



The U.S.-Mexico Border Economy in Transition

Edited by Erik Lee and Christopher Wilson





ISBN# 978-1-938027-96-3

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Woodrow Wilson International Center for Scholars

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1300 Pennsylvania Avenue NW, Washington, DC 20004-3027

www.wilsoncenter.org

Woodrow Wilson International Center for Scholars

February, 2014

Contents

Acknowledgementsv

Introduction1

Chapter 1: The Architecture of U.S.-Mexico Cross-border
Economic Cooperation.21

Chapter 2: Binational Economic Development in the
U.S.-Mexico Border Region48

Chapter 3: Optimizing Border Ports of Entry to Strengthen
Regional Competitiveness72

Chapter 4: Human Capital in the U.S.-Mexico Border
Region94

Chapter 5: The Border Economy’s Energy Transitions 118

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ACKNOWLEDGEMENTS

As much as it is a work of the authors, the contents of this report come from the many participants and contributors to the series of four Regional Economic Competitiveness Forums. Without them, this effort would have been impossible. Unfortunately, limited space makes it impossible to call out all the border region stakeholders who generously offered us their energy and ideas. Nonetheless, we would like to publicly thank several key individuals for their support in this process.

We would like to thank our sponsors and partners the United States Agency for International Development – Mission Mexico, including Mission Director Sean Jones, Economic Growth Officers Mark Gizzi and Geoffrey Minott; as well as the Council of State Governments–West, including Executive Director Edgar Ruiz, Director of International Programs Martha Castañeda, and staff Alma López and Luis Tapia. The U.S.–Mexico Border Legislative Conference sponsored and hosted the forums. A special thanks to Chair Diputada Imelda Guadalupe Alejandro De La Garza, Vice–Chair José Rodríguez, and the other members that participated in the forums, including California State Senator Lou Correa, Texas State Representative Rafael Anchía, Arizona State Representative T.J. Shope and Sonora State Congresswoman Mireya de Lourdes Almada Beltrán. We are deeply indebted

to Representative Juan Vargas, Representative Scott Peters, Representative Raul Grijalva, Representative Henry Cuellar, Representative Beto O'Rourke, the rest of the Congressional Border Caucus, and their staffs for helping convene their communities and for participating in the forums.

At the Wilson Center, we would like to thank Mexico Institute Director Duncan Wood, Executive Vice President Andrew Selee, Angela Budzinski, Victoria Dagli, Allison Cordell, Pedro Valenzuela, Eugenio Weigend, Maria Landa, Adalberto Castañeda and Juanita Islas.

Our colleague and friend Robert Donnelly also provided valuable editing and research assistance. In addition, our colleague from San Diego, Miguel Aguirre, attended all four forums and offered valuable perspectives from thirty years of on-the-ground border business experience.

We are extremely grateful to the several dozen organizations which participated with us in one way or another at the U.S.-Mexico Regional Economic Competitiveness Forums as well as the many outstanding speakers, panelists and participants who joined us and contributed many of the ideas developed in this report. We hope that this report speaks to, spotlights, and supports their work to build a stronger and more prosperous border region each day.



INTRODUCTION

The U.S.-Mexico Border Economy in Transition: Report of the 2014 Regional Economic Competitiveness Forums

By: Christopher Wilson and Erik Lee

Key Recommendations

Institutions

- Strengthen, expand and promote institutions that represent and serve the U.S.-Mexico border region economy. Only with robust institutions can border communities speak to national audiences with a unified voice strong enough to dispel misperceptions and promote policies that make the border an engine for the competitiveness of the regional economy. An example of two institutions that can be strengthened are the Border Governors Conference and the Border Mayors Association, both of which are in need of a permanent secretariat, regular annual meetings, and an agenda based on the sharing of best practices and collective negotiation with the federal governments. Additionally, the

Border Legislative Conference requires ongoing financial support to sustain its robust efforts. Member government dues, federal grants, and private sector contributions are all potential vehicles for funding these institutions.

Economic Development

- Support and develop inclusive binational Mega Regions along the U.S.-Mexico border to enhance collaboration between border communities and economic stakeholders. City, state, and federal governments should support the many burgeoning (and some longstanding) efforts throughout the region for border binational metro-areas to jointly build and execute strategies to attract investment and boost exports.
- Promote cross-border urban planning and development in border communities, building those communities as the binational metropolitan areas that they are.

Ports of Entry

- All levels of government, as well as the business community and non-governmental organizations, have a role to play in supporting cross-border transportation infrastructure and staffing. New federal legislation (section 560 and 559 authority) offers state and local government and the private sector a new framework through which to get involved in the funding of port of entry infrastructure and staffing. Beyond these specific mechanisms, history suggests there is a wide array of options—including private and municipal ownership, local donations to federal agencies, and collaborative planning processes—for non-federal participation in the improvement of cross-border transportation.
- Trusted traveler programs are the most cost effective way

to improve border efficiency and security, but they need to be promoted, expanded, and more aggressively promoted. Extend dedicated and separated trusted traveler and shipper lanes as far back as traffic extends on a busy day, and deepen cooperation between the U.S. and Mexican federal governments, with the support of regional actors, to better promote enrollment in the programs.

- Historically, at least two border city pairs had cross-border trolley lines, El Paso-Ciudad Juárez and Laredo-Nuevo Laredo. Though it would take creativity, hard work and collaboration with border authorities to implement, the benefits of restoring trolley lines or building new cross-border transportation options, such as dedicated bus lanes, would include reduced wait times and a redoubled sense of binational unity.

Human Capital

- In order for the U.S. and Mexico to achieve their goals of increased educational exchange, establish a binational education task force focused specifically on the border region, where the opportunities are greatest and costs are least.
- Promote greater collaboration between regional universities, community colleges and technical schools, government and the private sector to create, attract, and retain the labor pool necessary to fill industry needs at the border. The Monterrey and Chihuahua Centers for Research on Advanced Materials (CIMAV) are one example of how to build successful partnerships between educational institutions and the business community.

Energy, Natural Resources and Water

- The U.S. shale boom and Mexican energy reforms are

transforming and will continue to transform the border region. U.S. and Mexican state and local governments should increase engagement with the business community and federal government to prepare for and capitalize on energy development.

- Develop renewable energy clusters, grouping together generators in order to maximize the use of expensive electricity transmission infrastructure investments.
- Protect the environment while developing energy. Water and other resource demands are already stressing the border region. In this context, wise economic development is sustainable economic development, which strategically prioritizes the use of limited resources to maximize human development and ensure environmental sustainability.

The U.S.-Mexico Border Economy in Transition: Report of the 2014 Regional Economic Competitiveness Forums

Strengthening Regional Competitiveness

At the fourth and final Regional Economic Competitiveness Forum in El Paso, Texas, Congressman Beto O'Rourke told nearly 600 policymakers, businesspeople, and community members that "When we fail to define the border, we allow [others] to define the border for us." Defining a region as diverse and complex as the U.S.-Mexico border, however, is no easy task. From the Pacific Ocean to the Gulf of Mexico, from small rural agricultural and ranching communities to large urban centers of innovation and advanced manufacturing, the border is based in both tradition and the crossing of boundaries. It is both Mexico and the United States; yet it is something more. It is in this "something more," the fusion

of cultures, geographies, and economies that the common voice of the region is found. This is particularly true when we discuss the economic realities, needs and enormous potential of the region.

Seeking that common voice while aiming to articulate a shared vision of inclusive economic competitiveness that respects the unique needs of each sub-region, a series of four U.S.-Mexico Regional Economic Competitiveness Forums were held in 2014. The effort involved the partnership of several organizations--the Border Legislative Conference (BLC), the Council of State Governments-West (CSG West), the Woodrow Wilson International Center for Scholars' Mexico Institute, the North American Research Partnership, several members of the Congressional Border Caucus, and USAID-Mexico.

We traveled to San Diego/Tijuana, Nogales/Nogales, El Paso/Ciudad Juárez, and Laredo/Nuevo Laredo to engage border region stakeholders in a process that collectively generated a shared vision and numerous policy recommendations to strengthen regional competitiveness. This report lays out the major issues involved in border region economic development, compiles the many innovative ideas developed at the forums, and weaves them into a series of policy recommendations that draw on the experiences of those who understand the border best--the individuals who live in border communities and who cross back and forth between Mexico and the United States as a part of their daily lives.



The 2014 forums were born from a previous iteration of a similar process. In 2005–2006, some of the same partners held three Regional Economic Development Forums, bringing together key stakeholders from across the U.S.–Mexico border region to develop a new vision for trade and development. Reflecting on the vision and recommendations that were issued, it is quite clear that policy options generated through stakeholder engagement were years ahead of the policies being enacted in the national capitals. Some ideas, such as preclearance, are currently in the pilot project phase along the U.S.–Mexico border, while others, such as integrated regional transportation planning for U.S.–Mexico and North American trade corridors, are only just being initiated at the federal level.

Such findings should not be surprising. The people, companies, and government officials that depend on having a secure and competitive border on a daily basis are the logical source for innovative approaches to border management. With that in mind, and aware that the challenges and opportunities facing the border region have evolved significantly since 2006, this new round of Regional Economic Competitiveness Forums provide a much-needed opportunity for the border region to define itself and present its own goals, vision, and recommendations.

Transitions and Opportunities

Interdependence is a natural state of affairs along the border. From public health to natural resource management and public security, what happens on one side of the border has a major impact on the other. In no area is this clearer than in the economic development and competitiveness of the region.

Through the development of systems of co-production, the United States and Mexico do not simply buy and sell goods from

one another but rather manufacture them together. As a result the productivity and competitiveness of communities on both sides of the border are tightly linked. Based in such deep economic integration, new economic development initiatives have emerged in recent years—from the CaliBaja Mega Region in Tijuana and San Diego to the Binational Economic Development Zone project in Brownsville and Matamoros—to promote border communities as the unified economic regions that they are. Through these new projects and many well-established networks and organizations, the level of cross-border partnership is stronger than ever, presenting a tremendous opportunity.

Table 1: U.S. Border States' Merchandise Exports to Mexico, 2008-2013 (Billions of Dollars)

State	2008 Exports	2013 Exports	Percent Change, 2008-2013
California	\$20.4	\$23.9	+17
Arizona	\$5.9	\$7	+20
New Mexico	\$0.38	\$0.8	+109
Texas	\$62	\$100.9	+63

Source: U.S. Department of Commerce, <http://tse.export.gov/>

In a curious way, the border tends to divide east and west as often as north and south. Officials, businesses, and civil society in El Paso, for instance, are generally more accustomed to reaching across the border to collaborate with counterparts in Ciudad Juárez than those in San Diego. However, with greater energy and maturity in cross-border initiatives, the moment is ripe for the border region to organize itself around common interests and advocate with a strong, united voice in Washington, D.C., and Mexico City. In this context, this series of Regional Economic Competitiveness Forums took on a special role in helping border communities articulate a

common vision for border competitiveness and local development strategies that take advantage of the unique attributes of each economic sub-region.

Equally important are developments that have shaped both governments' approach to the bilateral relationship. The terrorist attacks of September 11, 2001 and the rise of organized crime related violence in Mexico in the latter part of the 2000-10 decade kept security matters at the top of the agenda for both U.S.-Mexico relations and the U.S. conversation about the management of the southwest border.

Since then, significant progress has been made on issues of bilateral security cooperation—including the Merida Initiative at the federal level and the development of strong relationships among many state and local police and prosecutors—opening a space for new items on the agenda. At the same time, the financial crisis and recession of 2008-2009 reminded us all that economic security is also of primary concern, right alongside issues of national and public security.

Since the election of Enrique Peña Nieto in 2012, issues of economic cooperation now sit atop the bilateral agenda. The launching of the U.S.-Mexico High Level

Economic Dialogue (HLED) is the most important expression of this development, and it has begun to accelerate bilateral progress on issues of trade facilitation, regional transportation planning, energy cooperation, educational exchange, and cooperation in the negotiation of regional trade agreements, most notably the Trans-Pacific Partnership (TPP).

At the same time, Mexico has undertaken an economic reform effort, adopting constitutional and major legislative changes with the goal of strengthening competition policy, energy markets, the

The four U.S. border states' exports to Mexico make up more than half of the national total.

educational system, and access to financing, among others. This confluence of factors creates a window of opportunity for the

Mexico exports more to the U.S. border states than it does to the rest of the world combined, excluding the United States.

border region. The United States and Mexico are increasingly understood at the highest levels of government and business to primarily be partners rather than competitors in the fiercely competitive global economy. The border region manifests this partnership

more clearly than anywhere else.

This makes the border the natural location to begin many of the binational projects being considered through the HLED process. For example, since over 75 percent of U.S.-Mexico trade crosses the land border and border congestion currently adds significant costs to each of those transactions, a very strong case can be made that improvements in efficiency at border ports of entry and access roads should be at the heart of the binational dialogue. Similarly, federal innovation and manufacturing cluster mapping and economic development efforts will have the most clearly mutually-beneficial results when applied to twin cities along the border.

Yet, as obvious as these opportunities are to those living, working, and doing business in the border region, they are unlikely to come to fruition without an organized effort by border stakeholders to develop appropriate concepts, present them to local, state, and federal officials, and actively support their implementation. Budget constraints at the federal level have increased the importance for border region stakeholders to not only put forth innovative and practical policy proposals but to also suggest and participate in creative and multi-level approaches to fund their proposals.

Four Regions that Anchor Binational Trade and Regional Competitiveness

The series of forums examined four sub-regions of the U.S.-Mexico border: California-Baja California, Arizona-Sonora, West Texas-New Mexico-Chihuahua, and South Texas-Tamaulipas-Nuevo Leon-Coahuila. All four share major challenges and opportunities while simultaneously exhibiting distinctive cross-border economic traits, which require tailored economic development strategies.

What do these regions have in common? Although all four regions are located at a great distance from the national capitals, the presence of the international boundary results in federal jurisdiction on many key issues. As such, communities along the border acutely experience changes in national policies dealing with immigration, trade, and national security. Examples include the Border Industrialization Program (Maquiladora Program) of the 1960s, the North American

Free Trade Agreement of 1994, and the post-9/11 security buildup by the United States. All four regions are vital nodes along major trade corridors: I-5, CANAMEX, I-10, and the

International Mid-Continent (I-35). Nine of the 10 U.S. and Mexican border state capitals are located at a distance from the



border, which presents a political challenge for border communities. However, all have active local interest groups that lobby state and federal officials on issues relating to border trade infrastructure and policy, key issues for virtually all border communities. Lastly, all four regions have historically important cross-border economic relationships based on proximity, comparative advantage, and longstanding familial and cultural ties. Border economic sub-regions have developed together over the years, and each is better understood (and developed) as a single binational entity rather than two or more separate municipalities with distinct development strategies.

What makes these regions distinct? Though the border itself unites them, the textures of history, geography, culture, and economic development are incredibly varied throughout the broader region.

The **California-Baja California** sub-region is notable for its population size and density, with more than five million inhabitants. With significant human capital on both sides of the border, the region is home to important high-value added advanced manufacturing clusters, including world-class medical devices, audio-visual equipment, and electronics manufacturing centers. While the region already benefits greatly from a culture of innovation, well-developed manufacturing clusters and a unique geography, the competitiveness of the CaliBaja mega region could be further strengthened. The region can build on its already impressive human capital and innovation systems; better connect to the global economy by investing in intermodal transport networks and export promotion; and improve regional ports of entry so that people and goods can move more efficiently across the U.S.-Mexico border, thereby enabling the region to take advantage of its remarkable strengths.

The area is home to what is almost certainly the busiest land border crossing in the world, San Ysidro, and innovative new ports of entry that feature a public-public partnership (Otay Mesa East) and a remarkable binational airport terminal. A strong desire in the region to increase cross-border economic activity has resulted in the formation of several relatively new organizations, including the CaliBaja Binational Mega region, the San Diego-Tijuana Smart Border Coalition, and the Imperial Valley Binational Alliance, in addition to the more established economic development corporations in San Diego and Tijuana and the San Diego Association of Governments (SANDAG). These organizations effectively project the voice of the sub-region--its strengths, challenges, and potential--at the national and state levels and can, in many ways, serve as examples for the border as a whole.

The **Arizona-Sonora** region, on the other hand, is notable for its smaller Arizona border cities that neighbor much larger Mexican cities. In addition, the Nogales-Mariposa port of entry is unique due to the enormous volume of winter fruit and vegetables imported into the United States. The region has an unusually long and highly institutionalized state-to-state relationship through the Arizona-Mexico Commission/Comisión Sonora-Arizona. This mechanism of cooperation should be fully leveraged to design and advocate for policies and infrastructure investments needed to strengthen the competitiveness of the region.

Following a difficult diplomatic period beginning in 2010, Arizona has recently redoubled engagement with Mexico, which is linked to a realignment of the state's economic priorities following the Great Recession and a belief that increased international trade has the potential to create more high-paying jobs for the state's citizens. Indeed, the state's Transportation and Trade Corridor

Alliance—convened by the Arizona Department of Transportation and comprised of public- and private-sector economic stakeholder groups—has recommended that the state should aim to double its trade with Mexico by 2025 to \$28 billion in two-way trade. Toward this end, potential highway and rail projects could bring significant additional commerce through the area and should be prioritized. Stronger efforts are needed to capitalize on potential cross-border synergies in regional industries such as aerospace, agriculture and automobile production.

The region comprising El Paso, Texas, Ciudad Juárez, Chihuahua, and Las Cruces/Santa Teresa, New Mexico (also known as the **Paso del Norte region**) is noteworthy for its enormous size and importance as a manufacturing platform. Indeed, Ciudad Juárez was the site of the first maquiladoras, which are foreign-owned factories at which imported parts are assembled for export purposes. Ciudad Juárez boomed with the arrival of these factories, first doing simple tasks like sewing jeans and sorting coupons, but now thriving in much more advanced industries like aerospace, electronics, and autos. El Paso and southern New Mexico also benefit from this growth, sometimes as suppliers but more often as service providers offering legal, financial, and logistical support to industry. Defense, healthcare, education and tourism have all grown to become key sectors in the regional economy, particularly with the recent expansion of the Fort Bliss Army installation and major investments in the biomedical science and healthcare industries. The University of Texas at El Paso has a particularly close relationship with Mexico and currently has approximately ten percent of the total number of Mexican students studying at U.S. universities. With public security vastly improved in Ciudad Juarez, a new baseball stadium and Triple-A team recently arriving to downtown

El Paso, and a deep commitment from the residents of both cities to bring their region together and grow the economy, the ground appears more fertile than ever for ambitious binational initiatives. Indeed, the success of the City of El Paso's participation in Customs and Border Protection's Section 560 pilot project, which allows city revenue from border crossing fees to help fund additional port of entry staff, shows that such efforts are already underway.

The South Texas-Tamaulipas-Nuevo León-Coahuila area has at least three separate and important economic engines. First, Laredo/Nuevo Laredo is by far the busiest commercial port of entry on the U.S.-Mexico border, serving as the gateway for the Midwest and eastern United States' trade with Mexico. It is located midway between the important industrial city of Monterrey, Nuevo Leon and San Antonio, Texas. The massive flow of manufactured goods and parts through the region offers significant opportunities for backward integration developing the local supplier base that, because of its location on an existing logistics corridor, has the advantage of greatly reducing shipping costs in the relevant industries. This opportunity exists both along the I-35 corridor and also further down the Rio Grande Valley, where there are already numerous medium sized sister-city pairs with important manufacturing clusters that could be built upon.

Recently, the boom in shale gas and oil production from the Eagle Ford formation has propelled growth in South Texas at a new velocity. With Mexico's recently passed energy reform there is great interest in the energy industry to develop something similar on the Mexican side of the formation. The growth that comes with such rapid energy development has major benefits for the local economy, but it is not without its challenges. It is imperative for educational institutions in Texas, Tamaulipas, Nuevo Leon,

and Coahuila, in partnership with the private sector, to quickly upgrade and scale training programs for energy industry jobs and the infrastructure development that accompanies an energy boom so that job growth truly benefits the region. Additionally, population increases and industrial development place pressures on regional natural resource management that must be carefully studied and addressed with community involvement. This is particularly true in Mexico, where environmental and natural resource issues tend to be managed more at the federal level, it will be incumbent on local and state policymakers to develop expertise and bring area business, educational and civil society organizations into a dialogue with the federal government to ensure that development supports the region and is sustainable.

The U.S.-Mexico border—one of the most remarkable stories in the global economy—finds itself in a period of significant transition. In order to continue to enhance the competitive position of the border region, as well as the economic well-being of its inhabitants, policymakers and stakeholders at the local, state, and federal levels will need to better understand and establish policies that help the border region better adapt to global realities and strengthen its role as an engine of growth for the regional economy. In addition, these same actors will need to work together to build more durable regional political coalitions and institutions that can “set the table” for future prosperity.

How the Report is Organized

Each of the four U.S.-Mexico Regional Economic Competitiveness Forums took on its own flavor based on the particular economic characteristics of the region in which it took place. Energy, for example, was high on the agenda in Laredo, while innovation clusters were central to the discussion in San

Diego. Despite these differences, several key and border-wide themes emerged as core challenges and opportunities for the region's economy. The report is organized into five chapters that look at each of these issues (for those readers who would like a summary of the discussion at these events please see the executive summaries in Appendix 1).

In chapter one, Erik Lee looks at the architecture of the border economy, that is, the numerous institutions that provide the avenues for efforts to improve policy and develop the regional economy. He outlines the array of bilateral economic initiatives that the U.S. and Mexican federal governments have launched in recent years, such as the High Level Economic Dialogue, noting that they should be seen as opportunities to be taken advantage of by border region city and state governments, as well as the private sector and universities. He also looks at the institutions that connect the border region and allow the region to engage the national capitals with a strong, unified voice, coming to the conclusion that some, such as the Border Governors Conference, which has not met for the past two years, need to be reinvigorated in order to better serve the border.

In chapter two, Lee looks at some of the most important economic development organizations and projects that are currently underway in the border region, many of which were represented at the 2014 U.S.-Mexico Regional Economic Competitiveness Forums. The most exciting development in this area is the recent creation of several binational economic development organizations. These organizations are built on the notion of trans-border mega regions, which allows for the joint promotion of U.S. and Mexican border communities as cohesive units, leveraging assets on both sides of the border and showing the world that they truly are a single community. There is a role for both the private sector and government in developing such initiatives, and it would be

helpful to create a network that links together the many border region economic development organizations in order to promote cooperation and the sharing of best practices, perhaps under the auspices of, or simply supported by, the HLED or an entity such as the International Economic Development Council.

In chapter three, Christopher Wilson looks at strategies to finance infrastructure investment and improve the management of the border ports of entry, without a doubt one of the most discussed topics in the U.S.-Mexico border region at this time. Examples of creative public-private partnerships for cross-border infrastructure development are proliferating throughout the region, not exclusively but especially as a result of new legislation and guidelines for U.S. Customs and Border Protection on this issue. For now, U.S. city governments and private entities have taken the lead in partnering with the federal government in this way, but we recommend that U.S. states and Mexican groups look into the possibility of working with the U.S. federal government. Only with all parties at the table will the region be able to fully take advantage of the opportunities for trade and travel that efficient border management provides.

In chapter four, Ruth Soberanes looks at the issue of human capital in the U.S.-Mexico border region. She finds that manufacturers and service providers alike are increasingly making investment decisions based on the availability of high-quality workers rather than cheap labor, which increases the importance of educational and worker training institutions. In addition to simply paying attention to their quality, Soberanes suggests that a stronger dialogue needs to be established between institutions for higher education and the private sector in the region and that border communities are the best place to implement new federal programs and expand state-to-state programs to boost bilateral educational exchange.

In the final chapter, Rick Van Schoik addresses areas of both enormous potential and constant constraint for the U.S.-Mexico border region: energy and natural resource management. The border has traditionally been understood as energy poor, but the development of shale resources in the east is quickly changing that calculus, with southeast Texas and increasingly Tamaulipas building infrastructure for energy production and trade at a tremendous pace. Van Schoik makes clear that the pace of change in the industry requires policymakers and non-governmental organizations to move quickly or risk falling behind in both capitalizing on broader economic development opportunities and ensuring the sustainable use and protection of water and other resources.

In each of the chapters, the authors provide context on new developments in their area of focus before offering numerous recommendations for all levels of policymakers, the vast majority of which were articulated by the numerous stakeholders at the forums. The full list of stakeholder recommendations from the Regional Economic Competitiveness Forums, which are developed in greater detail throughout the report, are below:

27 Ways to Strengthen Border Competitiveness*

1. Strengthen, expand and promote institutions that represent and serve the U.S.-Mexico border region economy.
2. Utilize public-private partnerships for funding of port of entry infrastructure and staffing.
3. Expand and promote the trusted traveler and shipper programs with the cooperation of federal and regional actors.
4. Build cross-border public transportation options, such as trolleys or dedicated bus lines.
5. Increase dialogue between public and private stakeholders to pilot innovative solutions to reduce crossing times.
6. Place customs officials at pre-inspection sites away from the border to reduce the work done at congested ports of entry.
7. Speed up movement of traffic with increased risk segmentation and better targeting systems.
8. Improve “customer” service at border crossings while maintaining operational integrity.
9. Support the use of technology on both sides of the border to better diagnose and track the progress made on trade and travel facilitation at the ports of entry.
10. Support and develop inclusive binational Mega Regions and other regional economic development efforts throughout the U.S.-Mexico border region to enhance collaboration between border communities and economic stakeholders and build economic growth and quality of life.
11. Promote binational urban planning and development in border communities.
12. Make border crossings a focus of bilateral cooperation and hubs of binational interaction.
13. Connect economic development organizations along the entire border to share best practices and strengthen the voice of the border region in national conversations.
14. Fund and conduct applied binational economic development research.
15. Identify and promote cross-border manufacturing assets.
16. Bring together government and business leaders from both sides

- of the border to engage in joint investment attraction efforts.
17. To increase educational exchange between the United States and Mexico, establish a binational education task force that focuses on the border region and the development of a stronger binational workforce.
 18. Promote greater collaboration among regional universities, community colleges, technical schools, government, and the private sector in order to create, attract, and retain the human capital necessary to fill industry labor needs at the border
 19. University, community, and vocational college and business leaders should collaborate in the development of curriculums to insure that graduates have the skill set necessary to meet the demands of the evolving workforce industries at the border.
 20. Ensure the accreditation of cross-border educational programs in both countries.
 21. Establish binational internships along the border to create more direct pathways from education to employment.
 22. Create and expand pilot programs being developed along the border, such as the proposed manufacturing innovation institute.
 23. Increase local, state, and federal cooperation to capitalize on energy opportunities.
 24. Develop renewable energy clusters.
 25. Protect the natural environment and especially water resources while developing energy projects.
 26. Use public-private partnerships to fund public health and educate people about the consequences of energy development
 27. Build workforce and other human capital for energy security and prosperity.

** Each of these recommendations is developed in greater detail in the full report.*

Endnotes

- ¹ "A New Vision for Trade Along the U.S.-Mexico Border," Border Legislative Conference, Border Quality Campaign of El Paso del Norte, Holguin Group/EPV Group, Idaho National Laboratory, December 2005, <http://www.borderlegislators.org/pdfs/Publications/Final%20New%20Border%20Vision.pdf>.



CHAPTER

1

The Architecture of U.S.-Mexico Cross-border Economic Cooperation: Key Actors and Tools

Erik Lee

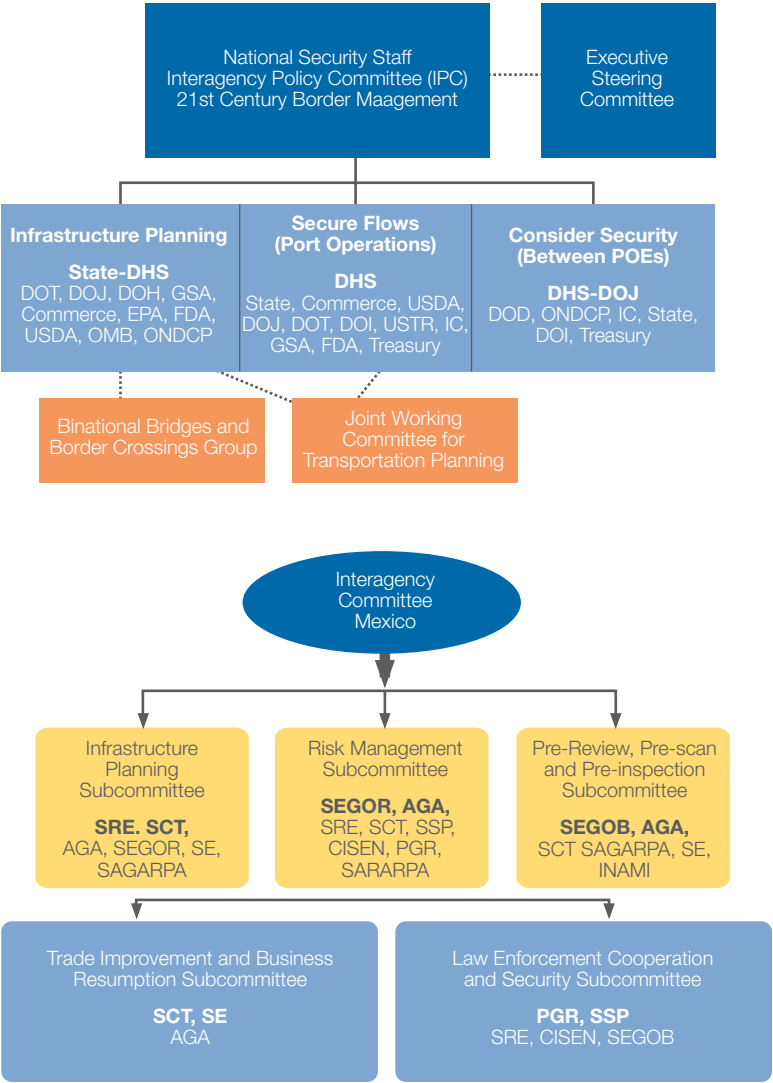
To coordinate efforts to strengthen border region competitiveness, stakeholders recommend:

1. Strengthening, expanding and promoting institutions that represent and serve the U.S.-Mexico border region economy.

Overview: Setting the Table at the Border

Government, as the saying goes, “sets the table” with the economy. And nowhere is that more true than at the U.S.-Mexico border. The physical boundary itself was established by the Treaty of Guadalupe Hidalgo in 1848 and is maintained by the International Boundary and Water Commission and Mexico’s Comisión Internacional de Límites y Aguas, itself an interesting model of binational cooperation. The very existence of the border creates

Figure 1: U.S. and Mexican Interagency Structures Feeding into the Bilateral Executive Steering Committee.



Sources: U.S. Department of State, Government of Mexico, 2012.

local, regional and national economic conditions that governments need and want to shape and influence. Federal, state and local governments on both sides of the border share the power to set policy related to the border and commerce. The diffuse nature of

The diffuse nature of decision-making, along with the large distances between the federal and even state capitals from the border itself, often leave border communities feeling isolated and at times powerless. There is little doubt that local and regional economies, the businesses that operate in them, and citizens making a living in border communities either prosper or don't because of policy decisions.

decision-making, along with the large distances between the federal and even state capitals from the border itself, often leave border communities feeling isolated and at times powerless. There is little doubt that local and regional economies, the businesses

that operate in them, and citizens making a living in border communities either prosper or do not because of policy decisions.

The manner in which policy is made depends significantly on the institutional architecture through which local, state, federal, and even non-governmental actors on both sides of the border organize themselves and interact. With so much at stake, it is critical that border region institutions are robust, so that they may serve as effective interlocutors with federal and state governments. At the same time, the frameworks for federal border management must be built to adequately address and coordinate in a binational manner

on issues of economic competitiveness while they simultaneously focus on other issues of security and national interest.

Border institutions, though, are more than just government agencies and associations. The North American Free Trade Agreement, for example, is one of the principal frameworks for how the U.S.-Mexico border region economy functions. By phasing in lower tariffs on numerous products over time, NAFTA has opened up North American markets for North American companies and paved the way for joint production in numerous industries and created economic growth in specific industries and regions. The opening up of these markets has had a profound effect on the border economy itself.

Along with NAFTA, a number of other key institutions shape both trade and the makeup of regional economies along the border. At the bilateral level, these institutions the relatively new Bilateral Executive Steering Committee working on the 21st century border process articulated in the 2010 Joint Declaration on 21st Century Border Management to the U.S.-Mexico High-Level Economic Dialogue, formed in 2013. At the federal level, the U.S. Trade Representative, the U.S. Department of Commerce and Mexico's Secretariat of the Economy dialogue on a number of issues, including the negotiation of new trade agreements, the resolution of trade disputes, and the joint promotion of trade to domestic constituencies (who often have a difficult time grasping the breadth and detail on U.S.-Mexico trade).

Border-wide, bilateral institutions are a unique and important aspect of the border economy. Ideally they should serve as a bridge between local economic development organizations and key federal institutions as the organizations best positioned to articulate and

represent the “voice of the border.” Representative institutions include the North American Development Bank—an institution originating in one of the key side agreements to NAFTA—the

With so much at stake, it is critical that border region institutions are robust, so that they may serve as effective interlocutors with federal and state governments.

U.S.-Mexico Border Governors Conference, and the U.S.-Mexico Border Legislative Conference. These institutions have brought together state-level officials and numerous local stakeholders for decades. In addition to these government-focused groups, the

Border Trade Alliance and the U.S.-Mexico Border Philanthropy Partnership are also important border-wide institutions representing key sectors.

In addition to these bilateral, federal and border-wide institutional examples, a defining characteristic of the U.S.-Mexico border economy are the various state- and locally based institutions with a mandate to expand trade with neighboring states, cities, “mega regions” and even trade corridors spanning thousands of miles across the continent. The Arizona-Mexico Commission/Comisión Sonora-Arizona are prime examples. Numerous, even more local examples have formed along the border in recent years, particularly since 9/11. Many of these local institutions have a distinctively private sector component, such as the San Diego-Tijuana Smart Border Coalition and the BorderPlex Alliance in the Paso del Norte region, to name just two examples.

Together these institutions form a critically important “architecture” of institutions but also critically important (though highly imperfect) network of contacts and lines of communication.

These institutions also possess a range of key “tools” that can—if utilized in a strategic manner in concert with the private sector and others—set the table for economic development and growth. These tools include policies to facilitate communication on key border economy issues; power to convene agencies and key border economic stakeholders; the ability to make and interpret key regulations; and in some cases, the ability to fund physical infrastructure or even research on emerging border economic issues.

In this chapter we will touch on several—but by no means all—of these key institutions and discuss their roles in the U.S.-Mexico border economy. We believe their existence and continuing participation in the border economic arena is and will continue to be critically important for a region that functions as a facilitator for a half trillion dollars in NAFTA trade; exhibits tremendous wealth yet also persistent poverty; and which needs to expand and deepen cross-border economic cooperation following the Great Recession and in the face of stiffening global economic competition.

Table 1: Key Border Economic Institutions Discussed in This Chapter

Bilateral Institutions	
U.S.-Mexico High-Level Economic Dialogue	
Bilateral Executive Steering Committee	
North American Development Bank	
International Boundary and Waters Commission / Comisión Internacional de Límites y Aguas	
Federal Institutions	
United States	Mexico
Department of State	Secretariat of Foreign Relations
Department of Commerce	Secretariat of the Economy
Department of Homeland Security (CBP/OFO)	Secretariat of the Treasury (Aduanas)
Department of Transportation (FHWA)	Secretariat of Communications and Transportation
State and Local	
Border Governors Conference	
Border Legislative Conference	
Arizona-Mexico Commission	
California Senate Select Committee on California-Mexico Cooperation	
Texas Legislature Joint Interim Committee to Study Border Wait Times	
New Mexico Border Authority	
CaliBaja Mega Region	
AriSon MegaRegion	

The Roles of Bilateral and Federal Institutions: Change as a Constant

International trade regimes; bilateral agreements; and federal, state and local government agencies all play a role in shaping economic outcomes at the border and beyond. While the border

region exhibits a number of older, more established institutions, change is a constant in such a dynamic region and particularly at this time of great economic change. Many of the established border region institutions—particularly the bilateral and federal institutions—are undergoing a process of change that is driven by geopolitics, the imperative to increase trade and increased demands for trade diplomacy and facilitation from local cross-border stakeholders. Some existing organizations are undertaking new and often unique missions, programs and projects related to cross-border trade. And finally we have recently formed organizations—many with a private sector orientation—with a variety of approaches to trade and economic development.

In this section we will take a look at a select number of institutions which have an important impact upon the U.S.-Mexico border region economy. The roles that these institutions play are quite varied and include trade diplomacy, convening key federal stakeholders for special tasks, trade promotion, regulatory oversight, security and project funding.

The North American Development Bank

The North American Development Bank (NADBank) originated as part of the environmental side agreement to NAFTA. The Bank's central role historically was to provide capital for environmental infrastructure projects in the border region

Many of the established border region institutions--particularly the bilateral and federal institutions--are undergoing a process of change that is driven by geopolitics, the imperative to increase trade and increased demands for trade diplomacy and facilitation from local cross-border stakeholders.

(wastewater treatment plants, road paving projects, and similar

projects). The Bank's role has evolved from one focused on mitigating environmental effects of increased trade to a new role that is increasingly focused on investment and collaboration with U.S. and Mexican agencies in developing green border trade infrastructure as it was specifically tasked to do by Vice President Biden and Treasury Minister Videgaray in 2013.¹ Following the merger of the NADBank with its sister organization, the Border Environmental Cooperation Commission, in December 2014,² the Bank's role in the border region economy will be one of the most interesting to watch in the years to come.

The U.S.-Mexico High-Level Economic Dialogue and the Border

One of the newest institutional additions to the bilateral relationship, the U.S.-Mexico High-Level Economic Dialogue (HLED) was launched in Mexico City in September 2013 by U.S. Vice President Joseph Biden and Mexican Secretary of the Treasury Luis Videgaray. The HLED is co-chaired by the U.S. Department of State, U.S. Department of Commerce, and the Office of the U.S. Trade Representative. Mexico's participation is co-chaired by the Secretariats of Foreign Relations, Finance, and Economy. The HLED aims to deepen and broaden bilateral economic ties by focusing the two governments' attention on economic issues such as competitiveness, innovation and human capital development, among others. At the May 11, 2014 Arizona-Sonora Regional Competitiveness Forum, Ana Luisa Fajer Flores, Director General for North America at the Mexican Foreign Ministry, emphasized that, "The border (and the system of which it is a part of) is at the center of our attention...and is a catalyst for economic development." To highlight the point, Fajer pointed out that Mexico's trade with South America, the European Union and Asia

is still less than its trade with the four U.S. border states. The HLED is an innovation for bilateral work on trade and parallels similar types of trade initiatives in other parts of the world. A key challenge for border region economic stakeholders and the federal agencies comprising the HLED will be to gain a detailed understanding of each others' challenges and opportunities in developing programs that are beneficial to both the border region as well as the two nations' broader economies. While the HLED can be seen as a necessary step for the U.S. and Mexico to take in the face of global economic competition, in the following section we will get a sense of the number and variety of state and local institutions with an important mandate for trade-based economic development.

The Foreign Ministries

The U.S. Department of State and Mexico's Foreign Ministry (Secretaría de Relaciones Exteriores, SRE) lead or at least commence a number of trade-related discussions between the two countries. This role of trade diplomacy is now more pronounced than perhaps ever before, as bilateral trade moved to the top of the bilateral agenda beginning in 2012.

While they do not make economic policy *per se*, the two foreign ministries influence the topic through prioritizing particular trade-related agenda items in their various diplomatic activities and acting as lead agencies for established initiatives such as the U.S.-Mexico Joint Working Committee (which discusses and coordinates border trade infrastructure), the 21st Century Border Management interagency initiative (which coordinates activities on a large number of security and trade-related border initiatives with a plethora of additional agencies that have border operations) and the abovementioned U.S.-Mexico High-Level Economic Dialogue. The two nations' ambassadors and other foreign ministry officials

speak often to business and citizens’ groups about the importance of trade, and their presence at border region events is intended to communicate the importance of the region to both nations.

And finally, U.S. and Mexican consulates play an important role on the ground in terms of maintaining ongoing dialogue with the numerous state and local governments, economic development agencies, chambers of commerce, and other private sector entities involved in cross-border trade-related economic development. This may take the form of organizing and/or participating in events, helping to organize trade missions or other types of organizational

From the Forums

“The border (and the system of which it is a part of) is at the center of our attention...and is a catalyst for economic development.”

— Ana Luisa Fajer Flores, Director General for North America at the Mexican Foreign Ministry

liaison. Mexico’s consular network in particular—now with 50 consulates general and consulates throughout the United States, leading all other nations—is a clear example of

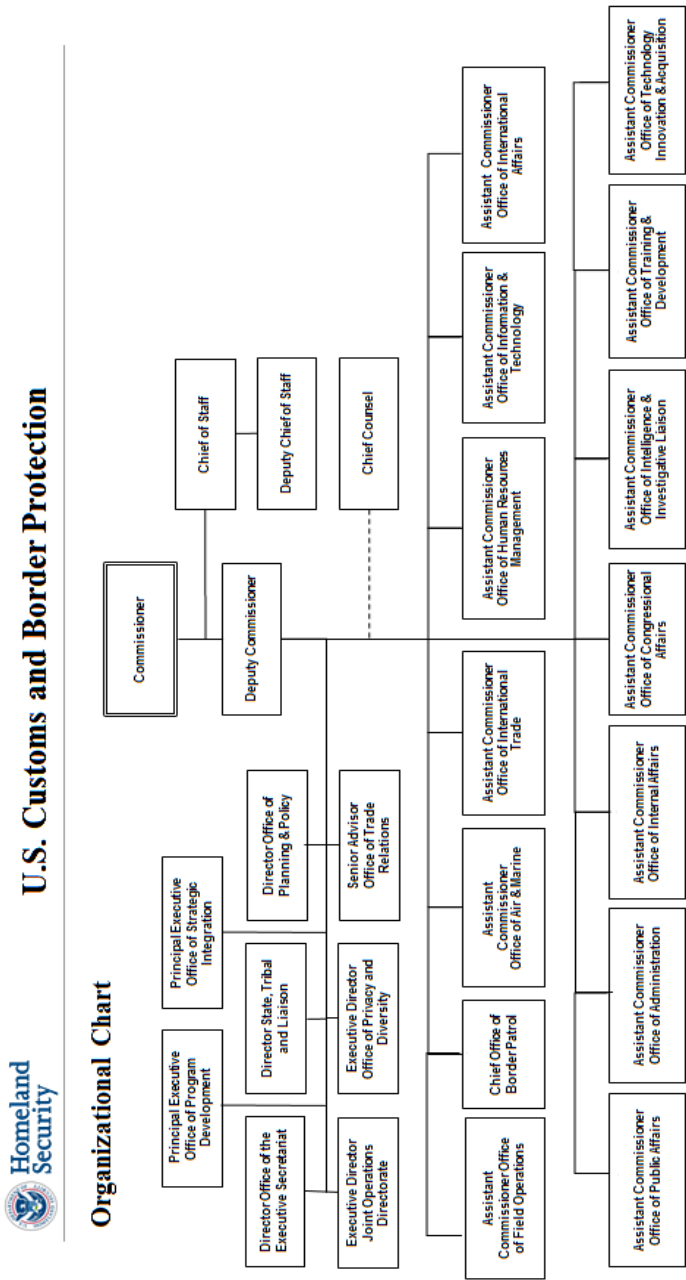
the deep level of bilateral engagement that has been building over several decades between the two countries. The sheer size of this network is an opportunity to build bilateral trade. The principal challenge here is for Mexico to add additional consular personnel with detailed expertise in trade-related matters.

The Commerce Agencies

The U.S. Department of Commerce is an agency undergoing change at a key time for the border region economy. Driving

much of this change is the National Exports Initiative, which was rolled out in 2010 with the goal of doubling U.S. exports in five years (Mexico is the second-largest export market for the U.S. after Canada). Through its International Trade Administration, the Department liaises with its counterpart agency in Mexico, the Secretariat of the Economy, on a large number of border-related issues related to trade diplomacy and trade promotion. The two agencies also affect the border indirectly through negotiations on trade disputes. The U.S. Commercial Service, a division of the Department of Commerce, assists U.S. exporters in reaching foreign markets. Their U.S. Export Assistant Centers may have a specific focus on Mexico and organize informational events as well as trade missions in addition to working directly with prospective exporters. The U.S. Economic Development Administration invests in projects targeted to help economically distressed areas of the United States. Formed under the Secretariat of the Economy, Mexico's National Entrepreneur's Institute (INADEM) manages a number of programs for small businesses as well as a fund for economic development in border states.

Figure 2: CBP Organizational Chart



Transportation Departments

The often profound influence of the U.S. Department of Transportation and Mexico's Secretariat of Communications and Transportation on the border region economy stems from their roles

in regulatory oversight and binational transportation planning. DOT works with in varying levels of collaboration with state transportation agencies on truck inspections at the border and manages the pilot program for Mexican long-haul trucking, among other roles. SCT's influence stems from its role in planning for multiple trade corridors that intersect with the U.S.-Mexico border. As described in the action

The importance of state and local institutions in the U.S.-Mexico border region's economy is magnified for a number of reasons, including the vast distance between the border region and the national capitals; the importance of states and cities in economic development, particularly in the United States; the impact that U.S. security policy had on the border following September 11, 2001; the dependency of the region on cross-border economic activities and federal policies; and the relative poverty of the region, particularly on the U.S. side.

plan emerging from the North American Leaders Summit, the agencies will play a central role in developing the North American Transportation Plan.³

Customs and Border Protection and Aduanas

As the agencies managing border crossings on a day to day basis, without a doubt, the Office of Field Operations within the U.S. Customs and Border Protection and Mexico's Aduanas (Customs) have enormous power to shape cross-border commerce and the U.S.-Mexico border region economy more generally. The

Office of Field Operations (Customs) has a critically important and particularly challenging role as it handles both security and trade facilitation at U.S. land, air, and sea ports of entry. Its role in managing hundreds of billions of dollars in NAFTA trade is debated constantly by border region economic stakeholders as its operations have tremendous impact on sensitive exports and imports, logistics, national security, public safety and the day-to-day lives of millions of border crossers from San Diego to Brownsville, Tijuana to Matamoros. Aduanas resides within Mexico's Treasury Ministry, a place which denotes a more traditional commerce- and tax-gathering mission for a Customs agency.

Roles of Regional, State and Local Institutions: Crisis and Innovation in an Economically Stressed Region

While international relations and trade policy are traditionally the domain of the federal government, state and local institutions are key players in U.S.-Mexico economic relations and border region competitiveness. Their roles include setting education policy, operating universities, doing their own trade and investment promotion, ensuring their communities have a quality of life that helps attract and retain workers, planning and building transportation networks, convening key stakeholders, calling attention to key issues and data, maintaining ongoing dialogue with key federal and other high-level officials and, in some cases, directly lobbying the federal governments for policy change. Their importance in the U.S.-Mexico border region's economy is magnified for a number of reasons, including the vast distance between the border region and the national capitals; the importance of states and cities in economic development, particularly in the United States; the impact that U.S. security policy had on the

border following September 11, 2001; the dependency of the region on cross-border economic activities and federal policies; and the relative poverty of the region, particularly on the U.S. side.

In general we see a trend of increasing institutional innovation and variety as we move from the regional to the state to the local. We also see several older institutions begin to build out portfolios of work related to cross-border trade.

Border Governors Conference

One of the highest-profile institutions in the border region, the Border Governors Conference was conceived of as an annual event that aims to showcase the border region's unique assets and needs as well as its deep historical cross-border ties. In addition, the event has served as a unique political platform for the governors of the ten border states and a key convening point for federal and state officials from both countries. The conference venue and presidency rotates to a new state each year. Its several work tables focus on a variety of issues, several of which are related to economic issues. Its joint declarations are non-binding, but serve as a unique forum to build expertise and share best practices and policy approaches on a variety of issues vital to border region economic competitiveness (see box on page 20 for a discussion of the Border Governors Conference's challenges).

State Legislative Approaches to Cross-Border Economic Cooperation

California Legislation

AB 3021, Núñez, California-Mexico relations. (2005-2006)

This bill would establish the California-Mexico Border Relations Council to consist of specified state officials. The bill would require the council to, among other things, coordinate activities of state agencies that are related to cross-border programs, initiatives, projects, and partnerships that exist within state government. The bill would require the council to annually submit a report on its activities to the Legislature.

AB 690, Campos, State government: international relations. (2013)

Existing law requires the California-Mexico Border Relations Council to, among other things, coordinate activities of state agencies that are related to cross-border programs, initiatives, projects, and partnerships that exist within state government. This bill repeals and recasts statutory provisions relating to the California-Mexico Border Relations Council (Border Relations Council) and adds the Director of the Governor's Office of Business and Economic Development (GO-Biz) to its membership.

Border Legislative Conference

The Border Legislative Conference organizes a semi-annual meeting of state legislators from each of the 10 border states. It is managed by a professional staff at the Council of State Governments-West in Sacramento and provides opportunities for legislators to learn about and discuss a variety of policy issues with subject matter experts. Among its various activities are annual

binational legislator visits to Washington, DC and Mexico City where the state legislators meet with their federal counterparts as well as agency officials. Over the past several years, the Border Legislative Conference has focused its discussions on a variety of topics in areas such as the environment, security, trade and energy. The Border Legislative Conference belongs to the U.S.-Mexico State Alliance Partnership (also managed by CSG-WEST), which includes the Conference of Western Attorneys General, the National Association of Lieutenant Governors and the National Association of State Treasurers, all of which have active binational outreach.

State Institutions and Initiatives

Border states have long felt the need for active outreach with their counterparts across the border. While the Border Governors Conference served part of this need, states have built their own institutions and/or have utilized existing state agencies to set the table for trade and regional competitiveness. The **Arizona-Mexico Commission** is the oldest and best-developed example of this. The AMC is a membership-based organization situated in the office of the Arizona governor which meets semi-annually with its sister organization, the **Comisión Sonora-Arizona**. The unique approach combines a meeting of the two states' governors, committee meetings run by state agency directors that feature presentations by subject matter experts, and a plenary session with progress reports. While the AMC is not an economic development organization *per se*, it works closely with the new **Arizona Commerce Authority** and the **Arizona Department of Transportation** on economic development and transportation-related initiatives.

Other states take different approaches to trade-based economic

development. Recently the **California Senate's Select Committee on California-Mexico Cooperation**, (which was chaired by former State Senator Lou Correa, also former Chair of the Border Legislative Conference) has driven a large number of initiatives aimed at connecting or in some cases re-connecting that state to Mexico. In addition, California Governor Jerry Brown and Mexican President Enrique Peña Nieto recently visited Mexico City and Sacramento, respectively, where their trips emphasized renewable energy and educational exchange, among other topics.

Transportation and border infrastructure are major topics for state agencies, which must coordinate closely with both federal governments. For example, the **California Department of Transportation (CalTrans)** handles much of border trade and economic development (in collaboration with metropolitan planning organizations such as the San Diego Association of Governments, SANDAG). The **New Mexico Border Authority** is an executive branch state agency that focuses on improvements to that state's ports of entry, which provides a unique structure for addressing a major concern throughout the border region: the construction and maintenance of the federally owned and operated land ports of entry.

The state of Texas dominates U.S.-Mexico trade and is in a category by itself. Texas communities along the border and their sister cities benefit from the state's unique geography and bridge ownership and in many ways are in direct contact with the federal governments (see below). The **Texas Legislature's Joint Interim Committee to Study Border Wait Times** is yet another unique state-based approach to addressing a complaint heard throughout the border region: excessively long border wait times.

Local Institutions and Initiatives: Mega regions, Coalitions and Other Stakeholder Groups since the Great Recession

The fallout from two watershed events provided the major impetus for the creation of local organizations which serve as major catalysts for trade-based economic development in the border region. Though the terrorist attacks of September 11, 2001 had no relation to Mexico or the U.S.-Mexico border, the attacks and their aftermath prompted the United States to ramp up security at its land ports of entry with Mexico and led to a reorganization of several security-oriented government entities under the umbrella of the U.S. Department of Homeland Security (see Figure 2). What had previously been crossings times of a half-hour to 45 minutes at the most became ordeals of several hours in the commercial, passenger vehicle and pedestrian crossing environments. The new emphasis on security post-9/11 caused many economic stakeholders and interested parties in the border region to take a closer look at the border security regime and what it meant for local economies with longstanding cross-border linkages and relationships.

The Great Recession also had an outsized impact on the border region economy. States where real estate played a major role in the economy, including

California and Arizona, were pummeled by the collapse of the housing industry. The loss of this industry as a major economic driver—in Arizona in particular—highlighted the overreliance on housing as an economic driver

The new emphasis on security post-9/11 caused many economic stakeholders and interested parties in the border region to take a closer look at the border security regime and what it meant for local economies with longstanding cross-border linkages and relationships.

nationally but in the border region specifically. Trade was seen by many as a way to diversify local and regional economies and to create higher paying jobs than those in the services sector.

These events have had a galvanizing effect for many border institutions. If these organizations were previously convinced that trade was critical to the border region's long-term economic health and even its very identity, the post-9/11 thickening of the border and the weakness of local economies that was exposed by the Great Recession have provided solid economic, international relations and public policy rationales for maximizing trade with Mexico and its impact on local economies.

The San Diego-Tijuana Smart Border Coalition and the **BorderPlex Alliance** (El Paso, Ciudad Juárez and Las Cruces) stand out as significant economic development entities that are binational in nature, think of their respective binational urban areas as singular in nature and pull together a variety of key stakeholders to attract investment, improve border management, and impact public policy.

The development of a collection of large binational urban areas in Southern California and northern Baja California together with rapid and continuous economic integration within this area was the impetus behind the development of the **CaliBaja Mega Region**. The organization's geographic focus encompasses San Diego County, Imperial County and Baja California and is a joint venture of six economic development organizations in the area for purposes of joint marketing. The organizations involved represent a remarkably diverse set of urban, rural, and coastal economic zones. The Mega Region places particular emphasis on research and cluster mapping as a way to unlock specific insights and attract investment. And finally, the organization features a type of horizontal collaboration between cities along the California-Baja California

border that is not often found in the subregion or anywhere else along the border, for that matter.

Councils of Government/MPOs

Local metropolitan planning organizations (MPOs) have also played a critically important role in the development of the border region economy. San Diego Association of Governments (SANDAG) has some of the most well-established binational programs (such as the Committee on Binational Regional Opportunities) with regular, formal meetings of local cross-border economic stakeholders (including the Consulate General of Mexico) and the power and influence of a metropolitan planning organization that manages federal transportation funding.

Arizona's **Joint Planning Advisory Council**—comprising the major MPOs in the state—has recently begun a number of key initiatives, including the **AriSon Mega Region**, an agreement with the Association of Sonoran Mayors modeled on the CaliBaja Mega Region. In addition, JPAC has proposed opening up the entire state of Arizona to Mexican Border Crossing Card carriers who currently must apply for an I-94 permit to travel beyond the 75-mile zone extending north of the Arizona-Sonora border. This initiative—if approved by the Department of Homeland Security—has the potential to significantly reshape Mexican travel and tourism in Arizona, a major economic driver in that state.

City Governments

Border municipal governments and mayors in particular have long played a visible role in cross-border economic development. Within a system dominated by federal policies and actions, their visibility stems from their position “on the ground” in important and growing urban areas with many voters; their key place in

economic development, transportation planning and related business attraction activities; and their unique ability to point out the effects of federal policies on their communities, particularly policies relating to security. Aside from the visibility of big-city mayors in places such as San Diego, Tijuana, El Paso and Ciudad Juárez, in some cases cities away from the border have felt a need to weigh in on policy. For example, Tucson Mayor Jonathan Rothschild has advocated for border infrastructure and inland ports and has led trade missions to Hermosillo, Culiacán and Mexico City. Activity among border mayors created the impetus for a new entity, the **U.S.-Mexico Border Mayors Association**, which held several meetings. Resources and strict term limits for Mexican mayors (three years until the recent political reform) have challenged the organization's capacity.

The Private Sector

The role of the private sector in the U.S.-Mexico border region economy presents somewhat of a paradox. On the one hand, the region is where hundreds of billions of dollars' worth of cross-border trade happens, and the private sector is organized into numerous alliances, coalitions, and chambers of commerce. Yet while these organizations lobby federal and state governments often on an individual basis, they rarely do so as one unified voice and are often absent from important policy discussions regarding border policy, management, and related topics. Curiously, there is a lack of significant private sector focus on advocating for the millions of cross-border consumers who sustain retail and hospitality industries on both sides of the border. The **Border Trade Alliance** is one of the few well-established border-wide private sector organizations, and it represents a broad variety of industries in its advocacy on border- and transportation-related topics. It is also unique in that

it represents U.S.–Canada northern border private sector interests, although it is clearly southern border focused.

Conclusion

The federal government and policy-focused economic development organizations have a decisive role in the current institutional shape, capacity and short- to medium-term potential of the U.S.–Mexico border region economy. The role of the Office of Field Operations within the U.S. Customs and Border Protection cannot be overemphasized as the ports of entry both facilitate and limit the economic potential of border communities and the broader region. Yet a broad array of bilateral, federal, state and local organizations all possess key tools for border economic development. The numerous organizations working within this framework have undertaken a number of innovative approaches, programs and projects to breathe life into their communities and regions. We will discuss how many of these locally-driven international trade initiatives work in the following chapter.

The following recommendation was developed by the authors based on input received by over 1,000 border economic stakeholders who attended the 2014 U.S.–Mexico Regional Economic Competitiveness Forums held in San Diego, Río Rico, El Paso and Laredo.



XXVIII Border Legislative Conference in Monterrey, Nuevo León, 2014

Recommendation

Strengthen institutions that represent and serve the U.S.-Mexico border region economy.

Institutions representing and serving the U.S.-Mexico border region are in great need and short supply. Those that are active, like the North American Development Bank/Border Environmental Cooperation Commission, which help design and fund environmental infrastructure projects, are highly respected and valued. On the political side, organizations like the Border Legislative Conference (BLC), Border Mayors Association (BMA), Congressional Border Caucus and Border Governors Conference (BGC) are tremendously important as forums to share best practices and venues to articulate a common voice for the border region to speak to the nations' capitals. Stakeholders suggested these organizations should, if needed, be revived and in all cases strengthened.

They are natural points of engagement for U.S.-Mexico federal-to-federal initiatives like the High Level Economic Dialogue (HLED); the Bilateral Forum on Higher Education, Innovation and Research (FOBESII), and the Mexico-United States Entrepreneurship and Innovation Council (MUSEIC). More active and institutionalized methods of communication and collaboration between these federal initiatives and border region organizations could add a shot of creativity to the federal projects and build support networks for implementation.

In a similar way, increased communication and focused collaboration between the federal and state governments and the private sector and civil society in the border region is needed. Stakeholders noted the need to create a strong civil society network spanning the border region or even the Paso del Norte region that

could serve as a credible interlocutor. Finally, Border Master Plans have been an effective tool for formally communicating local port of entry priorities to the federal governments—in particular the U.S. Department of Transportation and Communications and Transportation. The information developed in the process, and the process itself, might be a useful input into the HLED.

Greater federal participation in border region institutions could also serve as an incentive to regularly hold meetings and strengthen the organizations. Deepening connections between the Border Legislative Conference and the federal legislators working on border issues, for example, could help bridge the federal-state jurisdiction issues each face while also infusing the BLC with new energy. Similarly, a commitment to always send high-level federal representation to the Border Governors Conference could help incentivize the governors to hold the meeting each year and see it as an opportunity for federal-state dialogue in addition to interstate dialogue.

Endnotes

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Red Alert for the Border Governors Conference



Of all the institutions in the border region, the U.S.-Mexico Border Governors Conference (BCG) needs particular attention. Without a doubt, a gathering with 10 border state governors (from California, Arizona, New Mexico, Texas, Baja California, Sonora, Chihuahua, Nuevo León, Coahuila and Tamaulipas) has the potential to pack significant political force and influence federal policy. However, since Arizona cancelled its 2010 meeting in the wake of the SB 1070 controversy, the BGC has fallen on hard times. Several meetings since that year have been postponed or cancelled or drastically curtailed in their scope. Compounding these political issues are fundamental resource issues: the Conference itself has no resources but instead relies on a different state and its staff each year for organization and funding. This needs to be resolved if border states want their collective voices heard in Washington and Mexico City.

Specific recommendations for the Border Governors Conference:

1. **Meet every year.** Since 2010, various states have cancelled the annual conference. With an enormous amount of attention being paid to both border trade and security, the 10 states need to renew their commitment to holding the Border Governors Conference on a regular basis.
2. **Appoint a secretariat.** No organization can be expected to survive let alone thrive without staff to oversee and run programs and projects. The ten states need to centralize and support the BGC's operations.
3. **Broaden the base of support.** Again, resources are key to any organization's success. The ten states should consider a number of measures to develop resources for the organization, including pooling state economic development funds and requesting funds from the U.S. Economic Development Administration and Mexico's Secretariat of the Economy, among others.
4. **Build a road map.** Every organization needs clarity on how to move forward. The Border Governors Conference might revisit the Strategic Guidelines (Plan Indicativo) developed by a number of academic institutions, for example.



CHAPTER 2

Binational Economic Development in the U.S.-Mexico Border Region

Erik Lee

To promote economic development at the border, stakeholders recommend:

1. Supporting and developing inclusive binational Mega Regions and other regional economic development efforts throughout the U.S.-Mexico border region to enhance collaboration between border communities and economic stakeholders and build economic growth and quality of life.
2. Promoting binational urban planning and development in border communities.
3. Making border crossings a focus of bilateral cooperation and hubs of binational interaction.
4. Connecting economic development organizations along the entire border to share best practices and strengthen the voice of the border region in national conversations.
5. Funding and conducting applied binational economic development research.
6. Identifying and promoting cross-border manufacturing assets.
7. Bringing together government and business leaders from both sides of the border to engage in joint investment attraction efforts.

Figure 1: The U.S.-Mexico border region.



Table 1: Population and Population Growth in the Border Region

	Population 2010	Average Annual Growth (%), 2000-2010	Duplication Time (years)
Countries and municipios			
Mexico, border municipios	7,304,901	2.24	31
United States, border counties	7,303,754	1.62	43
Total	14,608,655		
100/300 kilometers			
Mexico, 300 km	17,048,419	2.04	34
United States, 100 km	13,967,038	2.28	30
Total	31,015,457		
Border states			
Mexico	19,894,418	1.95	36
United States	70,850,719	1.49	47
Total	90,745,131		
Mexico	112,336,538	1.52	46
United States	308,745,538	.97	71

Source: From Francisco Lara, “Quality of Life in the U.S.-Mexico Border Region: Current Status and Emerging Trends in *The State of the Border Report: A Comprehensive Analysis of the U.S.-Mexico Border Region*, ed. Erik Lee and Christopher Wilson, 29.

Overview: Economic Development in a Binational Region

From Isolation to Collaboration

Recently, the U.S. Economic Development Administration published a new definition of economic development that emphasized the “creation of conditions for economic growth and improved quality of life,” and went on to conclude, “economic development requires effective, collaborative institutions focused on advancing mutual gain for the public and the private sector.”¹

This new definition is of particular importance for the U.S.-Mexico border region, an enormous geographical area with a history of greater “vertical” (north-south) economic cooperation than horizontal (east-west) collaboration among communities. For decades, communities on both sides of the U.S.-Mexico border have undertaken isolated efforts at economic development based on a number of comparative advantages, beginning with simple proximity to a neighboring country. Numerous U.S. communities marketed themselves to day shoppers and international investors as a gateway to “Old Mexico” and a place to locate twin plants, respectively. Beginning in the 1960s when Mexico instituted the Border Industrialization Program, Mexican border communities could sell themselves to domestic audiences as an employment mecca and to international investors as a source of inexpensive labor. Cross-border familial ties often facilitated commercial transactions in these communities. Yet rarely did communities undertake sustained, sophisticated joint economic development activities. East-west collaboration between communities that were often hundreds of miles apart (but which shared many of the same challenges) was even rarer.

Without a doubt, the isolation of many border communities from national and state capitals, centers of major economic activity

From the Forums

“When we fail to define the border, we allow others to define the border for us.”

—Congressman Beto O’Rourke

as well as major trade corridors is a fundamental challenge to economic development in the region. A number of smaller border communities depend upon cross-border shopping to support local businesses and to bolster sales tax revenue. Historically, isolation and interdependence have been two

of the key driving forces behind the development of the region’s cross-border economies and this dynamic is likely to continue for the foreseeable future.

Today, certain border communities are beginning to undertake new types of sophisticated cross-border economic development that have their foundations in the border’s geography and a recognition of decades-old highly personal business ties. These new initiatives are based on the recognition of a larger economic area in which communities which have often understood themselves to be competitors for investment are beginning to see the benefit of working together both in a north-south manner but also horizontally among communities on the same side of the border.

As might be expected, this trend is most pronounced in the largest border region metro areas: southern California/northern Baja California and in the Paso del Norte region (Las Cruces-El Paso-Ciudad Juárez). These two binational metropolises benefit from the presence of complex, high-value added advanced manufacturing and cross-border logistics that benefit from highly fortuitous geography and a concentration of human capital. San

Diego is the gateway to the West Coast and the I-5 corridor, while El Paso/Ciudad Juarez is located in the center of the border region and can quickly serve markets throughout the United States.

As was made clear in the 2014 U.S.-Mexico Regional Economic Competitiveness Forums held in San Diego, Rio Rico, Laredo and El Paso, a variety of elected officials, business leaders, and economic development professionals all see a convergence of megatrends

driving a renewed and shared sense of urgency regarding the importance of cross-border economic development. These megatrends include not only the enormous challenges presented by the U.S. border security buildup following 9/11 as well as the debilitating effects of the Great Recession, but also the opportunities generated by rising wages in Asia,

economic reforms in Mexico, and the strong outlook for North American energy. In addition, longstanding negative perceptions of the border region in the interior of both nations has renewed the sense of regional pride among the region's leaders and a desire to redefine the region in terms of its economic importance and potential. This shift from a security narrative to one based on trade

Economic development creates the conditions for economic growth and improved quality of life by expanding the capacity of individuals, firms, and communities to maximize the use of their talents and skills to support innovation, lower transaction costs, and responsibly produce and trade valuable goods and services.

Economic development requires effective, collaborative institutions focused on advancing mutual gain for the public and the private sector. Economic Development is essential to ensuring our economic future.

—U.S. Economic Development Administration

and economic development is of fundamental importance to the region. As Congressman Beto O'Rourke remarked at the Texas-Chihuahua-New Mexico Regional Economic Competitiveness Forum, "When we fail to define the border, we allow others to define the border for us."

Pushing back on the security-focused border narrative prevalent in Washington, DC and the national media, this redefinition emphasizes the value of cross-border connections: economic, social, and governmental. The need to improve both physical and other types of linkages between border communities is therefore at the top of the agenda. Much work remains to be done to build these linkages; yet border communities do have assets they can utilize. In fact, the border itself, too often seen as a barrier to overcome, is also the region's biggest asset. The border brings diversity—of markets, of labor costs, of human capital profiles, of language skills and cultural competencies—offering businesses operating in the region the ability to selectively combine the comparative advantages of both the United States and Mexico. In order to fully articulate and capitalize on these strengths, border communities must come together in a binational fashion to study themselves, map assets, create binational development strategies, and support one another in investment attraction efforts.

Transitions from Physical Connections to Value-added Linkages and from Local to Regional

In recent years, border economic development stakeholders have devoted much time to land ports of entry and border wait times, high-profile topics which attract the attention of a variety of federal, state and local officials, the private sector and cross-border commuters. These infrastructure conversations are critically important topics for increasing binational economic exchange and are also "subsets" of national conversations about the poor state of

public infrastructure in both the United States and Mexico.

Yet it is also increasingly clear that cross-border economic development encompasses far more than transportation and infrastructure issues. Recently a number of organizations have moved forward on addressing challenges related to the less tangible yet quite fundamental concept of “adding value” (deepening trade ties, backward supply chain integration, developing human capital, and creating a climate for innovation and investment).

Regions and communities are now becoming aware that their competition for investment of all types extends far beyond their surrounding communities. Old economic rivalries make less sense in an increasingly globalized economy; it is much less about San Diego’s historic rivalry with the Imperial Valley or Tucson versus Phoenix but rather what these areas have to offer as complementary assets. The border region’s economic competitiveness is about not only physical infrastructure but also deepening and building upon existing linkages between local and regional economies in order to strengthen the competitive position of an entire region.

Key Trends and Initiatives in Border Economic Development

Throughout the U.S.-Mexico border region, economic development stakeholders are organizing sophisticated binational programs and projects with counterpart organizations. State and local organizations often lead the way as they have the best and deepest knowledge of local economies’ capacities, strengths and weaknesses as well as key contacts across industries with both cross-border subject matter and operational expertise.

Mega Regions and Cluster Mapping Research

The Mega Region concept essentially involves the idea of

networks of cities with close geographic proximity combining forces to do economic development work; it is a “whole is greater than the sum of the parts” approach. For a number of economic stakeholder organizations in Southern California/northern Baja California border region, the concept seemed promising. The region benefitted greatly from the North American Free Trade Agreement and had witnessed the emergence of biotech, medical devices and electronics clusters; yet sub-regions went their own way on economic promotion and great economic disparities continued to exist within the region. The CaliBaja Mega Region was formed in 2011 with the support of a U.S. Economic Development Administration grant for a joint marketing proposal among six area economic development organizations that had previously worked independently and often at odds with each other (San Diego and Imperial Valley being an example of this type of intra-regional economic rivalry, often based on a resource issue such as water).

The CaliBaja Mega Region focuses on five strategic industries that are already established in the region: advanced manufacturing, agribusiness, applied biotech, cleantech and logistics. One of CaliBaja’s major initiatives was to invest in a mapping initiative which would better illuminate critical business clusters, generate insights on assets and needs, and help drive investment and business attraction in the region. Efforts to map these clusters recently culminated during the summer of 2014 when CaliBaja, the University of California-San Diego, El Colegio de la Frontera Norte and other local partners produced a cluster mapping report, “Jobs Without Borders: Employment, Industry Concentrations, and Comparative Advantage in the CaliBaja Region.” There is interest in several other border communities in replicating this effort,

tailoring it to local circumstances.



Christina Luhn, Executive Director of the CaliBaja Mega Region, speaks at the first Regional Economic Competitiveness Forum in San Diego, March 21, 2014.

A related initiative is the U.S.-Mexico Cluster Mapping Registry Project, a collaboration among Harvard University's Institute for Strategy and Competitiveness, the U.S. Department of Commerce's Economic Development Administration and International Trade Administration, Mexico's National Entrepreneur's Institute, Mexico's National Institute of Statistics and Geography, and the Tecnológico de Monterrey Institute of Regional Development is underway. At the March 2014 U.S.-Mexico Regional Economic Competitiveness Forum in San Diego, Professor Amado Villareal of Tecnológico de Monterrey presented on the HLED-MUSEIC iCluster Subcommittee's mapping work which looks at both the Saltillo-Monterrey-Texas corridor as well as the CaliBaja Mega Region.

Other regions of the border have taken note. In April 2014,

Arizona's Joint Planning Advisory Council and the Association of Sonoran Mayors signed a partnering agreement to form the AriSon Mega Region. A host of related initiatives accompany this new

Better goods movement data is needed so that border congressional districts can demonstrate the region's importance to the rest of the country.

—Recommendation from the California/Baja California Regional Economic Forum

entity, particularly on the Arizona side of the border. For example, the Council has advocated for opening up the entire state of Arizona to Mexican Border

Crossing Card holders. In addition, a set of local partners including the Maricopa Association of Governments, the Arizona Commerce Authority, the Arizona Mexico Commission, the Canada-Arizona Business Council and the U.S. Commercial Service have started a business-to-business e-platform called BIEN, or Building an International Economic Network.

University of Arizona Tech Parks Global Advantage Initiative

Both public and private-sector stakeholders are engaged in economic development efforts that go far beyond what happens at the border itself. At the Arizona-Sonora Regional Economic Competitiveness Forum, Bruce Wright, Vice President of Tech Parks for the University of Arizona, noted that “While — physical infrastructure is foundational to everything we do... technology-based innovation is essential to thriving economies.” The University’s new Global Advantage program, a joint venture with the Offshore Group, recently promoted the Arizona-Sonora region in Israel, a historic first. Israel—which has free trade agreements with both the United States and Mexico—has an unparalleled business startup culture with the potential to

form potent economic linkages to boost not only trade but also innovation with both free-trade-agreements partners. The project pulls together a large group of partners, including Israel Advanced Technology Industries, Israel-America Chamber of Commerce, Israel New Tech, Capital Nature, ROTEM, University of Arizona Israel Working Group, Israel Investment Group, the Arizona-Mexico Commission and the Sonora-Arizona Commission.



The Hunt Institute for Global Competitiveness Executive Director Patrick Schaefer moderates a panel with Las Cruces Mayor Ken Miyagishima, El Paso Mayor Oscar Leeser and Ciudad Juárez Mayor Enrique Serrano, September 12, 2014.

Trade Delegation to Michigan by Ciudad Juárez Mayor Eduardo Serrano and El Paso Mayor Oscar Leeser

For a number of border community mayors and other stakeholders, promoting their sister city is in their best interest because of the expected economic spillover. The Paso del Norte

region is a prime example of this. In August 2014, El Paso Mayor Oscar Leeser Ciudad Juárez Mayor Enrique Serrano traveled to Detroit, Michigan to jointly seek new automotive industry investments to support the Paso del Norte. At the 2014 Texas-Chihuahua-New Mexico Regional Economic Competitiveness Forum, both mayors described the power of approaching economic development and investment promotion in a united, binational manner, noting that companies gained confidence from seeing the two cities forming a united front. Instead of competing against one another for investment they were working together, offering the combined resources of both municipal governments to make the region attractive to investors. This model of regional economic development is based on the notion that El Paso, Ciudad Juárez, and southern New Mexico should be understood and developed as a single community and a single economy embraced and promoted by the private sector through organizations such as the BorderPlex Alliance.

Brownsville BINED Initiative

While the U.S.-Mexico border provides numerous advantages, prosperity is by no means assured unless communities are able to make a compelling case for investment. Competition with other regions in the U.S., Mexico and globally is intense and likely to grow.

Local stakeholders are increasingly aware of the level of competition both within and outside of the border region. Brownsville Herald reporter Steve Clark articulated this awareness in October 2013 when he wrote about the economic development challenges facing border communities: “Brownsville-Matamoros and other communities along the border have an opportunity to capture some of this action, but only if a serious, coordinated,

bi-national effort is made to transform the region into a sufficient “value proposition” to attract capital investment — lots of it.”²

To this end, the University of Texas–Brownsville, United Brownsville and other South Texas and Tamaulipas stakeholders launched a binational economic development (BiNED) initiative in October 2013. The initiative has the support of both Brownsville’s and Matamoros’s mayors and representatives to their respective federal congress. As the manufacturing and energy industries in the United States and Mexico are being transformed, the BiNED project aims to develop and implement a strategy to build on the manufacturing base already operating in the region by laying the groundwork for new suppliers to invest. The federal government has taken note. In August 2014, the U.S. Economic Development Administration awarded United Brownsville a \$300,000 grant to research advanced manufacturing possibilities for the region.³

The Value of Research Partnerships: Thinking Broadly and Drilling Down in Collaboration with Key Stakeholders

To better assess regional challenges and opportunities, some border region economic development organizations have undertaken research partnerships with think tanks and/or academic institutions. The best of these initiatives employ highly applied research approaches, convene a broad range of stakeholders and often have the added benefit of building a sense of urgency for state and local leadership regarding the opportunities presented by cross-border economic development. This is important, because even in the border region, policymakers and citizens are often unaware of the magnitude of their community or their state’s cross-border economic realities or opportunities. In addition, competition among stakeholder groups over funding and related issues—while natural—can act as a drag on important cooperative efforts. Three examples of these new research partnerships follow.

San Diego Regional Economic Development Corporation / Brookings Institution: Leveraging Research and Process to Boost Exports

Large metropolitan areas such as San Diego often have a number of organizations that are working on “internationalizing” the local economy, often through trade promotion of one kind or another. While there are many challenges for small and medium-sized firms wishing to export, there is also a variety of assistance available for these firms, including District Export Councils, World Trade Centers, the U.S. Small Business Administration, U.S. Commercial Service offices, export-import banks and local economic development corporations (EDCs). Yet despite the fact that the San Diego region is ideally located to export to the entire Pacific Rim, currently San Diego only exports the equivalent of 9.3% of its Gross Regional Product (GRP), making it 55th on a list of U.S. cities that benefit from exports.⁴

Therefore, even if a community has organizations dedicated to boosting trade, sometimes it makes sense to get a fresh, outside perspective. One example of this is a joint initiative by Brookings Institution and JP Chase Morgan on improving U.S. cities’ global standing called the Global Cities Initiative. San Diego is one of five U.S. border state communities (along with Los Angeles, Sacramento, Phoenix and San Antonio) utilizing the project’s approach to assess local capacity and build opportunities for exports. The project involves a multi-step plan for communities to implement strategies for increasing exports. Products from Brookings partnerships include a how-to guide for export planning, market assessments and export plans, among others.⁵ Partnering with a national organization might make sense for economic development stakeholders that need a fresh perspective and/or who want to benchmark their efforts against others communities.

CSG-WEST/USAID Mexico and Border Legislative Conference Support the *State of the Border Report*

The U.S.-Mexico Border Legislative Conference has utilized partnerships with the Mexico Institute of the Wilson Center and the North American Research Partnership (each of which are partners in the Regional Economic Competitiveness Forums project) as a way to bring its members research regarding the role that state legislatures can play in a variety of binational issue areas, including collaboration on energy, anti-human trafficking measures, and issues surrounding waste tires.



Arizona-Sonora Regional Economic Competitiveness Forum, Rio Rico, Arizona, May 12, 2014.

In 2012, USAID Mexico, the Council of State Governments-West and the Border Legislative Conference commissioned, *The State of the Border Report: A Comprehensive Analysis of the U.S.-Mexico Border Region*. The report was a joint venture between the Mexico Institute, the North American Research Partnership and El Colegio de la Frontera Norte and provides a comprehensive look at the state of affairs in the management of the U.S.-Mexico border and the border region, focusing on four core areas: trade and competitiveness, security, sustainability, and quality of life. The report suggests that rather than consider each issue individually, the interdependent nature of topics

like trade and security demand the border be approached from a more holistic perspective. The trade and competitiveness chapter was launched as a working paper at an event in Washington, DC in June

From the Forums

“While physical infrastructure is foundational to everything we do... technology-based innovation is essential to thriving economies.”

— *Bruce Wright, Vice President of Tech Parks for the University of Arizona*

2012 co-organized by the U.S. Chamber of Commerce and the U.S. Department of Commerce. The co-authors presented the report to a variety of border economic stakeholders, including the U.S.-Mexico Border Philanthropy

Partnership, the Tucson Hispanic Chamber of Commerce, the BorderPlex Alliance, the U.S.-Mexico Chamber of Commerce and others.

Conclusion

Economic development in the U.S.-Mexico border region contains a number of elements traditionally seen in economic development activities elsewhere, including business retention, business attraction, and the like. Yet economic development in the region is unique as well. In key border communities, economic development discussions are moving beyond discussions of physical infrastructure and low wage advantages into a broader and deeper examination that looks at the unique assets of communities’ and regions’ broader business and human capital ecosystem. While many of these initiatives are new, they are attracting attention because they are asking the big questions regarding value-added and its relationship to economic potential and eventually improved quality of life.

Over the past several years, state legislatures in the border region have suggested and in some cases passed a variety of legislative approaches to border economic development. The approaches include research, resolutions urging federal action, corridor and infrastructure improvement, changes to state agency coordination on international engagement, among others. Some of the approaches are listed below.

California Legislation

AJR 4, Senator Ben Hueso. The United States-Mexico border. (2013)

This measure would urge the federal government, including the Department of Homeland Security and the General Services Administration, to fund necessary improvements at the San Ysidro, Calexico, and Otay Mesa Ports of Entry.

SB 1228, Senator Ben Hueso. Trade Corridors Improvement Fund. (2013-2014)

Existing law, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, approved by the voters as Proposition 1B at the November 7, 2006, statewide general election, provides for transfer of \$2 billion of bond proceeds to the Trade Corridors Improvement Fund, created by the bond act, for infrastructure improvements along federally designated Trade Corridors of National Significance, to be allocated by the California Transportation Commission to eligible projects, as specified.

This bill would continue the Trade Corridors Improvement

Fund in existence for the purpose of receipt and expenditure of revenues from sources other than the bond act. The bill would provide for allocation of these revenues, upon appropriation, by the California Transportation Commission for largely similar purposes as the bond act funds, but would specifically reference, as eligible projects, infrastructure improvements that benefit the state's land ports of entry, seaports, and airports.

Texas Legislation

HCR 80, Representative Rafael Anchia, requesting the lieutenant governor and the speaker of the house of representatives to create a joint interim committee to study the effects on international trade of wait times at points of entry between the United States and Mexico.

This resolution requests the creation of the joint interim committee on border wait times to study the effects on international trade of wait times at Texas points of entry between the United States and Mexico.

New Mexico

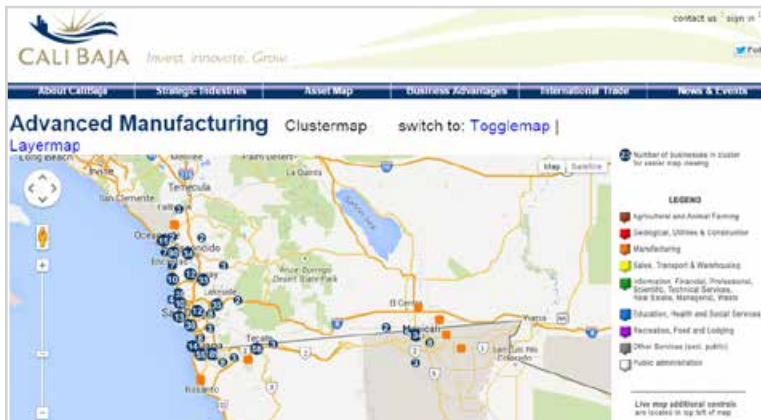
HB 273 Sen. Mary Kay Papen, Rep. W. Ken Martinez, Economic Development Grant Program (2014).

The purpose of the Economic Development Grant Act is to provide matching state grants to local and regional economic development agencies to expand the economic development and job-creation capacities of those agencies through employment of economic development professionals.

The following recommendations were developed by the authors based on input received by over 1,000 border economic stakeholders who attended the 2014 U.S.-Mexico Regional Economic Competitiveness Forums held in San Diego, Rio Rico, El Paso and Laredo.

Recommendation

Support and develop inclusive binational regional economic development efforts throughout the U.S.-Mexico border region to enhance collaboration between border communities and economic stakeholders and build economic growth and quality of life.



CaliBaja Mega-Region Initiative Asset Map tool (calibaja.net)

Initiatives such as binational Mega Regions and other inclusive types of binational economic development these need to be supported, with seed funding and expertise, by the United States and Mexico. The new Binational Border Regional Economic Development Strategies (BREDS) now under discussion by the two federal governments may provide a platform or mechanism for this funding. The Strategies are a joint effort of the U.S. Department

of Commerce's International Trade Administration and Economic Development Administration in collaboration with Mexico's Ministry of Economy, Ministry of Foreign Affairs, and National Entrepreneurship Institute.

Mega regions and similar organizations present a unique opportunity for border region communities and stakeholder organizations to think regionally (and less parochially) along the border in terms of the capacity and deficits of related binational border communities. Through these initiatives, binational communities can define and brand their region, presenting not only

“Healthy competition among corridors to attract businesses and federal attention is a sign of a functioning market and democracy, but to the extent that border communities face common issues, they could also benefit by sharing best practices and speaking to their federal governments with a unified voice.”

— *The State of the Border Report: A Comprehensive Analysis of the U.S.-Mexico Border Region*

a common cooperative face to potential investors but also market information that takes into account the assets of the full region, not just a particular municipality.

The influence of parochialism on the economic challenges facing the U.S.-Mexico border region cannot be underestimated. The region is an enormous

geographical area, and the communities that grew up in the region have often believed that they shared more in common with cross-border sister cities than with fellow communities with similar issues located hundreds of miles to the west or east. Economic development programs and projects such as trade missions or delegations tend to be community-centric rather than regional.

Robust Mega Regions that are focused on intra-community and cross-border collaboration based on highly applied economic and policy research are destined to have a better chance of presenting a good business case for public- and private-sector investment across a broad area. This approach can not only bridge cross-border gaps but also address long-standing economic disparities between large and small communities in a given region, which is characteristic of the border region as a whole.

At the Texas-Chihuahua-New Mexico Regional Economic Competitiveness Forum in El Paso on September 12, 2014, stakeholders advocated for a broad geographic definition of the Paso del Norte region and a correspondingly holistic vision to develop both the large urban centers of Ciudad Juárez and El Paso as well as the many medium- and small-sized communities in New Mexico, Texas and Chihuahua that stretch out from the metro areas. Many called for plans to decrease inequality, both across the border and within communities. For some, the bridging of the development gap was understood to be a prerequisite for the creation of (or perhaps a return to) a more fluid, seamless binational region. This was based on recognition that migration and rule of law challenges have important roots in economic inequality.

Recommendation

Promote joint urban planning and development in border communities.

Cities are in many ways the natural unit of economic development, and the U.S.-Mexico border region's urban areas are no exception. As the border region continues to urbanize, border cities will play an ever more important role in the development of the U.S.-Mexico border region and North America more generally, though their contribution to bilateral trade is often underappreciated.

To improve economic development and quality of life in border cities, greater binational policy and planning coordination is needed at the municipal level. Urban area growth on one side of the border inevitably has significant implications on the other—why then do twin cities not co-create joint development plans, anticipating the utility, transportation infrastructure, port of entry, and other needs of such development. In doing so, local governments could also seek out joint opportunities for business and industrial park development, understanding that retail, cultural events, and industry all depend on cross-border movements. In some cases, significant financial savings might be achieved by pooling resources across the border. Binational public transportation, which is developed further in the next chapter, might be (re)established. In sum, if one begins with a recognition that the twin cities of the U.S.-Mexico border are truly single metropolitan areas that just happen to have an international boundary running through them, then joint binational urban planning is a natural response to the often uncoordinated growth and servicing of the border region.

Urban areas on the U.S.-Mexico border are primed for growth and development. Border communities are experiencing faster population growth than their respective national averages, a fact that points to economic potential in the future (see Table 1). Developments in manufacturing and North American energy production suggest that the maquiladora sector, long at the heart of the urban border economy, may be entering a new phase of growth. With continued growth on the horizon, the region needs careful planning, perhaps now more than ever. Stakeholders at the Texas-Chihuahua-New Mexico Regional Economic Forum pointed out that the Universidad Autónoma de Ciudad Juárez has an urban planning department and is interested in facilitating a coordinated effort with El Paso to develop a framework for joint urban planning.

Efforts such as these need to be nurtured by federal, state and municipal governments through development grants, incentives for collaboration, and a willingness on the part of city governments to deeply engage with one another across the border.

Additional Recommendations

1. **Make the border the heart of the region.** Though the U.S.-Mexico relationship is in many ways managed from the capitals of Washington and Mexico City, the heart of the relationship on the ground is at the border, and particularly at the ports-of-entry where people from the United States and Mexico exchange goods, ideas and culture. Unfortunately, the border crossings and the area surrounding them do not always project the image of a vibrant, neighborly relationship that exists between twin cities along the border. As Congressman Henry Cuellar pointed out in his opening remarks, there are issues with how border crossers are treated at ports of entry. Stakeholders suggested that in terms of architecture and overall management, the ports-of-entry and the retail spaces that often surround them could be made more welcoming and user-friendly. Of course, the crossings also serve a vital law enforcement function, but there is a sense in border communities that there still remains ample opportunity to improve the border crossers' experience while maintaining operational integrity. Beyond the official crossings, cities and economic development organizations should consider revitalization programs focused on the retail and community spaces close to the border.
2. **Fund and conduct binational research. Differences in data collection methods and quality have long hindered research on the border economy. The United States and Mexico have undertaken some** efforts to increase

data interoperability that could improve analysis and facilitate cooperative border management. More efforts are needed to harmonize and generate relevant data at the federal levels, and local development and research organizations ought to develop research methodologies that are replicable across the U.S.–Mexico border region.

3. **Identify and promote cross-border manufacturing assets.** New studies have identified the southern California/Baja California region as a highly competitive center for audiovisual equipment manufacturing and an industry in which growth will strongly benefit job creation and economic growth on both sides of the border. Further, cluster mapping studies using input-output and supply chain data will identify other opportunities for binational economic development, through infrastructure, investment attraction, or trade promotion.
4. **Connect economic development organizations along the entire border to share best practices and strengthen the voice of the border region in national conversations.**
5. **Bring together government and business leaders from both sides of the border to engage in joint investment attraction efforts.**

Endnotes

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CHAPTER 3

Optimizing Border Ports of Entry to Strengthen Regional Competitiveness—Infrastructure and Management

By Christopher Wilson

To facilitate commerce and travel, border stakeholders recommend:

1. Utilizing public-private partnerships for funding of port of entry infrastructure and staffing.
2. Expanding and promoting trusted traveler and shipper programs with the cooperation of federal and regional actors.
3. Building cross-border public transportation options, such as trolley or dedicated bus lines.
4. Increasing dialogue between public and private stakeholders to pilot innovative solutions to reduce crossing times.
5. Placing customs officials at pre-inspection sites away from the border to reduce the work done at congested ports of entry.
6. Speeding up movement of traffic with increased risk segmentation and better targeting systems.
7. Improving customer service at border crossings while maintaining operational integrity.
8. Supporting the use of technology on both sides of the border to better diagnose and track the progress made on trade and travel promotion at the border crossings.

In 2014, more than a half-trillion dollars' worth of goods were traded across the U.S.-Mexico land border, a staggering sum that reflects that reflects the large and deep economic relationship between our national economies. Each day, more than fourteen thousand trucks line up at the border crossings to make their way through customs and border security checkpoints on their journey to make deliveries that will keep factories humming and support jobs throughout the region. As the interface between the national highway and rail networks of each country, border ports of entry are critical nodes in the pathway of binational commerce. In fact, given that Mexico is the top buyer of exports from 23 U.S.

From the Forums

“We will never optimize economic opportunity without adequate infrastructure.”

— *Under Secretary Stefan Selig,
Department of Commerce*

states and that a full 82% of Mexican exports are purchased by its neighbor to the north, it is hard to overstate the importance of border crossings to the health of the North American economy. Unfortunately,

the often long and unpredictable nature of the crossing process can spell the difference between an on-time delivery and a truck full of rotten produce or a factory having to hold up operations until the shipment arrives. This chapter seeks to identify opportunities to enhance the competitiveness of the border region and the broader continental economy through improvements in cross-border transportation infrastructure and the processes used to manage border ports of entry.

The nature of U.S.-Mexico commerce adds to the importance of the border. Instead of simply buying and selling finished goods from one another as many countries do, the United States and Mexico

build things together in a process of co-production. Supply chains zig-zag across the border, with parts and materials flowing back and forth as products are made. The depth of regional manufacturing integration is illustrated by the fact that 40% of the content in U.S. final good imports from Mexico was first produced in the United States, before being exported to Mexico and then reimported.¹

The U.S. and Mexican economies are tightly integrated, and this has important consequences for economic and border management. The two countries experience cycles of growth and recession together, making sound economic management in each country an imperative for regional competitiveness. In the long term, industries on one side of the border rely on the strength and productivity of their networks of suppliers throughout the region, meaning that improvements in one country (i.e. structural reforms, investments in education) boost growth in the other as well. Finally, and most relevant to the border, the deep integration spurred by close geographic proximity and the lowering of trade barriers through NAFTA create a multiplier effect on the impact of border transaction costs. When goods cross the border multiple times during the production process, the costs associated with moving those goods across the border—duties, the cost of processing customs paperwork, the cost of having a truck wait in line to cross the border, the opportunity cost of having goods sometimes arrive late to their destination—are paid not just once, but many times. On the one hand, this means that border inefficiencies have a multiplied negative impact on regional competitiveness, but on the

If you were to line up all the trucks that cross the U.S.-Mexico border each year bumper to bumper, the line would wrap around the world almost four times.

other, it represents an opportunity, because improvements in border infrastructure and border management translate into outsized cost-savings and competitive-enhancements when compared to the cost of such investments.

Border ports of entry are also the crossing point for over a million people each day. They are businesspeople going to work, students going to school, tourists enjoying themselves, and residents out to shop or run errands. The twin cities of the U.S.-Mexico border are among the most integrated binational societies and economies in the world, making border crossings a part of

Each day, 465,000 people enter the United States through the ports of entry at the southern border, accounting for nearly a million total crossings. That's enough people to fill El Paso's Sun Bowl Stadium nine times.

day-to-day life for millions.

In this sense, despite the fact that getting through them is more often seen as an inevitable inconvenience, border ports of entry are in fact the glue that holds border communities together. Without them,

it would be impossible to consider the strategies for binational economic development and joint strategies to boost education and skills-building discussed in other chapters of this report. Consequently, inefficiencies at the ports of entry act as a drag on regional economic development and social cohesion. This means that without adequate infrastructure, staffing, or strategies for efficient and secure border management, the border can divide as much as it unites.

Examples of State Legislative Approaches to Optimize the Border Ports of Entry and Transportation Infrastructure

California Legislation

AJR 4, Senator Ben Hueso. The United States-Mexico border. (2013)

This measure urged the federal government, including the Department of Homeland Security and the General Services Administration, to fund necessary improvements at the San Ysidro, Calexico, and Otay Mesa Ports of Entry.

SB 1228, Senator Ben Hueso. Trade Corridors Improvement Fund. (2013–2014)

Existing law, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, approved by the voters as Proposition 1B at the November 7, 2006, statewide general election, provides for transfer of \$2 billion of bond proceeds to the Trade Corridors Improvement Fund, created by the bond act, for infrastructure improvements along federally designated Trade Corridors of National Significance, to be allocated by the California Transportation Commission to eligible projects, as specified.

This bill would continue the Trade Corridors Improvement Fund in existence for the purpose of receipt and expenditure of revenues from sources other than the bond act. The bill would provide for allocation of these revenues, upon appropriation, by the California Transportation Commission for largely similar purposes as the bond act funds, but would specifically reference, as eligible projects, infrastructure improvements that benefit the state's land

ports of entry, seaports, and airports.

Texas Legislation

HB 3849, Anchia. Relating to the enhancement of Texas' international bridges and border crossings to better service international cargo and passenger traffic (2013).

This bill seeks the enhancement of Texas' international bridges and border crossings to better service international cargo and traffic. Specifically this bill would create the Texas Super Ports program an interagency, public-private sector work group created to identify and expand economic opportunities within Texas. In addition, it expands the methodologies for evaluating and determining whether to approve construction of Texas' international bridges.

HCR 80, Representative Anchia. Requesting the lieutenant governor and the speaker of the house of representatives to create a joint interim committee to study the effects on international trade of wait times at points of entry between the United States and Mexico (2013).

This resolution requested the creation of the joint interim committee on border wait times to study the effects on international trade of wait times at Texas points of entry between the United States and Mexico.

New Mexico Legislation

HJM 1, Representative Irwin. Allow travel for Mexican visitors. (2011)

This resolution requested that the Federal Department of Homeland Security adopt regulations that would allow for travel by Mexican visitors within a seventy-five mile radius of their ports of entry.

Transitions

The recent history of border management can in many ways be understood as the interplay between and reaction to two key historical events, the North American Free Trade Agreement and the terrorist attacks of September, 2001. The increased traffic caused by NAFTA and tightened security protocols following 9/11 each left a major mark on the border region and created new pressures on the ports of entry and broader transborder infrastructure that have yet to be fully resolved. Nonetheless, there are other transitions underway now that, if understood, can help guide a proactive strategy to port of entry infrastructure planning and management processes. They include an energy revolution, a transition toward more advanced manufacturing, the growing importance of e-commerce, and major advances in risk segmentation and targeting systems that allow officials to better focus their security screenings while allowing others to move more efficiently through the border crossings, among others. The series of recommendations that follow this section seek to articulate a response to both the dynamic challenges faced at the border, offering tools and strategies to advance infrastructure investment and port of entry processes toward the goal of having a secure and efficient border.

In 1994, the North American Free Trade Agreement opened the floodgates of commerce, and trade between the United States and Mexico is now six-times greater than its pre-NAFTA level. Many analysts were surprised, however, to see that not only did the volume and value of goods flowing across the border grow during the 1990s, but also the number of people crossing at the ports of entry each day to go to school, work, or visit family members increased. In short, from a border management perspective, NAFTA represents the tremendous growth in border crossings,

commercial and individual, experienced in the past two decades, a growth that deepened economic and social integration and boosted the competitiveness of the region.

The increase in cross-border traffic was not, however, matched by the slow pace of infrastructure modernization and expansion,

From the Forums

“Trade will always follow the path of least resistance.”

— *Russell Jones, Vice Chair of the Border Trade Alliance*

adding stress to the transportation networks and ports of entry across the U.S.–Mexico border. In fact, many ports of entry look much as they did when they were built long before NAFTA was implemented. As Mexican

Ambassador to the United States Eduardo Medina Mora often puts it, “We have 21st century trade within a 20th century framework on top of a 19th century infrastructure.”

Several studies have attempted to quantify the economic losses caused by excessive congestion at the border. Each comes up with somewhat different finding based on the methodology employed, the geographic area analyzed, and the time period, but all coincide in the determination that the United States and Mexico each lose out on billions of dollars in potential economic growth every year.² The most recent comprehensive study of the costs of border wait times was published by Bloomberg Government, finding that in 2011 the United States lost out on \$7.8 billion in economic output.³ While these studies are usually designed to measure lost output, they can also be interpreted in a more positive light. Taken together, they demonstrate that the return on investment in border infrastructure tends to be quite high. The CREATE Homeland Security Center at the University of Southern California looked at another important border efficiency bottleneck, staffing, and found

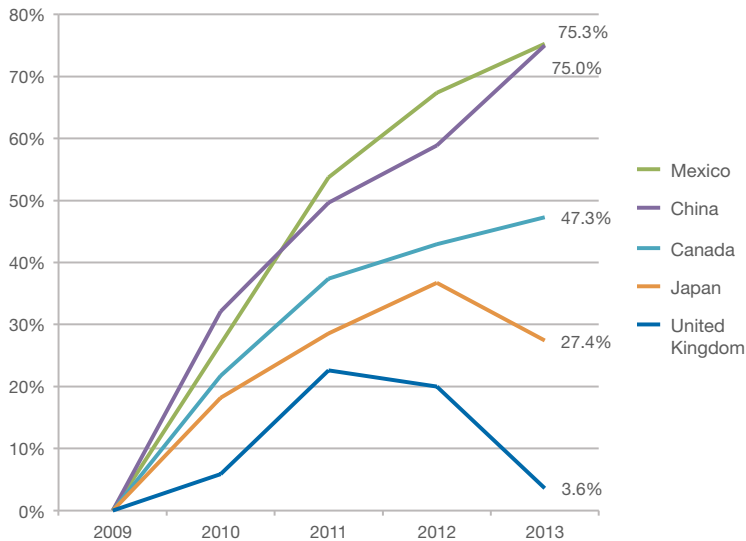
that each additional CBP officer working at southern border ports of entry would lead to a two million dollar increase in U.S. GDP and would create thirty-three American jobs.⁴

The bottom line is that, given current levels of cross-border trade and travel, significant additional resources and efficiency improvements are needed in order to maximize the competitiveness of the regional economy. But what of future needs? Several trends suggest both commerce and the movement of people crossing the border will grow over the next several years. To begin with, the population of the on each side of the border is growing faster than its respective national average, and when more people live near the border, more people tend to cross the border. Nonetheless, since 2006, the number of cars crossing the border has actually declined, largely due to the challenges of crime and violence faced by many Mexican border towns and cities. After climbing for several years, however, violence has dropped considerably in border cities like Tijuana and Ciudad Juárez. Many Mexican border communities further to the east have seen violence remain high, but the trend toward stabilization along much of the border suggests the movement of people back and forth across the border is likely to pick up in the coming years.

The number of commercial trucks crossing the border never dipped in the way that personal vehicle crossings did, and in 2013 a record 5.2 million trucks entered the United States along the southern border. Since the Great Recession of 2007-2009, manufacturing and trade have led the recovery in both the United States and Mexico. A series of factors conspired to provide a significant jolt to regional manufacturing competitiveness: exchange rates vis-à-vis manufacturing competitors like China depreciated, manufacturing wages climbed quickly in emerging Asian

markets, and high oil costs increased the price of long-distance shipping. At the same time, the deployment of high-tech advanced manufacturing techniques and improvements in supply chain management reduced the cost of doing business in North America. Declining electricity prices as a result of the shale gas boom (in places like South Texas) are pushing costs further down. As a result, U.S. exports to Mexico since 2009 have grown faster than to any other major U.S. export market (see Figure 1). This has a strong impact on the border. In Laredo, alone, 464,000 more trucks crossed the border in 2013 than in 2009. Not all of the winds of global competitiveness can be expected to continue to blow in the direction of North America, but enough of them should to suggest U.S.-Mexico trade will continue its upward trend.

Figure 1. U.S. export growth to its top five markets, 2009-2013, (% increase since 2009)



Source: Author's calculations. Data from United States International Trade Commission, 2014.

In sum, given the tremendous volume of traffic currently at the border, the strong likelihood of significant growth in future traffic, the backlog of infrastructure improvements, and the vital importance of having efficient border crossings to local and regional competitiveness, infrastructure upgrades and process improvements for the ports of entry along the U.S.-Mexico border offer a great return on investment.

The following recommendations were developed by the authors based on input received by over 1,000 border economic stakeholders who attended the 2014 U.S.-Mexico Regional Economic Competitiveness Forums held in San Diego, Rio Rico, El Paso and Laredo.

Recommendation 1: Public Private Partnerships

All levels of government, as well as the private sector and community organizations, have a role to play in supporting cross-border transportation infrastructure and staffing. New federal legislation (section 560 and 559 authority) offers state government, local government, and the private sector a new framework through which to get involved in the funding of port of entry infrastructure and staffing. Beyond these specific mechanisms, history suggests there is a wide array of options for non-federal participation in the improvement of cross-border transportation, ranging from ownership to donations to collaborative planning processes.

Without adequate cross-border infrastructure, border economies are at least weakened and at worst paralyzed. Given its critical nature, transportation infrastructure requires an all-hands-on-deck approach, with federal, state, and local government from both sides

of the border working in concert with one another, the private sector, and local communities. Given the major modernization needs of the ports of entry—U.S. Customs and Border Protection estimated the cost of full modernization at \$6 billion in 2012—and the limited capacity of the federal governments to fund them, much discussion in recent years has focused on public-private partnerships (PPPs) as a tool to supplement federal appropriations for both infrastructure and staffing. The Border Infrastructure Task Force, which was organized by the U.S. Department of Homeland Security to offer advice on the subject, issued the following recommendation:

Border infrastructure projects should be considered for PPPs whenever an analysis of whole-life project costs indicates that there is potential for taxpayer savings using PPPs versus traditional procurement. Such analysis should consider not only the cost of capital but also life-cycle operating and maintenance expenses and risk allocation.⁵

Table 1: Location and Ownership of International Bridges along the Texas-Mexico Border

Bridge	County	Ownership
B&M Bridge at Brownsville	Cameron	Private
Progreso-Nuevo Progreso	Hidalgo	Private
Starr-Camargo Bridge	Starr	Private
Fort Hancock-El Provenir	Hudspeth	US International Water and Boundary Commission
Fabens-Caseta Bridge	El Paso	US International Water and Boundary Commission
Bridge of the Americas (BOTA)	El Paso	US International Water and Boundary Commission
Presidio Bridge	Presidio	State of Texas
Veterans International Bridge at Los Tomates	Cameron	Cameron County and City of Brownsville
Gateway International Bridge	Cameron	Cameron County
Free Trade Bridge at Los Indios	Cameron	Cameron County, City of San Benito, and City of Harlingen
Pharr-Reynosa International Bridge	Hidalgo	City of Pharr
McAllen-Hidalgo-Reynosa Bridge	Hidalgo	City of McAllen
Roma-Ciudad Miguel Alemán Bridge	Starr	Starr County
Juárez-Lincoln Bridge	Webb	City of Laredo
Gateway to the Americas Bridge	Webb	City of Laredo
World Trade Bridge	Webb	City of Laredo
Laredo-Colombia Solidarity Bridge	Webb	City of Laredo
Camino Real International	Maverick	City of Eagle Pass
Eagle Pass Bridge I	Maverick	City of Eagle Pass
Del Río-Ciudad Acuña International Bridge	Val Verde	City of Del Rio
Ysleta-Zaragoza Bridge	El Paso	City of El Paso
Good Neighbor Bridge	El Paso	City of El Paso
Paso del Norte Bridge	El Paso	City of El Paso

Source: Window on State Government, “State Functions at the Texas-Mexico Border and Cross-Border Transportation,” <http://www.window.state.tx.us/specialrpt/border/sfatb1.html> Texas information in the table from the Texas Department of Transportation.

Infrastructure can only be fully utilized if the ports-of-entry are adequately staffed. While the size of the Border Patrol has increased five-fold since the early 1990s, the number of Customs and Border Protection officers working at the ports-of-entry has not experienced similar growth. In 2014, the U.S. Congress authorized the hiring of 2000 new CBP officers, several hundred of which will serve at U.S.-Mexico border ports of entry. Nonetheless, staffing limitations remain one of the principal border bottlenecks.

Attached to spending bills that passed that U.S. Congress in 2013 (Section 560) and 2014 (Section 559) were two mechanisms that clarified the authority of Customs and Border Protection and the Government Services Administration to be reimbursed for extra ports of entry staffing and donations of infrastructure and equipment. Section 560 authorized five pilot programs, two of which are at the southern border. The South Texas Asset Consortium, which includes ports of entry in Laredo, Rio Grande City, McAllen, Pharr and Cameron County, and the City of El Paso (which manages three bridges) are both a part of the Section 560 pilot program. Initial results suggest that in both cases, the reimbursement of CBP overtime to improve staffing levels and thereby maintain more lanes open at these Texas ports of entry has been successful in lowering wait times or at least holding down wait times in the face of increasing traffic.

Under the authority of Section 559, Customs and Border Protection recently expanded the use of reimbursable services agreements—though no new U.S.-Mexico border entities were selected—and has opened the first application period for donations of land, infrastructure, and funding to be used for the maintenance and operations of POEs. Section 559 also creates a framework to potentially make permanent the 560 agreements of 2013. At

the Regional Economic Competitiveness Forums, stakeholders expressed a large degree of support for such programs and a willingness to pay tolls for improved service. *Throughout the border region, city and state governments, as well as private sector organizations, may all wish to consider participation in Section 559 programs and other vehicles for participation in activities to reduce border wait times and thereby facilitate trade and travel.*

It should be noted, however, that some stakeholders, particularly in Arizona/Sonora, also expressed concerns regarding the implementation of PPPs and the payment of fees, including the possibility that fees or donations could indirectly be sent to other geographic regions and a belief that border crossings should not become a fee-for-service arrangement.

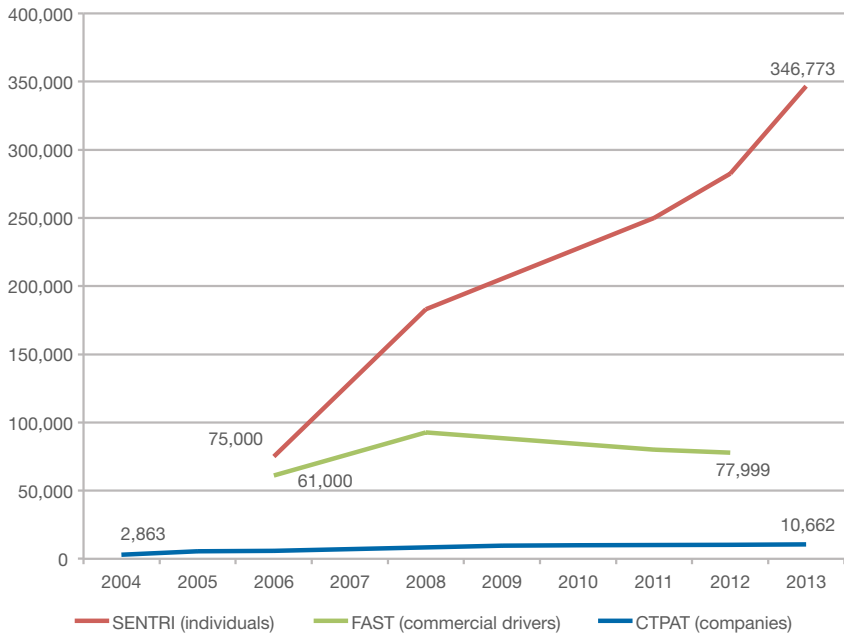
Lastly, the involvement of private and/or binational entities such as the North American Development Bank in the development of port of entry infrastructure could help remedy another challenge: coordination. Misalignment of funding and construction timelines on each side of the border greatly extend the length of time before new ports of entry are opened and complicate the process of modernizing existing crossings. Policymakers might look for ways to leverage entities that have or could be given the authority to work on both sides of the border as a mechanism to better coordinate ports of entry construction.

Recommendation 2: Trusted Traveler Programs

Trusted traveler programs are the most cost-effective way to improve border efficiency and security, but they need strengthening. Extend dedicated and separated trusted traveler and trusted shipper lanes as far back as traffic extends on a busy day, and deepen cooperation between the U.S. and Mexican federal governments, with the support of regional actors, to better promote enrollment in the programs.

Voluntary trusted traveler and trusted shipper programs provide government officials with added information so that they can more accurately assess the risk presented by someone seeking entry into the United States or Mexico. Frequent crossers and traders can enroll in these programs by providing U.S. Customs and Border Protection or Mexico's Tax Administration Service (SAT) with additional documentation, undergoing background checks, and taking steps to increase supply chain security. In return, crossers are offered expedited processing at the borders and the use of dedicated lanes, which save them time and money, thereby incentivizing their participation in the programs. Trusted traveler and shipper programs decrease wait times, minimize the need for additional staffing and lanes, and increase border security by allowing officials to focus attention on traffic representing a higher or unknown level of risk. U.S. and Mexican officials have taken steps in recent years to work more closely together in the administration of such programs. At the February 2014 North American Leaders Summit, President Obama, President Peña Nieto, and Prime Minister Harper agreed to establish a North American Trusted Traveler Program for the movement of people, beginning with the mutual recognition of NEXUS, Global Entry, SENTRI and Mexico's newly formed Viajero Confiable program. Later, in October, 2014, the leaders of U.S. CBP and Mexico's SAT signed an agreement that moves the two agencies closer to the goal of full mutual recognition of the Customs-Trade Partnership Against Terrorism (C-TPAT) and the New Certified Companies Scheme (NEEC). These advances show that the governments of both countries understand the importance of trusted traveler programs.

Figure 2. Trusted Programs Enrollment (2004-2013)



Source: Various U.S. government sources compiled by the author.

Despite the fact that the vast majority of travelers and shippers using the U.S.-Mexico border ports of entry do so quite regularly, making them good candidates for trusted programs, significantly less than half the traffic at the border comes through the dedicated trusted traveler lanes. The reasons for this are manifold and not fully researched, but a few conclusions can be reached.

- Dedicated lanes separating the faster moving express lanes open to trusted travelers and traders must extend back as far as traffic does on a busy day. If they do not, trusted travelers will be stuck in congested traffic, negating an important portion of the benefits of enrollment and decreasing their incentive to participate.

- Travelers and shippers often face two types of fees to enroll in trusted programs. First, there are direct enrollment fees; for example, individuals must pay a total of \$122 dollars to enroll in SENTRI for a five year period. This appears to be cost prohibitive for only a small number of potential participants, though given the fact that the programs significantly impact government by reducing staffing needs, policymakers might consider creating an option to waive enrollment fees in some cases. More expensive, however, are the fees one must pay the Mexican government to use the dedicated lanes (and in some cases all lanes) at certain ports of entry, which are approximately \$343 dollars per year. In many cases, this may be similar to the amount an individual would pay in daily tolls at the same crossings throughout the year, but the up-front nature of the payments required at certain ports of entry, as well as the fact that separate annual payments are needed to use multiple crossings, are a disincentive to some applicants. To maximize the impact of trusted traveler programs and in recognition that trusted travelers spend less time using the border crossing infrastructure, U.S. and Mexican officials should work to minimize the financial burden of enrollment and make sure that financial calculations never impede trusted program enrollment.
- As steps are taken to increase benefits and simplify enrollment, the programs should be better publicized. There are opportunities to do outreach in many ways—at job sites, universities, and probably most importantly, at the ports of entry themselves. The U.S. government has been quite effective in advertising Global Entry, its trusted traveler program focused on air travel (though it also provides benefits

at the land ports of entry as well), using information booths, wall advertisements at airports, and even through private enterprise, with some credit card companies offering to pay enrollment fees as a benefit. Some of those tools, as well as deepened cooperation with local governments and private sector organizations, may be effective at the U.S.-Mexico border.

Recommendation 3: Cross-border Mass Transit

Historically, at least two border city pairs had cross-border trolley lines, El Paso-Ciudad Juárez and Laredo-Nuevo Laredo. Though it would take some creative work with border authorities to implement, the benefits of restoring trolley lines or building new cross-border transportation options, such as a dedicated bus lane, would include reduced wait times and an redoubled sense of binational unity.

Both El Paso-Ciudad Juárez and Laredo-Nuevo Laredo used to have trolley lines that ran across the border, serving as an important link between these twin cities, and many residents of El Paso and Ciudad Juárez, in particular, are interested in reviving it. San Diego already has a very popular trolley line ending right at the San Ysidro POE. The two cities might consider taking advantage of the existing infrastructure or even, as some have suggested, extend a cross-border trolley line as far south as Rosarito. Where trolley lines would be cost-prohibitive, cities could consider dedicated bus lanes or other public transportation options. Such initiatives would do much to revitalize and reconnect the urban areas on each side of the border.

Given the implementation of increased security protocols in recent decades, new cross-border public transportation projects would face new challenges compared to their historical antecedents. Their success would depend on the development of innovative security protocols that would have to be worked out

in partnership with U.S. and Mexican border authorities. Such an effort would certainly not be easy, but it should also be understood as an opportunity, creating an opening for local governments to deepen engagement with federal authorities to construct creative transportation options that simultaneously meet the unique security, economic and social needs of the border region.

Additional Recommendations

- Increase dialogue between the federal governments and the private sector and local communities on issues of port of entry construction, management, and transportation networks. Past failures should not discourage future attempts to build consensus and try innovative solutions, such as adjusting bridge hours and staffing levels, or improving the measurement, dissemination and predictability of border wait times in order to avoid spikes in border crossing times. Stakeholders viewed the Border Master Plan processes as both useful and in need of improvement, noting a desire for greater private sector involvement and ways to speed up the implementation of prioritized projects.
- By placing customs officials at sites away from the border, pre-inspecting cargo, and then keeping it isolated from any potential sources of contamination, it is possible to reduce the amount of border security and customs work being done at already congested ports of entry. Importantly, they also facilitate greater trust and cooperation between U.S. and Mexican officials, a prerequisite for future advances in binational border management. One pre-inspection pilot project is already operational in the border region: Mexican customs officials are clearing air cargo leaving the Laredo airport for entry in Mexican airports. Two other pilot projects—one for agricultural goods in Tijuana and another for electronics leaving the

FoxConn plant in San Jerónimo, Chihuahua—have been under development for several years. Before they can be implemented, an arrangement will need to be reached involving the ability for the U.S. officers working in Mexico to be secured and probably armed, which may require legislative changes in Mexico. These programs represent an important advance in border management that will offer both nations significant benefits. As such, the resolution of outstanding challenges should be prioritized.

- Given that the main bottleneck prohibiting more fluid movement of traffic through ports of entry is almost always at primary inspection, it may be useful to create a more robust and segmented secondary capability and a more fluid primary inspection point. With increased risk segmentation and better targeting systems, CBP officers have ever more information at their fingertips. By focusing these resources first on identifying low-risk traffic to expedite through the ports of entry at primary and then enhancing and likely further segmenting secondary inspections into medium and high risk flows, the ports of entry could potentially speed up overall processing without sacrificing security.
- As Congressman Henry Cuellar pointed out in his opening remarks at the Laredo forum, there often are issues with how border crossers are treated at ports of entry. Border crossings clearly serve a vital law enforcement function, but there is a sense in border communities that there still remains ample opportunity to improve the border crossers' experience while maintaining operational integrity.
- Data on border wait times needs to be made more reliable in order to better diagnose the costs of border inefficiency and to benchmark progress on making border wait times shorter and more predictable. New methodologies, mainly based on

RFID chips and Bluetooth devices, can resolve current issues in measuring wait times. Progress is being made toward this end (especially at Texas and Arizona POEs with the support of the Texas Transportation Institute, TxDOT, and others), and efforts should be continued until reliable data is available across the border. Though the most widely available wait time data currently comes from U.S. CBP, improved measurements require the location of equipment on the Mexican side of the border and must be implemented with Mexican participation or at least approval. State and local support on both sides of the border will be important in the creation of robust and consistent measurements.

- Recapitalize the North American Development Bank so that it can continue and expand its role in financing border transportation infrastructure as a tool to decrease emissions at congested ports of entry while also financing additional environmental infrastructure in the border region.

Endnotes

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CHAPTER

4

Human Capital in the U.S.-Mexico Border Region

By: Ruth Soberanes

To meet the human capital demand at the border, stakeholders recommend:

1. Increasing educational exchange between the United States and Mexico, establish a binational education task force that focuses on the border region and the development of a stronger binational workforce.
2. Promoting greater collaboration among regional universities, community colleges, technical schools, government, and the private sector in order to create, attract, and retain the human capital necessary to fill industry labor needs at the border.
3. University, community college, vocational college and business leaders should collaborate in the development of curriculums to insure that graduates have the skill set necessary to meet the workforce demands of the evolving industries at the border.
4. Ensuring the accreditation of cross-border educational programs in both countries.
5. Establishing binational internships along the border to create more direct pathways from education to employment.
6. Creating and expand pilot programs being developed along the border, such as the proposed manufacturing innovation institute.

Overview: Human Capital in the Economies of the United States and Mexico

The skills and capacities that reside in people drive an economy's productivity and long-term success. A diverse skill set that meets the talent demands of the private and public sectors expands an economy's competitive edge. Furthermore, this competitive edge generally leads to growth, which in turn creates jobs. In short, an economy is only as good as its work force.

However, in order to build human capital to generate returns for individuals and an economy as a whole, investment in education (taking into account both access and quality) and training is needed.

While addressing challenges related to human capital formation is fundamental to the short and long term growth and competitiveness of any economy, it is especially relevant for the integrated economies of the U.S.-Mexico border region. The border region is home to both great talent and significant human capital challenges. The binational nature of the region presents a

Growing industries along the border, including energy, biosciences and aerospace manufacturing, are putting a greater premium on high-skilled workers and are forcing companies to make investment decisions based less on the availability of cheap labor and more on the availability of high skills.

range of opportunities to leverage the comparative advantages in skills and in educational and training institutions on each side of the border. This chapter will focus on both the macro-level challenges

in the United States and Mexico and specific opportunities to strengthen human capital in the border region, with an emphasis on cross-border solutions.

Evolving Skill Sets in the U.S. - Mexico Border Region

The U.S. and Mexican economies are intimately connected. They share an integrated industrial base (building products together that they then sell to the world) that is continuously evolving. This is particularly true for the economy of the border region. The U.S.-Mexico border economy finds itself in a period of transition. Advances in information technology, global competition and the global recovery have changed industries in the region. Technological advances, along with new techniques in manufacturing, logistics and business management have pushed industry from low-cost to more advanced manufacturing, changes that require the workforce to adapt. Growing industries along the border, including energy, biosciences and aerospace manufacturing, are putting a greater premium on high-skilled workers and are forcing companies to make investment decisions based less on the availability of cheap labor and more on the availability of high skills.

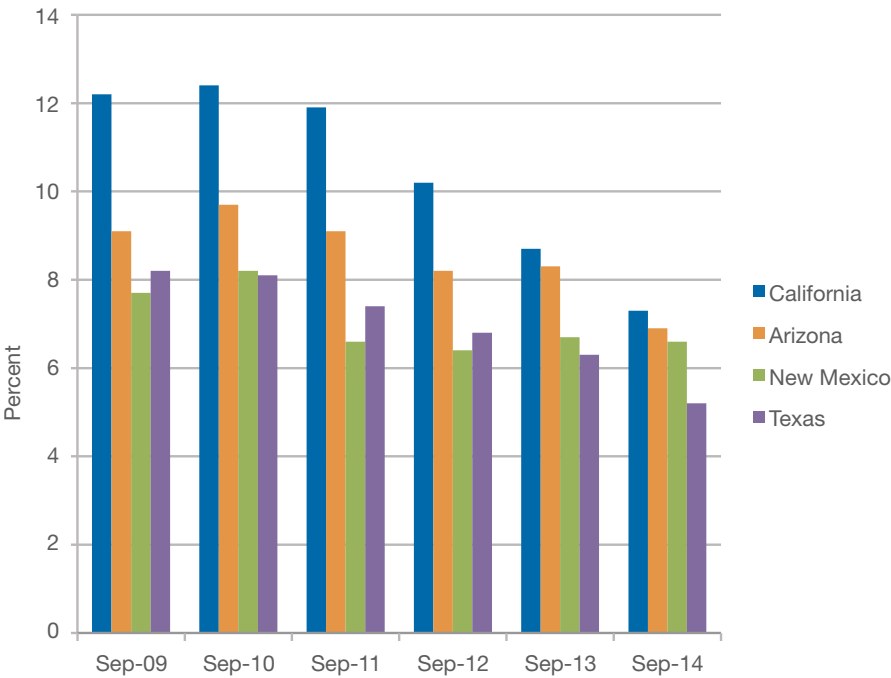
In the Paso del Norte region, binational manufacturing and production sharing was born with the launch of the Border Industrialization Program, better known as the Maquiladora Program. Ciudad Juárez boomed with the arrival of factories doing simple tasks, such as sewing jeans and basic assembly, which required a great amount of low-skilled and few high skilled workers. Today, the region thrives on far more advanced industries such as aerospace, electronics and automotive that are truly North American in character. It has also become a hub for service providers offering legal, financial and logistical support to industry. Defense, healthcare, education and tourism have all grown to become key sectors in the regional economy, particularly with the recent expansion of Fort Bliss and major investments into the biomedical science and healthcare industries.

The Aerospace Industry

The North American aerospace industry is significantly changing the U.S.- Mexico border economy. Aerospace manufacturing requires very specific, well-developed skills and thus develops a need for a high skilled workforce in places like Chihuahua. Many workers are being recruited from the auto industry and receive subsequent training to improve their skills and enable productivity at high quality control standards.

In the CaliBaja region, the top industries—from tourism to audiovisual equipment, medical device manufacturing and shipbuilding—rely heavily on science and engineering professionals. The Texas-Tamaulipas-Nuevo León-Coahuila region is being transformed by the development of unconventional energy resources, particularly shale oil and gas. In Texas, the Eagle Ford shale play has quickly become the site of extensive drilling and production, creating immense economic opportunities but also some important challenges. Although trade in the Arizona-Sonora region still continues to be largely sustained by agriculture, the aerospace industry is growing in places like Guaymas, automotive components are being built in Nogales and the auto industry is growing particularly with the expansion of the Ford plant in Hermosillo. All of these evolving industries significantly change the talent pool needed in the border region.

Figure 1: Border State Unemployment Rates
(Sept. 2009–Sept. 2014)



Source: Bureau of Labor Statistics, U.S. Department of Labor, 2014.

Creating, attracting and retaining the right talent at the border remains a challenge. The transition to higher value-added manufacturing and the jobs that come with it may address the human capital challenges faced by the border region. Although the unemployment rate in the United States is currently 5.8 percent, unemployment at the southern border remains high (see Figure 1). Readjusting the available pool of talent to meet current industry needs at the border by investing in the development of talent, particularly in the areas of Science, Technology, Engineering and Math (STEM), with the language requirements and ability to

understand and adapt to the culture on both sides of the border and retaining this pool of talent will be key. If these factors are in place and the border economy continues to grow, retaining talent will follow naturally. The interconnectedness of the border state economies and the challenges they have in common calls for a joint approach to address some of the most pressing matters affecting human capital.

The United States

Historically, the United States' economic strength has been closely linked to its human capital, innovation, and to the flexibility of the labor market. As the United States recovers from the Great Recession, the economy's ability to bounce back can largely be attributed to its human capital strengths, which make its labor force dynamic and innovative. After climbing to 9.8 percent in November, 2010, the U.S. unemployment rate had dropped back down to 5.8 percent by October, 2014.¹

The World Economic Forum (WEF) Human Capital Index Report ranks the United States 16 out of 122 countries. This ranking is a result of four key factors, or pillars, of human capital: education, health, employment, and those enabling factors that allow these three core determinants to translate into greater returns. The WEF ranks the United States 11 out of 122 for Education, 43 out of 122 for Health and Wellness, 4 out of 122 for Workforce and Employment, and 16 out of 122 for Enabling Environment.²

U.S. educational attainment generally stands on par with that of other developed economies in overall rankings, but struggles in areas such as primary and secondary math and, more broadly, serving students from lower-income and minority populations. Ninety-five percent of the population aged 25 years and above has attained secondary education. Thirty-nine percent of the same

population has attained tertiary education. Equally important, the quality of education fairs well in the tertiary level; the United States has long been regarded for its excellence in higher education. International rankings of university quality in terms of research and teaching capacity have repeatedly placed U.S. universities at the top. In the 2012 Times Higher Education World Universities survey, 20 of the top 25 universities in the world were located in the United States. This has driven the United States to be the global leader in research and development, the birthplace of innovation, attracting international students at large.

However, the costs of private and public higher education are high, which limits coverage. Federal financial aid and a variety of more accessible options post-secondary aimed at meeting specific industry needs are key in addressing the cost challenge. In particular, vocational degrees offered at community colleges

provide a cost-effective way to build human capital for skilled labor. Moreover, the quality of K-12 education remains a concern in a number of states, including those along the border, with a contentious debate over the proper policy approach.

A major weakness in U.S. human capital lies in health and wellness. High healthcare costs put considerable strain on employees and mitigate the value of other benefits provided to them. The Affordable Care Act hopes to address this issue with its gradual implementation, although this too is the subject of great

The United States has long been regarded for its excellence in higher education. International rankings of university quality in terms of research and teaching capacity have repeatedly placed U.S. universities at the top..[yet] the quality of K-12 education remains a concern in a number of states, including those along the border.

debate in the United States. With an aging population, there is a tremendous need for nurses and healthcare technicians in the U.S. Labor mobility opportunities, including both visa policy and the development of mutual recognition for certifications, could be important tools to help fill the human capital needs of the healthcare sector. In addition, medical tourism, which involves moving the patient rather than the provider across an international border, is a readily available tool to manage healthcare cost and human capital challenges in the border region. In many areas, the industry is already well developed, but significant opportunities for expansion and improvement exist.

Mexico

Mexico, with a large and growing middle class, has made important advances in education and broader human capital development over the past several decades. Nonetheless, major challenges remain in building a workforce that will help Mexico meet its aspirations. According to the World Economic Forum Human Capital Index, Mexico is ranked 58 out of 122 countries. This report ranked Mexico 82 out of 122 for education, 56 out of 122 for health and wellness, 48 for workforce and employment, and 53 for enabling environment.³

Mexico's secondary education attainment rate is only about half for Mexicans aged twenty-five and up (80 percent of these graduates come from the country's richest 20 percent). The educational attainment rate for tertiary education is eighteen percent for the same population group. Furthermore, only one percent of Mexicans graduate from vocationally-oriented post-secondary programs, which is eight percent lower than the OECD average. This creates an array of issues, including a lack of skilled talent, stressed wage

pressure in highly skilled sectors, and social issues (particularly income inequality) and is a particular challenge for Mexico's long-term economic development.⁴

Mexico has recently taken steps aimed at addressing these challenges in education and create structural reforms to improve its competitiveness. A constitutional reform of the K-12 system that was passed in 2012 focused on teacher certification and related issues. Furthermore, Mexico's National Development Plan 2013-2018 argues that a lack of human capital in Mexico is not only a reflection of a deficient education system, but also a result of a lack of linkages between the educational, private and public sectors. The Plan also states that Mexico cannot simply focus on increasing human capital in Mexico but also must work to ensure increased employment opportunities and lessening barriers to innovate for its most highly educated citizens.⁵

Mexico has seen increasing economic growth, but with this growth, additional challenges to the education system have arisen. Mexico's higher education system is increasingly under strain by its growing middle class. Universities will have to go to great lengths to bear growing enrollment in public and private universities. The National Association of Universities and Institutions of Higher Education (ANUIES) has estimated that the capacity of universities to enroll students will need to increase by 48 percent between 2010 and 2020 to meet growing demands. This means there will be a total student population in higher education of 4.7 million in 2020, 1.7 million more than were registered in 2010. The majority of students will opt for the public university system, posing key funding challenges for the federal government which subsidizes each student's education.⁶

Bilateral Challenges and Opportunities

The reforms in Mexico and binational efforts to improve

competitiveness in the U.S.-Mexico border region can only work if both nations can accurately gauge their current and emerging talent demand. Mexico and the United States currently have what Manpower Group calls a “talent mismatch,” or the imbalance between the skills public and private sector employers are seeking and the skills the workforce has to offer. A survey conducted by Manpower interviewing more than 37,000 hiring managers in 42 countries found that 44 percent of hiring managers in Mexico had difficulty finding talent to fill positions. The average reported by U.S. hiring managers was 40 percent.⁷ These percentages reflect a shortage of highly skilled workers, specifically in the technology, engineering and science areas. Furthermore, although overall employee productivity has risen and the unemployment rate has decreased in the United States since the end of the Great Recession, U.S. border states still face higher than average unemployment rates. That means that the talent available in these economies is not aligning with the needs of employers.

The following recommendations were developed by the authors based on input received by over 1,000 border economic stakeholders who attended the 2014 U.S.-Mexico Regional Economic Competitiveness Forums held in San Diego, Rio Rico, El Paso and Laredo.

Recommendations: Investing in Human Capital to Increase Competitiveness

In order to enhance its competitive position, as well as the economic well-being of the region's inhabitants, policymakers and stakeholders at the local, state and federal levels will need to focus on how the U.S.-Mexico border can better adapt to global challenges and strengthen its role as an engine for growth. Local communities must take advantage of the opportunities that industries in the border region provide and in the two countries' growing economies more broadly by creating, attracting and retaining human capital.

The challenges faced by education systems and workforce development efforts in both countries present opportunities. Mexico is faced with the challenge of increasing educational quality and attainment to become an incubator for world-class talent. The United States must continue to invest in its human capital to succeed in the increasingly demanding global market. The U.S.–Mexico border region is uniquely positioned to develop the bilingual, bicultural talent necessary to increase innovation and productivity. Industry, universities, and local government must all come together to increase educational opportunities (particularly educational exchange) and improve workforce development.

A number of options to strengthen human capital and competitiveness should be considered:

- 1. In order for the U.S. and Mexico to achieve their goals to increase educational exchange between both countries, establish a binational education task force that focuses on the border region, where the opportunities are the greatest and costs are least.**

Education has been given a higher profile on the bilateral agenda. A key element to the U.S.–Mexico High-Level Economic Dialogue (HLED), launched in Mexico City in September 2013 by U.S. Vice President Joseph Biden and Mexican Secretary of the Treasury Luis Videgaray, is the development of a stronger binational workforce. To address this matter, both countries seek to increase levels of educational exchange between both countries. The HLED seeks to build on and promote sustained progress on several bilateral forums and working groups, including the Mexico–U.S. Entrepreneurship and Innovation Council (MUSEIC) and the U.S.–Mexico Bilateral Forum on Higher Education, Innovation, and Research (FOBESII). Furthermore, initiatives such as President Obama’s 100,000 Strong

in the Americas and President Peña Nieto's *Proyecto 100,000* seek to significantly increase the notably low numbers of exchange students from Mexico to the United States and from the United States to Mexico. President Obama's goal is to see 100,000 Latin American and Caribbean people studying in the United States and 100,000 young Americans studying across the Western Hemisphere. Simultaneously, the Mexican Government's *Proyecto 100,000* aims to have 100,000 Mexican students studying in the United States and 50,000 U.S. students studying in Mexico by 2018.

All of these initiatives rely heavily on private contributions to reach their goals, but the response from the business community has not yet been sufficient. Both administrations will have to do a better job at attracting public and private funding in order for these initiatives to be successful. In the United States in particular, where there is no national public university system, state governments and university systems will need to become much more involved in the bilateral initiative. The University of California system has taken a leadership role in this regard. In May 2014, UC President Janet Napolitano (a former border state governor) signed a memorandum of understanding with the Mexican National Council of Science and Technology (CONACYT) to deepen research partnerships.⁸ That advance was part of a larger initiative to deepen cooperation and exchange between the UC system and Mexico. In addition, FOBESSI recently announced the formation of additional higher education partnerships.⁹

Unfortunately, the numbers of American students studying in Mexico has decreased significantly in the past few years. According to the Institute of International Education (IIE), a leading private nonprofit in international exchange, the number of students from the United States to Mexico dropped by 42%, from about 7,157

in 2009–2010 to 4,167 in 2010–2011. The violence in Mexico that peaked in 2010–2011 deterred many study abroad students from going to Mexico. In 2010 (and renewed yearly until 2014), the U.S. Department of State issued a travel warning for Mexico that in some cases caused the suspension of well-established study abroad programs in Mexico. The number of U.S. students studying in Mexico in 2012–2013 was 3,730.

Figure 2: Top Destinations of U.S. Study Abroad Students, 2014. IIE Open Doors Study 2014

- #1** United Kingdom (12.5%)
- #2** Italy (10.3%)
- #3** Spain (9.1%)
- #4** France (5.9%)
- #5** China (5%)
- #15** Mexico (1.3%)

On the other hand, the number of Mexican students studying in the United States (14,779 in 2013–14) has for the most part steadily increased. In early 2015, the Mexican government announced that in 2014 nearly 27,000 Mexican students studied abroad in the United States—this represents a major increase, and the work of the U.S.–Mexico Bilateral Forum on Higher Education, Innovation and Research should be applauded. At the same time, until updated statistics are released from the IIE, we will not have a measure based in an established methodology in order to confidently assess the speed of growth in exchanges. Mexican government-sponsored scholarship programs, among other factors, sustain the flow of

Mexican students studying in the United States. Anecdotal evidence gathered from interviews with university administrators in the U.S. suggests that violence in Mexico may have played a part, as some affluent Mexican students able to pay private or out-of-state public university tuition have increasingly opted to study full time at U.S. universities. In some cases, students living in northern Mexico pay in-state tuition at border universities, particularly in Texas, thanks to the Border Nations Waiver. Still, Mexicans make up only 1.7% of all international students studying in the United States, trailing Chinese, Indians and South Korean students, which together make up 49% of all international students in the U.S. Mexico is the ninth leading place of origin for students coming to the United States¹⁰ Several cultural, linguistic and financial challenges amount to the small numbers of Mexicans studying in the United States.

Figure 3: Top Countries of Origin of International Students Studying in the U.S. IIE Open Doors Study 2014

- #1** China (31%)
- #2** India (11.6%)
- #3** South Korea (7.7 %)
- #4** Saudi Arabia (6.1%)
- #5** Canada (3.2%)
- #9** Mexico (1.7%)

U.S. border states like Texas tend to host more Mexican university students than their counterparts in the interior (the University of Texas at El Paso serves approximately ten percent of the total number of Mexican students studying at U.S. universities).

Half of all Mexican students studying in the United States

go to Arizona, New Mexico and Texas alone. Approximately 6,235 Mexican students choose Texas as their destination.¹¹ However, despite its shared history and long border with the state of Texas, Mexico ranks third behind India and China in terms of the number of students studying in Texas.

The border is a natural, necessary, and cost effective place for this exchange to happen, and, as such, the federal governments should significantly increase their focus—in collaboration with state governments and higher education systems—on boosting educational exchange in the border region. Cross-border educational exchange may be more accessible to students who normally would not think to study abroad because of financial constraints, and they would have more opportunities to actually apply the skills they learn. Undoubtedly, the positive effects of educational exchange programs between the United States and Mexico would have an outsized effect on the border and away from the border. Industry leaders would have the talent to fill the skills they need at the border. Mexico can ease some of the strain its universities are feeling with the growing number of students and its students can have access to world-class higher education in the United States. Furthermore, students from the United States can develop language and cultural adaptability skills in Mexico that are crucial to success in today's global economy.

To have the greatest return on investment, government officials, business leaders, university, community and vocational college presidents, and other key education organizations should work together to implement a cross-border educational exchange strategy and metrics based on national educational exchange objectives. The binational education task force that focuses on the border region (comprising the abovementioned leaders formally integrated

into FOBESII as a task force) should consider creating public private partnerships (P3s) that may serve as funding sources for educational exchange programs, joint degree programs and strategic partnerships between universities on both sides of the border to develop research and increase innovation.

2. Promote greater collaboration between regional universities, community colleges, technical schools, government, and the private sector to create, attract and retain the labor pool necessary to fill industry labor needs at the border.

As the United States and Mexico aim to increase binational educational exchange, higher education institutions, community colleges and technical schools located along the border have an opportunity to find creative and productive new ways to educate a binational workforce to enhance regional competitiveness, but talent creation must be closely aligned to industry's skill needs. The increase in high value-added, advanced manufacturing operations in the region is growing demand for a specialized, high skilled workforce. In particular, developing science, technology, engineering and math skills in the region will be key to the success of meeting those demands and growing the economic competitiveness of the region.

There are many institutions already working to create binational talent at the border. The Centro de Enseñanza Técnica y Superior (CETYS), for example, is an educational system that is making great strides to enable cross-border educational exchange and to work in partnership with the business community to align curriculum with workforce needs. Located in the state of Baja California and with campuses in Mexicali, Tijuana, and Ensenada, CETYS University currently offers undergraduate and graduate degrees in Business and

Management, Engineering, and Social Sciences and Humanities, as well as a High School offering the International Baccalaureate program to students on both sides of the border. It is currently the only institution in Mexico accredited by the United States' Western Association of Schools and Colleges.

A handful of binational master's graduate study programs have also been implemented. The Joint Masters' Program on Transborder Governance and Public Administration at San Diego State University and the Autonomous University of Baja California¹², which ran from 2002– 2006, included a certificate and master's degree at both schools where faculty from both universities co-designed and co-taught the courses for the program. An applied research internship required students to form binational research teams to address topics including housing, transportation, public safety, ports of entry, infrastructure, and transborder resource management.

Although institutions and initiatives are already in place to develop human capital at the border, they are currently underdeveloped and not taking advantage of the engineering potential, resources, and interest within the region, particularly for new industries (i.e. bioscience, advanced electronics, cyber). To capitalize on the opportunities, regional universities, community colleges and technical schools must continue to improve and deepen their connections to local private industry and government. These key players should implement the following action steps:

- **University, community college, vocational college and business leaders should develop curriculum jointly to insure educational programs are producing the skill set in graduates necessary for the evolving industries at the border.** It will be important for academic institutions to

“Given the large pool of labor that exists along our southern border and our robust trade relationship with Mexico, I proposed to President Obama that a manufacturing innovation institute be established with components spread along our southern border to develop cutting-edge technology, train workers to use that technology, and promote cross-border trade.”

— *Rep. Filemon Vela*

partner with private industry and government to better connect their curricula to the demands of the regional economy. Forming collaborative relationships and incentivizing the private sector to design and implement relevant educational programs conducive to the industrial subsectors on both sides of the border is crucial.

- **University, community and vocational colleges and**

government agencies on both sides of the border must work together to ensure the accreditation of cross-border educational programs (including specialty certificates and undergraduate and post graduate degrees) in both countries. Programs like the Masters’ Program on Transborder Governance and Public Administration at the San Diego State University and the Autonomous University of Baja California should be emulated and multiplied.

- **University, community college, vocational college and business leaders should establish binational internships along the border to create more direct pathways from education to employment while at the same time enhancing binational collaboration.** Expanding the use of binational internships as an academic tool will allow

students to apply the skills they learn in the classroom and cross-cultural adaptability.

- **Expand models of programs being developed to reach across and along the border.** Recently, Congressman Filemon Vela (D-Brownsville) proposed establishing a manufacturing innovation institute along the southern border through a White House initiative. The institute is to serve as a regional hub, bridging the gap between applied research and product development by bringing together companies, universities, and federal agencies to co-invest in key technology areas that encourage investment and production in the U.S. Congressman Vela stated, “Given the large pool of labor that exists along our southern border and our robust trade relationship with Mexico, I proposed to President Obama that a manufacturing innovation institute be established with components spread along our southern border to develop cutting-edge technology, train workers to use that technology, and promote cross-border trade. This provides the opportunity to form partnerships with multiple universities such as The University of Texas–Rio Grande Valley, Texas A&M International University–Laredo, Sul Ross State University, the University of Texas at El Paso, New Mexico State University, the University of Arizona, and San Diego State University.” An institute such as this would make an even greater impact if it were to reach across the border and work with Mexican counterparts.¹³

Conclusion

For the United States and Mexico to continue to foster momentum for economic growth and competitiveness, further development of a high skilled workforce, particularly along the border, is key. Both countries must adopt a binational approach to increasing human capital and productivity through educational exchanges, binational internships and research collaboration. Students in both countries could greatly benefit from educational exchange, acquiring diverse knowledge and skill sets including language and cultural adaptability. This would not only allow them to succeed individually in an increasingly globalized world but would also contribute to economic development as a whole and improve ties for greater understanding and cooperation in both countries.

State Legislative Approaches to Cross-border Education and Human Capital Attainment

Border state policy makers are enabling greater higher education attainment levels, the facilitation of cross-border education and the creation of human capital through the policies they design and implement. Some of the approaches are listed below.

Arizona Legislation

SB 1242, Critical languages; economic development; pilot (2014).

This bill would require the Arizona State Board of Education (SBE) to establish a six year critical language and economic development pilot program beginning in the 2014-2015 school year. The State Board of Education, in consultation with the Department of Education, shall develop and implement courses of study in critical languages for the pilot program.

California Legislation

Senate Bill No. 141, Senator Correa. Postsecondary education benefits: children of deported or voluntarily departed parents. (2013)

Senator Lou Correa's Senate Bill No. 141 seeks to give disadvantaged, yet qualified California students a fair chance to access higher education, regardless of their parents' migration status. The bill exempts United States citizens, who are children of deported or voluntarily departed parents who reside in a foreign country, lived in California immediately before moving abroad,

attended a public or private secondary school in the state for 3 or more years and demonstrate financial need, from paying nonresident tuition at the California Community Colleges and the California State University. The students are required to apply for residency as soon as they begin their studies. California found that it is in its best interest to enable these students to access higher education and signed the bill into law in 2013.

Texas Legislation

Border Nations Waiver Program, Texas Education Code Sec. 54.231.

The Border Nations Program, established by Texas Education Code Sec. 54.231, seeks to facilitate cross-border educational exchange. The program provides a waiver of nonresident tuition for students from Mexico with financial need to enroll in certain public institutions in Texas while paying the resident tuition rate. Students who are citizens of Mexico and reside in Mexico, show financial need, plan to return to Mexico after completing his/her educational program, hold a valid F1 or J1 visa and maintain academic standards are permitted to attend an eligible Texas public university at the reduced tuition rate.

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CHAPTER

5

The Border Economy's Energy Transitions

Rick Van Schoik

To capitalize on energy opportunities at the border, stakeholders suggest:

1. Increased local, state, and federal cooperation.
2. Development of renewable energy clusters.
3. Protecting the natural environment and especially water resources while developing energy projects.
4. Use of public-private partnerships to fund public health and educate people about the consequences of energy development.
5. Building workforce skills and other human capital for energy security and prosperity.

INTRODUCTION

Energy is the lifeblood of economic development. As both a high value product in its own right and an essential input for every industry, energy production and supply are key factors in the competitiveness of any region. The U.S.-Mexico border region has

traditionally been quite energy poor. The region imported large amounts of fuel and electric power from outside suppliers.

Thankfully, sweeping changes are underway in the energy sector that have the potential to spark a new round of industrial development in the region comparable to the creation of the maquiladora sector and the passage of NAFTA. The border region is rich in renewable energy resources—particularly wind and solar. States throughout the border region have made significant advances in developing these resources, but their potential is far from tapped out. More recently, the development of new drilling techniques have spurred a boom in oil and gas production from shale formations in south Texas. The pace of development is frenetic, and the economy of the sub-region is being reshaped. Following the passage of energy reform in Mexico, there is great excitement over the potential for a similar revolution in northeastern Mexico, which enjoys much of the same promising geology as south Texas.

Mexico is the third-largest supplier of crude oil to the U.S., behind only Canada and Saudi Arabia. In 2013, Mexico sent 85 percent of its crude oil exports to the United States.

Though true in all cases, the need for energy development to be accomplished in a sustainable manner that protects water assets and others such as living and

natural resources is especially strong in the border region, which already faces significant resource constraints and is home to many delicate and important ecosystems.

Energy development in the U.S.-Mexico border region has the potential to improve energy security on both sides of the border. The region and North America more generally serve as a good example of how *interdependence* rather than *independence* is a more

realistic vision for the future of economies and quality of life for residents in the United States and Mexico.

The two nations are closely linked in terms of their energy infrastructure and share both fuels and electrical power. For example, electricity flows both north and south in the Californias. In the spring and summer an excess of hydroelectric power in the northwest U.S. affords cheaper power to Mexico to provide air conditioning and other cooling during the extraordinarily hot seasons in the greater Imperial and Mexicali Valley, while in the winter base load can be provided to the U.S. side from large geothermal plants near the border in northern Baja California. To take another example, when electricity supply in Texas is challenged by drought that limits hydro-electric generation or when demand peaks during cold snaps or heat waves, Texas utilities pull power north. As recently as October 2014, the Texas grid borrowed electrons from Mexico. Likewise the U.S. has imported crude oil from Mexico and in return sends refined products that include cleaner grades of gasoline and low sulfur diesel to Mexico. There is a much longer and richer history of U.S.-Mexico energy cooperation than many realize, but cross-border infrastructure limitations and a history of energy nationalism (in both countries) has put limits on the ability to take advantage of energy complementarities of the sort mentioned above.

Energy is an issue of strategic importance for the border region and the two nations, and for this reason the topic merits attention at the top of the bilateral as well as regional, state and local agendas. This is especially important as U.S.-Mexico energy and U.S.-Mexico border energy issues are entering a period of deep and broad transition in terms of production, distribution and impact on communities' human capital formation and quality of life.

Energy Transitions

Several major trends in supply are under way that translate into a major energy transition in North America as well as the border region. First, increased production means that the U.S. will soon be a net exporter of many forms of energy and will soon send light crude to Mexico for the first time in addition to natural gas. Second, energy reform in Mexico is a reality, and private development will begin to produce both fuels and additional power within about a year. According to some analyses, new foreign and domestic investment could potentially boost Mexico's daily crude oil output to five million barrels per day, making Mexico the fourth largest producer in the world.² If Mexico's oil production undergoes this scale of change, the economic trajectory of the two nations and the border will change significantly.

The largest transitions that will occur in the United States relate to the revitalization of manufacturing due to affordable and easily accessible fuels for electricity generation and as inputs for petrochemical industries. In the United States, eliminating the ban on petroleum exports (other than refined products and to certain free-trade agreement partner nations) could mean significant new revenues, while the process to enable liquefied natural gas (LNG) facilities to export is similarly promising and already underway, including a proposed terminal in Corpus Christi, Texas, near the Eagle Ford shale formation.

However optimistic the potential energy transitions may seem, there are a number of challenges relating to U.S.-Mexico energy interdependence. Policy cooperation between the two nations has been uneven. In 2001, the U. S. Department of Energy and the Mexican Secretariat of Energy (SENER) worked with Natural Resources Canada through the North American Energy Working

Group, but the group has not met for several years. In 2011 the U.S. and Mexico launched the Presidents' Cross-border Electricity Task Force with the goal of promoting regional renewable energy markets between the two countries. The parties met but never named official representatives, obviously a prerequisite of a successful task force. Similar frustration accompanies the Bilateral Framework on Clean Energy and Climate Change, which only met a handful of times. However, the two nations did successfully negotiate an agreement to jointly develop the deep water reserves in the Gulf of Mexico. The U.S.-Mexico Transboundary Hydrocarbons Agreement was passed by the U.S. Congress in 2013. As in broader economic integration efforts, individual agreements seem to have been more successful than efforts to institutionalize cooperation.

Energy Reform

While reform of Mexico's energy sector, was unimaginable for generations for a host of historical and political reasons, Mexico's Congress changed the energy landscape dramatically in 2013 and 2014 with legislation opening up the sector to private investment in a number of key areas.

Secondary laws fleshing out the 2013 constitutional changes were passed in the summer of 2014 and will enable the petroleum, natural gas, and electricity sectors to modernize and engage private

The interdependent nature of industrial production in the United States and Mexico means that improvements in competitiveness as a result of cheaper energy in either country are felt in both countries.

investment upstream (exploration, development, and production), mid-stream (refining, processing, conveyance, and storage), and downstream (distribution, sales, and retailing). New hydrocarbon and climate commissions have been institutionalized, and two rounds of bidding on projects have already begun, with more expected. Essentially all components of energy provision allow private engagement and competition. What this means for the border region, where much of that transition will occur, is dramatic.

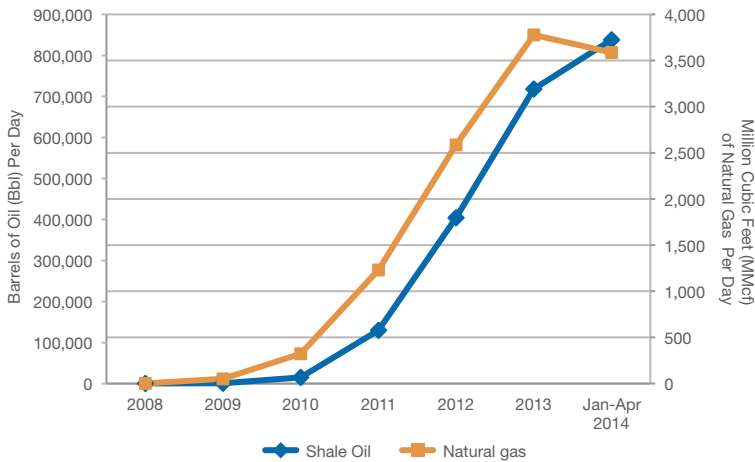
Environmental protection has been addressed under reform as well. Private electricity generations, also known as Independent Power Producers or IPPs, are mandated to meet new efficiency and pollution standards. This complements Mexico's already existing national renewable portfolio standard (RPS), strengthening the framework for clean energy generation in the border region.

Natural Gas

Because of a boom in U.S. shale gas production and high demand in Mexico, natural gas will fuel the energy transition in the near term. New drilling technologies have increased the production and affordability of shale gas and shale oil. In early 2015, oil prices were approximately \$55 a barrel and natural gas prices just above \$3 per million BTUs at Henry Hub, Louisiana.

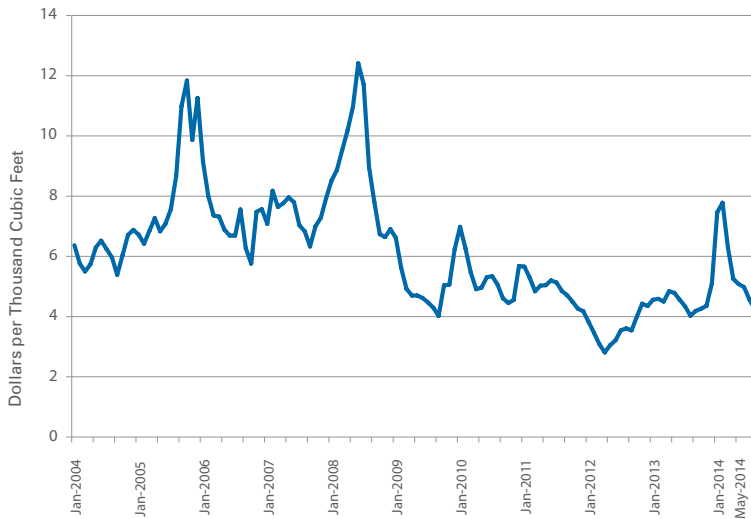
The Eagle Ford Consortium, which was represented at the Regional Economic Competitiveness Forum in Laredo, Texas, reports an almost \$90 billion economic impact, the creation of 128,000 jobs and over \$2 billion in revenues to local and state governments as a result of shale oil and gas development in the area. Growth on the Mexican side is expected to follow as technology and equipment is exported and energy reform is implemented.

**Texas Eagle Ford Shale Oil and Natural Gas Production
2008 through April 2014**



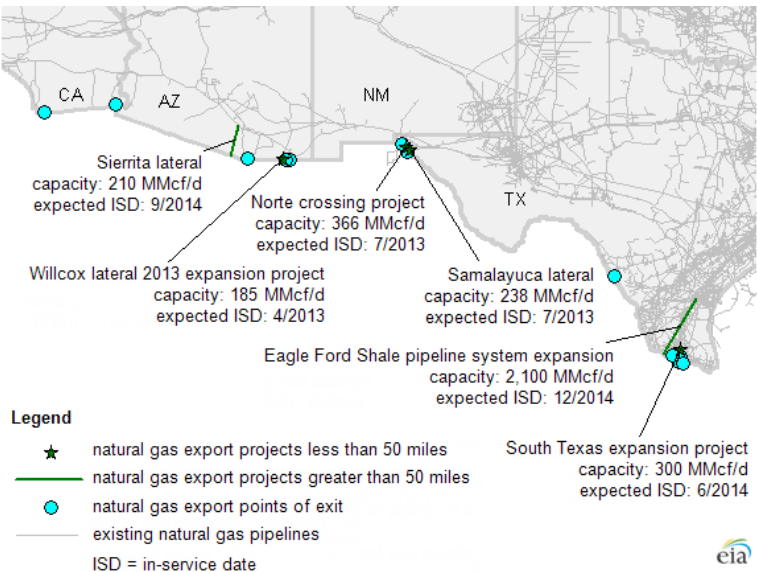
Source: Railroad Commission of Texas Production Query System (PDQ)

**U.S. Natural Gas Electric Power Price
(Jan. 2004 - Aug. 2014)**



Source: Energy Information Administration, 2014.

Major Proposed Natural Gas Pipeline Projects for Exports to Mexico



Source:Energy Information Administration, 2013.

The United States has 1.5 million miles of natural gas transportation and distribution lines. Mexico has less than a tenth of that, and a shortage of cross border connections in particular have kept the price of gas much higher in Mexico than in the United States. Mexico’s Energy Secretariat project natural gas demand to increase 3.6% per year from 2012 to 2028, but domestic production to rise just 1.6% per year. The Mexican states of Tamaulipas, Nuevo León, Coahuila, and possibly Chihuahua all have important natural gas reserves that, as a result of energy reform, may see significant development in the coming years. Nonetheless, to keep up with rising demand and to lower electricity costs, Mexico will need to import large amounts of natural gas from the United States. This will require the construction of new cross-border and domestic pipelines, and, indeed, Mexico plans to double pipeline capacity over next decade. To accomplish this, Mexico will need foreign

direct investment (FDI) and permits from both presidents to allow the cross-border connections.

The impact of Falling Energy Prices

With crude oil prices less than half what they were in mid-2014 and expected to stay low, although perhaps not as low as they currently are, for some time, border states should expect significant changes. Major energy producers will feel a pinch as lower prices force energy companies to tighten their belts. The long term viability of shale oil and gas projects is not in question, but the speed of their development, in both the United States and Mexico, will be significantly slowed as a result of dramatically lower oil prices. The Mexican federal government, with its large reliance on oil revenue to finance its annual budget, will also feel pressure. Because of their reliance on federal contributions, these budgetary impacts will be extended to Mexican state governments. As a result of falling oil prices and other economic factors, the Mexican peso has weakened vis-à-vis the dollar. This makes imports more expensive for Mexican consumers, companies, and governments, but it also makes the country more attractive for foreign investors in both energy and manufacturing industries, who can get more out of their dollar-denominated investments locally and in the case of manufacturing can also take advantage of more competitive export prices. Finally, the boon to manufacturers is further extended because of decreased shipping and energy costs. In short, cross-border trade should rise on the back of better prices, but energy industry growth and associated government revenue will slow down.

Job and Career Creation

Energy development offers significant job creation opportunities

for both the United States and Mexico. Certain skilled positions, including welders, truck drivers, and several types of engineers, will be in particularly high demand. As a consequence, the border communities that do the best job of building the relevant educational and skill base will best be able to take advantage of the economic development opportunities the energy industry offers.

The regional nature of supply chains in the United States and Mexico means that our interconnected industries build products together that we sell to the rest of the world. Components built for the production of energy are no exception. For example, a wind farm may have blades built in Ciudad Juárez and a generator manufactured in the U.S. atop a tower constructed in either nation.

A recent McKinsey report argues that 1.7 million permanent jobs will be created by the shale oil and gas boom followed by 3.9 million jobs in manufacturing afforded by cheaper and plentiful energy.⁴

The Federal Reserve estimates that for every ten jobs created in a maquiladora in Mexico somewhere between two and six jobs were created on the U.S. side.⁵ Interviews with those in the energy sector indicate similar interdependence of energy clusters on both sides.⁶

Energy Industry Security

While security at ports of entry remains a concern, another security challenge has emerged in the energy sector as transnational crime organizations (TCOs) have become engaged in energy-related crime. These groups steal oil, damage pipelines, and otherwise disrupt energy flows. Both property and lives are threatened as these TCOs capture wells and trucks, as well as at times kidnapping personnel. If unaddressed, security concerns in northeastern Mexico could hamper energy development and the competitiveness gains that accompany it. The *New York Times*

reported on October 29 that TCOs have stolen \$1.15 billion from pipelines, a perennial problem for PEMEX. Private industry is carefully watching how government at all levels respond to their security concerns.

Conclusion

A North American energy market is important for both national and continental security and a better quality of life for all. The main reason we should celebrate our newfound North American energy clout is its ability to create and sustain good jobs in all three nations. With proper human capital development and a strong planning and regulatory process to protect the natural environment, the benefits can be broad-based and sustainable.

Energy interdependence and (through the leveraging of complementarities) energy security begins with having enough power and pipeline infrastructure to move electrons and hydrocarbons and perhaps even captured carbon across national borders. The U.S., strategically positioned between Canada and Mexico, is a major winner, as it is able to import and export to friendly neighboring nations and across land borders instead of engaging continually in the expensive practice of loading, moving, and unloading ships.

In Mexico, energy reform will spur oil exploration and development, both in old fields where enhanced recovery techniques and technological investment will allow extraction from deeper and more complex known reserves. In addition, new oil and gas resources will become available as private energy companies take advantage of the new legal framework.

Finally, the electricity market in Mexico and the United States will be transformed as new conventional and renewable sources

come on line. Additionally, more cross-border energy trade should be anticipated and prepared for.

Energy Recommendations

The following recommendations were developed by the authors based on input received by over 1,000 border economic stakeholders who attended the 2014 U.S.-Mexico Regional Economic Competitiveness Forums held in San Diego, Rio Rico, El Paso and Laredo.

Energy security for both U.S and Mexico is achievable, but significant cooperation is needed. The following recommendations were developed at the Regional Economic Competitiveness Forums (RECF) and seek to strengthen the competitiveness of the border region through energy interdependence.

Increase Local, State, and Federal Cooperation to Capitalize on Energy Opportunities

Capitalizing upon energy development, as well as addressing its local effects in the border, region requires a multi-stakeholder approach in which the various levels of government meet regularly, understand the issues together, and prioritize resolving them.

Role of State and Local Entities

Border states and local jurisdictions play a critical role in binational energy interdependence, sustainability and competitiveness due to the infrastructure which is or will need to be built there to connect the two nations. New natural gas and renewable energy extraction and generation projects will require land use planning and permitting, financing and other services provided by local jurisdictions and the private sector. Similarly, private, federal, state and even local actors each play a role in

the development of natural gas transportation and distribution networks.

Yet state and local entities in the border region are often in need of outside support, some of which can be provided by the federal governments or from academic and governmental counterparts from across the border, in order to engage energy companies and create an energy strategy that will maximize benefits to local consumers and businesses while protecting the environment. Additional consideration and development of financial tools will be important, perhaps through such mechanisms as revenue sharing among different levels of government. This is particularly important in Mexico given the greater number of revenue-gathering “tools” at the federal level and the overall tax structure. One example of an issue requiring input and resources from multiple levels of government is when increased demand for certain skill sets raises costs for non-energy related industries and local governments, as in the case of commercial truck drivers.

Inter-State Compacts (ISCs). One important tool that states should consider implementing are Inter-State Compacts (ISCs), which are federally recognized agreements between and among states for issues that cross their jurisdictional boundaries. They have been expanded to include Mexican states and Canadian provinces and cover many concerns not needing national attention. They can do for energy what they have done for fire prevention and fighting – coordinate efforts across state and international boundaries. They enable regional issues, such as site zoning and preparation, financing, and environmental review to be conducted in a bi-state or even binational context. Likewise the states and subnationals in many cases have jurisdiction over transportation routes, division of fees, environmental review, etc. and as such

can be consulted through ISCs. California Governor Jerry Brown recently traveled to Mexico in part to encourage Mexico to supply clean renewable energy to California to help it meet its aggressive renewable portfolio standard (RPS). Such cooperation can lead to collaboration and even the co-funding of joint projects.

Develop renewable energy industry clusters.

The border region is rich in renewable energy resources and potential. Mexico in particular is moving quickly to capitalize on an already impressive renewables portfolio (see box). It makes sense for border economic development stakeholders to invest in what is working.

Renewable energy clusters are the grouping of various renewable sources near each other (for example geothermal, solar, and biomass in the Imperial-Mexicali Valley) for ease and affordable transmission of renewable energy with fewest intermittency issues. Creating energy clusters involves developing all assets in a community and geographic area to generate energy and related jobs, such as the education and training necessary to plan, design, build, operate, maintain, and regulate renewable energy facilities and their connection to the grid.

Renewable energy development requires a whole ecosystem of activities from education and training to construction and maintenance; from finance and insurance to environmental review and mitigation; and from engineering and science to law and management. As such it creates value far from the generator and transmission line. It creates and sustains high-quality green jobs.

Energy also happens to be one of the most transnational of industries— with workers, investment, education and services often originating across the border. Although less understood

The Other Big Energy Story in Mexico: Renewables

“Mexico has already committed to attain 35% of its electricity from clean sources by 2024. Renewables currently represent 25% of national electricity generation. Renewable energy’s growth is particularly strong in the northern border states. In the next six years, the border region is poised to increase its installed capacity of renewable sources from 4.7% to 14.51%, a ten-percentage point change. Wind and solar resources are especially robust and will lead the way in border-region development of clean energy. With a major opening of the market for private electricity generation, Mexico’s recent energy reform lays the groundwork for additional investments and faster growth in renewables.”

— Pinzon, de Diego, Carmona and Aguirre, *“Renewable Energy at Mexico’s Northern Border,”* forthcoming from the Wilson Center’s Mexico Institute

than crossborder manufacturing coproduction spillovers, energy innovation clusters can also create a regular back-and-forth of engineering and design, construction, inspection, and shipping in a manner beneficial to both U.S. and Mexican participants.

Recommendations

Bilateral organizations, the two federal governments, state governments, and local governments should work together to develop renewable energy industry clusters to create quality jobs and a more sustainable future for the border region.

1. **Support the NADBank's work to help develop renewable energy in the border region.** Recapitalizing the bank is an important first step in ensuring the border region's energy and sustainability future. As the world's first green development bank, the North American Development Bank is involved in the financing of wind, solar and other renewable energy projects in the border region and has very recently been involved in the financing of a natural gas pipeline project. The NADBank has co-funded over 1.4 gigawatts of projects and has over 250 megawatts "in the pipeline," all in Mexico, including a wind project in Baja California whose electricity is being sold to San Diego Gas and Electric.
2. **State economic development agencies should focus assets on attracting renewable generators and parts manufacturers.**

The following recommendations for spurring additional investments in renewable energy at the state and local level in Mexico draw upon the forthcoming Wilson Center report cited above⁷:

1. The Mexican federal government should strengthen state government energy agencies and encourage the participation of state-level institutions from government, academia and the private sector in the energy planning process.

2. State governments and legislatures should streamline the process for municipalities to procure renewable energy, as energy public-private partnerships have already demonstrated their potential across the country.”

Protect water resources while developing energy.

Growth in the energy industry creates jobs, but it also requires significant amounts of sometimes scarce natural resources, such as water. The nexus between water, energy, and economic development cannot be ignored.

Energy and industrial development, as well as population growth, are placing increased stress on already strained border region water resources. At the same time, climate change is increasing the frequency of drought across much of the border.

Stakeholders at the forums well aware of these challenges and encouraged those involved in economic development to pursue strategies for sustainable development. They recommended a diverse set of direct approaches that cities in the region could pursue, including increasing wastewater recycling, greywater reutilization, and desalination (preferably in a coordinated binational manner so as to reduce infrastructure costs). Binational approaches to water conservation could go a long way in reducing current political tensions over water resources and prevent competition between industry and communities over limited resources.

Additional Recommendation

Build workforce and other human capital for energy security. In order for local communities to take advantage of the opportunities that energy production provides, it is essential to build human capital and skills. Engineers and other STEM

subject graduates with higher education are in high demand in the energy industries, but so too are welders, truckers, and other skilled-labor jobs. Industry, universities, and local government must all come together to increase educational opportunities and improve workforce development. Working in South Texas, the Eagle Ford Consortium provides one example of energy industry cooperating with educational institutions to improve job opportunities. Similar efforts are urgently needed in north-eastern Mexico. U.S. experience and skills related to the development of the fracking industry will be particularly relevant to Mexico as it seeks to develop its own shale gas resources, creating an important opportunity for crossborder collaboration.⁸

Endnotes

- ^{1.} Energy security is a many-faceted concept. The International Energy Agency defines energy security as “the uninterrupted availability of energy sources at an affordable price.” See <http://www.iea.org/topics/energysecurity/>.
- ^{2.} Shauk, Zain and Jim Polson, 2014, Mexico Oil is Boom for Exxon to BP as Frontiers Teeter, Bloomberg News, August 7, 2014.
- ^{3.} Embassy of the United States in Mexico, <http://mexico.usembassy.gov/press-releases/ep110523-climate.html>.
- ^{4.} Tyson, Laura and Susan Lund, 2-13, Game changing Investments for the United States, Mc Kinsey Global Institute.
- ^{5.} Huffbauer, Gary Clyde, World Affairs Council, Juneau, Alaska, October 25, 2014.
- ^{6.} Beltran Rodriguez, Leonardo, 2014, Border Energy Forum, Monterrey Nuevo Leon, October 12, 2014.
- ^{7.} Jonathan Pinzon, Lilia de Diego, Rafael Carmona, and Luis Aguirre-Torres, “Renewable Energy at Mexico’s Northern Border,” forthcoming from the Wilson Center’s Mexico Institute.
- ^{8.} Leodoro Martinez, Eagle Ford Consortium presentation at Regional Economic Competitiveness Forum July 1, Laredo, Texas.

About the Authors

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Project Partners

The Border Legislative Conference (BLC) serves as a mechanism for on-going dialogue and collaboration among state legislators of the United States and Mexico. The goal of the project is to empower border state legislators to engage in the binational agenda and provide input and direction in the development of policy between both countries. Membership in the BLC is comprised of legislators from the ten states along the U.S.-Mexico border. These states include California, Arizona, New Mexico, and Texas in the U.S., and Baja California, Sonora, Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas in Mexico. The staff of the Council of State Governments (CSG West) and the Southern Legislative Conference (SLC) administer the program, including the coordination and organization of forums, preparation of recommendations and analysis, and the implementation of policies and actions as directed by participating legislators.

The Council of State Governments West (CSG West) is a non-profit, non-partisan organization that serves the western legislatures of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon,

Utah, Washington and Wyoming. Associate members include the Canadian provinces of Alberta and British Columbia and the Pacific islands of American Samoa, the Commonwealth of Northern Mariana Islands and Guam. Through a variety of programs and services offered to legislators and legislative staff, CSG West facilitates regional cooperation, exchange of information and fosters the strengthening of legislative institutions among its 13 member states. This includes policy forums, sharing of best practices, professional development training, international relations opportunities, publications and institutional linkages with other political entities in the West as well as nationally. Founded in 1947, CSG West is one of 4 regions of the Council of State Governments that form part of a national community of states.

The Mexico Institute of the Woodrow Wilson International Center for Scholars seeks to improve understanding, communication, and cooperation between Mexico and the United States by promoting original research, encouraging public discussion, and proposing policy options for enhancing the bilateral relationship. A binational Advisory Board, chaired by José Antonio Fernández Carbajal and Roger W. Wallace, oversees the work of the Mexico Institute. The work of the Institute is focused on five strategic areas of the bilateral relationship: energy, security, economic competitiveness, the border and migration.

The North American Research Partnership is an independent, non-profit research organization that conduct strategic applied analysis and outreach on how the United States, Mexico and Canada can better position themselves for success in the 21st century. The Partnership works on a broad range of interrelated

international policy topics such as trade and competitiveness, energy, sustainability, security, and education/awareness/development. NARP focuses much of its analysis on regional and local conditions throughout North America, particularly at the highly complex U.S.-Mexico border.

