

(More) Reasons Why Texas Needs the Hyperloop

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At the border between Mexico and the United States, two local communities look into the future to improve their current leadership and competitiveness in international trade. Laredo, Texas, and Nuevo Laredo, Tamaulipas, Mexico, two cities that have a common origin and a shared destiny, recently developed two independent comprehensive long-term vision plans that outline possible paths toward achieving a more significant socioeconomic environment, including strategic goals of improving infrastructure for trade logistics, an area where the proposed Texas Star Hyperloop perfectly fits.

Known as the “Laredo Region” or “Los Dos Laredos” these twin cities share both their origin and their future. Laredo, in what is now Texas and the United States (founded as San Agustin de Laredo on May 15, 1755), and Nuevo Laredo, Tamaulipas, Mexico (founded June 15, 1848, after the 1846-48 U.S.-Mexico war) were originally a single community that straddled both sides of the Rio Grande.

Los Dos Laredos are jointly recognized as an international trade success story, not only because the effectiveness and volume of merchandise that crosses the bridges that connect these two cities, but also for the coordination and collaboration among public and private individuals and entities in two nations.

Part of their success is collaboration; part of it is an enterprising forward vision of their public and private actors who know that the best results are achieved after deliberate consultation and planning for future results.

LAREDO, TEXAS (USA) + NUEVO LAREDO, TAMAULIPAS (MEXICO)	
Combined population (2015)	654,904
Daily commercial vehicle crossings (Avg. Mon-Sat)	14,370
Daily non-commercial vehicle crossings	29,103
Daily rail car crossings	1,800
Daily pedestrian crossings	17,855
Daily tourist buses (Mexico to US)	110+

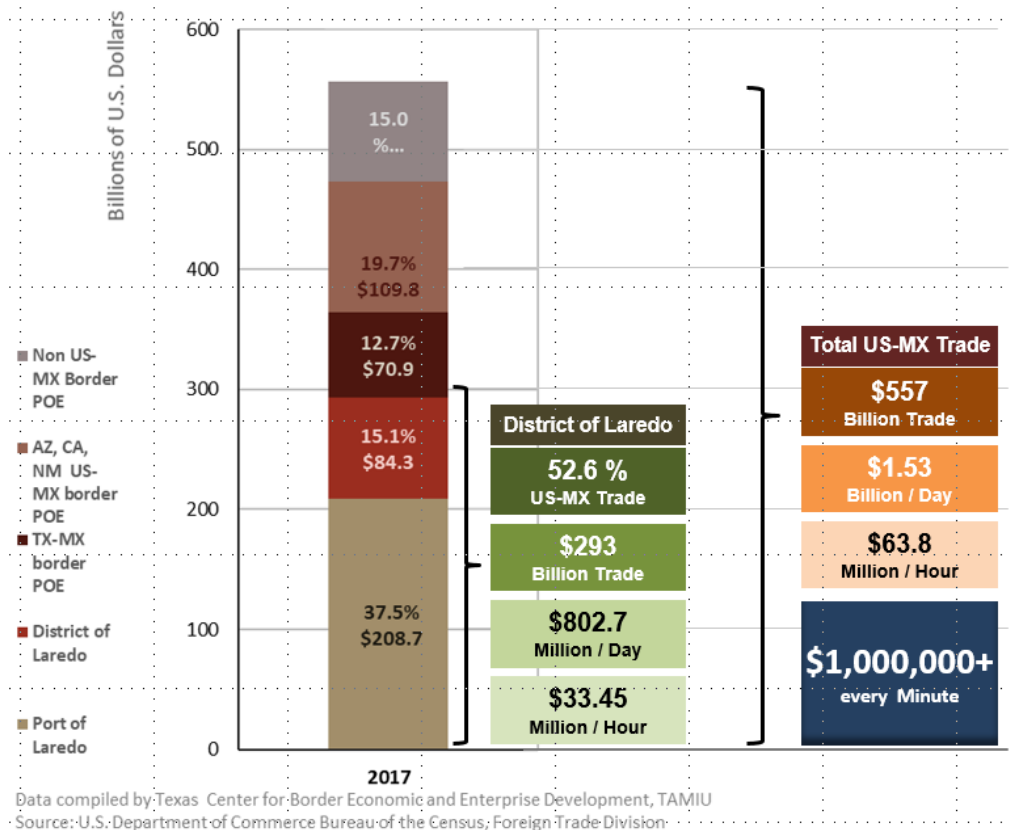
The two communities worked together in 2008 and 2009 to develop the “Region Laredo Long-Term Vision Plan 2040” after consulting with over 7,500 individuals on both sides of the river. In 2015-16 the private sector of Nuevo Laredo undertook the first update of this study for their city, while City of Laredo, Texas developed its own “Comprehensive Plan” between 2016 and 2017, also after consulting with thousands of local and regional stakeholders¹.

¹ Full disclosure. The author was part of the original 2040 Long-Term Vision Plan’s research and guidance committee, while working for the Nuevo Laredo City Government, and was principal in the update commissioned to the Texas Center for Border Economic and Enterprise Development of Texas A&M International University. This second study was financed by a group of Nuevo Laredo private business organizations

These forward-looking documents contemplate goals, strategies and actions that seek to improve the competitiveness of the region, by building both human capital and new logistics infrastructure. An example of this is the Laredo Comprehensive Plan’s Goal 4.15 “Commercial Transport & Port Freight Mobility” includes one Policy that directly can tie into the proposed hyperloop project:

“Infrastructure improvements and the use of *emerging technologies*² that facilitate the clearance, timely movement, and security of trade, including facilities for the efficient intermodal transfer of goods between ships, trucks, rail, and air modes, should be supported”.

International trade that crossed between Mexico and the United States in 2017, through the Laredo Customs District³, represented 52.6% of all trade between these two nations, which amounted to 1.53 billion dollars a day, or one million dollars every minute. The city and Port of Laredo, the second most important Port of Entry of the United States, represented 37.5% of this trade.



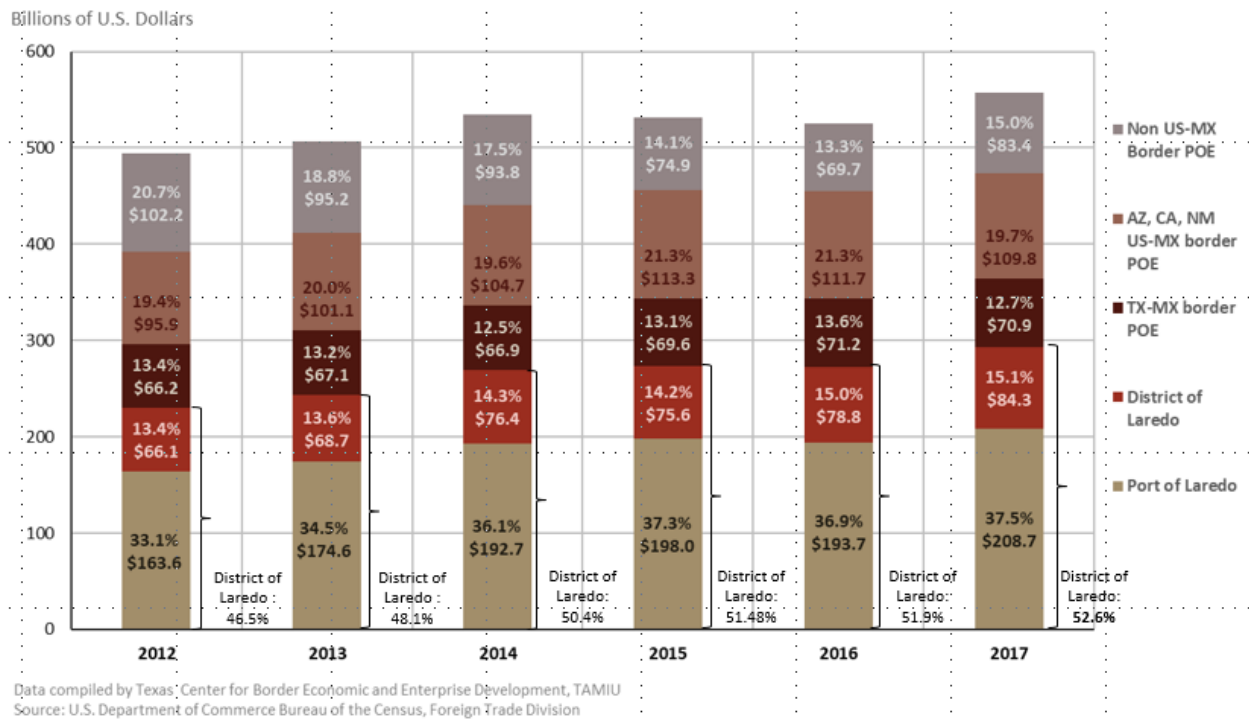
The growth and share of the total U.S.-Mexico trade operations crossing through this region has been constant in the previous years. In 2012 the Laredo Customs District represented 46.5% of all trade and in 2017 it grew to 52.6%. The other 47.4% of trade between Mexico and the United States crossed through

led by CODEIN, the Committee for Economic and Industrial Development. The author also collaborated as a member of the Economic Development workgroup that developed that Section of the Laredo Comprehensive Plan.

² Emphasis of the author.

³ The Laredo Customs District includes Laredo, Hidalgo/Pharr, Brownsville, Edinburg Airport, Progreso, Rio Grande City, Roma, Valley International Airport (Harlingen), Eagle Pass and Del Rio, Texas.

the other Ports of Entry (POE) of the USA. Simultaneously, on the Mexican side, 21.85% of all trade (by value) crossed through Nuevo Laredo, the most important POE of Mexico, while the other 78.15% was distributed among the remaining 48 POE of Mexico⁴.



Beyond the importance of the strategic geographic location of Los Dos Laredos, detailed in the following section, this sustained growth can be attributed to increased trade facilitation that resulted after the implementation of NAFTA and because of the quality of trade and logistic services offered in this region.

The renegotiation of NAFTA (renamed in 2018 the U.S. Mexico Canada Agreement, USMCA) guarantees the continuous flow of merchandise through these POE, especially regarding Machinery and Transport Equipment, which represents 61% of the total trade in 2016. Mexico is currently manufacturing 3.3 million autos a year, making it the seventh largest producer of the world and 80% of it is exported placing Mexico as the fourth largest exporter of light autos in the world. Currently 83.9% of all autos produced in Mexico are purchased in North America. By the year 2020 the growth of this sector is expected to reach 5 million units a year from makers like Volkswagen, Hyundai, GM, Kia, Mazda, Audi, Renault-Nissan, Daimler AG, BMW and Toyota. It is important to mention that before a vehicle is 100% completed in an assembly plant in any one of the three NAFTA nations, because of the highly integrated supply chains that service the sector, automotive parts and components might cross as much as eight times from one country to another⁵.

⁴ Figures compiled from data from the Mexican Institute of Statistics and Geography (INEGI) and from the Nuevo Laredo Custom Brokers Association's (AAANLD) own validation controls.

⁵ Wilson, C. (2011). Working Together: Economic ties between the United States and Mexico. Washington, D.C.: Woodrow Wilson International Center for Scholars.

The location of Los Dos Laredos is not only strategic because of its international trade bridges, competitive brokerage, and logistic services, another factor to consider is that is right at the center of a 500 kilometer of radius circle that goes from Houston, Texas, to Torreon, Coahuila in Mexico. This area wholly includes the states of Coahuila and Nuevo Leon, as well as approximately 2/3 of the state of Tamaulipas. These three Mexican states house very important economic sectors such as manufacturing, energy, agriculture, and retail, which Promexico tallied in 2014 as representing 25% of all Mexican exports.



Source:
Binational Center
TAMIU.

Circle of Influence



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Among many other population centers in this area are cities in Texas such as San Antonio, Austin, McAllen, the Rio Grande Valley, Brownsville, Galveston, Eagle Pass and Corpus Christi, as well as the Mexican cities of Monterrey, Saltillo, Reynosa, Matamoros and Ciudad Victoria, in the states of Coahuila, Nuevo Leon and Tamaulipas. The population in this “circle of influence” of Los Dos Laredos is just over 24.5 million people (2015 estimates). In it are industrial hubs like Houston and Monterrey, energy rich oil and gas fields and mines in Coahuila and South Texas (Eagle Ford Shale), airports, seaports and land ports. The competitiveness of the region is one of the economic strengths of northern Mexico and of South Texas. There are over 1,600 maquiladoras on the Mexican side, as well as thousands of small and medium businesses on both sides of the border. All of these productive entities could very well prove to be users of the proposed “Texas Star” Hyperloop to shuttle their products or commodities from Laredo

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to San Antonio and then Dallas or Houston, Texas and from there on to the rest of the United States and Canada.

Another advantage of this region that is frequently mentioned by the Office of Global Initiatives at Texas A&M International University is that the “Asian Corridor” will likely increase the movement of cargo for the proposed hyperloop. This is a network of highways that connect the two most important Mexican seaports of Manzanillo, in Colima, and Lazaro Cardenas, in Michoacan, with manufacturing, industrial and agricultural production centers in Guadalajara, Leon, Aguascalientes, Queretaro, San Luis Potosi, Saltillo and Monterrey, and from any of these cities all the way to Nuevo Laredo and its international trade crossing facilities. Between Lazaro Cardenas and Manzanillo, in 2016 they handled over 2.7 million TEU’s (Twenty-foot Equivalent Units) with ongoing infrastructure construction that will very soon increase the capacity to over 3.5 million TEU’s a year.

Conclusions. Regional concerns and potential benefits

For those in the south Texas, especially in the area between Laredo and San Antonio, the growing amount of truck traffic that uses IH35 represents several concerns, the most important of which is safety. In 2017 there were 352 crashes in this highway, containing 408 units and 681 persons⁶. Parallel to this we could also factor in that a 2018 report by the Texas A&M Transportation Institute found that Laredo’s Bob Bullock Loop, which directly connects the World Trade Bridge in Laredo to the southern part of the city, was recently found to be the second most truck-congested roadway in Texas⁷.

One potential benefit of the construction of the Laredo-San Antonio proposed hyperloop could well be a decrease of highway cargo traffic, or at least maintaining current levels if additional growth of international trade continues, which would also make driving in this segment of IH35 less stressful. Another benefit would be a potential reduction of expenses of transportation companies, from vehicle costs, maintenance, insurance, and operation to driver wages, which eventually affect importers and exporters. If less trailers are required for long hauls, these costs could decrease. At the same time, looking at this from another perspective, it can very well present an adverse impact on the profits of these companies as well as unemployment. Depending on the eventual number of drivers and mechanics jobs lost, some of them could be replaced with dryage operations (short hauls, patio maneuvers) or cross-dock handling (from trailers to hyperloop pods) as well as new administrative, security or compliance positions at custom brokers, freight forwarders and logistic companies.

Import/export companies who could use the hyperloop for their time-sensitive shipments could very well rent or lease a certain number of pods for their exclusive use. The way cargo is packaged or packed in a trailer for delivery could also change to optimize the inner space available in a cylindrical pod versus the box-like shape of a trailer or shipping container. Wood or plastic square pallets could change to

⁶ Data collected by the Texas Center for Border Economic and Enterprise Development from Texas Peace Officer’s Crash Reports (CR-3) received and processed by the Texas Department of Transportation as of 10/26/2018.

⁷ The Laredo Morning Times reported on an October 29, 2018 news story that “The freight-related congestion on Loop 20 resulted in 77,555 lost hours in traffic per mile, at a cost of \$11.1 million annually in wasted gasoline and time. For Mines Road, it was 8,910 lost hours at a cost of \$1.1 million”. Mines Road also flows traffic from the Colombia Solidarity Bridge in North Laredo to the Loop, as it also directly connects with the World Trade Bridge.

elongated forms to better fit in a pod. Further studies would have to be made to evaluate the potential impact of transporting hazardous materials (or people, but not in the same pod) via the hyperloop.

Additional concerns relate to the environment. Less truck traffic means less pollution. Less pollution reduces the risk of a negative impact to human health and to regional flora and fauna. Sustainability of moving cargo through the hyperloop would eventually fall into balancing the needs of the market with the requirements and costs of this new form of transportation. The current amount of international trade that enters/leaves the United States via Laredo, and its potential for further growth, shows that the need to expedite time-sensitive handling of products could shift from air to hyperloop.

These considerations initially show that the proposed hyperloop connection from Laredo to San Antonio, Texas, and beyond to Houston and Dallas (both very important production and consumption centers) would have a sufficient volume of available cargo to move to make this project not only sustainable, but also profitable for its stakeholders and beneficial for inhabitants of this region of Texas.