Mexico’s Consejo Nacional de Población (CONAPO), November 2012

Table 14 summarizes shifts in the percentage share of employment for noted Mexican states. For Chihuahua, the table speaks to a slight decrease in market share over the noted period, pointing to employment growth at a slower rate. At the same time, Chihuahua ranks as the second largest border state in population.

While population growth has been relatively modest, data from INEGI shows sizable increases from 2010 to 2013 in employment. Much of the recent employment gain went to Chihuahua (including Ciudad Juárez). Table 15 points to a CAGR of 4% for Chihuahua since 2010, doubling the prior rate of annualized growth, faster than the rate of growth for all border states in Mexico.

The Maquiladora Program

In 1964, the U.S. government ended the Bracero Program, a decades-old agreement that allowed for employment in the U.S. of Mexican farm workers. Within a year, the Mexican government launched the Border Industrialization Program (BIP) or Maquiladora Program to address the problem of growing unemployment along its northern border. The BIP was designed to encourage foreign investment in manufacturing plants or Maquiladora along Mexico’s northern border.

The word Maquiladora is derived from maquilar, the service provided by a miller when he grinds wheat into flour. In principle, a maquiladora provides a service without taking ownership of the goods. Corporations were allowed to import raw materials and components on a temporary, duty-free basis for assembly by Mexican labor and re-export the resulting products. Under the Maquiladora Program, also known as the “in-bond” program, foreign corporations would deposit a bond with the Secretaría de Comercio y Fomento Industrial (Mexican Department of Commerce and Industry) for the value of the duty waived and, when the assembled products were exported, the bond would be returned.

Table 14 – Percentage of Total Population by State, Mexican Border States, Noted Years

Year	Baja California	Coahuila	Chihuahua	Nuevo León	Sonora	Tamaulipas
2005	15.60%	13.70%	17.80%	23.10%	13.20%	16.60%
2006	15.60%	13.90%	17.50%	23.20%	13.40%	16.50%
2007	15.70%	13.80%	17.50%	23.20%	13.40%	16.50%
2008	15.70%	13.80%	17.50%	23.20%	13.40%	16.50%
2009	15.80%	13.70%	17.40%	23.20%	13.40%	16.50%
2010	15.90%	13.80%	17.10%	23.40%	13.40%	16.40%
2011	15.90%	13.70%	17.40%	23.20%	13.40%	16.40%
2012	15.90%	13.70%	17.30%	23.30%	13.40%	16.40%
2013	15.90%	13.70%	17.20%	23.30%	13.50%	16.40%
CAGR	0.20%	0.00%	-0.40%	0.10%	0.30%	-0.20%

Source: AECOM Analysis of Sistema Estatal y Municipal de Base de Datos, Instituto Nacional de Estadística y Geografía. Consejo Nacional de Población (CONAPO), November 2012

Table 15 – Total Employment, Mexican Border States, Noted Years

Year	Baja California	Coahuila	Chihuahua	Nuevo León	Sonora	Tamaulipas	Border Total
2005	1,129,092	946,635	1,217,064	1,762,696	970,453	1,217,455	7,243,395
2006	1,196,727	972,430	1,320,975	1,834,913	990,722	1,272,517	7,588,284
2007	1,220,971	1,020,697	1,348,205	1,909,779	965,456	1,275,417	7,740,525
2008	1,280,838	1,078,081	1,384,501	1,937,961	1,003,963	1,343,332	8,028,676
2009	1,303,467	1,033,820	1,305,031	1,921,594	999,293	1,302,452	7,865,657
2010	1,325,960	1,039,788	1,285,142	1,960,456	1,006,085	1,302,804	7,920,235
2011	1,326,386	1,110,948	1,253,291	2,068,905	1,091,029	1,355,501	8,206,060
2012	1,364,750	1,178,802	1,337,579	2,115,484	1,193,300	1,416,479	8,606,394
2013	1,419,177	1,209,674	1,445,720	2,093,055	1,187,698	1,437,938	8,793,262
CAGR 05-13	2.90%	3.10%	2.20%	2.20%	2.60%	2.10%	2.50%
CAGR 10-13	2.30%	5.20%	4.00%	2.20%	5.70%	3.30%	3.50%

Source: Sistema Estatal y Municipal de Base de Datos, Instituto Nacional de Estadística y Geografía. 2005–2010 data are based on actual counts. 2011–2013 data are estimates, referenced to 2010

Over the course of nearly five decades, the Mexican Maquiladora industry has witnessed a number of changes. During the 1960s, U.S. corporations established labor-intensive assembly operations to capture the advantages of Mexico's comparatively low labor costs. By the early 1980s, a growing share of U.S. manufacturers—from coupon clipping services to auto parts production to aerospace suppliers—had invested in Mexican assembly plants. Japanese, Korean, and European investors soon followed, establishing operations along Mexico's northern border that allowed their products to compete in the U.S. market.

In the late 1980s, some firms moved away from low-skilled assembly work to more advanced manufacturing operations. Economic data provided by Banco De Mexico show the percentage of "technical workers" employed by Maquiladoras increased more than 180% from the early 1980s to the 1990s. An example of one such operation is the Delphi Mexico Testing Center in Cd. Juárez, a General Motors' spinoff, which operates a sophisticated product testing facility and employs hundreds of skilled technicians and engineers.

As Maquiladoras evolved, the Mexican government initiated a series of changes to its border program. In May of 1990, the President of Mexico, responding to complaints from domestic companies who wished to compete with foreign-owned manufacturers, enacted the PITEX program. The new program allowed Mexican domestic companies to operate in a similar fashion as foreign-owned Maquiladoras, but encouraged the use of Mexican suppliers and required the domestic firms to export a certain percentage of their production. In practice, PITEX fostered expansion of manufacturing from border locations to new industrial parks in the interior of the nation.

Beginning in November of 2006, the Mexican government combined the PITEX and Maquiladora programs under a third program, IMMEX. The new program effectively consolidated the two earlier programs

under one administrative banner but has also made it difficult—through combined record keeping—to separate the impact of Mexico's original Maquiladora Program from its domestic-oriented manufacturing. In 2006, the final year that data were collected for the original Maquiladora Program, Mexico's Secretaría de Economía reported 2,062 Maquiladora plants employing a total 905,097 workers were in operation in the border region. In the same year, the Secretaría highlighted the State of Chihuahua as ranking first in Maquiladora employment among all border states, accounting for 26% of total industry employment.

Mexico's Maquiladora Program has been altered by other developments. The North American Free Trade Agreement (NAFTA), implemented in 1994, favorably impacted employment growth in the industry. Data provided by INEGI, Mexico's counterpart to the U.S. Census Bureau, show that in the five years before NAFTA, employment in the Maquiladora sector grew at the rate of 47%. In the five years after 1994, this figure jumped to 86%.

A significant impact to Mexico's Maquiladora industry occurred at the time of China's entry into World Trade Organization in 2001. After growing rapidly during the 1990s, the industry experienced a sharp decline in the early 2000s. By 2002, employment in the sector had contracted 21% and production had contracted about 30%, according to the GAO in a 2003 study "International Trade: Mexico's Maquiladora Decline Affects U.S.-Mexico Border Communities and Trade; Recovery Depends in Part on Mexico's Actions," GAO-03-891.

Facing growing competition from China and elsewhere, the Maquiladora engaged in changes to improve their overall efficiency. The Mexican government assisted the industry by streamlining reporting requirements. Industry observers have noted that this period of declining growth allowed the Maquiladora to regroup and gave some relief to border cities, which had been

under pressure to provide new infrastructure and social services at a rapid pace. Since 2008, the Mexican manufacturing industry has again experienced growth. Banco de México reports 31% growth in manufacturing employment from 2008 through 2012. The bank is reporting continued rapid growth in employment through the first half of 2013.

Pacto de México

A recent political development in Mexico City has raised a new debate over the future of Mexico's manufacturing industry. In December of 2012, soon after entering office, Mexican President Enrique Peña Nieto signed the Pacto de México, an economic and social agreement adopted by representatives of the country's three primary political parties. The Pacto, as defined in its vision statement, is designed to promote greater democratic representation among Mexico's citizens. Key to the agreement is reform of the nation's tax system. On October 31, 2013, the agreement was adopted by the Mexican Senate, the final political hurdle prior to its implementation. As proposed, the agreement will raise the income tax rate on Mexico's wealthy and middle classes and is projected to increase the overall tax rate on domestic manufacturing. It impacts border commerce specifically by eliminating a long-standing preferential value-added tax on regional transactions.

Manufacturing and trade organizations in the U.S. and Mexico have warned the new law may dampen the current upward trend in foreign investment in Mexico and could reverse growth in the nation's manufacturing employment. Nonetheless, the new reform and its key tax provisions appear to have won support among a broad base of Mexico's political leaders. Some facts about Mexico's Maquiladora industry include:

- > As far back as 1985, Maquiladoras overtook tourism as Mexico's largest source of foreign exchange.
- > Since 1996, Maquiladoras have ranked as the second largest industry in Mexico behind petroleum.

- > Although Maquiladora employment suffered in the early 2000s, related production still constituted more than 50% of all U.S.–Mexico trade.
- > By 2005, Maquiladora exports accounted for half of Mexico’s foreign exports.

Economic Benefits for U.S. Border Communities

The economic impact of the Maquiladora industry has been an ongoing topic of debate for many years. In principle, the Maquiladoras enable US manufacturers to stay competitive in global markets by offering lower production costs. As well, the Maquiladora as need to be seen in context with larger global production and logistics models that help North America maintain a competitive edge with manufacturing regions around the world.

Cities on the U.S. side of the border have benefited, albeit unevenly, from the resulting flow of trade generated by the Maquiladora. According to the GAO, between 1990 and 2002, more than half a million jobs were added to the U.S. border region. In this time period, employment growth in the U.S. border region exceeded the U.S. national average overall. Studies in 2001 that relied on data from the 1990s documented broader benefits for border cities, estimating that a 10% increase in Maquiladora production would yield a 1% to 2% increase in employment on the US side of the border (Hanson, “US–Mexico integration and regional economics: Evidence from Border City Pair”).

More recent studies have attempted to measure the impact of Maquiladora trade on U.S. border communities, including El Paso in particular. In the traditional model, impacts begin with increased US manufacturing output, which triggered production orders at Maquiladora plants in Mexico. These plants then produce both intermediate and final goods that are returned either to US plants for final assembly, or distributed to end markets in North America. It is clear that the model is changing, as Maquiladoras

are diversifying their production, moving into R&D as well. For El Paso, Dallas Federal Reserve studies found that a 10% increase in output in Ciudad Juárez would correspond to a 3% increase in non–farm employment growth in El Paso (Issue 1, May 2010, Crossroads; Economic Trends in the Desert Southwest). Similar FED research documented the reality that benefits in El Paso tend to be on the services side. This point was echoed in a 2011 study by the Dallas FED, “The Impact of the Maquiladora Industry on U.S. Border Cities,” which identified Maquiladora production as having significant impact on U.S. border city employment in general, primarily in lower valued added sectors such as transportation and services.

State-Supported Development around the Santa Teresa–San Jerónimo POE

The state of Chihuahua has actively teamed with the state of New Mexico to leverage investment in its own San Jerónimo POE on the Mexican side of the border. In 2004, Chihuahua’s outgoing governor, Patricio Martínez García, purchased 200 hectares (494 acres) southeast of the existing POE from landowner Eloy Vallina. The Governor placed the land on the books of Promotora de la Industria Chihuahuense, an agency of the Chihuahua Department of Economy that owns and manages industrial parks. More recently, Chihuahua Governor César Duarte Jáquez collaborated with New Mexico Governor Susana Martinez to promote the Santa Teresa–San Jerónimo area with the promise of a large–scale residential and commercial development south of the border. Mexico’s regional planning organization, IMIP, published a series of maps highlighting this bi–national plan. The Chihuahua plan includes a number of integrated projects. Maps on the following pages highlight these proposed projects:

- > Construction of a 34–mile rail line connecting San Jerónimo with Ferromex’s existing Juárez–Chihuahua line south of Ciudad Juárez. The new rail line would bypass Ciudad Juárez, crossing into

New Mexico west of the Santa Teresa POE. This line would still need to connect to existing UP and BNSF rail corridors.

- > Construction of a rail–truck intermodal yard south of Cd. Juárez, located near the junction of the proposed new rail line, next to the Samalayuca–San Jerónimo highway.
- > Opening of a free trade zone along the Mexican side of the border.
- > Rerouting of the last leg of the Anapra–San Jerónimo highway to swing south, permitting more efficient access for Ciudad Juárez traffic entering the Santa Teresa–San Jerónimo POE.
- > Development of a vocational training & higher education center, known as the Ciudad del Conocimiento (City of Knowledge), south of Cd. Juárez on Boulevard Fundadores / Avenida del Desierto.

By December of 2014, Governor Cesar Duarte announced that Chinese investors had committed to support consolidated rail, road, and border crossing infrastructure. Assuming this project moves forward, it will essentially force US railroads, including UP and BNSF, as well as organizations such as the New Mexico Border Authority and NMDOT to react. As UP has already made a big investment in Santa Teresa to avoid congestion in El Paso, experience suggests that UP may be reluctant to fund additional capacity improvements, particularly if BNSF were to be perceived as the primary beneficiary.

On the US side, Doña Ana County officials successfully expanded Foreign Trade Zone 197, incorporating the alternative site framework. The new structure extends the Foreign Trade Zone (FTZ) to cover essentially the entire county. An FTZ is a federal trade designation for an area that is within or adjacent (within 60 miles) to a U.S. POE and is legally considered outside of the U.S. territory to provide certain taxation and procedural

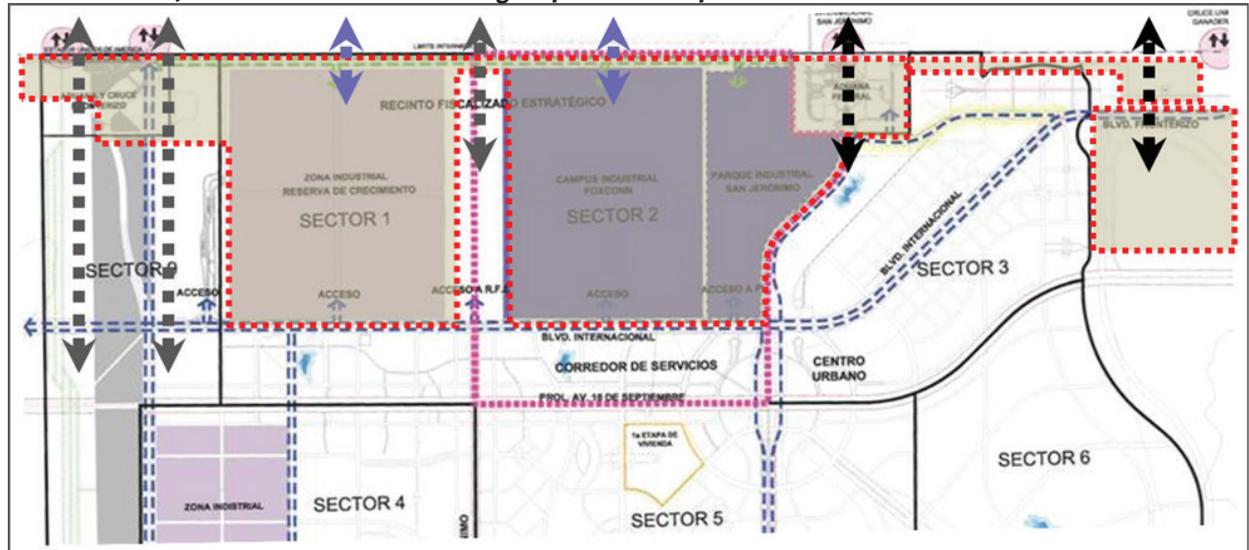
advantages for companies participating in foreign trade. FTZs were authorized in 1934 under the Foreign Trade Zones Act. An FTZ provides special procedures regarding duty-free recognition for goods, deferment of duty payments, and expedited customs processing. Benefits include the following:

- > Goods can be imported without the associated tariffs, which is particularly useful for manufacturers who import components for final assembly.
- > Goods within an FTZ can be stored there without time limits. Exemptions are available from certain state and local sales and personal property taxes, if deemed applicable.
- > Expedited customs processing of goods and finished products is available for manufacturers that sell exclusively to foreign markets; they are able to import the components.
- > While larger firms can manage FTZ-related paperwork internally, smaller firms typically need to secure the capacity of a single operator to manage paperwork.

Cross-Border Planning Context

Interest in cross-border planning and development was fostered in 1994 with creation of the U.S.-Mexico Joint Working Committee (JWC), an outgrowth of NAFTA created via Memorandum of Understanding (MOU) between the USDOT, the U.S. Department of State, and Mexico's Secretariat of Communication and Transportation. The intent of the MOU was to foster cooperation with transportation planning and to establish procedures to support analysis of current and future highway transportation infrastructure needs; the clear intent of the MOU was to facilitate efficient, safe, and economical cross-border transportation movements. The JWC prioritizes ongoing and future POE and roadway requirements.

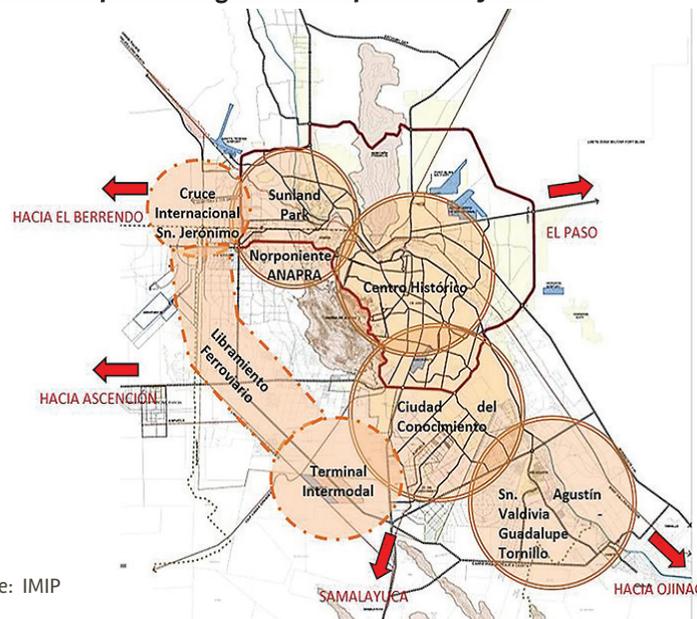
Chart 16 – San Jerónimo Border Area Showing Proposed Development Plans



Source: IMIP

Note: Red lines show proposed Juárez-San Jerónimo Free Trading Zone. Arrows to the left show the location of proposed cross-border rail line.

Chart 17 – Proposed Integrated Transportation System



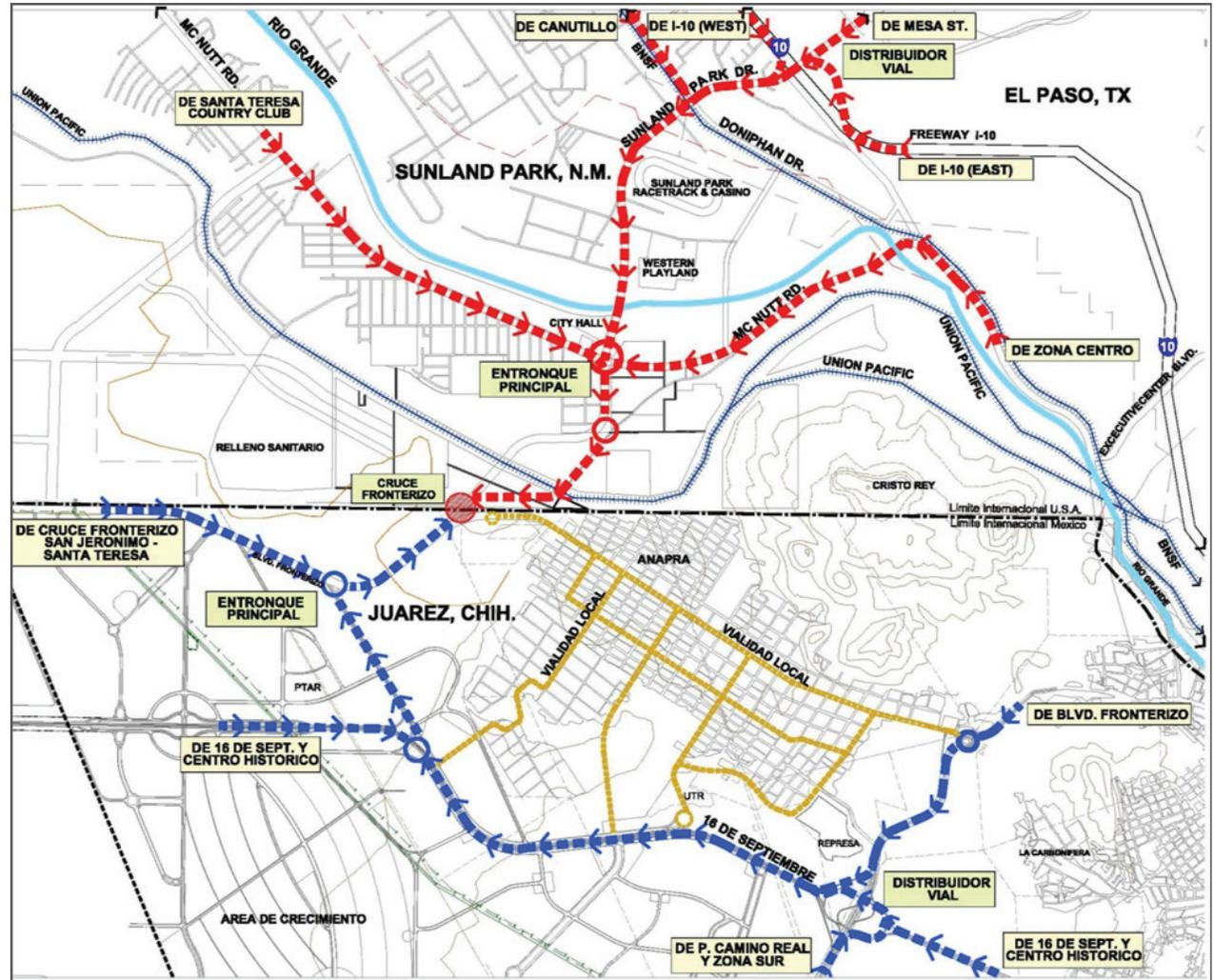
Source: IMIP

In 2012, the JWC commissioned development of an El Paso–Santa Teresa–Chihuahua Border Master Plan. The plan was assigned to TxDOT, which contracted the work to the Center for Transportation Research at the University of Texas.

A draft of the plan was unveiled in February 2013 in El Paso. After a lengthy public comment period, the draft was revised and published as final in October of the same year. The plan’s final version lists priority infrastructure projects with impacts for Doña Ana County. Some of these identified priorities include:

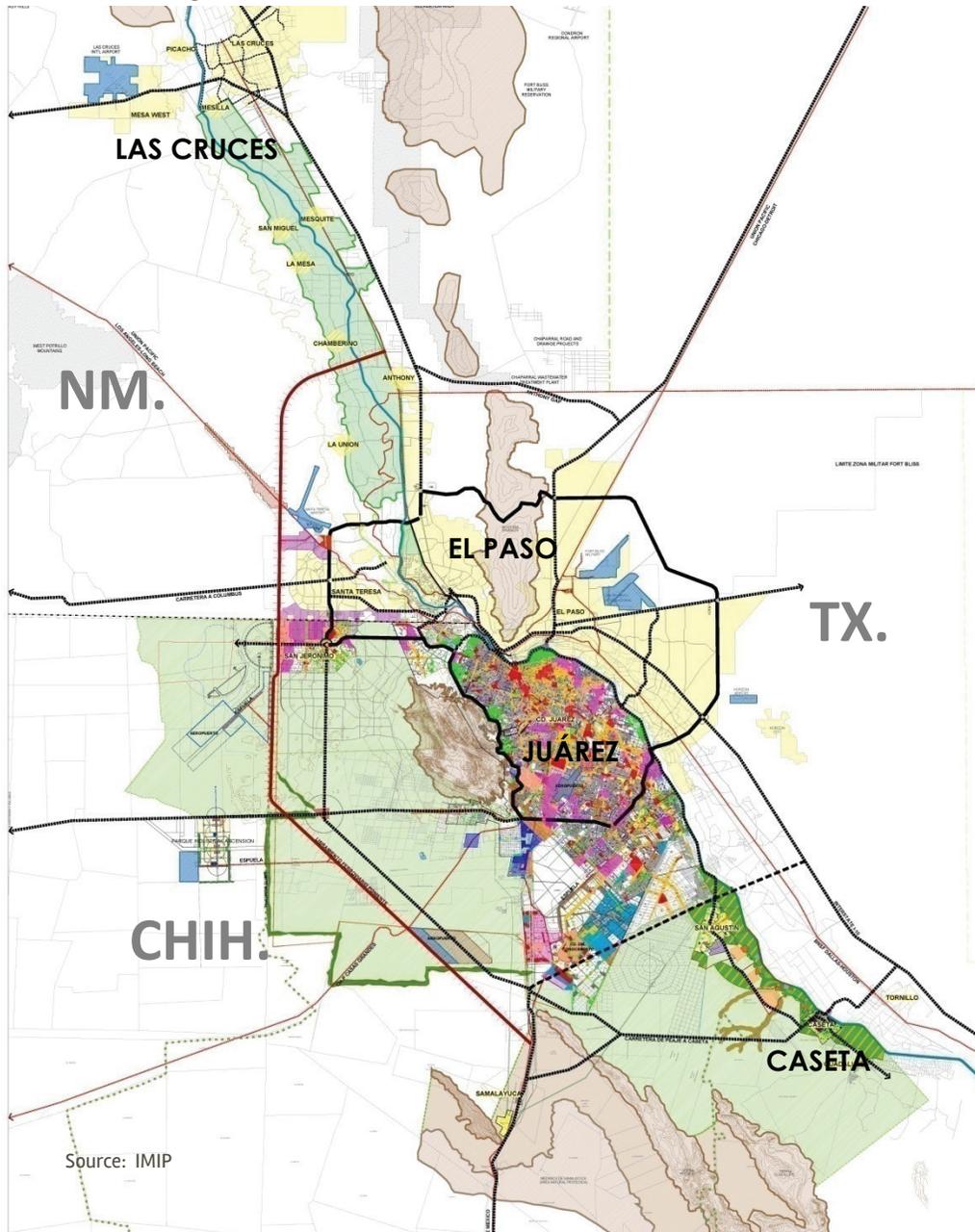
- > Construct new rail POE to divert cargo away from the urban area of Cd. Juárez in conjunction with the Samalayuca–Jerónimo rail loop.
- > Construct a new urban four-lane highway to connect to the Anapra–Sunland Park and Santa Teresa/Jerónimo POEs without passing through the Rancho Anapra neighborhood.
- > Construct a commercial and bus inspection facility.
- > Construct a highway access road to the Santa Teresa

Chart 18 – Road Network for Proposed Sunland Park POE



Source: IMIP

Chart 19 – Existing and Future Transportation Connections

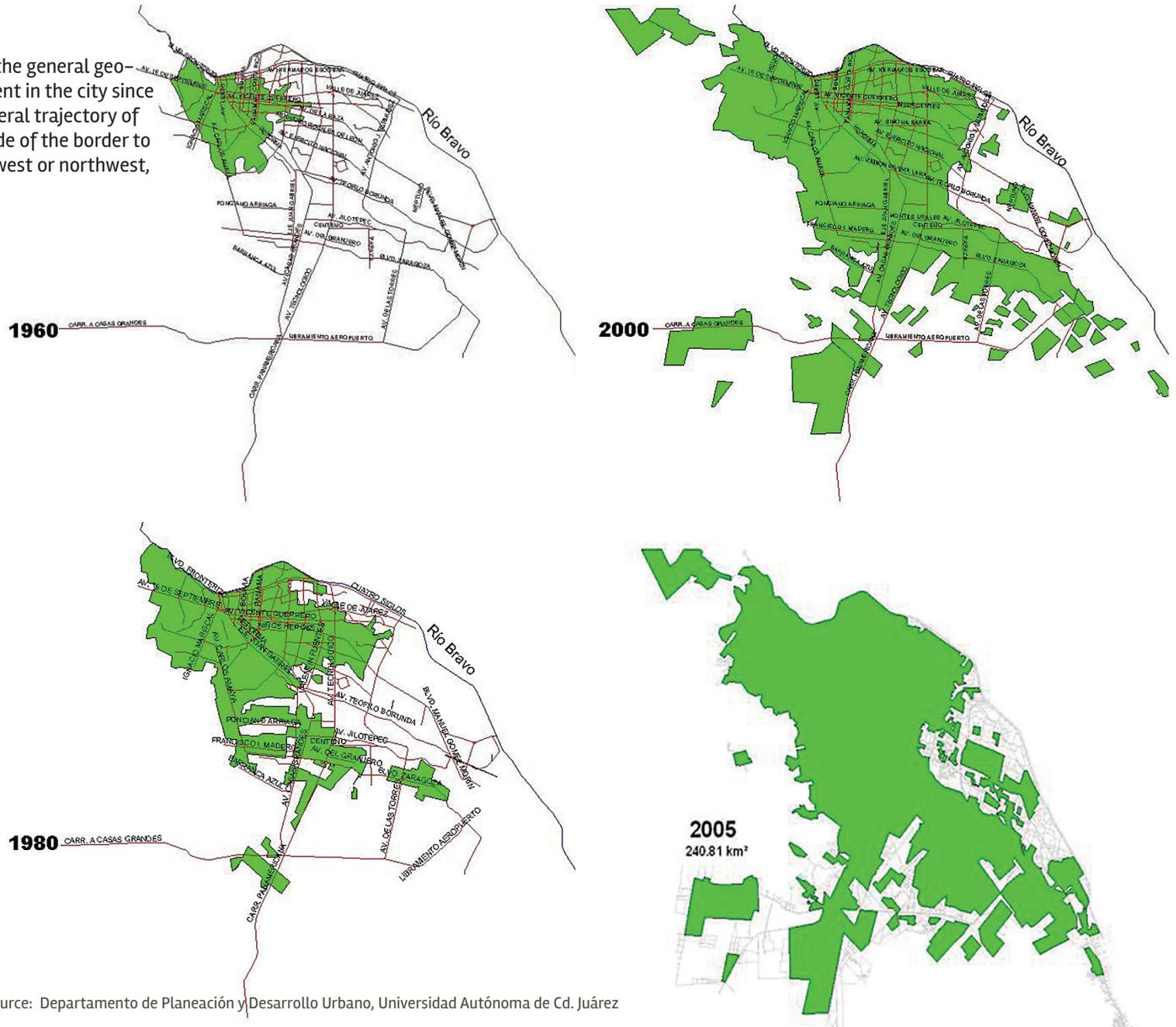


/ San Jerónimo POE bridge.

- > Provide future plans to construct a new POE in Sunland Park.
- > Construct the Santa Teresa Commercial and Weight Inspection Station.
- > Perform pavement preservation and design and construction of multi-use path on NM 136, including drainage and erosion control.
- > Improve A-017 (Strauss Road) and Industrial Drive, and relocate St. John’s access point on NM 136.
- > Perform pavement preservation of Sunland Park Drive, from Texas State line to McNutt Road (NM 273).
- > Perform IH 10 pavement preservation, from Las Cruces to Texas State line.
- > Construct new roundabout at the intersection of NM 404 and NM 213. New pavement with signing, lighting, and traffic control will be placed to assist with congestion and traffic control in the area.
- > Widen access road to Mexican customs from two to three lanes to increase capacity and to separate heavy vehicles.

Ciudad Juárez Land Use Patterns

The following set of maps reinforce the general geographic trajectory of new development in the city since the 1960s. The maps reinforce a general trajectory of new development on the Mexican side of the border to the south and east, rather than the west or northwest, toward the Santa Teresa POE.



Source: Departamento de Planeación y Desarrollo Urbano, Universidad Autónoma de Cd. Juárez

Where Workers Work and Live

Reflecting a clear focus on the Border Area, estimates for the number of workers who work in the Border Area and workers who live in the Border Area were evaluated using the US Census “On the Map” tool, which currently has data from 2002 through 2011. The study area used in this case is essentially Sunland Park and Santa Teresa. Table 20 highlights a breakdown of employment in specific industries within this defined market, with an increase in Border Area jobs from 3,908 to 5,098 over the noted period. Over that time, while manufacturing saw a significant decrease (1,220 to 694 jobs) other sectors grew, including accommodations and food services, and arts and entertainment. Among typically higher-wage sectors, professional services added about 150 jobs.

Table 21 summarizes trends regarding the share of workers who work in the Santa Teresa area as a percentage of the broader two-county area in New Mexico and Texas. The table shows that agriculture supports about 6% of regional employment, and arts and entertainment supports about 21%, reflecting the impact of the Sunland Park Racetrack and Casino. In total, while Santa Teresa accounts for a modest share of regional employment, its rate of growth is notable, achieving net growth between 2002 and 2011 in spite of the recession.

Table 20 – Employment by Industry, Santa Teresa / Sunland Park

Industry Sector	2002	2011	CAGR
Agriculture, Forestry, Fishing	353	223	-5.0%
Mining & Energy Extraction	1	3	13.0%
Utilities	15	62	17.1%
Construction	189	199	0.6%
Manufacturing	1,220	694	-6.1%
Wholesale Trade	171	202	1.9%
Retail Trade	156	92	-5.7%
Transportation & Warehousing	302	282	-0.8%
Information	3	2	-4.4%
Finance and Insurance	36	67	7.1%
Real Estate / Leasing	35	35	0.0%
Professional & Technical Services	50	201	16.7%
Management of Companies	29	0	-100.0%
Administration & Support	317	393	2.4%
Educational Services	7	37	20.3%
Health Care & Social Assistance	192	711	15.7%
Arts, Entertainment, and Recreation	583	682	1.8%
Accommodation & Food Services	119	298	10.7%
Other Services	19	81	17.5%
Public Administration	111	834	25.1%
Total	3,908	5,098	3.0%

Source: US Census On The Map

Table 21 – Employment by Sector Comparisons, Noted Geographies

Sector	Santa Teresa	Doña Ana County	El Paso County	Metro Area	Border Area Share
Agriculture, Forestry, Fishing	223	2,556	1,012	3,568	6.3%
Mining & Energy Extraction	3	90	148	238	1.3%
Utilities	62	629	2,380	3,009	2.1%
Construction	199	3,990	15,558	19,548	1.0%
Manufacturing	694	3,062	17,643	20,705	3.4%
Wholesale Trade	202	1,264	11,469	12,733	1.6%
Retail Trade	92	7,153	41,864	49,017	0.2%
Transportation & Warehousing	282	1,687	14,357	16,044	1.8%
Information	2	917	6,885	7,802	0.0%
Finance and Insurance	67	1,676	9,314	10,990	0.6%
Real Estate / Leasing	35	765	5,665	6,430	0.5%
Professional & Technical Services	201	4,276	11,323	15,599	1.3%
Management of Companies	0	105	561	666	0.0%
Administration & Support	393	3,659	24,240	27,899	1.4%
Educational Services	37	11,088	41,682	52,770	0.1%
Health Care & Social Assistance	711	11,797	39,187	50,984	1.4%
Arts, Entertainment, and Recreation	682	1,213	2,035	3,248	21.0%
Accommodation & Food Services	298	6,244	31,263	37,507	0.8%
Other Services	81	1,341	6,653	7,994	1.0%
Public Administration	834	4,100	14,527	18,627	4.5%
Total	5,098	67,612	297,766	365,378	1.4%

Source: US Census On The Map

Table 22 highlights the work destinations of workers who reside in the Border Area. The table shows that about 3,000 people leave the Border Area to work every day commuting to El Paso, with 702 living and working within the Border Area. Las Cruces emerges as the third largest commuter destination for workers who reside in the Border Area. Table 23 highlights the resident origins for workers who work in the Border Area. The table again shows that El Paso is the largest origin (1,589 workers), followed by the Border Area itself (702). The Las Cruces area supports a modest share of workers who work in the Border Area (5.9%).

Table 22 – 2011 Border Area Residents’ Work Destinations

District	County	State	#	%
El Paso CCD	El Paso	TX	3,036	53.0%
Border Area	Doña Ana	NM	702	12.3%
Las Cruces CCD	Doña Ana	NM	517	9.0%
El Paso Northwest CCD	El Paso	TX	513	9.0%
Anthony CCD	Doña Ana	NM	390	6.8%
El Paso East CCD	El Paso	TX	189	3.3%
South Doña Ana CCD	Doña Ana	NM	80	1.4%
Alamogordo CCD	Otero	NM	50	0.9%
Belen CCD	Valencia	NM	41	0.7%
Roswell CCD	Chaves	NM	28	0.5%
Doña Ana–Hill CCD	Doña Ana	NM	27	0.5%
All Other Locations	N/A	N/A	152	2.7%
Total			5,725	100.0%

Note: CCD = County Census Divisions
Source: U.S. Census Bureau, On The Map Application

Table 23 – 2011 Border Area Workers’ Home Destinations

District	County	State	#	%
El Paso CCD	El Paso	TX	1,589	36.6%
Border Area	Doña Ana	NM	702	16.2%
El Paso Northwest CCD	El Paso	TX	687	15.8%
Las Cruces CCD	Doña Ana	NM	254	5.9%
El Paso East CCD	El Paso	TX	251	5.8%
Anthony CCD	Doña Ana	NM	201	4.6%
Doña Ana–Hill CCD	Doña Ana	NM	128	2.9%
South Doña Ana CCD	Doña Ana	NM	90	2.1%
Deming South CCD	Luna	NM	77	1.8%
Albuquerque CCD	Bernalillo	NM	30	0.7%
Roswell CCD	Chaves	NM	25	0.6%
All Other Locations	N/A	N/A	306	7.1%
Total			4,340	100.0%

CCD: County Census Division
Source: U.S. Census Bureau, OnTheMap Application

Implications

Core findings are evident:

- > While often linked by their location at the U.S.–Mexico border, Doña Ana and El Paso Counties have traditionally exhibited significant differences in employment growth. The figures indicate that Doña Ana County added private employment at a faster rate from 2001 to 2011 compared to El Paso County.
- > More recently, Doña Ana County’s economy appears to be increasingly aligned with El Paso County and Ciudad Juárez, pointing to the importance of external factors in dictating the future pace of growth. These external factors include Texas and Chihuahua, as well as the manufacturers that are increasingly dictating the pace of growth at the border.
- > Mexico has experienced a surge in foreign investment in the past 12 to 18 months. Drivers for the shift relate to deeper changes in supply chains for the auto industry, as well as shifts in manufacturing activity from Asian markets (China and India) to North American markets, linked with the concept of near-shoring.
- > IMIP Land use data reinforces a general trajectory of new residential and commercial development on the Mexican side of the border to the south and east, rather than the west or northwest.
- > The government of Chihuahua is actively promoting investment in San Jerónimo. Plans call for a new rail crossing and a series of improvements to access roads that would provide efficiencies in moving commercial cargo. News reports suggest that Mexican state officials are having discussions with foreign investors in these areas.
- > For Santa Teresa, the main driver of growth in freight is expected to be freight moving north from the interior of Chihuahua.
- > In 2011, there was a greater flow of workers leaving the Border Area to work (about 5,000) compared to workers commuting into the Border Area (3,638) in 2011. More workers reside in the Border Area and commute to Las Cruces, than live in Las Cruces and commute to the Border Area.





04. Economic Development Context



INTRODUCTION

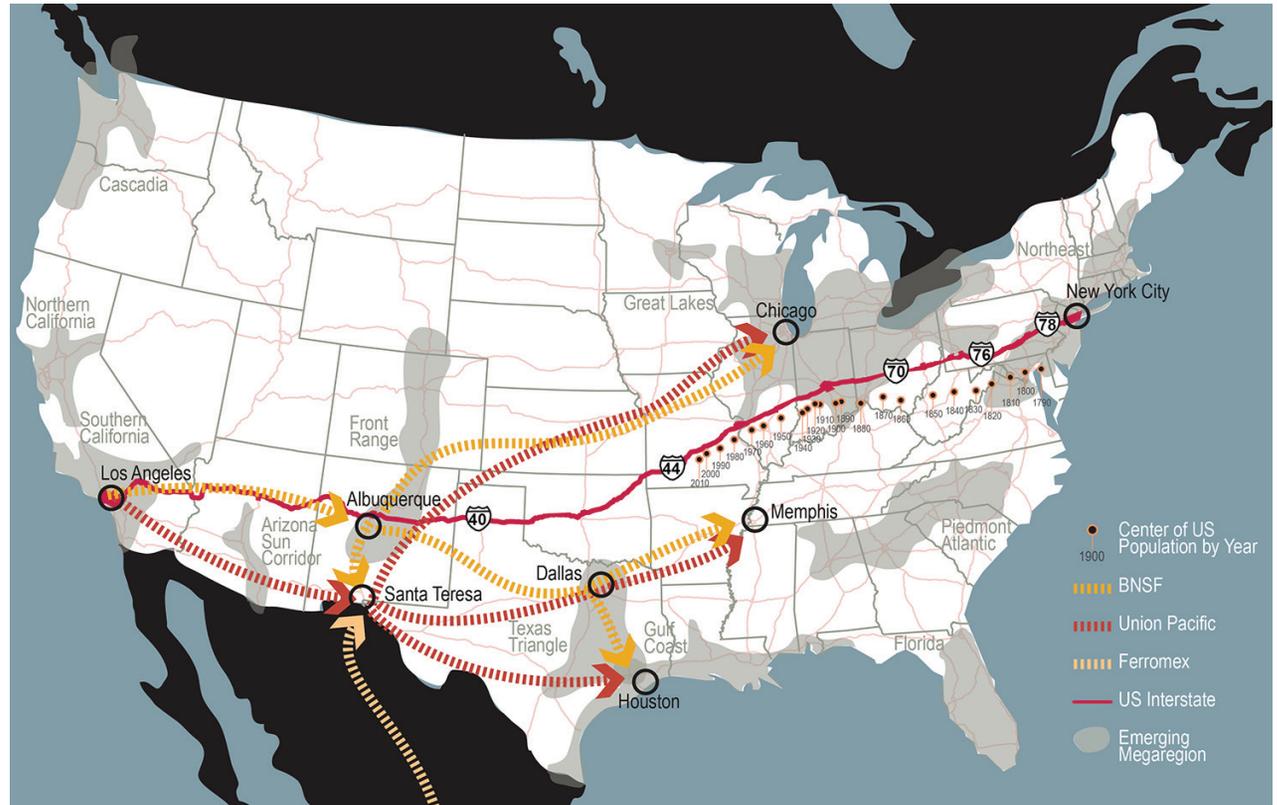
Today, as the U.S. continues to recover from the “Great Recession” the North American transportation network, including air, rail, truck, water, and pipeline segments, finds itself at a unique moment in time, which offers significant uncertainty, recognizable risks, and significant opportunity for the Border Area. Our experience has highlighted an array of factors, simultaneously global and national in nature, which will influence the path forward locally, including:

- > Broader recovery from the Great Recession
- > Recovery in the automotive assembly sector
- > Re-shoring / near-shoring
- > Regulatory impacts
- > Fundamental changes in the nature of manufacturing and distribution

Recessionary influences also have impacted geographic mobility, with the pace of western movement of U.S. population having decreased to its slowest pace going back to the 1930s, partly attributable to the sluggishness of the housing sector and growth in employment. What is also notable about the westward shift of the center of U.S. population is its tendency to run parallel to I-44 and I-70 between Springfield, MO and Columbus, OH. I-70 is the shortest and least tolled route between Los Angeles and New York, attracting a significant amount of truck traffic. This interstate route is paralleled by two high-volume rail corridors, operated by BNSF and UP, which connect U.S. West Coast Ports with Midwest and Eastern U.S. Population and Employment Centers, including Chicago and Memphis. (Chart 24) For the Border Area, understanding connectivity to major freight routes is an critical consideration.

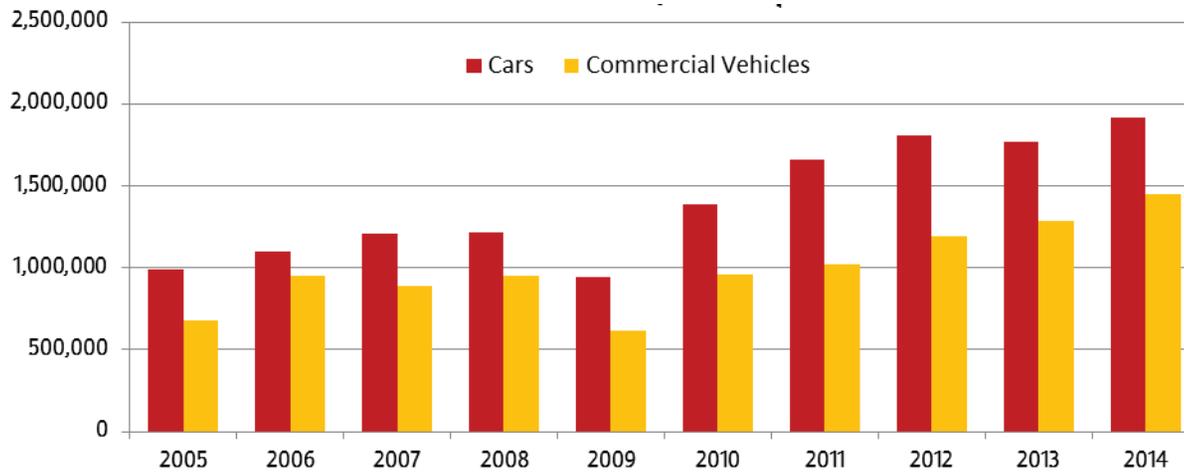
Re-shoring of manufacturing is linked with significant labor cost growth in China, rapid labor turnover in India,

Chart 24 – Strategic Location of Santa Teresa in a North American Context



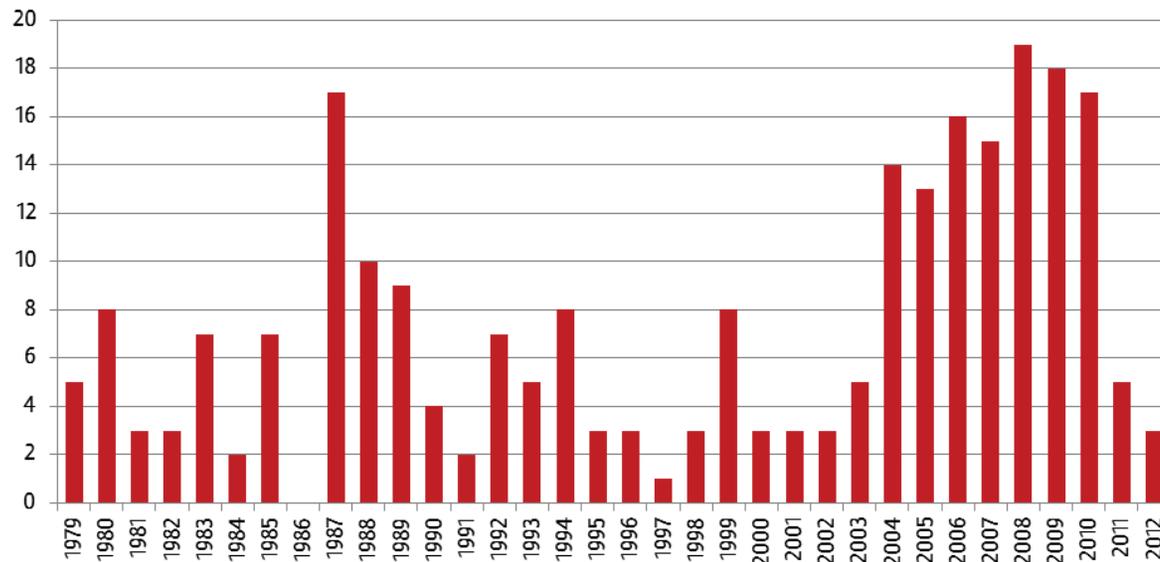
higher transportation costs, and more unstable supply chains. As shown in Chart 25, Mexico has been the primary beneficiary of this trend through 2012. Since 2005, auto production in Mexico has surged, growing from a 10% share of North American production (including the US, Mexico, and Canada) to a 19% share in 2014. Vehicle production in Mexico is growing at an 8.7% annual rate. Importantly, both US and Canadian auto production decreased in share over the noted period, with Mexican growth in share occurring particularly rapidly since the recession started in 2008. Reports in 2014 indicate that the trend has not abated, linked with announcements by several auto manufacturers who are focused on expansions in Mexico through 2016. The dramatic shift in auto production toward Mexico has mirrored a more precipitous pace of manufacturing plant closures in the US as shown in chart 26. Between 2006 and 2010, a significant number of US automotive assembly plants were closed (120 facilities). The currently unfolding shift toward intermodal service for automotive components has specific implications for the Border Area, which could see an increase in rail movement of intermodal, which could reduce truck congestion.

Chart 25 – Annual Passenger Car and Commercial Vehicle Production, Mexico



Source: International Organization of Motor Vehicle Manufacturers (OICA)

Chart 26 – US Automotive Plant Closures by Year, 1979 to 2012



Source: Center for Automotive Research

The analysis also shows that, more broadly, the nature of manufacturing has changed fundamentally. Where once heavy manufacturing facilities imported raw materials and turned them into finished goods in a single large facility, today several stages of manufacturing add incremental value to goods, and these stages may take place over large distances and multiple suppliers, as company supply chains become more flexible. New technologies (3D / Additive Printing) and advanced materials (powdered metals / composites, plastics, and adhesives) will continue to influence manufacturing processes. While the auto industry is recovering from extensive economic damage caused by the recession, the underlying industry logistics infrastructure is still adapting to changing industry volumes and assembly techniques. For example, industry reports point to further growth in the use of lighter-weight aluminum and reconfigured power trains, along with plastics and special adhesives in future cars.

The nature of manufacturing and distribution has also changed drastically. Where once U.S. goods were manufactured, stored in warehouses, shipped to retailers’ shelves, and sold, today goods are manufactured as they are needed; inventory is drastically cut down; and global supply chains provide just-in-time merchandise. For many companies, “inventory” is more likely to be on a truck or plane than in a warehouse.

E-Commerce has emerged as a new business model in the last decade, linked with continued growth in internet sales and larger format stores such as Walmart and Home Depot. For large internet retailers—including exclusively online companies like Amazon as well as traditional retailers with an online presence like Walmart—there is a new kind of industrial property, the fulfillment center. Fulfillment centers used to be the reserve of catalog businesses but have been reborn for the 21st century. Images of Montgomery Ward’s employees roller-skating around the massive distribution center have been replaced by robotics, complicated systems of optical scanning, and miles of

conveyor belts. A second factor since 2000 is the continual pressure faced by retailers to keep shipping costs as low as possible. From a trucking standpoint, there is greater emphasis on maximizing the volume and weight that an individual truck can carry. As retailers refine their E-Commerce strategies, order fulfillment is also increasingly happening from existing retail store inventory, rather than from warehouses.

Impact of 3PLs

Retailers and manufacturers are also reducing costs by consolidating distribution and using 3PLs, with a focus on buildings generally larger than 500,000 square feet (SF) in size. 3PLs help companies make decisions on factors such as optimal freight modes, carrier loading and scheduling, management, and outsourcing of some business functions, including customer returns and repairs. Other factors include:

- > Fulfillment centers are often called pass-through centers because merchandise does not sit on the shelves for long. This is a logical outgrowth of consumers' demand that items ship within 24 hours but is also a reflection of "just in time" supply chain management.
- > Retailers have started linking their online and in-store businesses, allowing customers to order an item online and pick it up in the store.

Walmart often demands that suppliers deliver straight to their stores; however, this comes with intense pressure to deliver goods reliably and cheaply. Walmart's inventory management system allows suppliers to track sales, inventory, and prices, thereby providing more reliable inventory and lower prices. Toyota demands that suppliers to its automotive assembly plants deliver their goods to a staging area nearby, where the parts can be shuttled to the assembly line precisely when they are needed. Toyota reportedly demands that deliveries be made every two hours and for reliability to be better than 99%, which puts significant

pressure on its suppliers. Each of the auto assembly plants, as well as other manufacturing facilities, closely tracks the distance and on-time delivery of their supplier networks.

Because they specialize and have access to different shipping modes, technologies, and warehouses, 3PLs are often a logical option for companies that want to maximize their return on logistics. Outsourced business functions can be significant, involving services such as product-return issues. Toshiba has outsourced all its computer repairs to United Parcel Service (UPS). Although consumers believe they return their PCs to Toshiba, they actually "return" them to UPS employees, trained by Toshiba, who repair the computers and ship them back to the consumer. For the Border Area, understanding the evolving impact of 3PLs will be important. From interviews and a review of literature, it is apparent that 3PLs are continuing to grow and evolve, increasingly adding value along supply chains, evolving from just distribution of goods to sequencing of deliveries, and partial assembly of goods as well.

Impact of Containerization

Containerization of freight has dramatically reduced transportation costs. Worldwide, the number of shipping containers (20-foot equivalent units) continued to grow between 2000 and 2010 in spite of the recession. According to the U.S. Army Corps of Engineers, across the continental U.S., the number of shipping containers, otherwise known as twenty-foot equivalent units (or TEUs), increased from about 25 million to about 31.5 million, or about 3% annual growth. Looking to the future, companies such as IHS Global Insight predict that the number of imported TEUs will increase from about 17 million in 2011 to 60 million in 2037.

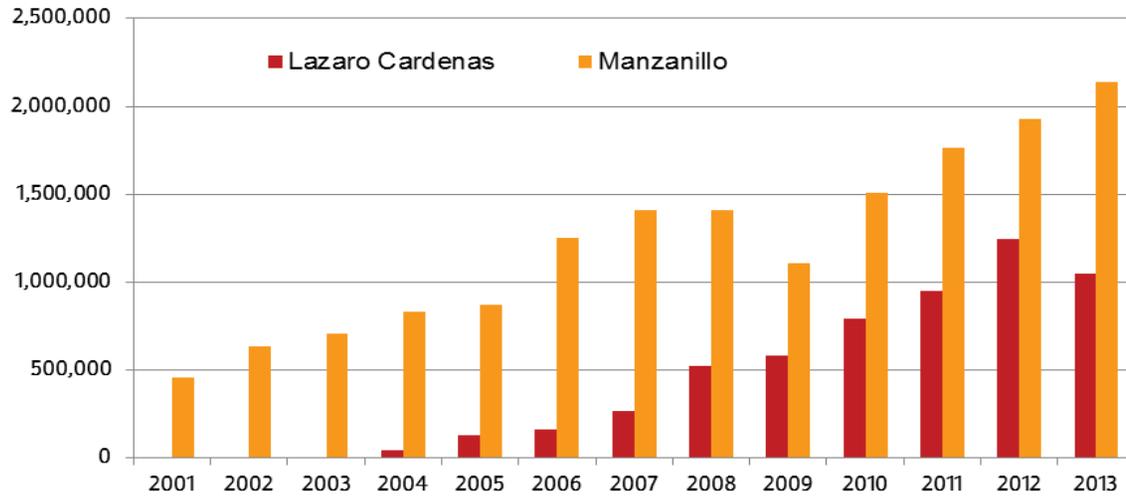
Containerization of higher value commodities is viewed as one area for specific growth, linked with Asian markets. In 2011, 7% of U.S. grain exports moved by container, according to the U.S. Department of Agriculture, up strongly from 2010. Along with growth

in containerization, the size of containers has grown, from the original 20-foot length, to include 40-foot-, 45-foot-, 48-foot-, and 53-foot-long containers, the latter of which are most often used for domestic shipping. Identity preserved grains (one driver of containerized demand) are produced with specific export-oriented end-users who are concerned about a confirmed origin and are prepared to pay a premium for container service; soybeans destined for Asian markets are an example.

One outgrowth of containerization is the emergence of larger port facilities across the western U.S., Canada, and Mexico to handle ever-increasing import container shipments. These ports, including Los Angeles / Long Beach, Seattle, and Tacoma, have expanded several times to meet demand, while also dealing with regulatory impacts. Since 2009, ports in Mexico and Canada have seen the strongest growth, compared to US West Coast ports, which have been reportedly contending with increased regulation and higher operating costs. Since 2009, Mexican ports have seen growth rates in excess of 20% per year, compared to 5% annual growth in the U.S. and about 11% growth in Canada. The Canadian port of Prince Rupert in British Columbia is viewed in a similar fashion, as it is a shorter distance from North Asian ports. The port enjoys a direct rail connection via Canadian National Railroad to Chicago and southward to New Orleans. The port is slated for additional expansion, to reportedly quadruple its capacity to approximately 4 million TEUs.

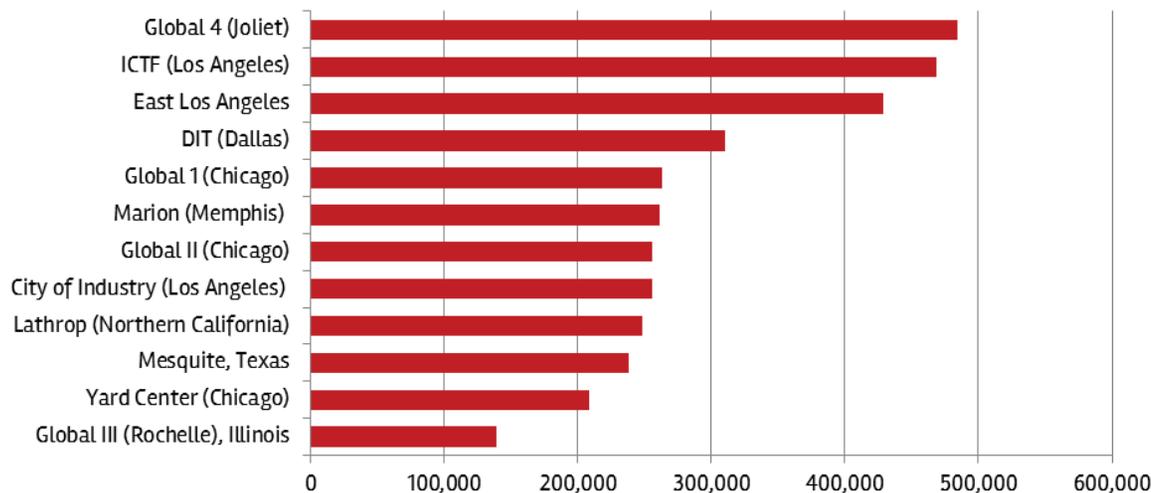
The Mexican port of Lazaro Cardenas is expanding its capacity from 160,000 to 2.2 million TEUs, benefiting from a direct connection to Chicago and Kansas City via Kansas City Southern. While intermodal growth through Lazaro Cardenas has been significant, reports suggest that a majority of existing traffic through this port is not destined for the US. Chart 27 highlights TEU growth for noted Mexican ports.

Chart 27 – TEU Growth, Noted Mexican Ports



Source: Collected TEU data by port

Chart 28 – Noted UP Intermodal Yards, Intermodal “Lifts” per Year, 2013



Source: UP Annual Reports

Growth in intermodal shipments in to U.S., Canadian, and Mexican ports has follow-on implications for Class 1 railroads, including UP, BNSF, Kansas City Southern, and Ferromex. For the Border Area, the 2014 opening of the UP Santa Teresa Yard has been viewed initially as an economic development opportunity. At the same time, it is important to see this new regional asset in context, as published reports by UP officials point to their interest in growing local intermodal traffic. For perspective, Chart 28 highlights the estimated 2013 intermodal container “lift” counts for larger UP yards around the country. Looking at the UP annual report for 2014, Santa Teresa was not large enough to qualify as one of the top system intermodal facilities for UP, with generally more than 200,000 intermodal container “lifts” per year. Based on reported remarks by UP officials, there is a sense that intermodal volumes at UP Santa Teresa will increase; future UP Annual Reports will likely reflect this growth.

Energy Markets

Higher fuel prices will continue to be a concern. While natural gas prices are at 10-year lows today, cost increases for gasoline, jet fuel (kerosene), and diesel fuel over the same period have been unsustainable, slowly building momentum for containerization of freight and further growth in intermodal traffic. Since 2007, the average cost of a gallon of jet fuel has reportedly grown at a faster annualized pace (6.1%) than diesel fuel (5.4%).

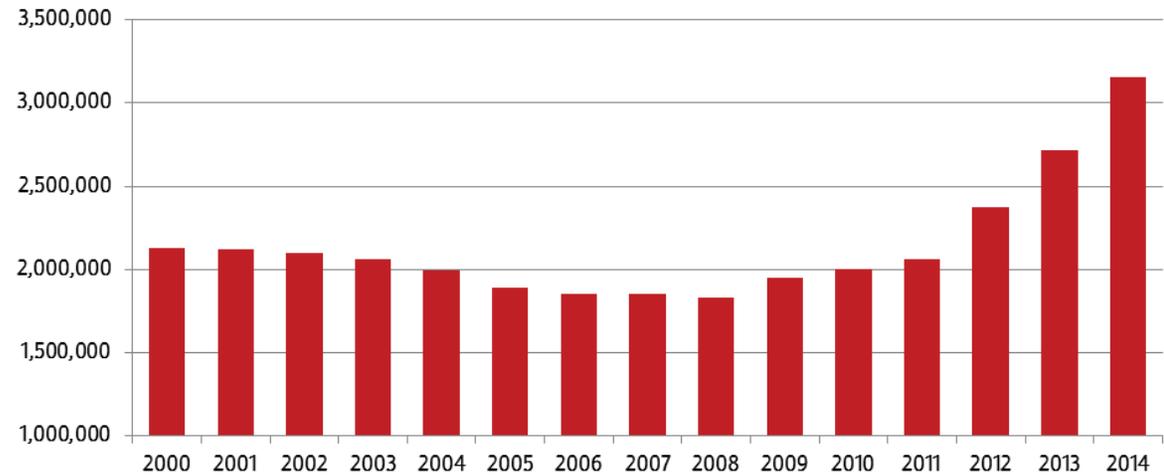
For the private sector, managing month-to-month price volatility is the primary challenge. For shipping companies, higher diesel fuel prices have added a day to transit times between Asia and the U.S. West Coast, as container ships have reduced speeds to save on fuel costs. Higher fuel prices are expected to have long-term implications for food production and delivery to destination markets, including removal of returned food products.

While higher fuel prices are impacting sectors that rely on gasoline or jet fuel, the same cannot be said for industries that rely on natural gas. Within the past five years, through processes known as hydraulic fracturing (or “fracking”), the U.S. has dramatically increased domestic extraction of natural gas and prices have fallen as a result. New production in shale basins such as the Bakken Region in the Dakotas have resulted in massive increases in natural gas reserves. Fracking has also boosted oil production, with places such as the Bakken going from production of about 36,000 barrels per day in 2008 to more than 400,000 barrels in 2012, with additional increases through 2014.

The level of success achieved in domestic oil production was also not without consequences, as the result of broader efficiency measures in the U.S. combined with a general economic slowdown in the fall of 2014 reduced demand for petroleum. In the face of reduced demand, OPEC oil producers, Saudi Arabia in particular, opted to maintain production, to protect market share; the result was an oil price war, which pushed prices to levels not seen since 2009. While the general public is very aware of gasoline prices, trends for diesel fuel are of greater interest, as there are implications that demand has not decreased to the same extent, as evidenced in Chart 30, which suggests that the premium for low-sulfur diesel has in fact grown since 2009.

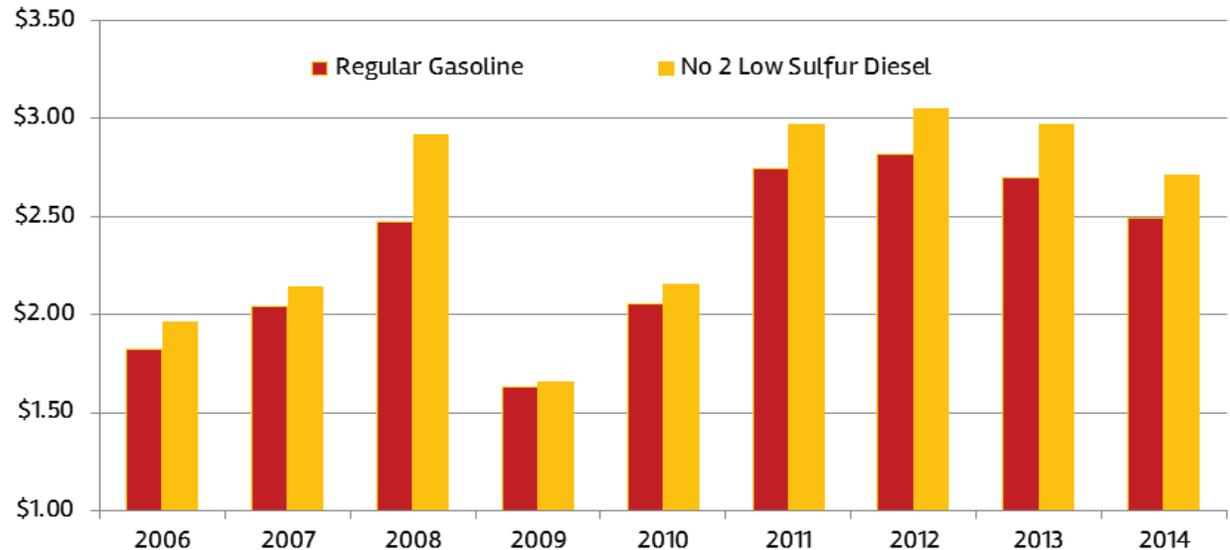
Energy markets are significantly altering traditional ways that fuels are transported, with railroads seeing significant growth of unit train movement of petrochemicals, even as several pipeline routes are being evaluated, including routes that will directly connect northern oil with Gulf Coast production facilities. Additionally, while the railroad industry has been able to more quickly respond to the growth in the sector than the pipeline industry, over the long term, there are significant cost advantages to bulk movement by pipeline.

Chart 29 – U.S. Production of Crude Oil (Thousands of Barrels)



Source: U.S. Energy Information Administration (EIA)

Chart 30 – U.S. Gulf Coast Spot Prices, Regular Gasoline and No. 2 Low Sulfur Diesel Fuel



Source: U.S. Energy Information Administration (EIA)

Regulatory Influences

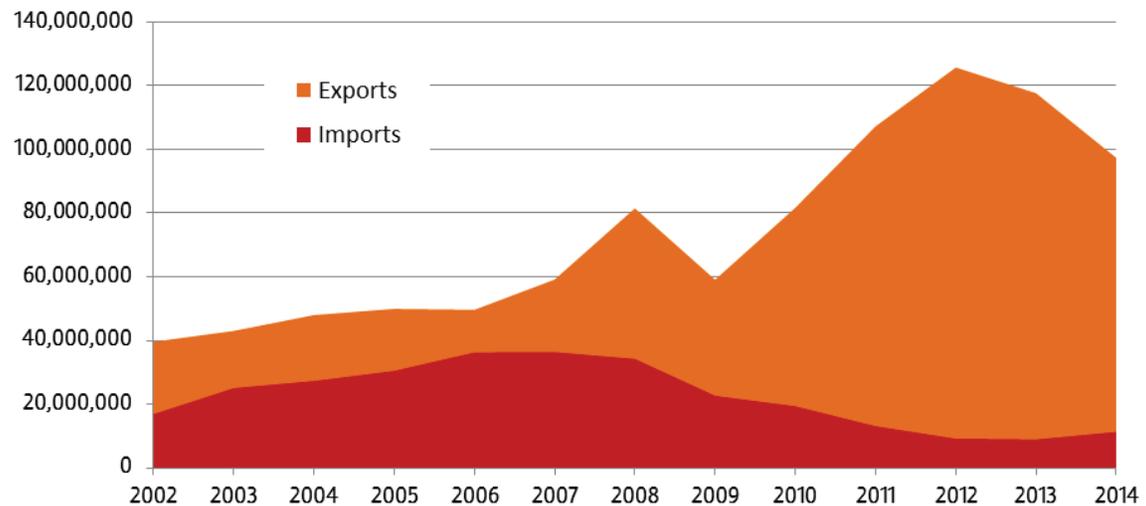
Federal regulations related to U.S. Class 1 Railroads are also continuing to shift. The industry is reacting to implementation of mandates for Positive Train Control. Equally significant are discussions within the Surface Transportation Board focused on the concept of reciprocal switching for “captive shippers.” If implemented, the rule would allow shippers to access other railroads, reducing shipping costs. Air quality regulations will continue to impact transportation sectors. While already twice as efficient as trucks in moving intermodal cargo, U.S. Environmental Protection Agency air quality requirements will further transform the rail and truck sectors over the next 10 years.

Changing regulations are also impacting the coal sector. New extraction technologies have also increased the supply of natural gas and reduced its cost, which has favorably impacted several industry sectors that rely on natural gas as a feedstock, particularly chemicals. For the coal companies, regulatory changes, combined with a warm winter in 2011–2012 reduced domestic demand for coal by a reported 10% to 15%. Even as domestic consumption has decreased, exports of coal have grown dramatically, as shown. Growth has put pressure on existing export facilities and supply chains, leading to recent, as well as anticipated, infrastructure changes.

Major Infrastructure Projects

The Panama Canal Expansion is scheduled for completion in 2016. The project includes a new parallel set of longer locks with a greater draft, and deeper navigational channels at a cost of about \$5 billion. The improvements will allow ships significantly larger than the current Panamax standard to pass through the canal, creating potential savings and opening up new markets. According to the U.S. Army Corps of Engineers, these ships currently make up 16% of ship inventory but now account for about 45% of cargo capacity. Some experts presume that the expanded

Chart 31 – U.S. Coal Imports and Exports, Millions of Short Tons



Source: U.S. Energy Information Administration (EIA)

canal will gradually benefit agricultural markets. Port reactions vary:

- > Gulf & East Coast ports are contemplating investments to support larger ships; analysis suggests that, at present, only a small number of U.S. ports have been dredged to the 50-foot standard required for post-Panamax vessels, including Los Angeles/Long Beach, Oakland, and Seattle, as well as the East Coast ports of Norfolk and Baltimore.
- > The main channel and container berths at the Port of New York/New Jersey are being deepened to the 50-foot standard, and the height clearance of the Bayonne Bridge is being increased.
- > The Port of New Orleans, including terminals up to Baton Rouge, can only support ships that draw up to 45 feet; the Port of Houston is in a similar situation.

There remains a fair amount of uncertainty where

post-Panamax ships will sail as they enter the fleet in larger numbers. Industry literature suggests that owners of these ships are likely to experience considerable pressure to keep them at sea, and to minimize unloading time, suggesting that a smaller number of U.S. ports will see surges increases in activity when these larger ships arrive, which will have ripple effects on land-side port facilities, trucking companies, and railroads. For Santa Teresa, the likely impact is that, as larger ships use the Port of LA /Long Beach, the Santa Teresa yard will be used to manage what will likely be more significant volatility in container traffic.

Class I Railroads are reacting to the canal expansion by investing in infrastructure and capacity, either through direct capital outlay or through public private partnerships. Since 1999, BNSF has invested billions to increase capacity on its southern TransCon Line, which now provides double-track service from Los Angeles through New Mexico to Chicago. The last remaining projects (Abo Canyon) are nearing completion. BNSF

maintains the largest share of Class 1 miles of rail owned in New Mexico. The BNSF TransCon connects with El Paso along a largely single track route that carries between four and eight trains per day, according to the New Mexico State Rail Plan. Recent news reports suggest that BNSF plans to increase use of this corridor for intermodal cargo from Mexico, with movement of 150,000 containers per year, which would require about 300 trains per year, assuming about 300 containers per train.

UP is continuing to invest in their Sunset Route, which provides direct connections into Dallas, Houston, Memphis, Kansas City, and Chicago. El Paso is a critical node along this high-capacity route, which carries a reported 40 to 50 freight trains per day. UP investments are focused on double-tracking the entire route, with about 60% completed as of 2013, according to published reports. The UP Santa Teresa Yard is expected to have a significant and positive impact on UP operations along the entire Sunset Route.

Norfolk Southern Railroad (NS) is involved in the Crescent Corridor project with 13 states focused on 2,500 miles of rail infrastructure. The project, with a reported cost of \$2.5 billion, will expand capacity from New Orleans and Memphis, through Birmingham and Charlotte, to connect with Philadelphia and New York. Connections across Texas from Santa Teresa toward Memphis are important, in this context.

Even as Class I Railroads are benefiting from these significant corridor improvements, their local (i.e. metropolitan area) networks and yards continue to be a challenge in terms of operations and capital investment priorities. Railroads are also pushing longer unit trains, typically coal, grain / commodities, refrigerated food, petrochemicals, or containers with anywhere from 115 to 140 cars.

For Santa Teresa, these trends have land use implications that link with the reality of trains getting longer, with consequences for older rail yards and

lines, resulting in more frequent blocked crossings. For example, UP recently experimented with an 18,000-foot-long container train from Southern California to Texas. Both BNSF and UP are reportedly building trains that run between 8,000 and 12,000 feet in length for intermodal service, with longer trains on higher-capacity corridors, of which the Sunset Route would qualify.

The pace of freight movement by rail through the Border Area is influenced by several infrastructure factors, most of which are distant:

- > Operational decisions made by the Ports of Los Angeles / Long Beach and UP are significant, in terms of how intermodal trains are loaded and blocked, and the capacity of existing rail yards to handle surges in intermodal units.
- > Congestion along the UP Sunset Route will be influenced by delays farther east, in places such as Dallas/Fort Worth, where Tower 55 has been identified as a major North American rail congestion point, and a focus of recent capacity improvements.
- > In Mexico, growth in rail intermodal is constrained infrastructure, with several routes having limited tunnel clearances, preventing more efficient double-stack intermodal service. News reports indicate that, due to broader security concerns, a majority of US destined intermodal traffic has yet to be routed through Mexican ports.

The Border itself is an ongoing constraint for rail-based, cross-border freight movement. Plans to open a new rail crossing in Brownsville, Texas, had been impacted by CBP, with debate over who would fund costs to relocate cargo-scanning equipment preventing the bridge from being used, according to news sources. This bridge is expected to open by the summer of 2015. The project is expected to divert significant freight traffic out of downtown Brownsville. The bridge

required political support on both sides of the border, as well as additional investments to connect the bridge to existing track alignments.

Border Area Freight Movement Context

The Santa Teresa POE is uniquely positioned, in part due to the geographic advantage of being the only POE in the Paso del Norte that does not require a bridge crossing over the Rio Grande. Reflecting this strategic position, the analysis initially focused on broader freight velocity trends for the entire US border with Mexico, as shown in Table 32. Growth in freight volumes since 2009 has been dramatic. The table shows that, for trucks, the average annual increase since 2009 has been about 280,700 trucks, as compared to the longer-term average of 120,000 trucks per year. Freight train volumes are up even more dramatically, increasing from a long-term average of 161 per year crossing the border, to 735 per year crossing the border.

Table 33 highlights truck volume comparisons for northbound traffic entering the US at high volume POEs. Trends are broken down between long-term averages and trends since 2009. The table shows that, within the field of high-volume POEs, Laredo, Texas, is the largest from a pure truck volume standpoint and has also seen dramatic growth in truck volumes since 2009. Notably, greater El Paso (including Santa Teresa) has grown to be the second largest in-bound POE, having surpassed Otay Mesa in 2011.

Looking at long-term growth rates, Santa Teresa is growing the fastest, at a 10.49% annualized rate, which equates to an annual increase of about 8,000 additional trucks per year. Of equal import for Santa Teresa, greater El Paso has seen annualized growth of about 26,400 trucks per year, between 1996 and 2014. Over time, as supply chains shift, it is likely that a larger share of trucks that move north through greater El Paso will consider Santa Teresa; local officials need to be prepared for this shift.

Table 32 – Freight Performance Metrics, North-Bound US/Mexico POE, 1996 –2014

Metric	Trucks	Loaded Truck	Empty Truck	Trains	Loaded Rail Containers	Empty Rail Containers
Total Increase, 1996 to	2,160,484	2,075,942	170,064	2,904	331,630	292,000
Average Annual	120,027	115,330	9,448	161	18,424	16,222
Total Increase, 2009 to	1,123,103	1,050,641	-15,599	2,938	235,197	100,497
Average Annual	280,776	262,660	-3,900	735	58,799	25,124
1996 to 2014	2.90%	4.50%	0.70%	1.80%	6.90%	6.30%
2009 to 2014	6.00%	8.50%	-0.30%	8.60%	18.70%	6.80%

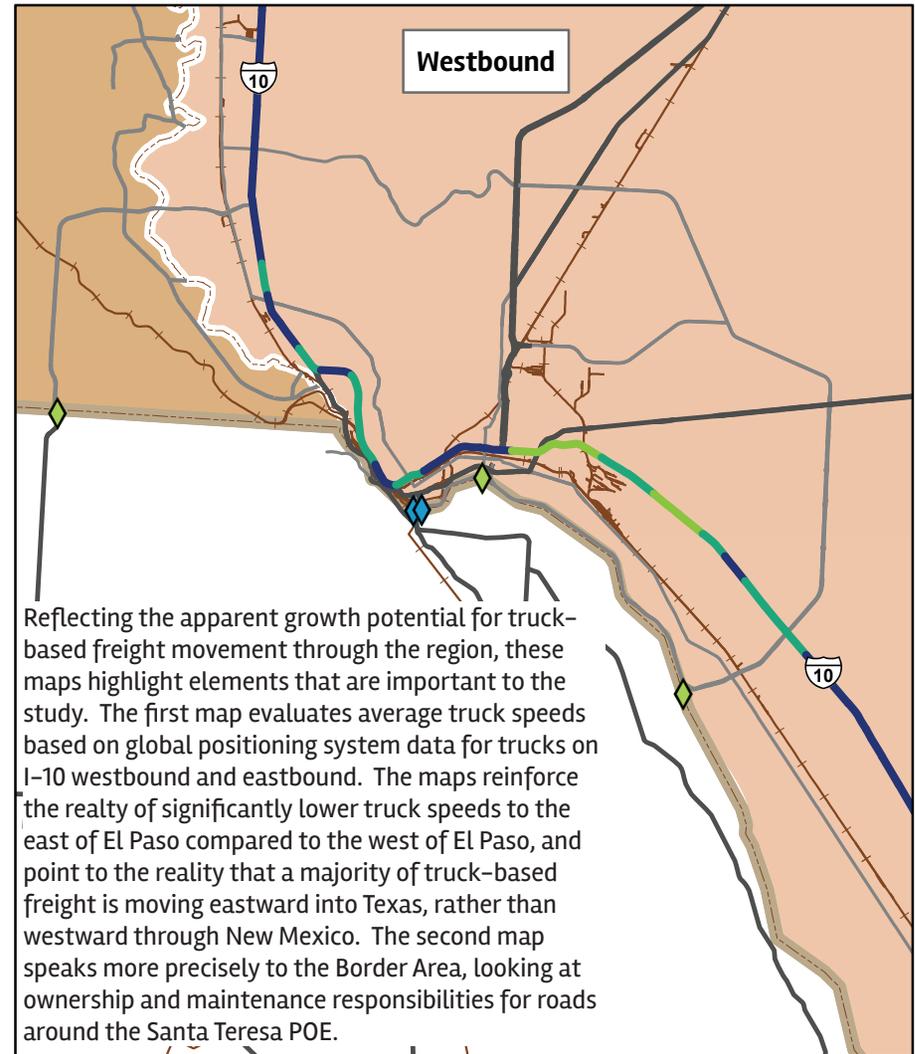
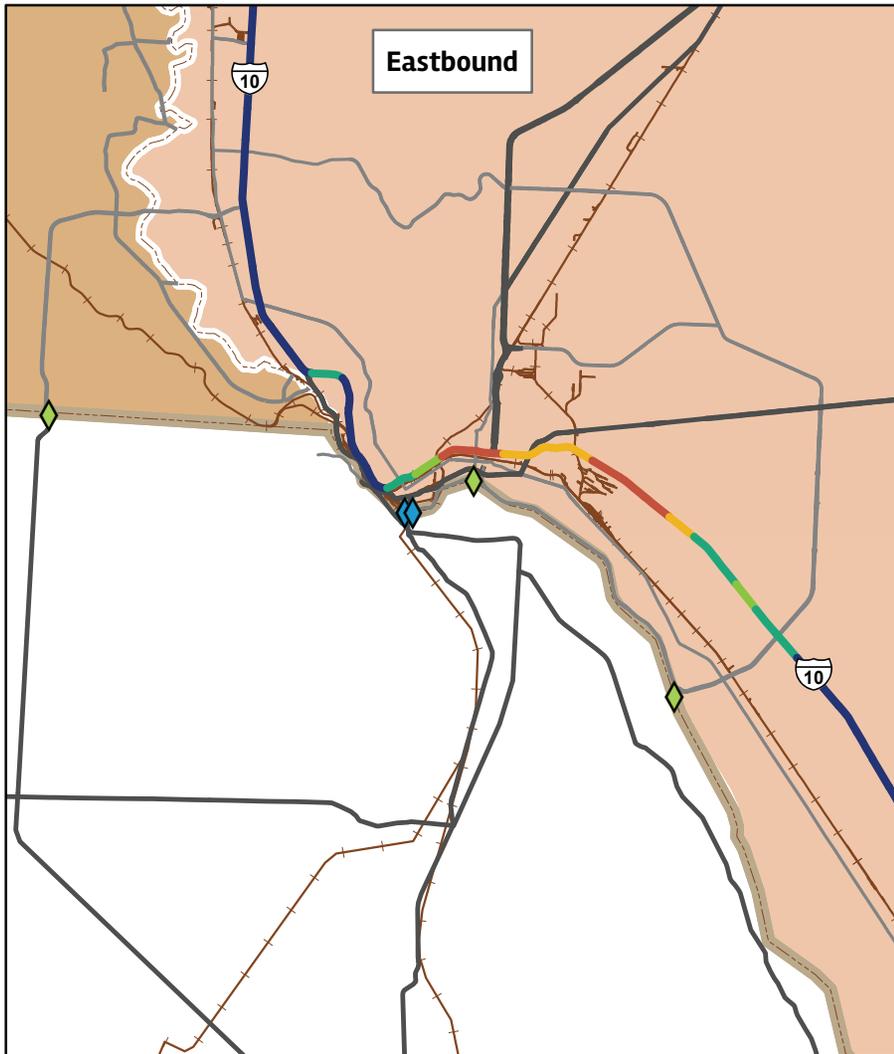
Source: USDOT

Table 33 – Truck Volumes and Annualized Growth Rates, US Ports of Entry, 1996 to 2014

Year	TX: Laredo	Greater El Paso	CA: Otay Mesa	TX: El Paso	TX: Hidalgo	TX: Brownsville	TX: Eagle Pass	NM: Santa Teresa	TX: Del Rio
1996	1,983,821	1,153,270	1,060,526	1,124,480	341,136	452,023	113,438	28,790	77,210
1997	2,233,124	1,237,037	1,163,594	1,176,376	408,963	495,833	148,193	60,661	86,496
1998	2,697,643	1,079,653	1,220,646	1,025,252	528,571	558,112	185,310	54,401	101,987
1999	2,979,732	1,391,876	1,239,714	1,339,379	647,628	604,084	201,704	52,497	117,121
2000	2,844,844	1,471,366	1,369,753	1,408,630	706,517	598,909	213,787	62,736	122,454
2001	2,808,597	1,386,067	1,424,293	1,327,738	732,533	505,914	195,312	58,329	121,607
2002	2,879,233	1,475,168	1,457,609	1,420,130	777,267	495,916	179,489	55,038	140,306
2003	2,699,328	1,381,169	1,408,678	1,325,036	811,302	454,830	176,544	56,133	127,585
2004	2,779,498	1,493,643	1,452,330	1,436,790	907,573	455,977	200,200	56,853	121,553
2005	2,911,111	1,543,635	1,474,531	1,475,505	985,649	473,596	195,465	68,130	122,539
2006	3,037,808	1,576,707	1,497,618	1,502,746	920,684	485,985	195,514	73,961	124,611
2007	3,127,696	1,622,777	1,474,070	1,542,255	983,169	470,312	200,490	80,522	120,774
2008	3,110,611	1,602,239	1,551,167	1,511,430	953,014	444,403	200,389	90,809	109,150
2009	2,764,774	1,399,091	1,370,544	1,284,168	840,072	379,455	166,835	114,923	93,372
2010	3,158,997	1,554,766	1,461,565	1,399,668	919,029	415,374	191,433	155,098	105,387
2011	3,391,492	1,487,752	1,492,460	1,345,168	912,263	417,535	215,055	142,584	120,004
2012	3,549,587	1,609,439	1,560,264	1,459,982	956,938	438,419	235,780	149,457	123,549
2013	3,666,469	1,549,896	1,540,006	1,391,574	996,686	414,964	237,950	158,322	129,351
2014	3,870,931	1,629,265	1,623,292	1,455,736	1,050,180	416,243	274,335	173,529	132,358
CAGR 96-14	3.78%	1.94%	2.39%	1.44%	6.45%	-0.46%	5.03%	10.49%	3.04%
CAGR 09-14	6.96%	3.09%	3.44%	2.54%	4.57%	1.87%	10.46%	8.59%	7.23%
New Trucks/Yr 09-14	221,231	46,035	50,550	34,314	42,022	7,358	21,500	11,721	7,797

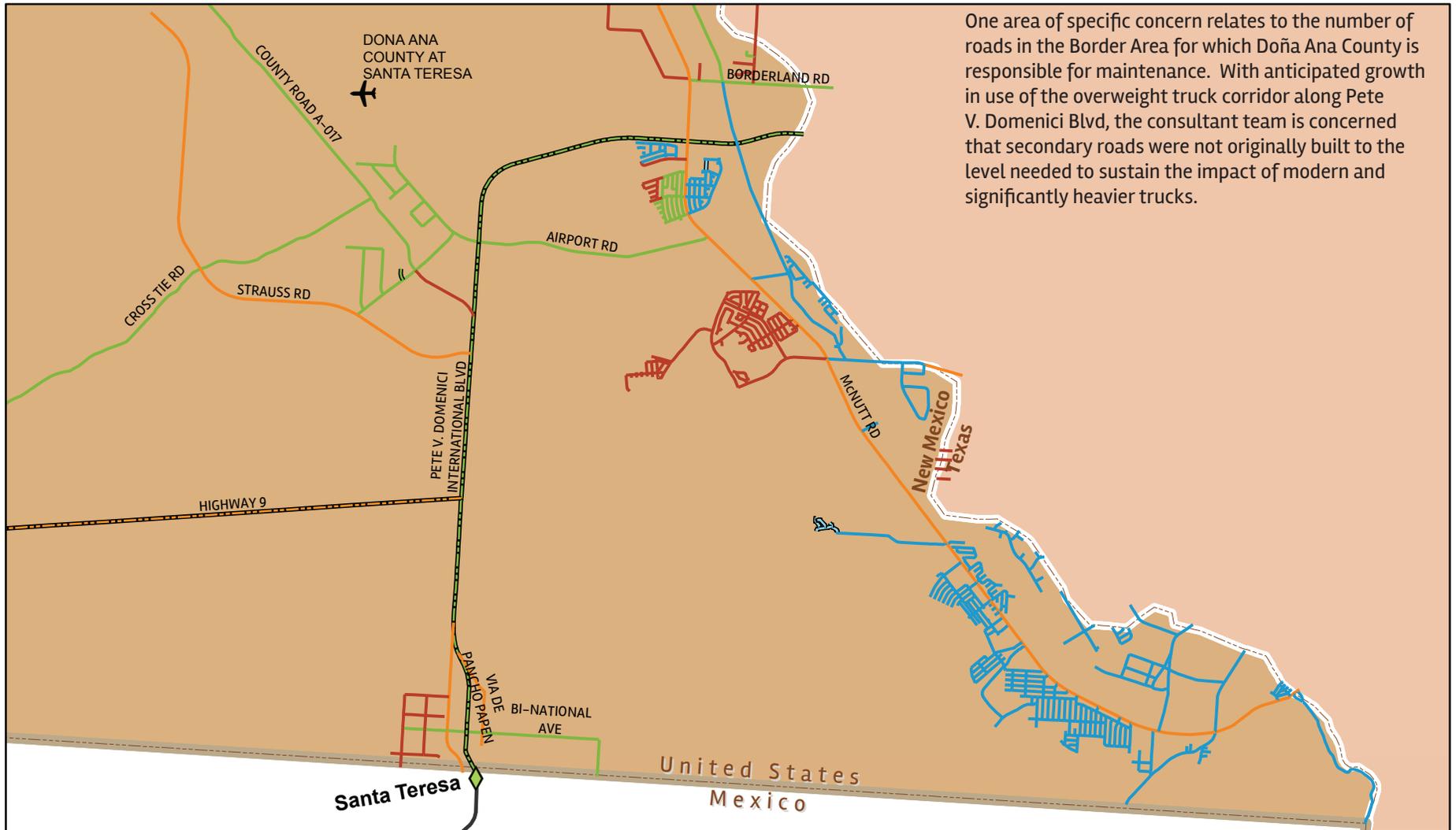
Note: Includes trucks, loaded truck containers, and empty truck containers

Source: USDOT



Reflecting the apparent growth potential for truck-based freight movement through the region, these maps highlight elements that are important to the study. The first map evaluates average truck speeds based on global positioning system data for trucks on I-10 westbound and eastbound. The maps reinforce the reality of significantly lower truck speeds to the east of El Paso compared to the west of El Paso, and point to the reality that a majority of truck-based freight is moving eastward into Texas, rather than westward through New Mexico. The second map speaks more precisely to the Border Area, looking at ownership and maintenance responsibilities for roads around the Santa Teresa POE.

Legend Average Weekday PM Peak Hour 40 MPH or Less 40.1 - 45 MPH 45.1 - 50 MPH 50.1 - 55 MPH Greater than 55 MPH		Federal Route State Route Railroad Country Boundary State Boundary		Port of Entry - Commercial and Passenger Port of Entry - Passenger		 	Average Truck Speed (June 2012) Border Area Economic Development Strategy
<i>Data Sources: El Paso MPO, ESRI, NMDOT, NMRGIS, TXDOT</i>							



One area of specific concern relates to the number of roads in the Border Area for which Doña Ana County is responsible for maintenance. With anticipated growth in use of the overweight truck corridor along Pete V. Domenici Blvd, the consultant team is concerned that secondary roads were not originally built to the level needed to sustain the impact of modern and significantly heavier trucks.

<p>Legend</p> <p>Roads</p> <ul style="list-style-type: none"> — State Owned/Maintained — State Owned — County Owned/Maintained — County Owned — City Owned/Maintained — City Owned — Privately Owned/Maintained 		<ul style="list-style-type: none"> Port of Entry - Commercial and Passenger Airport Country Boundary State Boundary 		<p style="text-align: center;">Road Ownership and Maintenance</p> <p style="text-align: center;">Border Area Economic Development Strategy</p>
<p><i>Data Sources: CoStar, El Paso MPO, ESRI, NMDOT, NMRGIS, TXDOT, USDOT</i></p>				

Freight Performance Metrics

AECOM used the USDOT Freight Analysis Framework to evaluate the movement of goods that originate elsewhere around the US and move to the EL Paso MSA, or goods that start in El Paso and are destined for other regions of the US. The Freight Analysis Framework was developed at the Center for Transportation Analysis as a tool to better evaluate changes in the flow of commodities by mode and origin/destination across the US over time. As the analysis is based on the MSA definition, it does not include freight moving through New Mexico. The analysis considers several modes, including:

- > Truck: Includes private and for-hire trucks as well as private trucks owned/operated by shippers.
- > Rail: Any common carrier or private railroad.
- > Air (includes truck-air): Includes shipments typically weighing more than 100 pounds that move by air, or a combination of truck and air in commercial or private aircraft.
- > Multiple Modes and Mail: Includes shipments by multiple modes and by parcel delivery services, U.S. Postal Service, or couriers. This category is not limited to containerized or trailer-on-flatcar shipments, which typically weigh 100 pounds or less

and are classified with Multiple Modes & Mail.

- > Pipeline: Includes flows from offshore wells to land, which are counted as water moves by the U.S. Army Corps of Engineers.
- > Other and Unknown: Includes flyaway aircraft, vessels, and vehicles moving under their own power from the manufacturer to a customer and not carrying any freight, unknown, and miscellaneous other modes of transport.

The following analysis highlights a breakdown of the tonnage of freight by mode for 2011 for El Paso (in thousands of tons). Table 34 indicates that trucks represent about 56% of the tonnage, with pipelines representing the second largest segment.

Following tables (35,36,37, and 38) evaluate rail and truck shipments based on origin and destination states for El Paso. The analysis looks at the tonnage flowing from or to El Paso, for 2011. For rail freight, Iowa is the top origin, followed by Kansas and Illinois, with agricultural products and intermodal activity being likely drivers. For truck shipments, Texas is the top origin state, followed by California as a distant second. In evaluating all of the tables, the key takeaway is that majority of US markets served by El Paso are northeast and southeast, rather than west.

Table 34 – Summary of Origin and Destination Freight by Tonnage and Mode, 2011

DMS_MODE	Ktons: Going to El Paso	Ktons: Going From El Paso	Total OD Tonnage	% of Total
Truck	21,775.93	19,071.20	40,847.13	56.60%
Rail	6,644.47	3,549.57	10,194.04	14.10%
Air (include truck-air)	7.2	3.43	10.63	0.00%
Multiple modes & mail	613.02	438.55	1,051.57	1.50%
Pipeline	17,640.28	2,051.66	19,691.94	27.30%
Other and unknown	152.95	156.64	309.59	0.40%
Total	46,833.85	25,271.05	72,104.90	100.00%

Source: Freight Analysis Framework

Table 35 – Top Origin States, Rail to El Paso, 2011

Rank	Origin	Segment	Sector	Tonnage
1	Iowa	Rail	Northeast	1,285,817
2	Kansas	Rail	Northeast	752,613
3	Illinois	Rail	Northeast	729,579
4	Texas	Rail	Southeast	704,460
5	Louisiana	Rail	Southeast	433,375
6	Nebraska	Rail	Northeast	429,468
7	North Dakota	Rail	Northeast	323,908
8	Alabama	Rail	Southeast	295,907
9	Oklahoma	Rail	Northeast	293,677
10	Utah	Rail	West	272,969
11	Missouri	Rail	Northeast	191,919
12	Idaho	Rail	West	139,512
13	California	Rail	West	119,626
14	Ohio	Rail	Northeast	101,650
15	Pennsylvania	Rail	Northeast	72,897
16	Arkansas	Rail	Southeast	56,522
17	Minnesota	Rail	Northeast	44,396
18	Washington	Rail	West	44,040
19	Massachusetts	Rail	Northeast	35,611
20	Oregon	Rail	West	35,518

Source: Freight Analysis Framework

Table 36 – Top Origin States, Truck to El Paso, 2011

Rank	Origin	Segment	Sector	Tonnage
1	Texas	Truck	Southeast	16,719,838
2	California	Truck	West	542,739
3	Arizona	Truck	West	521,320
4	Kentucky	Truck	Southeast	174,680
5	Michigan	Truck	Northeast	171,075
6	Colorado	Truck	West	159,779
7	Illinois	Truck	Northeast	154,623
8	Indiana	Truck	Northeast	142,566
9	Oklahoma	Truck	Northeast	132,362
10	Pennsylvania	Truck	Northeast	106,170
11	Ohio	Truck	Northeast	104,455
12	North Carolina	Truck	Southeast	81,798
13	Tennessee	Truck	Southeast	79,318
14	Missouri	Truck	Northeast	68,328
15	New York	Truck	Northeast	59,957
16	Louisiana	Truck	Southeast	59,811
17	Wisconsin	Truck	Northeast	58,921
18	Georgia	Truck	Southeast	52,700
19	South Carolina	Truck	Southeast	51,270
20	Florida	Truck	Southeast	46,602

Source: Freight Analysis Framework

Table 37 – Top Destination States, Rail from El Paso, 2011

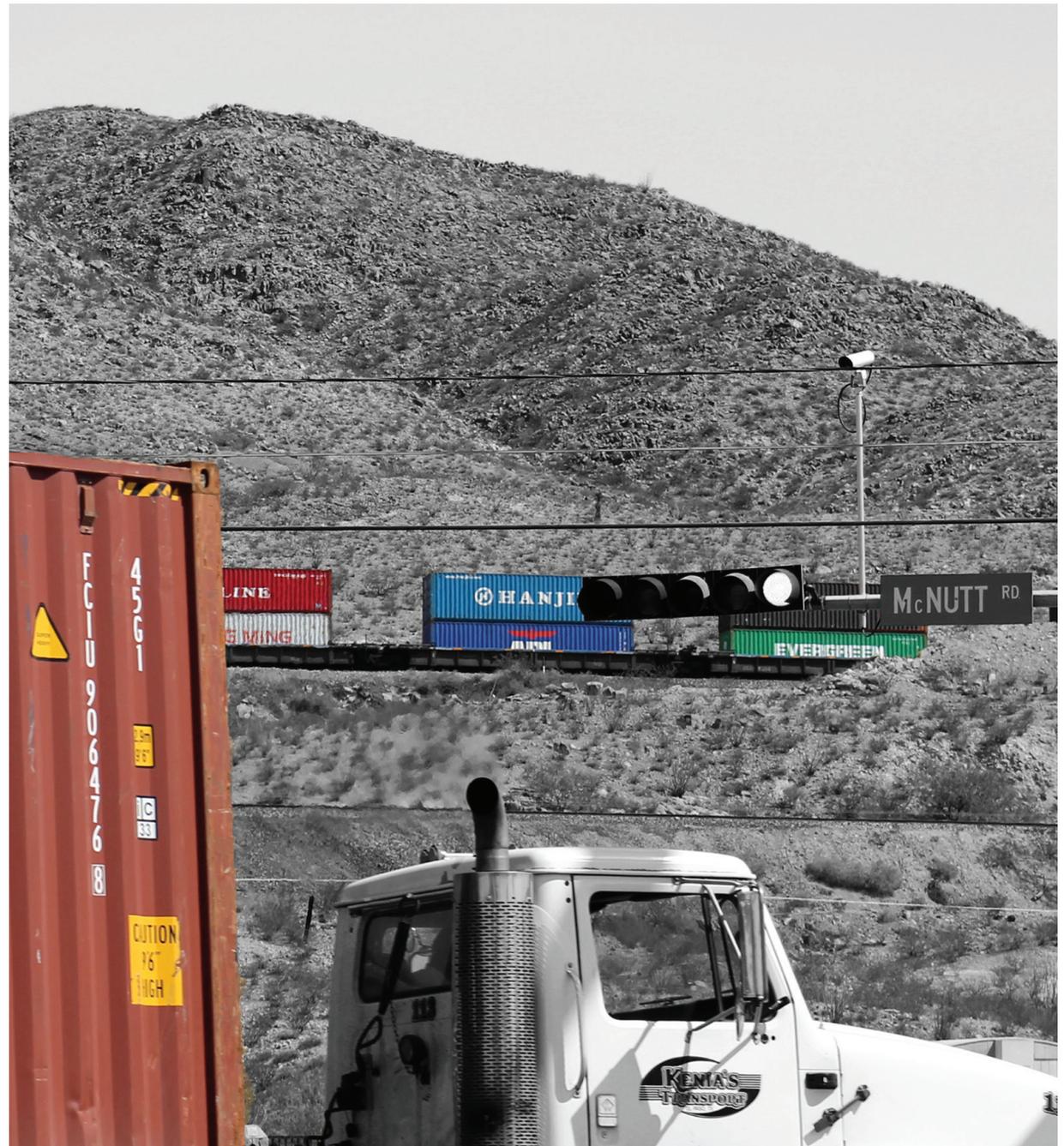
Rank	Destination	Segment	Sector	Tonnage
1	Illinois	Rail	Northeast	1,982,029
2	Texas	Rail	Southeast	799,822
3	Michigan	Rail	Northeast	227,687
4	California	Rail	West	218,117
5	Arizona	Rail	West	120,252
6	Colorado	Rail	West	25,228
7	Kansas	Rail	Northeast	23,433
8	Maryland	Rail	Northeast	14,891
9	Minnesota	Rail	Northeast	13,556
10	Oregon	Rail	West	9,576
11	Kentucky	Rail	Southeast	7,385
12	North Dakota	Rail	Northeast	4,578
13	Washington	Rail	West	3,286
14	South Dakota	Rail	Northeast	2,648
15	Montana	Rail	West	2,617
16	Alabama	Rail	Southeast	2,115
17	Connecticut	Rail	Northeast	2,042
18	Arkansas	Rail	Southeast	1,964
19	New York	Rail	Northeast	1,855
20	Pennsylvania	Rail	Northeast	1,426

Source: Freight Analysis Framework

Table 38 – Top Destinations by Truck from El Paso, 2011

Rank	Origin	Segment	Sector	Tonnage
1	Texas	Truck	southeast	14,061,370
2	California	Truck	west	518,756
3	Michigan	Truck	northeast	479,525
4	Ohio	Truck	northeast	311,511
5	New York	Truck	northeast	244,293
6	Arizona	Truck	west	217,043
7	Illinois	Truck	northeast	201,757
8	Missouri	Truck	northeast	174,090
9	Indiana	Truck	northeast	137,194
10	Kentucky	Truck	southeast	124,515
11	Wisconsin	Truck	northeast	111,103
12	Pennsylvania	Truck	northeast	108,868
13	North Carolina	Truck	southeast	106,806
14	Minnesota	Truck	northeast	92,529
15	Tennessee	Truck	southeast	92,190
16	Florida	Truck	southeast	65,610
17	New Jersey	Truck	northeast	61,658
18	Connecticut	Truck	northeast	52,892
19	South Carolina	Truck	southeast	52,132
20	Oregon	Truck	west	50,587

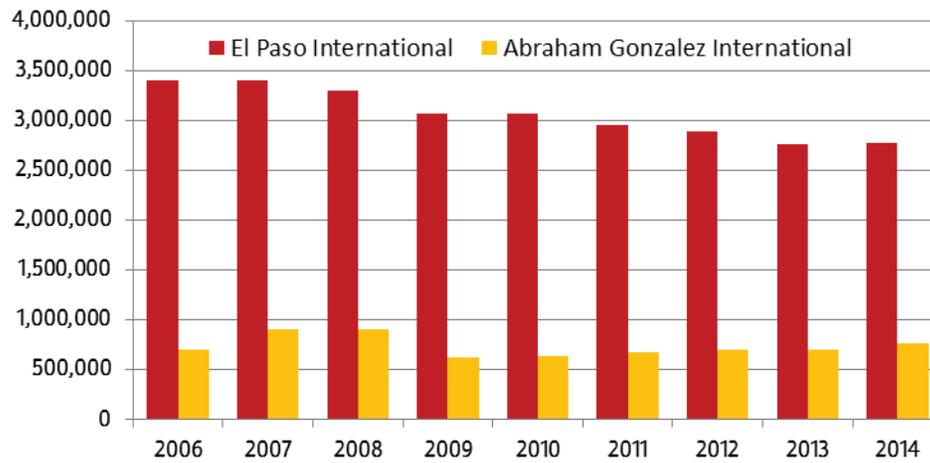
Source: Freight Analysis Framework



Aviation Context

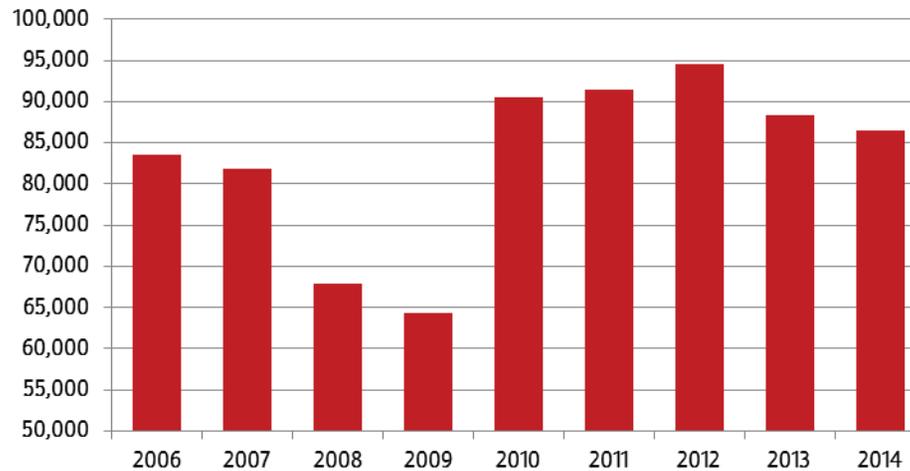
Trends regarding air travel through the Paso del Norte were evaluated, as shown in Chart 39, which documents passenger data for El Paso International Airport (ELP) and Abraham Gonzales International Airport (CJS). CJS has seen an increase in passengers (about 71,000 between 2009 and 2014). Passenger trends for El Paso point to recent stabilization in passenger levels for 2013 and 2014, but well below pre-recession passenger levels. Air cargo activity (Chart 40) at ELP was also studied, covering both in-bound and out-bound tons of cargo. In general, tonnage levels have increased from pre-recession levels. As well, nationally, air cargo has endured several marginal years, in part because higher jet fuel prices have encouraged firms such as FedEx and UPS to rely on expedited ground service for a share of freight that used to move by air.

Chart 39 – Commercial Passenger Trends, El Paso and Ciudad Juárez International Airports



Source: Noted airport statistical reports

Chart 40 – Air Cargo Trends, ELP, in Tons



Source: ELP Statistical reports

Real Estate Context

AECOM also reviewed local real estate trends, covering data for industrial, retail, and residential markets. Information is presented to place the Border Area in a broader regional context, and to frame growth opportunities.

Industrial Real Estate Context

The following charts and tables summarize performance metrics for local industrial markets in El Paso, as well as specific analysis of real estate market conditions around specific POEs. Beginning with the industrial market in El Paso, CoStar reported the following metrics as of the fourth quarter of 2014:

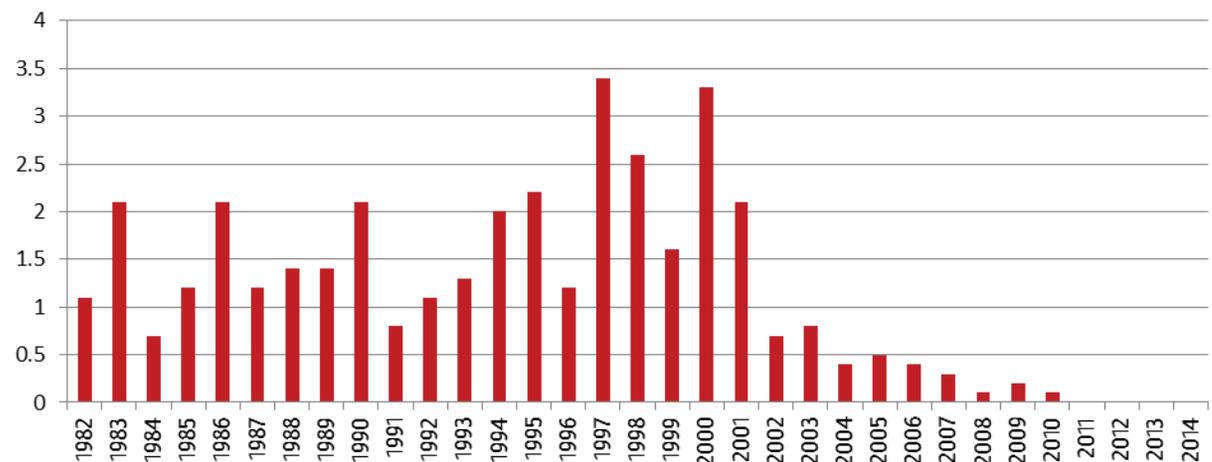
- > Vacancy Rate 11.8%, a slight increase from occupancy levels in 2013
- > Rent Rates: \$4.22 per square foot, a slight improvement over quoted rates in 2013
- > Very modest new construction in 2014, about 30,000 square feet.
- > A total regional industrial market of about 64 million square feet

Across in Ciudad Juárez, industrial markets have also been recovering. Quoted vacancies (Cushman & Wakefield, 2014) have decreased from about 14% down to about 10.9%. Reports note that new speculative industrial buildings were started in 2014, the first time since 2008 that new construction of this type has occurred. Total industrial inventories amount to about 69 million square feet, with about 180,000 square feet under construction. The San Jeronimo area, across from Santa Teresa, represents that smallest share of regional inventory, about 2.1 million square feet; this area includes manufacturers such as Foxconn.

According to CoStar, the El Paso County market has seen a general decrease in space construction over the past 10 years in comparison to historic trends.

Chart 41 reflects this point, with effectively no new industrial space under construction since 2011. The lack of new inventory is a specific issue for the Santa Teresa POE, where occupancy levels have improved significantly over the past three years, and new space is probably needed. More precise metrics were evaluated for industrial space proximate to each POE. Table 42 reinforces a clear premium in performance for space located close to the border, with three of four POEs seeing much higher occupancy levels compared to regional averages. Of equal importance is the fact that only the Santa Teresa POE has significant vacant land for new development. Also of note are significantly larger average building sizes for Santa Teresa (135,000 SF); significantly larger buildings in comparison.

Chart 41 – Historical Industrial Construction, in Millions of Square Feet, Greater El Paso



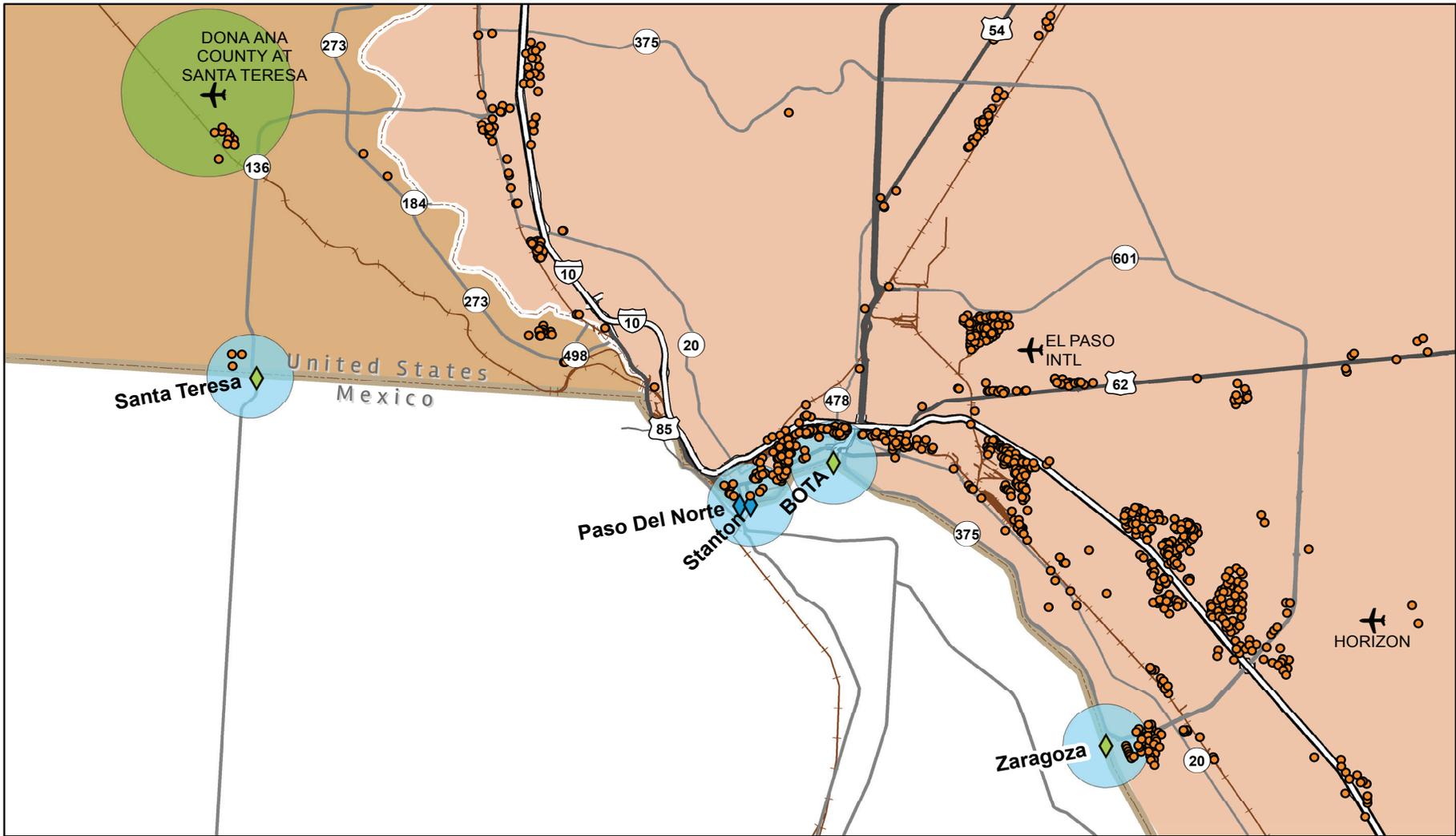
Source: CoStar

Table 42 – Industrial Property Summary, Noted Ports of Entry, Q3 2013, in Square Feet (SF)

Metric	Santa Teresa POE	Paso Del Norte POE (1-mile buffer)	Bridge of the Americas POE (1-mile buffer)	Ysleta POE (1-mile buffer)
Total Buildings	15	47	121	28
Total RBA (SF)	2,021,600	630,000	1,515,800	1,640,600
Average Building Size (SF)	135,000	13,400	12,500	59,000
Total Vacant Space (SF)	15,000	17,800	206,600	71,000
Total Percent Vacant	0.80%	2.80%	13.60%	4.30%

Doña Ana County – Selection = Industrial Properties from CoStar Q3 2013 within two miles of Doña Ana County airport and within one mile of Santa Teresa point of entry.

Source: CoStar



Legend

- Industrial Property
- ◆ Port of Entry - Commercial and Passenger
- ◆ Port of Entry - Passenger
- 1 mile Buffer of Port of Entry
- 2 mile Buffer of Airport
- Airport
- Country Boundary
- State Boundary
- Interstate
- Federal Route
- State Route
- Railroad

Data Sources: CoStar, El Paso MPO, ESRI, NMDOT, NMRGIS, TXDOT

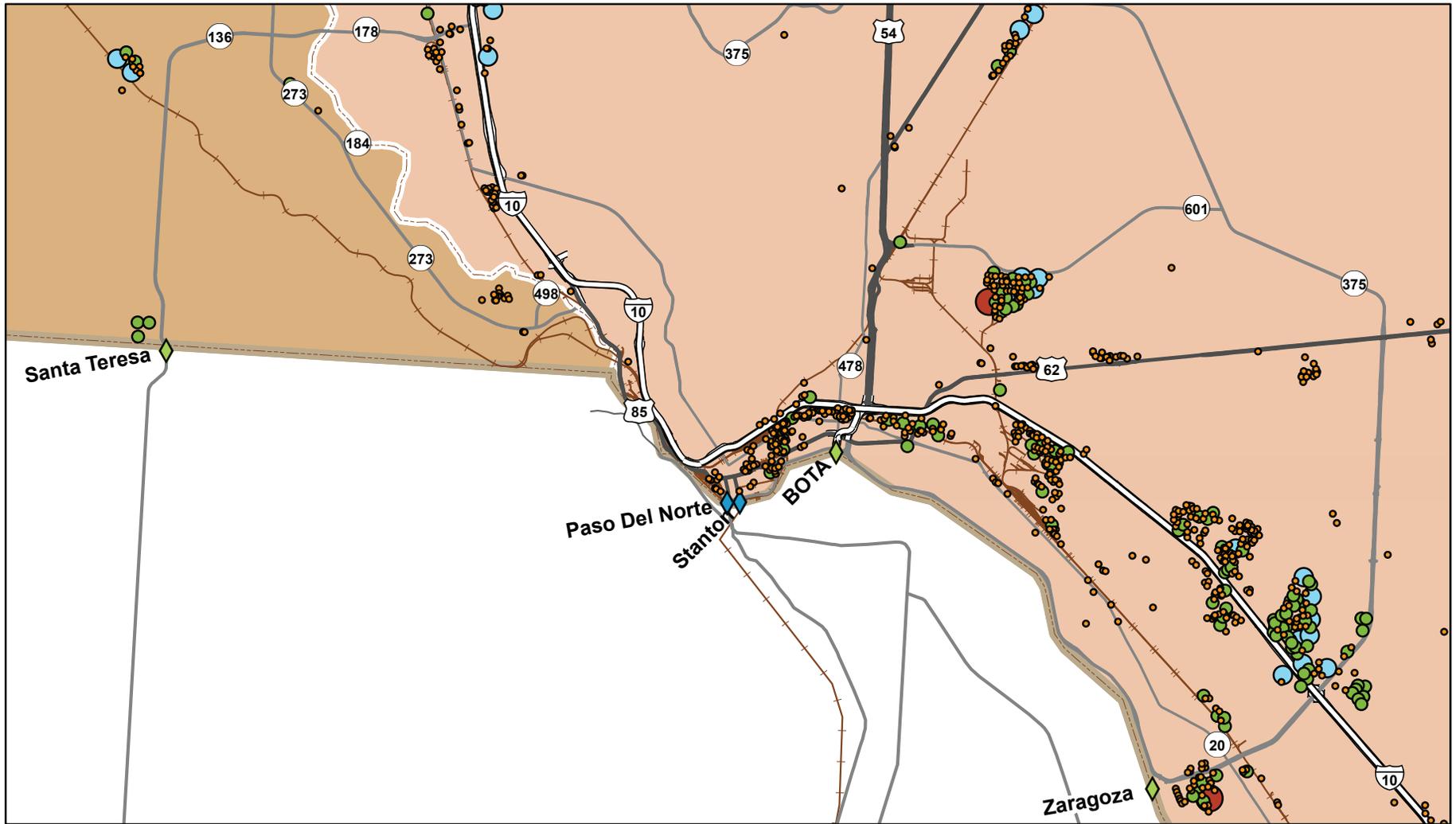


Industrial Building Locations

Border Area Economic Development Strategy



VIVA DOÑA ANA



<p>Legend</p> <p>Rentable Building Area</p> <ul style="list-style-type: none"> ● 100,000 Sq Ft or Less ● 100,001 - 250,000 Sq Ft ● 250,001 - 500,000 Sq Ft ● Greater than 500,000 Sq Ft 		<ul style="list-style-type: none"> == Interstate — U.S. Route — State Route — Railroad Country Boundary State Boundary Port of Entry - Commercial and Passenger Port of Entry - Passenger 		<p style="text-align: center;">N W — E S</p> <p style="text-align: center;">0 1.5 3 Miles</p>	<p>Industrial Building Size</p> <p>Border Area Economic Development Strategy</p> <p> VIVA DOÑA ANA</p>
<p><i>Data Sources: CoStar, El Paso MPO, ESRI, NMDOT, NMRGIS, TXDOT</i></p>					

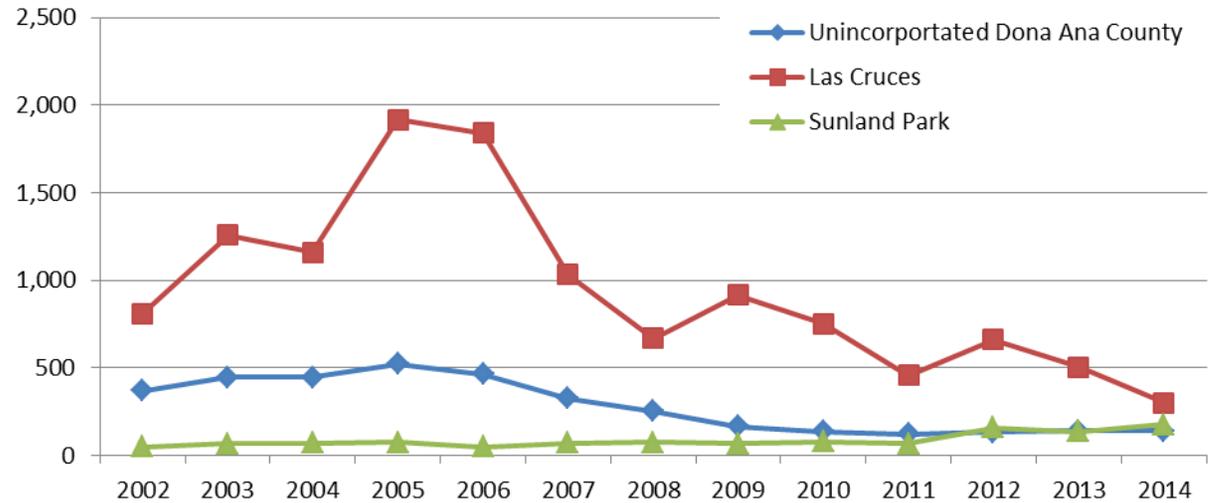
Residential Real Estate Context

For the Border Area, there are clear expectations for eventual growth in housing units. It is clear that a lack of housing, on the New Mexico side of the border specifically, is a specific challenge. For example, current regulations in New Mexico require companies to use New Mexico workers if state incentives are used. As a majority of the Border Area workforce commutes from El Paso, the challenge is apparent. At the broadest level, we evaluated overall housing unit trends for the area, as shown in Chart 43. Of note, while permit trends for Las Cruces have fallen dramatically and not recovered since 2006, trends for Sunland Park and unincorporated portions of Doña Ana County have seen modest recovery.

Table 44 summarizes trends regarding housing units for the Border Area compared to Doña Ana and El Paso Counties. Although the number of housing units grew across all areas, the number of housing units in Doña Ana County and the Border Area grew slightly faster than El Paso County between 2000 and 2011. On an annualized basis, the growth rate in housing units for the Border Area was slightly slower than Doña Ana County, but slightly faster than El Paso County. The reader should note that the Santa Teresa Census Designated Place (CDP) boundaries are slightly different from our broader view of the border area boundary, effectively the CRRUA service area boundary.

Table 45 indicates that the Border Area's share of regional housing units did not change appreciably between 2000 and 2011, though Doña Ana County increased its share of regional housing by 0.7% while El Paso County lost 0.7%.

Chart 43 – Historical Housing Unit Construction Trends



Source: U.S. Census

Table 44 – Housing Units and Housing Unit Change, 2000 and 2011

Border Area			
2000	2011	Change	CAGR
4,624	5,689	1,065	1.90%
Doña Ana County			
2000	2011	Change	CAGR
65,210	80,715	15,505	2.00%
El Paso County			
2000	2011	Change	CAGR
224,447	267,068	42,621	1.60%

*Border Area is Santa Teresa CDP and Sunland Park City

Source: U.S. Census Bureau

Table 45 – Housing Unit Distribution, 2000 and 2011

Border Area		
% of Total		Change
2000	2011	
1.60%	1.60%	0.00%
Doña Ana County		
% of Total		Change
2000	2011	
22.20%	22.80%	0.70%
El Paso County		
% of Total		Change
2000	2011	
6.30%	75.60%	-0.70%

Source: U.S. Census Bureau

*Border Area is Santa Teresa CDP and Sunland Park City.

The following tables indicate that the Border Area reduced its share of regional vacant housing units 2000 to 2011 while it also increased its share of the region's renter-occupied housing units. While Doña Ana County increased its share of both housing tenure types and vacant housing units, the largest increase occurred in its share of the region's renter-occupied units. El Paso County's share of the region's owner-occupied and vacant units was nearly unchanged over this period, while its share of renters decreased. Median values for owner-occupied housing units increased more in Doña Ana and El Paso Counties than in the Border Area. While average household size increased in Santa Teresa, it decreased in Sunland Park.

Table 46 – Tenure and Vacancy of Housing Units, 2000 and 2011

	Total		Border Area				Change	Doña Ana County				Change	El Paso County				
	2000	2011	2000		2011			2000		2011			2000		2011		
			#	% of Total	#	% of Total		#	% of Total	#	% of Total		#	% of Total	#	% of Total	
Owner Occupied	176,965	208,703	3,133	1.80%	3,447	1.70%	314	40,208	22.70%	48,057	23.00%	7,849	133,624	75.50%	157,199	75.30%	23,575
Renter Occupied	96,920	116,704	1,174	1.20%	1,907	1.60%	733	19,348	20.00%	24,691	21.20%	5,343	76,398	78.80%	90,106	77.20%	13,708
Vacant	20,396	28,065	317	1.60%	335	1.20%	18	5,654	27.70%	7,967	28.40%	2,313	14,425	70.70%	19,763	70.40%	5,338

Source: U.S. Census Bureau

Table 47 – Characteristics of Owner-Occupied Housing Units

	Santa Teresa			Sunland Park			Doña Ana			El Paso		
	2000	2011	CAGR	2000	2011	CAGR	2000	2011	CAGR	2000	2011	CAGR
Average HH Size	2.83	3.13	0.90%	4.3	3.69	-1.40%	2.99	2.82	-0.50%	3.34	3.27	-0.20%
Median Value	\$114,400	\$158,100	3.00%	\$58,700	\$82,100	3.10%	\$90,900	\$141,900	4.10%	\$69,600	\$108,800	4.10%
Median Monthly Cost	\$934	\$1,068	1.20%	\$573	\$887	4.10%	\$833	\$1,127	2.80%	\$798	\$1,104	3.00%
Monthly Cost/Person	\$330	\$341	0.30%	\$133	\$240	5.50%	\$279	\$400	3.30%	\$239	\$338	3.20%

Source: U.S. Census Bureau

Table 48 – Characteristics of Renter-Occupied Units

	Santa Teresa				Sunland Park				Doña Ana				El Paso			
	2000	2011	Change	CAGR	2000	2011	Change	CAGR	2000	2011	Change	CAGR	2000	2011	Change	CAGR
Average HH Size	2.33	2.83	0.5	1.80%	3.25	3.62	0.4	1.00%	2.56	2.63	0.1	0.20%	2.89	2.88	-0.01	0.00%
Median Rent	\$754	\$713	(\$41)	-0.50%	\$334	\$518	\$184	4.10%	\$445	\$657	\$212	3.60%	\$468	\$660	\$192	3.20%
Monthly Cost/Person	\$324	\$252	(\$72)	-2.20%	\$103	\$143	\$40	3.10%	\$174	\$250	\$76	3.40%	\$162	\$229	\$67	3.20%

Source: U.S. Census Bureau

Retail Sales and the Border

Chart 49 summarizes changes in retail sales growth for El Paso and Doña Ana Counties. The chart shows that annual growth rates in retail sales have been higher in Doña Ana compared to El Paso for a majority of the last 20 years. Also reinforced are the apparent slowdown in retail sales growth since 2011, along with the depth of decreases seen in retail sales for both counties from 2008 and 2009 during the Great Recession.

The analysis suggests that recent policy changes will support Border Area retail growth. In 2013, New Mexico became competitive with the state of Arizona when the U.S. Department of Homeland Security extended the travel zone for Mexican shoppers from 25 to 55 miles north of the border. In Arizona, a similar travel extension was granted in 1999, allowing Mexican citizens to shop in Tucson. In New Mexico, the new rule allows Mexican nationals with secure visas to travel uninterrupted to urban centers in southern New Mexico that host greater retail activity than that found immediately at the border. Implementation of the rule is expected to benefit the New Mexico cities of Las Cruces, Deming, and Lordsburg and their home counties of Doña Ana, Luna, and Hidalgo. The travel extension is being promoted in Mexico through a \$60,000 marketing campaign funded by the New Mexico Department of Tourism.

While it is likely to take several years to identify the economic impact of the new travel rule, other U.S. border states have documented significant benefits from Mexican retail trade. According to the U.S. General Accounting Office, retailers in Texas benefit annually from an estimated \$15 billion in sales to Mexican shoppers. In McAllen, Texas, as one example, 35%, or about \$700 million worth, of retail sales is attributed to Mexican nationals. Residents from Tijuana make 1.5 million trips per month to the San Diego area to shop.

Locally, in El Paso, shoppers from Cd. Juárez account for more than 20% of retail sales (according to the

Federal Reserve Bank of Dallas). A study conducted by NMSU in Las Cruces estimates the new rule could result in \$28 to \$56 million annually in new spending by Mexican nationals and the addition of 170 to 340 local jobs. The NMSU study notes the potential for increases in wholesale and retail activity and a rise in spending on hotels and restaurants. This study was completed in 2013 by Kevin Robinson-Avila with NMSU.

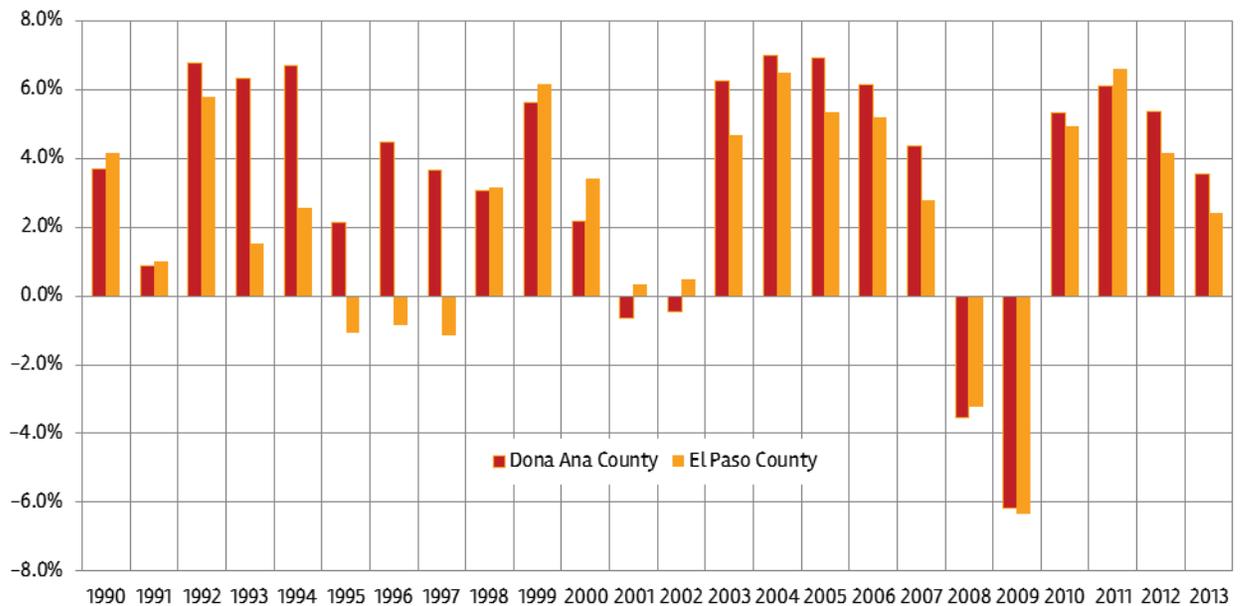
Estimated Doña Ana County Retail Impact

While it is difficult to predict with certainty the impact of the new travel rule, a broad estimate of the change in Doña Ana County gross receipts collections may be calculated based on the change that occurred in Arizona. Early studies completed in 2002 by the University of Arizona (“The Economic Impacts of Mexican Visits to Arizona: 2001”) on the impact of the rule change found an increase of 12% to 15% in retail

sales in Pima County, the host county for the city of Tucson, two years after introduction of the rule. Using the Arizona experience as a guide, Doña Ana County could witness increases in retail and service sales by a similar percent boosting the county’s share of gross receipts tax reimbursements from the state.

Experience in San Diego with retail sales linked to Mexican shopping in the US does provide insight. For example, in 2012, roughly 42.7 million people crossed the border between San Diego County and Mexico. The following tables frame impacts associated with retail spending by visiting Mexicans. The analysis begins with an estimate of between \$3.6 and \$5.1 billion in potential retail sales that are generated by visiting people, a sales level that could support about 17 million SF of retail space.

Chart 49 – Doña Ana County & El Paso County Annual Growth in Retail Sales



Source: Woods & Poole

The following tables break out different ways that these visiting retail dollars are likely spent, with a preponderance flowing toward food purchases.

Table 50 – Daily Expenditures by Mexican Residents, San Diego Region, 2012

Amount	%
\$0	4.00%
\$1-\$49	25.50%
\$50-\$99	18.50%
\$100-149	17.50%
\$150-\$199	6.00%
\$200-\$299	11.00%
\$300-\$399	6.50%
\$400-499	2.50%
\$500-\$999	3.50%
\$1000+	2.50%
N/A	2.50%
Total	100.00%

Source: Cross-border Group, AECOM December 2013

Table 51 – Shopping Trips per Month, San Diego, by Mexico Residents, 2012

Type	%
Trips	
0	4.00%
2-Jan	39.40%
4-Mar	35.70%
6-May	9.80%
8-Jul	3.40%
10-Sep	3.20%
10+	4.20%
N/A	0.30%
Total	100.00%

Source: Cross-border Group, AECOM December 2013

Table 52 – Purchased Products in San Diego by Mexican Residents, 2012

Type	%
Food	43%
Electronics	13%
Beauty Products	13%
Clothing/Shoes	9%
Appliances	6%
Auto Parts	4%
Other	12.70%
Total	100.00%

Source: Crossborder Group, AECOM December 2013

Market Opportunities

Renewable Energy

Dramatic decreases in the cost of solar panels have led to dramatic growth in the solar industry. Solar photovoltaic (PV) installations have exploded since 2010, to the extent that states such as California have now enacted mandates for battery storage, to better manage the increases in electricity generated from solar. The Solar Foundation (TSF) conducted a national survey of solar employment. In September 2012, there were over 119,000 solar workers in the U.S., up 27% since TSF first tracked solar jobs in 2010. By the end of 2014, the number of solar workers has grown to over 173,000. The top three states by number of solar jobs are California (54,700), Massachusetts (9,400), Arizona (9,200), and New Jersey (7,300). While New Mexico ranked 26th, with 1,600 solar related jobs in 2014, the state has seen significant growth in installed solar capacity, 151 MW, ranking 14th nationally.

Solar researchers predict that solar is on the cusp of grid parity, where the cost of solar electricity without subsidies is less than or equal to the residential retail electricity rate. To compare solar with retail

electricity costs, analysts calculate the Levelized Cost of Electricity (LCOE), which is the cost of solar averaged over a number of years of production. The LCOE is highly sensitive to installation costs, operations and maintenance, system performance (location and orientation), and financing. LCOE estimates vary widely even under reasonable assumptions, so analysts often report installed costs instead. Electricity costs are also variable across the country, so some places will reach grid parity faster than others. ISLR estimated the LCOE for US metropolitan areas assuming \$4.00/watt installed, cost of solar decreasing 7% per year, and grid electricity increasing 2% per year. Reductions in PV costs and rising costs for conventional energy create a favorable market for solar in New Mexico. In the U.S., the average price of a solar panel has declined by 60% since the beginning of 2011. The average cost of a completed PV system has decreased 16% over the past year to \$3.00/watt.

Trends for 2015 are being shaped by major policy decisions that have been made in California and New York during 2014. The State of California Public Utilities Commission passed a mandate for energy storage, identifying a specific goal for the State's three investor owned utilities to add more than 1.3 gigawatts of energy storage to their grids by 2020. This energy storage mandate has implications for New Mexico and the Border Area. The New York Public Service Commission launched a "Reforming the Energy Vision" Initiative, which in a similar fashion seeks to add resiliency to the electrical grid, providing more opportunities for distributed energy, allowing third parties to provide local distribution of electricity (also known in some circles as "micro grids"). Wrapped up in both of these systems are better ways of managing electrical demand (use of "smart meters"), greater emphasis on energy efficiency, and the development of local markets for energy exchange.

Urban Agriculture and Anaerobic Digestion

Growing food within cities has seen resurgence nationally, due to specific advantages:

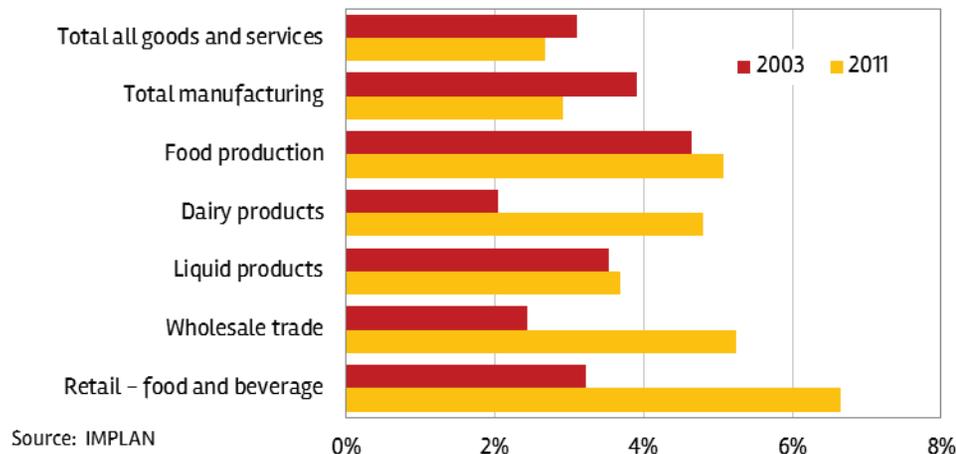
- > Proximity to markets. Both food and food waste are located near population centers.
- > Up to 40% of food in the U.S. is wasted; this can be used to create renewable energy through anaerobic digestion (UA). Food waste is the number one material disposed in US landfills.
- > Growing demand for local food. Benefits of local food include fresher food and support for the local economy.
- > Adaptive re-use of available land. Sites for UA include defunct industrial buildings or vacant sites.

The World Bank concluded that the largest driver in food price increases is the price of oil, which is used to run farm equipment, for food transportation, and in fertilizers. UA reduces the total “food miles” generated as produce travels from farm to table, which reduces the amount of oil products used for transportation.

Building on information presented by the World Bank, analysis of US transportation costs as a percentage of total production costs, excluding wages (Chart 53), indicated that for retail food and beverage sectors, transportation costs have grown dramatically. By comparison, in manufacturing, transportation costs are lower today than in 2003.

UA is a way to integrate the technology of anaerobic digestion (AD) into the urban setting. AD essentially converts food and other waste into bio-gas, a renewable energy source, and fertilizer, an input into UA operations can become closed-loop energy systems, using no power from the grid while simultaneously

Chart 53 – Changing Costs of Transportation for Food Manufacturing



Source: IMPLAN

producing a variety of food. AD is the process of anaerobic bacteria breaking down organic matter within a contained, oxygen-free environment. The organic material transforms into bio-gas and sludge. In the UA context, inputs can include food waste, brewery byproducts, and livestock manure.

The bio-gas produced, a mixture of mostly methane and carbon dioxide, can be 1) used directly as energy on-site; 2) burned to produce electricity on-site; 3) sold and piped off-site; 4) burned to produce electricity and sold off-site; or 5) flared, if produced in excess. The sludge produced can be used as fertilizer within the operation or sold for additional revenue. Most of these options reduce operation costs or increase revenues to the operation. These options positively impact the entity’s economic position.

Producing food within communities increases the local multiplier effect: dollars spent on local food flows to the UA workers, which increases wealth within the community. Studies in Iowa concluded that restaurants buying food from local sources had a job income multiplier of 1.54, compared to 1.2 for other

restaurants. Production of renewable energy is a key component in reducing greenhouse gas emissions worldwide. AD technology is taking root in many countries throughout the world, particularly Germany. As of 2010, the country has nearly 6,000 bio-gas plants, an increase of 600% over 11 years. Each year, 4.2 million tons of food waste and 4.5 million tons of landscaping waste are collected for bio-gas creation. In the U.S., anaerobic digesters are found on farms at wastewater treatment plants, providing the opportunity to convert the 40% of wasted food into energy within UA facilities.

AD is a relatively untested technology within the context of UA and its financial feasibility is unproven. Therefore, for smaller urban farms, the highest and best use of bio-gas is directly and on-site. Utilization of the bio-gas has an energy conversion of 75% to 80%, as opposed to the 20% to 30% efficiency for electricity production from bio-gas.

Implications

The impact of the overweight truck route in the Border Area needs to be understood, particularly the impact

on smaller secondary roads that serve existing industrial parks and distribution centers. Border crossing data indicate that the number of trucks / containers crossing the border has increased dramatically since 2007. With reports indicating that 20% to 40% of trucks are using the overweight permit, emerging market opportunities will create near-term needs to repair, replace, or upgrade existing secondary roads, the majority of which are county owned / maintained. This reality is a catalyst for Doña Ana County to consider and potentially redefine its role in the Border Area.

With increased pressure on existing infrastructure, the analysis also reinforces the broader sustainability of rapid growth in freight movement. The challenge is that, as freight tends to concentrate, achieving greater economies of scale, in metropolitan areas, “negative externalities” tend to also emerge:

- > Concern over air emissions and air quality, including airborne particulates associated with diesel emissions (PM2.5 or PM10)
- > Congestion resulting from “run-through” freight movements, i.e. trucks that are just passing through on their way to end markets.
- > Congestion resulting from “last-mile” truck deliveries in urbanized areas.
- > Broader social justice and equity concerns associated with movement of trucks through generally lower-income residential areas.

There are clear expectations for growth in residential and commercial development in the Border Area, as expressed in the 2009 Verde Realty Master Plan for the Border Area, which identified more than 5,000 acres for residential development, with a similar amount of land allocated to industrial development. While this plan identified several road projects that would enhance connectivity toward I-10 and El Paso, funding for these projects was not certain and would require cooperation with TxDOT and NMDOT. The magnitude

of Border Area development proposed in the Verde Plan reinforces the need to ensure that future residential and industrial development is planned for in a proactive manner. While industrial areas do require proximate access to services and workforce housing, truck impacts do need to be managed deliberately. Last but not least, for the Border Area, the likely impact of the 55-mile rule change needs to be understood, as it may drive an increase in retail activity to the New Mexico side of the border.

The BAEDS advances the argument that it is in the best interest of the Paso del Norte to pursue policies that encourage a larger share of freight to exit the region by rail (intermodal), rather than by truck. Other cities have embraced a more regional view of freight management, including the use of entities such as port authorities and freight districts to help fund and operate intermodal connections that individual private sector companies may be unwilling or unable to make. This point is important given announcements in Mexico for a new rail bypass.

Through 2014 and into 2015, the Santa Teresa Rail Bypass has emerged as a significant opportunity for the Paso del Norte. The rail bypass is driven by strong interest in Mexico to reduce freight-rail congestion through Ciudad Juárez as well as hours of service constraints that limit the International Crossing to clearing a reported 10 trains per day. While a Chinese investment group has reportedly committed to fund the project, the nature of actual connections to existing US Class 1 Rail Corridors remains uncertain. While UP and BNSF are interested in system growth, they remain largely focused on short-term performance factors associated with their freight corridors and yards. Based on experience, the Class 1 railroads will be less interested in paying for connections (rail bypass from the Santa Teresa POE) if there is concern that benefits and costs will not be equally shared.

Presuming that planned rail relocation unfolds, while

UP has already made a strategic decision by relocating its yard out of El Paso, BNSF will now need to make a similar decision. Presuming growth in freight volumes, BNSF has the option to increase utilization of its existing route to Belen or increase use of trackage rights on the UP Tucumcari Line that extends from El Paso to Chicago. There is a sense that BNSF will need to follow UP out of downtown El Paso as well. All of these factors will impact Doña Ana County.

Beyond these concerns, the BAEDS process identified several broader factors that will influence final recommendations:

- > Interviews reinforced that multiple jurisdictions and organizations, if not coordinated, may result in a fragmented view of economic development across the Paso del Norte. A structure for coordination, whether formal or informal, can strengthen economic development effectiveness. Our effort has identified the CaliBaja structure that emerged in San Diego / Tijuana as a clear “mega-region” strategy for enhanced economic development.
- > The El Paso MPO completed a freight study in 2011 that identified future grade separations and rail capacity improvements. As well, TxDOT developed a rail study that highlighted the impacts of the UP Strauss yard on El Paso’s infrastructure. NMDOT is also developing a freight plan for the state that will have influence on future rail improvements.
- > The Paso del Norte is an important trucking gateway into the US. The analysis shows that a majority of truck-based freight is moving east into Texas. It is likely that the new UP intermodal yard will eventually trigger shifts in where trucks move as well.
- > Given the array of jurisdictional boundaries, it is apparent that officials in Doña Ana County and the El Paso MPO need to improve monitoring of truck

movements through the Region, with emphasis on likely growth in truck flows from the Santa Teresa POE toward I-10, and plan infrastructure improvements to facilitate increased trade. The El Paso MPO understands the importance of these counts and is willing to coordinate efforts with Doña Ana County, TxDOT, and NMDOT.

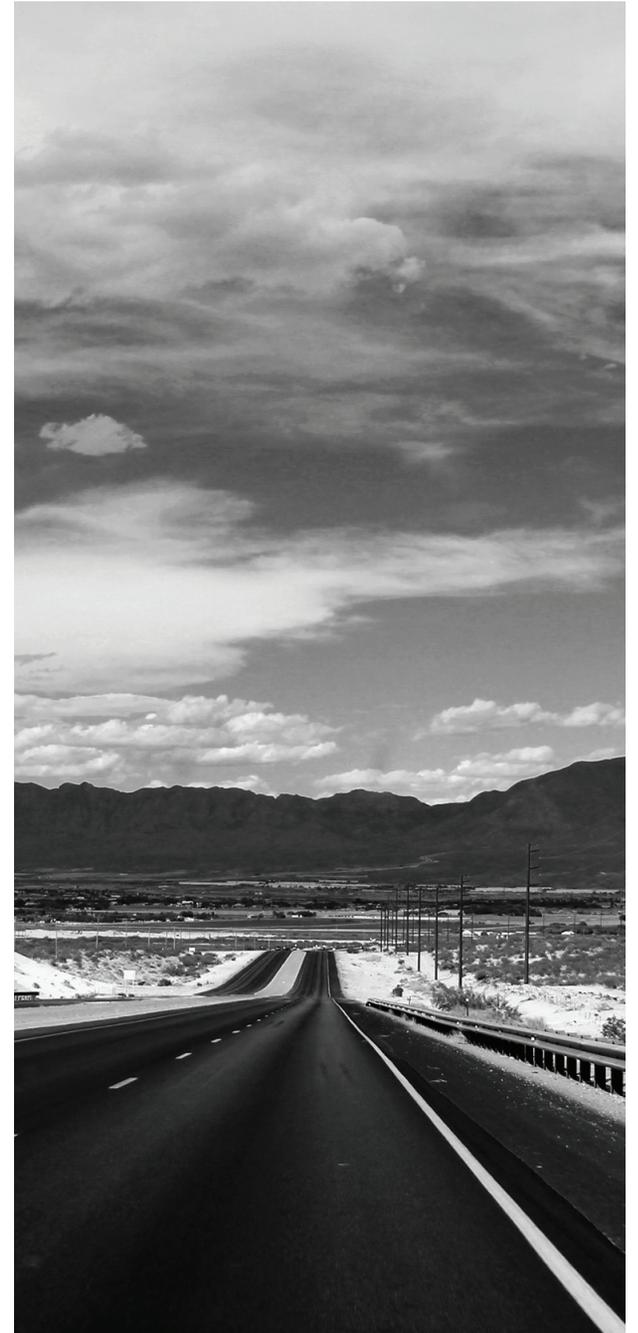
- > In July of 2014, the Doña Ana County Board of Commissioners indicated that all of the federal approvals necessary for implementation of the Alternative Site Framework for Foreign Trade Zone 197 have been secured. While the designation is anticipated to support economic development across Doña Ana County, smaller firms will have a more difficult time benefiting from the structure, as the FTZ currently does not have a “single operator” that can facilitate paperwork for smaller firms.
- > For the Santa Teresa POE, primary drivers of growth are expected to be Maquiladoras in Chihuahua, combined with anticipated growth of Foxconn, and implementation of the industrial campus south of Santa Teresa, as well as planned transportation infrastructure to bypass Ciudad Juárez congestion.
- > For manufacturers in Ciudad Juárez, Santa Teresa is a less convenient option, with higher fuel costs being a primary driver. In this context, recent conversations regarding tax reform in Mexico could slow the pace of growth in the Border Area. For trucking companies in general, they face the reality of limited back-haul opportunities, which speaks to the broader challenge of imbalanced trade flows between north and south.
- > The capacity of CBP is a constraint to cross-border freight movement. As well, companies involved in freight movement highlighted perceptions regarding overlapping / duplicated services at the border, specifically related to safety inspections

for commercial vehicles, which are conducted by the Federal Motor Carrier Safety Administration; USDOT; and the Motor Transportation Police, New Mexico Department of Safety. Additional inspections are also conducted by Federal Motor Carrier Safety Administration and state enforcement at every commercial crossing on the Canadian and Mexican borders as a requirement of NAFTA. Greater inspection efficiencies will lead to faster processing and lower costs, which will attract trade; predictability is also important.

- > Interviews also spoke to concerns about water availability in the Border Area; the State of New Mexico has initiated a major study to document water availability.
- > The availability of skilled labor and training may challenge growth in manufacturing in Santa Teresa. Several states are experimenting with apprentice programs, as well as efforts to have people graduate high school with an associates degree in a technical profession as well. There are efforts underway in many cities to be more deliberate in support of programs to encourage entrepreneurship (including apprenticeships), in part by being more deliberate in identifying pathways to create a new business.
- > For the Border Area, while a larger share of workers commute to the Border Area jobs from El Paso and elsewhere in Doña Ana County, anticipated job growth in the Border Area over time presents an opportunity to support more workforce housing closer to the Border Area job centers, thereby reducing commutes and associated travel costs for workers and regional air quality impacts.
- > There continues to be perceptions of security for freight moving through Mexico, balanced by a sense that rail / intermodal moves are generally more secure and can clear the border more efficiently. The primary constraint for

north-south movement by rail is that a number of lines have height clearances that limit movement of double-stack containers. While the analysis highlights considerable intermodal growth rates for West Coast Mexican ports, reports indicate that a majority of in-bound containers are destined for the domestic Mexican market.

- > Given that lower-income communities exist outside the immediate Border Area, but within commuting distance, an opportunity exists to target and train workers from these communities for employment. While some of this will happen without intervention, existing job training and recruitment programs can help facilitate this process. If a critical mass of workers lives in these areas, alternative forms of public (bus) and private (employer shuttles, etc.) transportation can be provided to affordably link workers to the opportunities.
- > Increased retail trade and development are anticipated as employment and residential growth occurs. Residential growth as part of the Borderplex campus across the border in Mexico will provide an additional source of demand.
- > Given the size of the Border Area, land development and infrastructure should be phased efficiently. Given that a few property owners with financial capacity have major land holdings, this will facilitate a rational phasing and financing process. The mixture of land uses will also help spread the financing capacity for infrastructure that benefits all land uses. Still, public/private financing vehicles may be necessary. Preparation of a Public Facilities Financing Plan to implement the land use plan is an important next step.





05. Action Plan



Project Drivers

Final project recommendations are based in part on an assessment of strengths, weaknesses, opportunities, and threats (SWOT) associated with the Border Area. The methodology used to collect information for this SWOT is based on interviews with border policy-makers, elected officials, residents, trade organizations, and members of the private sector.

Strengths

Attributes of Santa Teresa POE

Santa Teresa's designation as an oversized-load port for trucks, the cattle crossing at Santa Teresa, and the benefit of not having to cross the Rio Grande all give this POE a unique set of attributes. Only two other locations along the U.S.-Mexico border (Nogales and San Luis, Arizona) share these attributes. The POE also benefits from proximity to a growing concentration of Maquiladora employment across the border in Mexico, including San Jerónimo.

Recent POE Infrastructure Improvements

Traffic volumes at the Santa Teresa POE increased significantly in 2009 after completion of the Foxconn manufacturing facility in San Jerónimo across from Santa Teresa. To address the larger traffic volumes, GSA invested \$10 million to expand the port's capacity. Completed in 2013, this ARRA-funded project resulted in the addition of two passenger vehicle lanes and added one commercial inspection lane.

Union Pacific rail project

The UP Santa Teresa yard is a clear strength, particularly with anticipated intermodal capability. It will align with evolving regional changes in supply chains, which are increasingly favoring movement by freight via intermodal shipping containers, as well as the identified heavy truck route. It is important that the new yard is being built first and foremost to help UP

manage their traffic from Los Angeles to Chicago and Texas. Particularly with changes under way at the Ports of LA / Long Beach (impact of a smaller number of much larger container ships calling), the yard is expected to help UP manage the flow of east-west container traffic, even as cross-border intermodal increases.

55-Mile extension

The recent change in ruling by the U.S. Department of Homeland Security allows Mexican shoppers access to southern New Mexico's major commercial and shopping centers in Las Cruces and Deming. Increased revenues from Border Area retail and service providers, once realized, will benefit both New Mexico and Doña Ana County.

Land and Taxes

The amount of available land in Doña Ana County's Border Area is vast and largely underdeveloped. Large tracks of undeveloped land and lack of encroachment allow room to grow, supported by a low cost of living. New Mexico also boasts an advantage with its neighboring El Paso County in property tax levies, which are currently set at rates more than 35% higher than similar property taxes adopted for Doña Ana County.

Local Culture and Political Support

A skill critical to developing the border region is an understanding of the culture and political environment. This is an arena in which border residents and government staff excel. New Mexico's Congressional delegation employs staff members in their Las Cruces offices who specialize in understanding and monitoring border issues. These individuals allow for ease of communication and foster reliable feedback and effectiveness in working through problems. New Mexico also benefits today from the vision and accomplishments of past congressional delegations. Former senators, including Pete Domenici and Jeff Bingaman, identified funding that supported the original investment in

Santa Teresa and fostered support for cross-border commercial trade. Negotiating the political culture of any region is daunting; skillful negotiation of the politics and culture of two different nations ranks as a larger accomplishment. Also, under this heading, the current and past governors of New Mexico and Chihuahua (state) have given active support to border economic development.

Weaknesses

Water Supplies

Scarce supplies of potable water and lack of water utility capacity pose significant weaknesses for future development in Doña Ana County's border region. Availability of potable groundwater in Santa Teresa has permitted property owners to advance development plans, linked with available "paper" water rights. Beyond currently approved developments, however, further development cannot be initiated until additional water is identified. Managing the water situation in the Border Area remains a significant responsibility and challenge for New Mexico governmental entities if development is to continue. Regionally, Ciudad Juárez developed well fields west of the Juárez Mountains and south of Santa Teresa. While these well fields were developed to stave off immediate concerns about the future water supply of Ciudad Juárez, increased pumping may draw down water supplies in the trans-boundary aquifer that serves Santa Teresa.

Lack of Development

While there is tremendous discussion about economic opportunity in Santa Teresa, the Border Area has not seen significant new industrial construction in several years, in spite of low vacancies. Lack of available space is a deterrent.

Multiple Governmental Jurisdictions

Multiple layers of government—three counties, three states, and two sovereign nations—pose significant

bureaucratic burdens for long-term planning in the Border Area. Roads, school districts, and residential neighborhoods overlay these jurisdictions. Our experience shows that multiple layers of government with fragmented authority will impact large-scale planning and development, and may constrain the region's future rate of growth.

Utility Infrastructure

Local business interests have cited a need to upgrade electrical service in the Sunland Park and Santa Teresa areas. Without service upgrades, these businesses say commercial development that requires reliable supplies of "clean" electrical output cannot proceed.

Infrastructure Funding Mechanisms

Doña Ana County appears to lack an existing funding mechanism to support development and the maintenance of costly industrial infrastructure. Many county roads near the Santa Teresa POE, for example, were designed for local passenger traffic and are not adequate for commercial trucking.

Vocational and Apprenticeship Programs

Businesses that are new to Doña Ana County have uniformly expressed a need for a better-trained local workforce. Employers cite their experiences in attempting to find New Mexicans to fill technical positions, often reluctantly left with hiring more experienced candidates from nearby El Paso, Texas. Opportunities exist for increasing the share of New Mexicans hired for these positions. Among successful efforts, a pilot program at Gadsden High School is working to support local businesses by providing student internships. The New Mexico Department of Workforce Solutions also serves to address "market-driven" education and training programs for New Mexico residents. Labor force issues are a broader concern for the Border Area because existing incentives in New Mexico focus on employment opportunities for New Mexico residents. However, as a majority of the

Border Area's labor force comes from El Paso, Texas, local economic development officials find that existing incentives are less effective.

Ciudad Juárez Crime Levels

Perceptions of serious crime in Ciudad Juárez have been compounded by media attention related to the unsolved murders of dozens of young women that paint an ugly profile for commercial investment in the region. This situation falls outside the control of the Doña Ana County or its staff. It is, however, an issue that may impact future of development of at Doña Ana County's southern border. While there is a sense that the situation has improved in Ciudad Juárez, better record keeping would be needed to help sustain confidence in the region.

Opportunities

Doña Ana County is positioned to benefit from a number of opportunities to advance border economic development. Many of these opportunities are controlled by organizations and decision-makers external to the County. Some opportunities, if pursued, could result in substantial benefit to the development of trade and commerce in the County. The following discussion identifies opportunities relevant to border economic development.

Macroeconomic issues

Implementation of NAFTA during the 1990s brought about new operating rules for the Maquiladora industry. This, in turn, altered investment and economic development opportunities at the U.S.-Mexico border. Today, new macroeconomic trends are in place. Increases in the cost of labor in China have renewed investment at the global level in North American manufacturing. Ciudad Juárez has benefited from this trend with the opening of new manufacturing operations at industrial sites to the south of the city.

Anapra POE

A number of efforts have been initiated to foster development of a new, non-commercial border crossing in the City of Sunland Park at Anapra. The level of support for the new crossing has risen in recent years with the Mexican government listing the proposed new port as its No. 1 priority. Support for opening this port on the U.S. side remains mixed. To sustain momentum for this project, a commitment from Doña Ana County may be required.

Poised for Growth

The Santa Teresa POE appears poised for significant growth. However, growth cannot be fully accommodated by current infrastructure and roadways. The County has an opportunity to serve pro-actively in helping plan and implement improvements in regional infrastructure and transportation flow at this port.

Extended Hours at Santa Teresa POE

POE operating hours are a critical variable in understanding the growth potential of the Border Area. New Mexico has been working for a considerable time to get the hours of commercial operation extended at the Santa Teresa POE. To make the port attractive to northbound commercial customers, the hours for commercial operation need to be extended to cover traffic later in the day. It has been determined that manufacturers and trucking companies will not adjust their route and enter the Santa Teresa POE without feeling comfortable that the port will remain open if their shipments arrive late.

Doña Ana County International Jetport

There are expectations that the Doña Ana County International Jet Port is anticipated to become a growing freight-transfer airport asset. Improvements to the airport's runways and other infrastructure are proposed. If implemented, these upgrades would greatly enhance the commercial marketability of the

area. Doña Ana County, which operates the facility, has the opportunity to help determine the direction of the airport's future.

POE Enhancements

CBP created the Free and Secure Trade (FAST) Program to support the movement of pre-approved eligible goods across the border quickly while at the same time verifying trade compliance. The FAST process involves pre-approving importers, carriers, and registered drivers prior to their entering a port area. Shipments are pre-cleared for approved companies transporting cargo in approved carriers using registered drivers. The expedited process is intended to reduce costs of commerce for all border stakeholders. El Paso was the first place that FAST was introduced on the U.S.-Mexican border. Santa Teresa boasts FAST technology but has not fully captured the advantages of an active FAST lane. Full use of the FAST lane at Santa Teresa holds great promise for improving security and efficiency in truck crossings, increasing commercial trade opportunities in southern New Mexico.

Advances have been made in security technologies and other technologies appropriate to the movement of goods and people across the U.S.-Mexico border. These technologies have proved useful in improving border commerce and trade. The Santa Teresa POE is also the location for a pilot project that would allow a reduction in the number of cross-border truck traffic by allowing for on-site inspection and releasing of cargo from the Mexican side of border at a location west of the existing port. Implementation of this project currently is stalled due to issues of Mexican sovereignty but should be vigorously encouraged. If implemented, the pilot could demonstrate the potential for major improvements in efficiencies in moving goods northbound out of Mexico. The special project designation at Santa Teresa would place the port in an enviable position throughout the U.S.-Mexico border region.

POE Congestion in El Paso

Long wait times for northbound traffic at commercial ports in Cd. Juárez are cited as encouraging use of the Santa Teresa POE. However, interviews with trucking and logistics companies in El Paso argue against this idea, citing a preference for saving fuel costs by choosing to idle trucks at downtown bridges rather than driving 20 to 30 additional miles. A closer examination of the impact of congestion and wait times at El Paso's POE is recommended and might identify benefits to Doña Ana County outside of those cited.

Immigration

The U.S. Congress has raised the question of immigration, with emphasis on the U.S.-Mexico border, to the level of a high-profile political issue. While it is premature to speculate on what impacts from broader U.S. policy debate on immigration will have on the ability to develop border POEs, perceptions regarding insufficient border security remain apparent. Border areas clearly have a unique stake in the debate about immigration and border security.

Threats

Tax Reform in Mexico

In January 2014, the Pacto de México agreement was adopted by representatives of the country's political parties. The Pacto is designed to promote greater democratic representation among Mexico's citizens. Key to the agreement is reform of the nation's tax system. As proposed, the agreement will raise the income tax rate on Mexico's wealthy and middle classes and is projected to increase the overall tax rate on domestic manufacturing. It also impacts border commerce by eliminating a long-standing preferential value-added tax on regional transactions. Manufacturing and trade organizations in the U.S. and Mexico have warned the new law may dampen the current upward trend in foreign investment in Mexico and could reverse growth in Mexico's manufacturing employment. Nevertheless, the Pacto appears to have won support among a broad

base of Mexican citizens and political leaders.

Competition

The states of Arizona, California, and Texas are significantly ahead of New Mexico in border development. Arizona has initiated a number of efforts to better position itself for border development with the opening of a new port in San Luis and improvements at its busy port operations in Nogales. The state recently re-introduced the CANAMEX corridor project for development of an interstate system between Canada and Mexico and is engaged in studying new options for port funding. Texas is seeking public-private partnerships to improve trade corridors and expand port infrastructure. The recent signing by President Obama of legislation encouraging use of public-private funding options for border development is an example of an opportunity that appears lost on state planners.

Decisions made at a distance

Many government policy decisions are made at a distance by officials in Washington, D.C., and Mexico City. For example, the activities of U.S. Federal Agencies have been significantly altered since the events of September 11, 2001. Consolidation of border enforcement agencies within a single U.S. Department of Homeland Security has changed the missions and organizational cultures of these former organizations. Changes have, at times, resulted in organizational confusion and have generated obstacles to local residents and government officials to intervene in support of development at the U.S.-Mexico border.

Local politics

A potential exists for local political issues to derail efforts at improving commercial development at the county's border. The County is urged to monitor its positions and decision-making authority if its goals and objectives for positive development at its border with Mexico are to be realized.

	FAVORABLE	UNFAVORABLE
	STRENGTHS	WEAKNESSES
INTERNAL	<ol style="list-style-type: none"> Attributes of the Santa Teresa POE Recent port infrastructure improvements Union Pacific rail project 55-mile extension Land and taxes Local culture and political support 	<ol style="list-style-type: none"> Water supplies Lack of development Multiple governmental jurisdictions Funding mechanisms for planning & infrastructure Vocation and apprenticeship programs Ciudad Juárez crime levels
	OPPORTUNITIES	THREATS
EXTERNAL	<ol style="list-style-type: none"> Macroeconomic issues City of El Paso growth Anapra (Sunland Park) POE Extended hours at Santa Teresa Doña Ana County airport POE technology improvements and pilot projects POE congestion in El Paso Immigration 	<ol style="list-style-type: none"> Mexican tax reform Competition Decisions made at a distance Local politics 9/11, national security and federal agencies Regional politics Mexican politics The federal budget deficit

9/11, national security, and federal agencies

As stated earlier, the missions of many federal agencies were reoriented in the aftermath of September 11. The U.S. Customs Service was moved from the Treasury Department to the new U.S. Department of Homeland Security, among other changes, and regulatory staff there re-focused from commerce issues to homeland security. The homeland security theme underlying the reorganization of federal agencies dramatically impacted agencies operating on the border. A predictable result of these changes has been confusion in decision-making and organizational leadership. The lack of attention to this issue has been the subject of news articles and the focus of border trade organizations. Fractured decision-making and leadership is likely to continue in the near term.

Regional Politics

Regional political relationships in southern New Mexico

and West Texas frequently complicate efforts to undertake improvements at the border. For a number of years, Sunland Park and Doña Ana County engaged in legal bickering and pursued policies detrimental to each other. The hostilities confounded efforts at the Santa Teresa POE, including the development of a hazardous materials response facility and at least one water project. Today, the relationship between these local governments has improved. The States of New Mexico and Texas have representation on the board of the El Paso MPO as well as the associated regional Transportation Policy Board.

Mexican politics

Mexican governmental agencies can be profoundly impacted by changes in the political party in power. This Mexican phenomenon has manifested itself in many ways. Border improvement efforts require the cooperation of Mexican counterparts. If political parties change after an election, individual and top

staff members of Mexican agencies may change without notice and without consideration of whether a border project has reached completion. Projects also can be abandoned by the new political party or through a decision by their appointed leaders. This Mexican political tradition is unlikely to change soon.

The Federal budget deficit

POE improvements are the responsibility of the U.S. federal government. In the context of national security, U.S. borders and POEs seem to merit a high priority. The New Mexico Congressional delegation has worked successfully in obtaining appropriations that have initiated New Mexico border infrastructure and security improvements. Today, however, the federal budget is constrained by a rising deficit. During the next few years, budgetary realities will constrain the ability of the federal government to provide funding for border needs.

SWOT Matrix

The matrix summarizes results of the strengths and weaknesses analysis. Information in the matrix can be compared side by side, up and down, or crossways in either direction.

Perspectives

The San Diego/Tijuana border zone is another major U.S. / Mexico border industrial zone that provides context regarding future trajectories for the Border Area. The US side, which has industrial, commercial, and residential development, is governed by the City of San Diego and the communities of San Ysidro and Otay Mesa, and the County of San Diego in the plan area of East Otay Mesa. The combined area includes three border crossings, a general aviation airport, a planned cross-border airport terminal, and sensitive habitat. The San Diego region also lacks local water resources. The San Diego/Tijuana border zone lacks freight rail facilities. Several lessons have been learned that may

be applicable to the Doña Ana Border Area:

1. While industrial, warehouse/distribution, and logistics space has been developed in association with cross-border trade, demand over the last 40 years has not been sufficient to absorb the thousands of acres of industrially zoned land adjacent to the border within the City of San Diego and San Diego County. More development has occurred south of the border.
2. Local jurisdictions are primarily responsible for financing and developing local street and public facility infrastructure, primarily through impact fees, connection charges, and private investment (some with reimbursement agreements). However, industrial sites on the US side of the border have had difficulty raising sufficient funds to finance necessary local infrastructure with impact fees alone. As a result, residential and commercial development has been introduced to provide more housing opportunities, improving the job/housing balance, and helping finance transportation infrastructure costs by spreading the cost of infrastructure among more and higher-valued land uses.
3. Regional, state, and federal funding sources, and tolls, have been important for financing and building improvements to the major freeway, tollway, and customs inspection facilities to improve goods movement flow.
4. The State of California has passed legislation that allows for the creation of Border Zone Infrastructure Financing Districts, a form of tax increment financing district, that the City of San Diego has investigated for facilities financing but has not yet utilized.
5. Community plans have been prepared and adopted to coordinate the various land uses within each jurisdiction (City of San Diego and unincorporated

San Diego County) to diversify land uses and avoid conflicts between residential, commercial, and industrial activities; plan for public facilities and infrastructure; and protect sensitive habitat and land forms.

6. Border crossing delay has created economic burden, particularly for Maquiladoras, and infrastructure improvements and operational measures are being taken to improve and facilitate goods movement through the border zone.

With multiple jurisdictions involved in the financing and development of infrastructure, and with land use authority resting with local agencies, there was a clear need for enhanced border area coordination across the San Diego/Tijuana border zone. A mechanism was established for coordinating land use, transportation, infrastructure, and environmental planning. The San Diego Association of Government (SANDAG), the region's Council of Governments and MPO, organizes coordination through its Committee on Binational Regional Opportunities (COBRO), established in 1996. COBRO is composed of representatives from the bi-national region, including:

- > Universities, economic development corporations and Chambers of commerce, and environmental organizations
- > The City of San Diego, County of San Diego, and other border area cities
- > State and federal agencies
- > The Mexican Consulate, the City of Tijuana, and the State of Baja California Norte

This group meets regularly to coordinate and address planning, infrastructure, operational, and implementation issues, and reports as a working group to SANDAG's Borders Committee, which advises the SANDAG Board of Directors.

At a mega-regional level, the California border counties and Baja Norte region of 6.6 million people are jointly promoted to global investors as the CaliBaja economic region by the economic development corporations on both sides of the border, including San Diego and Imperial Counties and the State of Baja California. The \$202.4 billion economic region is promoted globally as a high-technology hub for research, development, and manufacturing; a global cluster in renewable energy, agribusiness, and trade and logistics; and a sophisticated manufacturing base with land and a multi-lingual trained workforce.

Guiding Principles

Our work has identified several principles that will guide final recommendations.

Role of Doña Ana County

The Doña Ana County government needs to define its role in the Border Area going forward. At the broadest level, the County faces a decision to either step forward or step back. Our analysis shows that the County also needs to be seen as a partner, rather than as the sole authority or leader of last resort. It is already clear that:

- > The County currently owns or maintains a significant percentage of Border Area roads, many of which are older and will need to be replaced or upgraded as the percentage of overweight trucks grows.
- > The County currently provides public safety services in unincorporated areas proximate to the border.
- > Like many local units of government, the County faces a number of financial constraints that limit its ability to quickly absorb additional infrastructure costs without offsetting revenues.
- > While CRUAA manages water and wastewater

infrastructure and serves as the planning and zoning authority for the Border Area, they rely on the County to provide necessary planning staff capacity.

There is a pressing need for enhanced coordination across borders with Mexico and Texas, to ensure that investments made in the Border Area connect and are coordinated into the larger Paso del Norte; the County needs to play a significant role in these conversations.

- > While the County provides a portion of MVEDA's annual operating budget for county-wide economic development, MVEDA's total operating budget of about \$550,000 is modest; more resources will be needed.

Organizational Capacity

The BAEDS confirms that additional local organizational capacity and financial resources are needed. Each option varies in terms of governance structure; access to financial resources (the ability to issue debt, for example); and ability to enter into contracts, acquire land, and own assets. Several operating structures are options for the Border Area in response, including, but not limited to, the following:

A Border Development Authority – A public, special-purpose government authority for issuing and servicing debt for infrastructure. An Authority can be charged with planning, entitlement, environmental, and implementation functions; acquire and dispose of property; enter into contracts; and have other functions chartered by the local government or the state. The Authority's Board may be composed of public officials, appointees from the private sector, or some combination. Ex Officio members may be appointed as well to provide select areas of expertise or geographic representation.

A Freight District or Port Authority – Potentially similar to a Border Development Authority, but more focused on freight and inland port functions and related

infrastructure and facilities, including environmental compliance. Would not likely be charged with community planning related to residential development, but may implement commercial and industrial development activities.

A Joint Powers Authority – A government structure that can apply to an Authority or special-purpose government entity composed of multiple jurisdictions, with shared financial, governance, and sometimes staffing responsibilities, with a Board that includes representation from each member.

Border Zone Development Corporation – A corporation that can be charged with managing planning, infrastructure provision, acquiring and disposing of properties, environmental compliance, and entitlement processes, and that can enter into contracts. Unlike an Authority, the Corporation may be structured to operate more like a private development entity with greater operating flexibility, but under contract for certain public functions with the local government jurisdiction, such as the County. The corporation may have public or private shareholders, or, in the case of Civic San Diego (formerly the Centre City Development Corporation that managed downtown Redevelopment for the City of San Diego), one shareholder—the Local Government. The Board may include public and/or private representatives appointed by the shareholders.

Business Improvement District / Community Development Corporation – A Business Improvement District (BID) is a form of public financing district supported by local businesses and/or property owners within the district, with their own Board. BIDs are typically put in place by a vote of the businesses and/or property owners that pay into the district. A Community Development Corporation (CDC) is a private, usually non-profit, corporation that undertakes development and redevelopment activities. A CDC focuses on triple-bottom line projects typically with public, social, and economic as well as financial

returns in accordance with its mission. As a private entity, CDCs have more flexibility than government and can sometimes more easily draw private investors, including foundations, grants, and volunteers than a government entity. CDCs typically do not have government authority, so they instead work in partnership with government entities to improve an area.

Expanded local municipal capacity – A structure within existing government that is charged with overseeing and coordinating activities for a special purpose or area, such as a Border Area Division within the County, including planning, project review, and infrastructure or facilities financing coordination. A special division or Border Czar would directly link with the other government functions that are important for Border Area planning and development; partner with other public and private entities associated with the border's future; and be a point person for private businesses and landowners, other agencies, and the general public to engage with the County to implement a Border Area strategy. The power or influence of the position or division depends on its charge, assigned authority, and reporting hierarchy. As part of the government, the position or division would have access to all government functions that can apply to the Border Area. As the Border Area develops, there may be a time that it has sufficient internal financial capacity to provide municipal services; in which case, incorporation as a new municipality or annexation into an adjacent one becomes an option.

Each structure option varies in terms of governance structure; access to financial resources (the ability to issue debt and the source of revenue for servicing debt, for example); and ability to enter into contracts, acquire and dispose of land, and own assets (roads, rail lines, utility systems, etc.). Each option needs a source of operating funds, which would vary by structure, enabling authority, assigned responsibilities, and contractual arrangements. Common sources used in other places, sometimes combined, are tax

increment financing, special tax districts, assessment districts, property-based BIDs, utility or infrastructure user fees, permit processing fees, dedicated General Fund appropriations, and, if eligible, seed funds from Community Development Block Grants or other state and federal grant programs.

CRRUA has some of these elements and assigned authorities, but its focus is on coordinating water utilities and improvements with land use. While important, it is not charged with also coordinating transportation improvements and other public facilities with land use. Also, as a relatively new entity, its operating funds are limited. Consequently, CRRUA relies on County staff to provide operating support and has limited operating capacity.

Freight Planning 101

The added consideration for the Border Area is the impact of freight. As such, the BAEDS recommends that land use decisions be deliberately aligned with freight planning decisions. This argument builds from FHWA guidance regarding challenges associated with how freight currently interacts with land use. Challenges begin with the reality that existing data that serve as the basis for existing freight planning tools, such as the USDOT Freight Analysis Framework, are based on the 2007 US Census Commodity Flow Survey, and do not capture the effects of the recession, nor does it capture the industry effects that have become increasingly important over the few years, such as oil and natural gas production increases, petrochemical manufacturing, auto manufacturing re-shoring, agricultural production, and domestic and international coal demand. These are areas of growing interest to FHWA's Freight Operations Office and it wants to capture the effects going forward in subsequent Freight Analysis Framework iterations. Other factors include:

- > Land use policies are not coordinated across jurisdictions, which can lead to encroachment by non-compatible land uses.

- > Growing freight volumes and congestion create conflicts, particularly in residential areas, if not planned and coordinated.
- > The challenge that “freight doesn’t vote” argues for a more cohesive strategy for regional engagement with the movers of freight and the local jurisdictions they impact.
- > Economic development and transportation planning are often disconnected.
- > Connection between freight, land use, sustainability, and public health is increasingly important, both for “last mile” deliveries to end users as well as for “thru traffic,” which is only passing through. In both cases, impacts of diesel emissions and congestion are concerns, particularly for at-risk populations.
- > There is growing awareness that high velocity intermodal yards generate unique traffic impacts, which need specific monitoring.

In response to these challenges, regional authorities and special districts have been established to better manage and benefit from freight movement. State to state examples range from the Port Authority of New York New Jersey to the Kansas City Transportation District and the Illinois-Missouri-Iowa Mid America Port District. Newer developments include the Northwest Infrastructure Exchange involving the states of California, Oregon, and Washington, as well as the province of British Columbia. The Port Metro Vancouver – Vancouver Fraser Port Authority and the Louisville and Southern Indiana Bridges Authority are additional examples of multi-site, multi-state special transportation districts.

Integrated Regional Economic Development

The Paso del Norte is affected by a unique degree of political fragmentation, linked with jurisdictional boundaries and organizations (effectively silos) in

two countries and three states, which constrain the economic performance of a region with 2.4 million residents. Fragmentation is most evident in economic development and transportation planning, with the BIA, the MVEDA, the New Mexico Border Authority, the Borderplex Alliance, the El Paso City Development Department, and Economic Development of Ciudad Juárez all actively trying to “sell” a region the size of metropolitan Denver. On the workforce side, Doña Ana County and El Paso County are each associated with state-centric workforce investment boards, which have different boundaries than the region’s economic development entities. In transportation planning, it is not clear that local economic development organizations have a say in regional infrastructure planning and prioritization.

The individual economic development agencies across the Paso del Norte do function within currently defined state jurisdictions, with groups such as BIA and MVEDA working to establish MOUs with the Borderplex Alliance in El Paso. At the same time, however, the larger regional opportunity appears to be poorly defined. The entire region needs to work toward a more integrated organizational model for economic development, aligned with a truly regional brand, not dissimilar to CaliBaja.

Manufacturing Retention and Expansion Plan

Nationally, about 75% of new jobs are created by existing local companies, rather than through industry attraction. Business Retention and Expansion plans focus on engagement and annual retention visits to local companies. The structure is helpful in better understanding local supplier networks, confirming workforce needs, and providing early warning of challenges. Implementation will likely require more resources for organizations, such as MVEDA.

Rethink Economic Development Incentives

A 2014 study by the Florida Legislature, Office of Policy Analysis and Government Accountability reinforced the need to be deliberate and pragmatic with incentive awards for economic development. Their study showed that the majority of companies (about 75%) who received incentives in Florida indicated that incentives were “one among many factors, as opposed to being the key decision factor” in their decision to expand in Florida. The main point is that, while incentives can be necessary tools for economic development, they should not be automatically prescribed but rather applied for a specific target purpose.

Workforce Development and Entrepreneurship

In July of 2014, the new Federal Workforce Innovation and Opportunity Act (WIOA) was signed into law, superseding the Workforce Investment Act of 1998. WIOA is intended to streamline the workforce system, ensure that business needs drive workforce preparation, and to more directly align workforce development programs with economic development and education initiatives. While Implementation of WIOA will begin in the summer of 2015, our national experience has reinforced a number of workforce-related strategies:

- > Work toward deliberate connections between high schools and private sector employers, creating conduits for students who are career-ready leaving high school, in sectors where employers actually need workers. These “alternative career pathways” may include expanded vocational training, apprenticeships, and access to associate degree programs at the high school level.
- > Seek out programs that place vocational training on the shop floor of existing and potential local manufacturers.
- > Evaluate partnerships between existing workforce investment boards in Texas and New Mexico, and

with intermediaries in Mexico.

- > Catalog all the regional entities that are involved in entrepreneurship with the simple goal of clarifying the varied paths to market entry for people who have good ideas.
- > Evaluate local permitting, zoning, and licensing processes to ensure that current regulations are not unnecessarily inhibiting the process of starting a business.
- > Research the technical feasibility of a regional manufacturing incubator, supported by local educational institutions. Modest efforts could focus on the formation of a MakerSpace (makerspace.com). These locations are intended as learning environments, where people can access advanced equipment to make things (3D printers for example) and develop new products or services.

Recommendations: Short-Term Strategies

The following specific recommendations have been identified. Initially, as a near-term step, the County should create a new position for a Border Area Coordinator to have full-time responsibility and focus on planning and development in the Border Area, coordinate with other public and private sector partners and stakeholders, coordinate County departments and functions related to the Border Area, and facilitate County responsiveness to the Border Area’s needs and opportunities. However, this is a short-term step. The County should evaluate the long-term options for organizing for economic development of the Border Area and, after consideration, select the best structure for its situation.

As part of these initial conversations, one possible outcome will be to assign CRRUA additional responsibilities for planning, development, and maintenance of backbone transportation improvements, community-serving public facilities, and economic

development coordination, in addition to its current responsibilities related to land use planning and the provision of water infrastructure. However, CRRUA would need dedicated operating funds and financing capacity for infrastructure improvements. A Tax Increment Financing (TIF) District for Border Area infrastructure, perhaps combined impact or connection fees, may provide a source of infrastructure financing to complement private investment. A property-based benefit assessment district (BID), possibly combined with a share of permit processing fees and contract revenue from the County in exchange for providing some municipal services, could provide a secure source of operating funds for these expanded functions. This is just one option building upon CRRUA’s structure as a foundation. However, all options should be evaluated and considered.

Other short-term strategy recommendations include:

- > Doña Ana County needs to implement an asset management program for roadways that it owns and/or maintains. The effort may need to incorporate life cycle costs as well as current pavement conditions and traffic volumes.
- > Doña Ana County needs to play an active role in the future of the Sunland Park POE, including consideration of an active partnership with Sunland Park.
- > Doña Ana County officials should pursue conversations at the state level regarding pursuit of “Urban County” status, which would provide additional resources.
- > With Viva Doña Ana moving toward conclusion, the CRC and RLC committee structures should continue, with a focus on regional cooperation and integration. County resources may be needed to support this effort.
- > Doña Ana and El Paso Counties, NMDOT and TxDOT, and the El Paso MPO need to enhance

existing monitoring regimes for truck counts on key arterials across the Border Area, as well as the number of annual lifts at UP Santa Teresa. These organizations will also need to re-evaluate existing truck routes and identify improvements, including turning lanes, signal timing, etc. This point is essential, given anticipated residential growth in the Border Area.

- > The El Paso MPO, with support from NMDOT, TxDOT, and Doña Ana County should initiate a regional freight movement study to document recent shifts in what commodities and manufactured goods are moving, and where they are going. Outputs will frame support and priorities for candidate infrastructure projects, noted below. The study will need to evaluate truck impacts, as well as how industrial development patterns on both sides of the border align with transportation infrastructure.
- > Detailed field surveys of existing housing stock need to be undertaken to identify housing inventories and levels of affordability. Current plans for a Doña Ana County-led Affordable Housing Plan align with this goal, in cooperation with the Mesilla Valley Public Housing Authority; the study is expected to be completed by June of 2015. Resulting information (housing unit size, condition, amenities, and valuation) should be incorporated in a regional GIS framework.
- > The Region needs to undertake a detailed economic analysis of the Paso del Norte using input-output data, to clarify how linkages between industry sectors across Doña Ana County, El Paso County, and Ciudad Juárez have changed over the past 10 years, and how they may change with investments associated with the Santa Teresa POE, and UP investments. While local companies have learned how to work within constraints created by local borders, resulting sector linkages across borders

are not readily apparent in a political context, and need to be better defined.

- > Border Area economic development organizations need to ensure that companies in Doña Ana County are benefiting from July 2014 approval of the Alternative Site Framework for Foreign Trade Zone 197. While the structure is now in place, few companies have made use of the tool. Nationally, larger companies have in-house resources to manage the extra work involved in using FTZs. For smaller companies, the lack of a common operator for the FTZ is a constraint to enhanced local usage; further study is needed to discern if additional resources can expand market opportunities.

NMDOT is currently undertaking a border master plan to collect data, identify planning issues on both sides of the border, and engage with stakeholders to build consensus around priorities. Outcomes from this study will influence mid-term priorities.

County officials need to evaluate funding opportunities from organizations such as the US Department of Commerce, Economic Development Administration (EDA), the North American Development Bank, and the U.S. Department of Defense, Office of Economic Adjustment (OEA). These organizations have long histories of funding front-end planning and capacity building, as well as infrastructure. With regard to EDA specifically, County officials should evaluate the Region's current Comprehensive Economic Development Strategy plan, to ensure that the document reflects recent changes, as well as looming infrastructure needs. As one example, officials in San Diego leveraged EDA funding to support development of the CaliBaja mega-region economic development Strategy

Recommendations: Mid-Term Strategies

- > One initiative of Viva Doña Ana is to create a GIS web portal through a partnership with NMSU.

Once implemented, this program should aspire to be regional in scope, moving beyond the existing GIS clearing house associated with the Paso del Norte. More robust traffic data should be incorporated, along with expanded land use and property record information.

- > As local economic recovery strengthens, conversations regarding public transit will need to continue. Partnerships with the private sector will be required to sustain support of future bus connections in the Border Area. Also, connectivity with existing regional transit systems will need to be confirmed through conversations with SunMetro, including the new El Paso Bus Rapid Transit Mesa Corridor line.

Recommendations: Planning

Border Area Planning recommendations build from three central tenants.

1. The UP Santa Teresa yard is now open and residential development is beginning to accelerate, even as existing local roads do not appear adequate.
2. The Border Area is a unique place because of the existing CC&Rs that are in place for private industrial development.
3. Outcomes from Viva Doña Ana will include a new county-wide comprehensive plan and unified development code (UDC).

Recommendations presume a continued joint effort between CRRUA and Doña Ana County Planning to evaluate the impact of the new county-wide comprehensive plan and UDC on the Border Area. One goal will be to confirm if existing CC&Rs are consistent with new UDC guidelines. With the amount of time that has passed since the original Verde Master Plan was announced, the two organizations should re-examine the plan and amendments to ensure that the Border Area can support a sustainable balance of residential

and industrial uses in relation to transportation system improvements that can sustain growth.

The Border Area also contends with unique freight impacts, and that county-wide standards may not be appropriate. Considerations include:

- > As freight rail corridors are valuable, best practices include minimum setbacks to prevent encroachment, and to mitigate vibration and noise associated with freight trains.
- > Identify specific at-grade railroad crossings that eventually need to be grade-separated.
- > Protect industrial areas from encroaching commercial and residential uses, while ensuring that industrial areas have access to supporting services, and link industrial building types to their anticipated trucking requirements.
- > Consider zoning that allows workforce housing in locations proximate to employers but not in conflict with trucking corridors.

Doña Ana County should work with UP and BNSF to evaluate existing rail corridors, in part to ensure that adjacent zoning is appropriate. Based on guidance from USDOT, these corridors will see increased train traffic over time, and zoning regulations may need adjustment.

Potential Priority Infrastructure Projects:

- > Enhanced freight monitoring efforts and data analysis will allow regional officials to make informed decisions regarding infrastructure projects that will enhance how traffic flows through the Region. For example, county officials have already identified the need for a crosswind runway at Doña Ana County International Jetport as well as re-construction of 1.3 miles of Airport Road from Pete V. Domenici Highway as part of current capital improvement plans. Other proposed

projects could include:

- > NMDOT, TxDOT, and the El Paso MPO need to re-evaluate Pete V. Domenici Highway and Artcraft Road, working toward a grade-separated, limited-access route between the Santa Teresa POE and I-10. Dedicated truck lanes or a toll road should be considered.
- > The UP Santa Teresa yard has increased truck movements along Airport Road from Pete V. Domenici Highway to McNutt, and eventually to I-10. Of concern is the location of Santa Teresa High School along Airport Road, a two-lane facility at present. Presuming that Airport Road continues to be an option for trucks making connections eastward, widening of this road near the school needs to be studied.
- > NMDOT, TxDOT, and the El Paso MPO should study the need for a truck-focused interstate way-finding system that provides specific guidance to thru-trucks regarding congestion on local interstates.
- > NMDOT, TxDOT, and the El Paso MPO should evaluate improvement of Highway 9 connecting to McNutt for commercial traffic.
- > NMDOT and the El Paso MPO need to continue to evaluate the West Mesa Corridor connection from the Santa Teresa POE northward to I-10 near Las Cruces, aligned with updated traffic and freight demand studies that factor in the new UP yard.
- > NMDOT and the El Paso MPO need to evaluate corridors to connect the Santa Teresa Border Area with NM State Route 404, to support eastbound and northeast-bound truck movements.
- > Presuming that rail relocation in Ciudad Juárez unfolds as anticipated, US authorities will need to evaluate connections across the border. While the New Mexico Border Authority is evaluating a

rail connection between the Santa Teresa POE and existing UP and BNSF mainlines, experience suggests that an entirely railroad-funded solution is unlikely on the US side, as UP and BNSF will remain hesitant about mismatches between benefits and costs, and are concerned about the introduction of additional traffic on already congested mainlines. For this reason, the Border Authority and / or NMDOT will need to consider financial and operational roles in the project. Nationally, state transportation agencies are increasingly partnering with railroads to enhance regional rail capacity.

- > There is growing national interest in compressed or liquid natural gas (CNG/LNG) as a truck fuel, linked with lower fuel costs and reduced emissions. Although diesel fuel in Mexico is less expensive, consideration should be given to a natural gas fueling strategy for municipal fleets and trucking companies, in response to air quality concern.
- > With news reports indicating that BNSF will expand intermodal service between Mexico and Chicago, officials from NMDOT, Doña Ana County, and the City of Las Cruces should begin to plan for growth in traffic along the BNSF main line that runs parallel with NM 478 toward Las Cruces with an eventual need for grade-separated routes.

Infrastructure funding remains a topic of national debate. While Public Private Partnerships (3P) are popular, these structures are ultimately tied to revenue streams that can support investor interest and rate-of-return thresholds. At minimum, the Paso del Norte should consider enabling legislation for “impact fees” on trucks that cross the border; resulting revenues could be allocated for Border Area improvements. Projects such as the Sunland Park POE should be pursued, in part because POE projects are tied to crossing fees.

Funding considerations include:

- > Officials should evaluate the applicability and need for impact fees, assessments, or special tax districts on all development and properties that utilize and benefit from the infrastructure, spreading the cost of infrastructure among more and higher value land uses and reducing the cost burden on industrial uses alone.
- > TIF can be used to fund infrastructure improvements, to the extent that specific projects do not otherwise benefit from property tax abatement. Experience in other border areas also suggests that industrial values alone may not be sufficient to drive sufficient tax increment to pay for necessary improvements.
- > Given the sustainability implications associated with rapid growth in freight volumes, El Paso and Doña Ana Counties would be ideal candidates for future rounds of Tiger Grant funding.
- > Future rounds of HUD funding appear to be shifting toward investments that enhance regional resiliency; future announcements by HUD will confirm the amount of available funding.
- > Experience in Detroit associated with planned construction of the New International Trade Crossing provides a case study for the plausible role of the Mexican government to fund improvements on the US side of the border that have benefits to citizens in Ciudad Juárez. The new bridge is being funded largely by the Canadian government using a 3P structure.
- > UP and BNSF support about \$210 million county-wide assessed value, with direct property tax payments of about \$2 million per year. Moving forward, County officials should consider allocating a portion of these proceeds to expand support for rail improvements.





