Mobility

4

movible *adj* : movable
movida *nf* : move (in a game)
móvil[1] *adj* : mobile
móvil[2] *nm* **1** MOTIVO : motive **2** : mobile
movilidad *nf* : mobility
movilizar {21} *vt* : to mobilize — **movilización** *nf*
movimiento *nm* : movement, motion ⟨movimiento del cuerpo : bodily movement⟩ ⟨movimiento sindicalista : labor movement⟩
mozo[1]**, -za** *adj* : young, youthful
mozo[2]**, -za** *n* **1** JOVEN : young man *m*, young woman *f*, youth **2** : helper, servant **3** *Arg, Chile, Col, Peru* : waiter *m*, waitress *f*
mucamo, -ma *n* : servant, maid *f*
muchacha *nf* : maid
muchacho, -cha *n* **1** : kid, boy *m*, girl *f* **2** JOVEN : young man *m*, young woman *f*
muchedumbre *nf* MULTITUD : crowd, multitude

Image Credit: Karen Gaytán

EXISTING CONDITIONS

Introduction

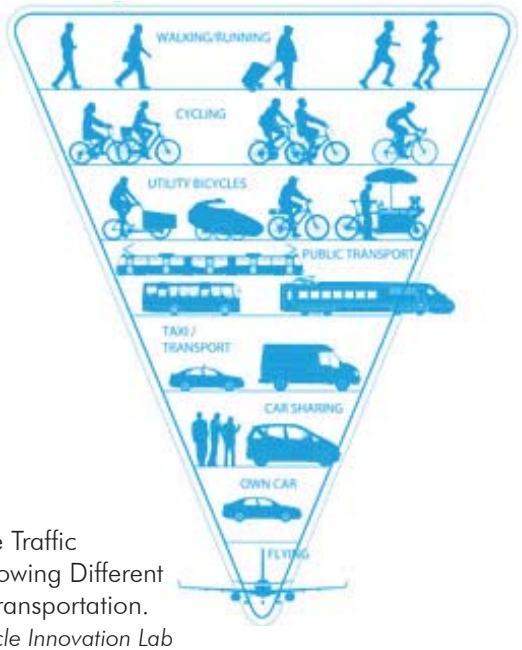
Transportation systems play a vital role in the economic growth and competitiveness of a city. A highly effective transportation system has the ability to bring a community together, remove barriers and promote social inclusion, enhance quality of life, and protect the environment. Likewise, a poorly planned transportation system can often result in physical breakdowns within the fabric of the community, reinforce social exclusion, and elevate stress levels.

Often the most visible and frequently cited issues as related to transportation are issues related to traffic congestion. High levels of congestion create significant economic impacts, especially in a trade dependent city that is heavily reliant on the free flowing movement of people, goods, and services across its US-Mexico border.

Commercial vehicle traffic due to international trade activity is a vital issue for the region and among the highest traffic and economic generators for the City. In addition, other major traffic generators such as public facilities, hospitals, educational institutions, shopping centers, and other special transportation hubs place special demands on the transportation system. Identifying and improving these regional traffic generators are important to plan effectively.

Transportation congestion can also be responsible for public health issues in cities due to air pollution (acidification, smog), noise, greenhouse gas emissions (ozone), and road accidents. Furthermore, a transportation system can be indirectly responsible for contributing to many non-communicable diseases like diabetes, stroke, and cardiovascular disease—all of which are attributed to inactive lifestyles.

Reducing traffic congestion by providing accessible, pedestrian-friendly streets with high connectivity can be catalysts for economic growth, improved convenience, reduced stress levels for drivers and pedestrians, reduced traffic accidents, reduced travel times, increased work productivity, and reduced air pollution. Therefore, a smartly planned transportation system is one that places due consideration to social, economic, environmental, and cultural elements which will improve the City's prosperity and well-being.



The Reverse Traffic Pyramid Showing Different Modes of Transportation.
Source: Bicycle Innovation Lab

This Mobility chapter presents an evaluation of the multi-modal transportation system's mobility, accessibility, and connectivity within the City of Laredo including the following assets:

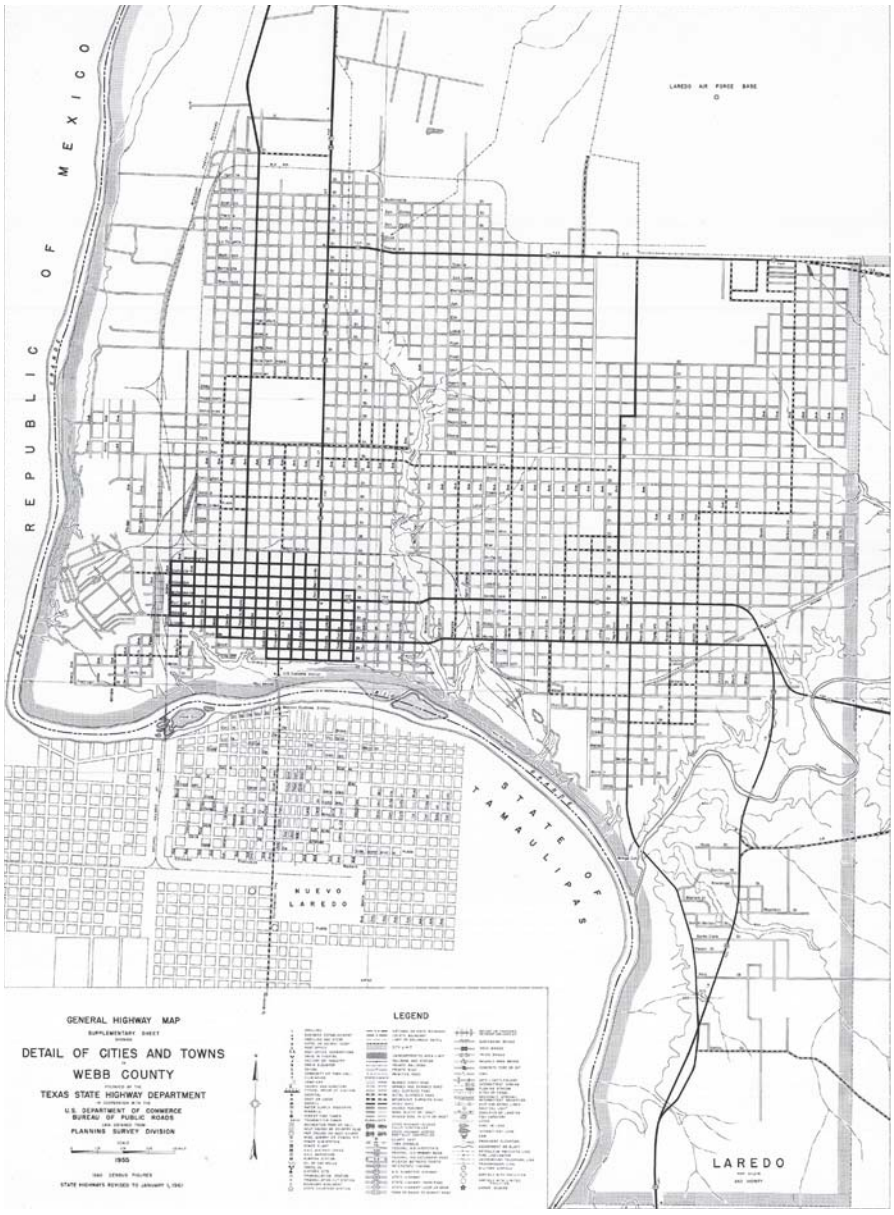
- Road networks including roads, highways, and bridges;
- Alternative travel modes including bicycle, pedestrian facilities, public transportation, or other services for populations without automobiles;
- Parking concerns including areas with either too much or too little parking or inadequate parking facilities;
- Railroads, trucking, port facilities, and airports; and
- Transportation policies, programs, and projects and their alignment with local land use development policies.

Road System

The City was originally laid out in a street grid pattern modeled after the Spanish plaza settlement system. Laredo has one of the largest and most consistent block and street network in the country. However, transportation policy and development trends have changed overtime with more recent development following a typical more suburban pattern.

Roadway expansion projects and the establishment of the Interstate Highway system resulted in the growth of passenger automobile and truck freight traffic which highly impacted the transportation and economic landscape of the City. Consequently, much like the rest of the country, Laredo's transportation system is dominated by single-occupancy automobile trips, making the City an automobile-dependent City.

In the 1980s and continuing into the early 2000s, Laredo experienced a population growth much larger than the national average ranging from 31.2% to 43.7%, annually. Nationally, for the same period average population growth ranged from 9.8% to 13.2%. This explosion in population led to significant economic development and further construction of major infrastructure improvement and expansion projects including two international bridges and the widening and extension of Bob Bullock Loop.



1961 Map of the City of Laredo

Large residential developments were constructed along the northern areas of the City, which moved away from the traditionally grid system familiar to the City up until the 1960s.

In 2000, the completion of the World Trade Bridge (Bridge IV) provided a huge benefit to the City by diverting commercial truck traffic off of I-35 near the Downtown area, shifting it to the northwest side of the City. The resulting reduction in traffic congestion supported the efficient movement of goods and fostered the creation of a centralized industrial district. Today, the industrial district located near Mines Road is heavily congested and is in need of relief.

In 2011, Bob Bullock Loop was extended for a length of seven miles from State Highway 359 south to Mangana-Hein Road, essentially completing the inner loop from I-35 eastward and around the City to the southern side.

Existing Roadway System

The City's road network consists primarily of a grid pattern street system within the incorporated boundaries of Laredo. In recent years, developments have expanded throughout the region with more curvilinear street patterns. These streets are mainly two-lane collector and local access roads with speed limits of 30 miles per hour.

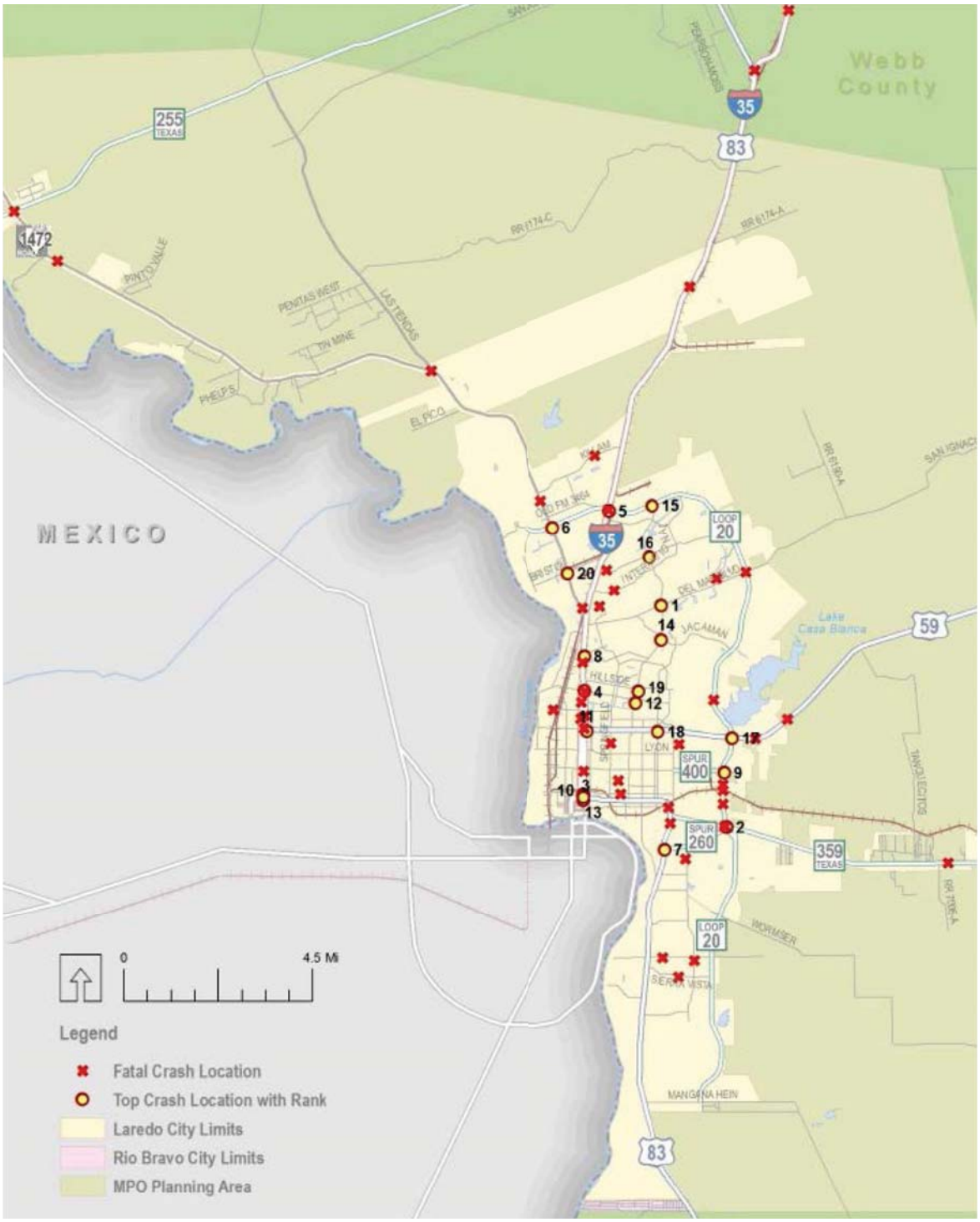
The City maintains over 700 lane miles of street surface. Maintenance of these City streets and associated infrastructure is critical for the roadway system to function efficiently. As the City continues to develop, an ever greater demand is placed on the street infrastructure system to meet the needs of a growing population. Common practices to meet these demands are for the City to maintain its aging street infrastructure, widening streets to improve capacity, new roads, and improved traffic signaling. Each of these practices places additional burdens on the City by requiring commitments of additional resources and greater funding needs.

In order to help address these issues, the City's Long Range Thoroughfare Plan provides the transportation standards for the street system within the City and its extraterritorial jurisdiction.

For street design standards, the City has adopted the design standards set by the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highways and Streets. City ordinances require typical local streets to be designed to a standard 50 foot right-of-way width with a 30 foot paving section. Local Collectors are required to contain a 60 foot right-of-way width with a 40 foot paving section. Pavement length of service life are designed to meet a minimum of 20 years. Pavement design standards follow the AASHTO Guide for Design of Pavement Structures.

Blocks and street lengths are currently limited to a maximum length of 1,200 feet and not less than 300 feet. The maximum allowable continuous street length is 1,000 feet for streets classified as local residential and 1,200 feet for streets classified as local collector with frontage and street intersection layouts are required to be laid out at right angles.

These standards only account for vehicular travel and do not consider the implications that land use or alternative modes of travel may have on the system. The system that has been created in Laredo is like other national systems in that pedestrian and crash fatalities are still significant as the movement of vehicles quickly seems paramount over other concerns.



Top 20 Crash and All Fatal Crash Locations 2010-2012 (source: MPO)

Railroad Lines

Union Pacific Railroad (UP) has 41 at grade crossings through the City. Fifteen to twenty trains run through the City per day south of Bob Bullock Loop and twenty to twenty-five trains per day from the Texas Mexican Railway International Bridge to the City limits.

In addition, the Kansas City Southern Railroad has 32 at grade crossings running sixteen trains per day (eight day trains and eight night trains). Congestion at these crossings and noise are a stressor in the community.

Border Crossings

Laredo has the busiest commercial crossing points along the U.S.-Mexico border and the third busiest port in the United States (behind only Los Angeles and New York).

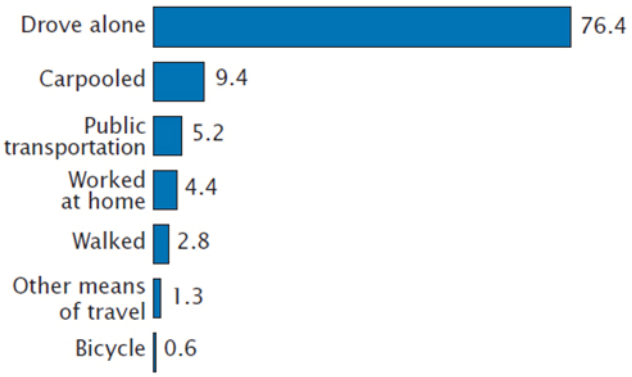
Commuting Trends

The mean travel time to work in Laredo is 21.2 minutes which is below the average for the state of Texas which is 25.2 minutes.[1]

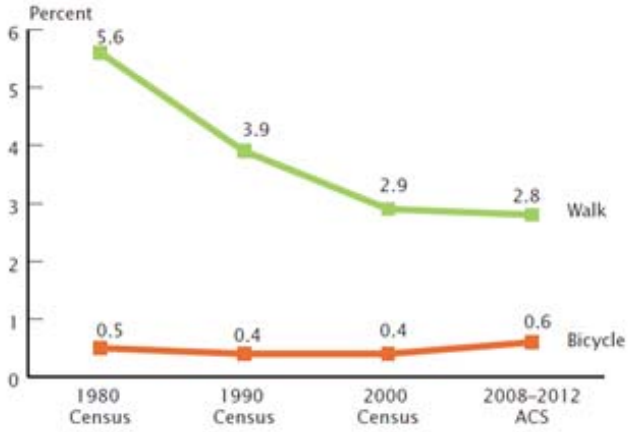
Commuting by private vehicle has continuously increased overtime to its peak at 90% in 2000. Since then the rate of automobile commuting has declined slightly to approximately 86%. Public transit annual ridership on El Metro has been stable since 2011 but saw decreased in ridership from 2007-2011. At the same time the City has the least number of workers who commute by bicycle (0.1%) or by walking (1.5%) in the country.[2] So while Laredo is one of the poorest cities, it also seems to require people to drive or take transit rather than more inexpensive modes of travel like biking and walking.

Transportation Costs and Affordability

In Laredo, the estimated driving costs for the median household is estimated to be approximately 32% of the median household income.[3] At the same time, Laredo has among the most favorable commuting costs with respect to gas prices at an estimated $911.56 per year.[4] For those households earning below the median income, the expenses related to driving costs can be far greater. This larger expense could be attributed to the high number of trips that need a car beyond the work commute.



How People Travel to Work in the United States
Source: US Census Bureau, 2013 American Community Survey, Table S0801



Walking and Bicycling to Work 1980 to 2008-2012
Source: US Census Bureau, 1980, 1990. 2000; American Community Survey, 2008-2012

1 U.S. Census 2010-2014
2 2012 U.S. Census
3 CNT's Housing and Transportation Affordability Index
4 CNT's Housing and Transportation Affordability Index

According to the Federal Highway Administration (FHWA), transportation costs are generally considered affordable when they are 15% or less of household income. Additionally, the FHWA considers a Location Efficient Environment as a community that spends an average of 9% of household income on transportation costs.

With housing costs in Laredo typically at 33% of income, the remaining household disposable income amounts to approximately 35% or $13,800 per year to spend on food, insurance, healthcare, entertainment, apparel, and other goods.

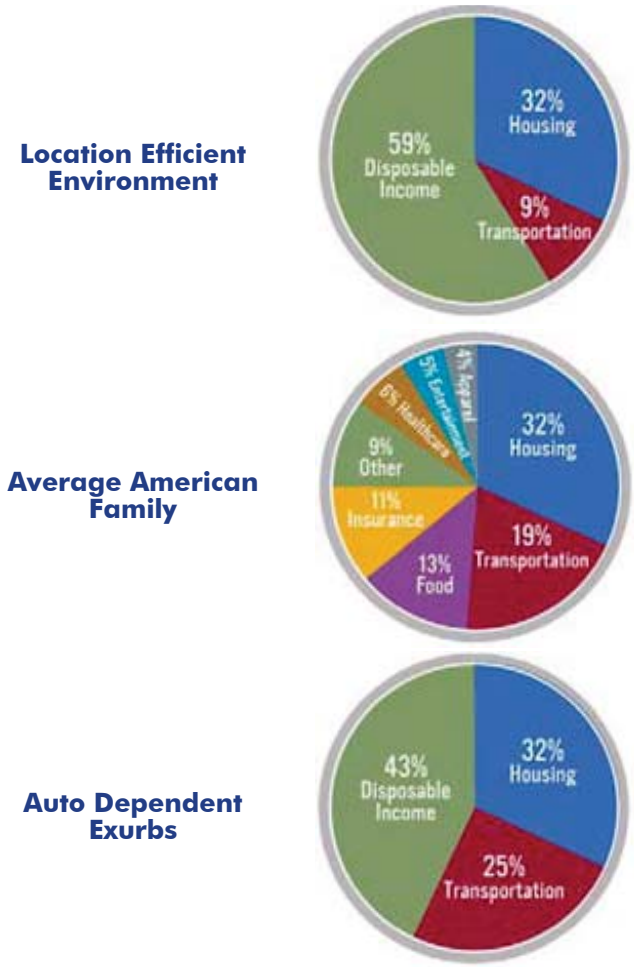
Given the disproportionately high costs for the region, priorities should be considered and implemented to help improve and alleviate the transportation costs, thereby making a more affordable and livable community. A great deal of the cost of commuting leaves the local economy in the form of gas costs, insurance, and vehicle costs which ultimately turn into profits for companies located outside of Laredo.

Regional Transportation Planning Organizations

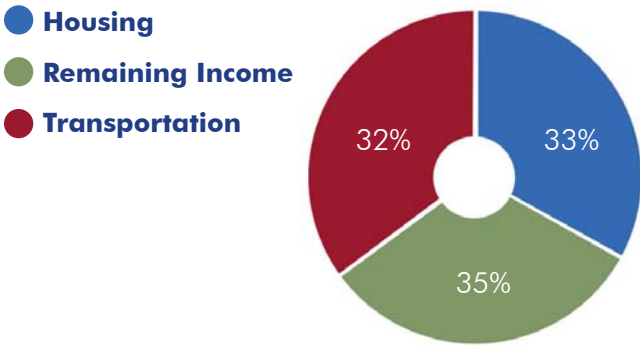
The following governmental and planning organizations operate within the City of Laredo.

Metropolitan Planning Organization

Planning studies for the City and region are largely initiated by the Metropolitan Planning Organization (MPO), which is the policy board responsible for carrying out the metropolitan planning process. The Laredo MPO is responsible for adopting and updating the Transportation Improvement Program (TIP) at least every two years. The TIP includes projects for which the construction and operation funds can reasonably be expected.



FHWA Transportation and Housing Affordability Index



Laredo Average Housing + Transportation Costs, % Household Income

City of Laredo Capital Improvement Program (CIP)

The City currently maintains 734 miles of roadways. Improvement projects are managed by the City's CIP which is a short-range plan, usually four to ten years, which identifies capital projects, schedules, and allocates financing to complete projects as part of the City's comprehensive and strategic plan and the City's annual budget.

Webb County-Laredo Regional Mobility Authority (RMA)

Established February 27, 2014, the RMA is an independent local government transportation agency authorized to finance, design, construct, operate, maintain, and expand a wide range of transportation facilities and services. Currently the RMA does not operate any roads.

Texas Department of Transportation (TxDOT)

State agency responsible for the major roadway infrastructure network within the City. TxDOT currently maintains approximately 218 miles of state roadways within the Laredo MPO.

Webb County

Is the county seat of Laredo and currently maintains approximately 23 miles of roadways within the Laredo MPO boundary.

Texas Border Infrastructure Coalition (TBIC)

TBIC is a group of 15 cities and economic development groups that lobbies the state government to fund border projects. TBIC advocates that border cities receive a fair share of state funding for education, health, workforce development, transportation and tax reform. The group's efforts have resulted in more than $1 billion for border transportation projects.

El Metro Transit

El Metro is the transit authority in Laredo and operates 47 bus routes, two trolleys, and eighteen demand response vans. El Metro's Mission is to promote and provide high quality, cost-effective public transportation services that address the needs and demands of the citizens of Laredo, Texas.

Planned Transportation Projects

There are a number of new transportation projects and upgrades to existing roadways planned in the Laredo metropolitan area. Some of these include:

- Construction of Hachar Loop is intended to reduce vehicle travel time delays and generate new traffic from new land developments between Mines Road and I-35. This road will enable more development outside of the currently developed areas instead of encouraging infill within existing areas.
- Expansion and widening of Bob Bullock Loop and the construction of interchanges in several locations. Direct connectors for all movements between I-35 and Bob Bullock Loop along with lane widenings are being planned. These are expected to eliminate the need for traffic to stop at traffic signals when accessing I-35 or Bob Bullock Loop.
- Reconstruction of San Bernardo Avenue to accommodate a linear transit hub of 2.7 miles.
- Construction of improvements on Clark Boulevard including an overpass bridge at the Clark Boulevard intersection with Bob Bullock Loop and widening of an existing bridge over the Kansas City Southern Railroad (KCSR) tracks.
- Planning is in progress for the Outer Loop. The Outer Loop will complement Bob Bullock Loop and provide an alternative means of connecting to I-35. The Outer Loop is planned to be a two lane facility with four lanes in several sections, and will closely follow the Laredo MPO boundary and the alignment with KCSR railroad. The Outer Loop is expected to divert a share of the traffic to the outside of the City of Laredo from people trying to avoid traffic within the City.
- Several at-grade rail separations that are part of the Bob Bullock Loop project are planned in the vicinity of Shiloh Road and Las Cruces Drive.

COMMUNITY CONCERNS

During the *Viva Laredo* process, the over-arching transportation theme was to "fight traffic." Residents report commuting times getting longer. The solution involves further enhancements to the vehicular system and the simultaneous expansion of personal mobility choices and options. Residents and stakeholders emphasized the importance of incorporating multi-modal transportation solutions to address all issues from pedestrians to cargo transport to highway systems.

Expand Walkability & Mixed-Use Zoning

As with transit, residents strongly supported expanded walking for both utilitarian and recreational use. Non-motorized transportation is highly valued in Laredo, whether for kids walking to school, safe walking and bicycling on major arterials, or access to transit. Residents indicated the improvement of neighborhood walkability. Providing more sidewalks in Southern Laredo was also advocated by the community.

Expanding walkability and bikability with improved transit options could drastically reduce a household's reliance on cars and reduce the overall household transportation costs. These work hand in hand with mixed-use zoning and a network of interconnected streets that promote walking and biking.

Address Congestion

Both residents and stakeholders wrestled with balancing multimodal street design and investment with significant traffic volume and congestion. Some residents advocated to alleviate traffic congestion ingress/egress access into Downtown's central business district. Others wanted to improve connectivity between South Laredo and I-35.

Residents and stakeholders emphasized the need to provide safety and traffic congestion improvements to the Texas A&M International University entrances. Similarly, residents asked to improve Mines Road and Industrial Park congestion and public safety. There is a need to improve connectivity between I-35 and Bob Bullock Loop. Some advocated for the regulation of commercial truck traffic throughout the City.

The issue of school traffic and the need to alleviate rush hour traffic around school zones, like United Middle School on Del Mar Boulevard, was voiced. Residents and stakeholders considered the idea of synchronizing the street lights to address most of these concerns.

Invest in Transit

Residents emphasized the need to improve northbound/southbound transit time. Many spoke passionately to improve the frequency, reliability and perception of public transit as extremely important. Many advocated to extend the transit route service hours. Several comments suggested smaller buses for El Metro. A rethink of the El Metro system should be considered to improve reliability to get people to where they need to go and change the perception of this vital service for the City. Having a reliable, easy to use transit choice can increase ridership.

Reinvest in Rail

Another important element that the community introduced was the railroad. Many voiced that the railroad was noisy and there was a need for quiet zones in the City. Others advocated for new railroad bridges. Some asked to institute alternative forms of cargo movement to help alleviate crossing times, using other ports like El Paso as examples.

Continue Investment in the Airport

The Laredo International Airport is a major gateway into Laredo. Residents emphasized the need to attract more airline routes to Laredo with more destinations that will help with tourism and trade. Lower costs and increased choices of travel for residents is a valuable quality of life amenity for attracting and keeping talented people in Laredo.

Improve Bridges

Connections to Nuevo Laredo are important to Laredo. Residents endorsed better technology and process for customs inspections on both sides of the border. Residents also spoke of the need for another international bridge/port of entry identifying a location in South Laredo toward the end of Bob Bullock Loop.

STRATEGIES

Expand Walkability & Manage Congestion

Towns and cities throughout the country are in the process of restoring old neighborhoods and creating new neighborhoods that are both walkable and accessible. Strategies that make Laredo easier to navigate as a pedestrian (or cyclist) will also make the City more livable and attractive.

Expanding walkability in in-town and mixed-use areas is part of the solution for managing current and future traffic congestion. Most transportation corridors should be more than just roadways for cars. Corridors can be designed and classified to reflect a balance between many modes of transportation and the surrounding land uses.

Active Transportation & Accessibility

A walkable community is a place that encourages a mix of travel modes, including pedestrians, bicycles, transit-users and automobiles.

Generally, The Campaign to Make America Walkable, a national project, has developed some general descriptions for a walkable community. Characteristics include: places where people of all ages and abilities have easy access to their community "on-foot"; neighborhoods that are safer, healthier and friendlier places; a place where pedestrians are given priority and motor vehicle speeds are reduced; and towns and cities with good air and water quality.

With respect to street design, walkable communities are best supported by street grids where the block width is 300 to 400 feet. Much of the Downtown, the Heights areas, and the older parts of Laredo, meet this ideal condition although many lack sidewalks. In the areas of the City that have newer development, such as the neighborhoods north of Calton Road and east of Ejido Avenue on the south side of Laredo, they have moved away from the ideal block size and have less walkable neighborhoods.

Walkable Downtown in El Paso, Texas

Walkable Downtown in Laredo, Texas

Walk Score

When it comes to walkable cities in general, Texas tends to get a failing grade according to WalkScore.com. Factors that go into determining the Walk Score include the availability of walking routes, how long it takes to get from one desirable location to another on foot, depth of choice, pedestrian-friendliness, and mixed-use versus single-use zoning practices.

Laredo's average Walk Score is a 40 out of 100, with 100 signifying the most walkable places. Neighborhoods like the Central Business District, El Cuatro, El Trece, La Guadalupe, and Los Amores all received high Walk Scores of 92, 79, 76, 74, and 72, respectively. The least walkable neighborhoods are La Bota Ranch, J.S.J. Estates, Los Presidentes, Indian Sunset West, and Del Mar, which have a Walk Score of 2, 14, 14, 15, and 21, respectively.

Walking Distance

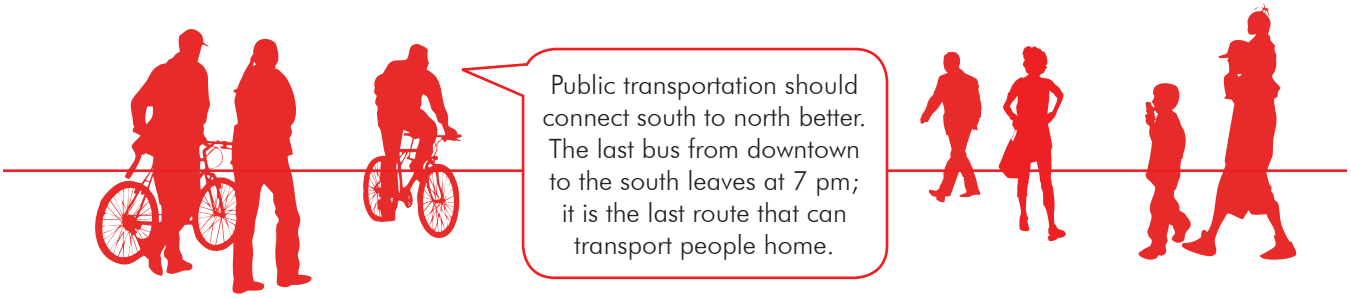
Often, a city's hot and arid climate is mentioned as a barrier to greater walkability. The typical comfortable walking distance for a pedestrian ("pedestrian shed") is often defined as the area covered by a 5 minute walk, or about 1,320 feet. However, the challenges of a hot climate might reduce that comfortable walking distance down to 3 minutes, or 800 feet. Providing trees, shade structures, and reductions in pavement (or use of reflective materials) can provide improved comfort for longer distances.

A highly effective method for improving walkability is through the process of installing Complete Streets and Road Diets. These concepts convert roadways from auto-centric thoroughfares into people or community-oriented streets that accommodate the safe and efficient movement of all transportation users. The complete street principle includes design enhancements such as medians, street trees, on-street parking, and bike lanes set in an attractive, urban scale environment.

Awnings, eyebrows, and umbrellas all help shade people walking along Ocean Drive in South Beach, FL


A successful complete street redesign along Vanderbilt Avenue in Brooklyn, NY


A pedestrian friendly example of curb extensions that can help slow down traffic



Complete Streets

"Complete Streets" is a concept for streets, designed to enable safe access and mobility for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Like safe vehicular travel, bicycles and pedestrians are important components of Laredo's transportation system. Where gaps in the bicycle and pedestrian networks exist, effective and safe circulation is hindered. In key locations, including retail and mixed- use centers, schools, and parks, a well-connected network is especially important.

Presently, the City of Laredo has not adopted a Complete Streets Policy, which would help facilitate more community-oriented neighborhoods.

Road Diets

A technique for creating Complete Streets includes implementing road diets, or re-shaping the public right-of-way to have an equal amount of road space dedicated to all users (pedestrians, bikes, transit users, and cars).

Current best practices, which are shaping local ordinances throughout the country, include the National Association of City Transportation Officials (NACTO) and the Congress for the New Urbanism/ Institute of Transportation Engineers Manual (CNU/ITE Manual). These references recommend adjustments to street dimensions that are required for a road diet (e.g. narrowed lane widths and parking space dimensions, wider sidewalks, minimum size of bike lanes, etc.).

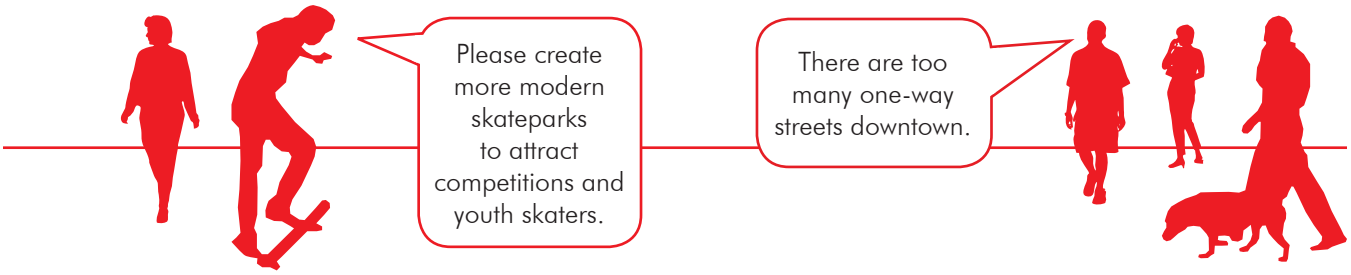
In addition, on existing four-lane streets with less than 25,000 (ADT), transportation experts around the country are recommending road diets as a priority. Conversion of a four-lane undivided road to a three-lane undivided road, made up of two through lanes and a center two-way left-turn lane is a common retrofit.

Streets with three-lanes or two-lanes may also be considered for a road diet. Road diets can be completed on streets of all sizes; however, the re-design will need to be customized, depending on where the street is located (urban, suburban, or rural) and the desired land uses that are envisioned for the future adjacent to the roadway.


Road Diet, part of the Indianapolis Cultural Trail, Indiana

Benefits of road diet may include:

- An overall crash reduction of 19% to 47%;
- Reduction of rear-end and left-turn crashes through the use of a dedicated left-turn lane;
- Fewer lanes for pedestrians to cross and an opportunity to install pedestrian refuge islands;
- The opportunity to install bike facilities when the cross-section width is reallocated;
- Reduced right-angle crashes as side street motorists must cross only three lanes of traffic instead of four;
- Traffic calming and reduced speed differential, which can decrease the number of crashes and reduce the severity of crashes if they occur;
- The opportunity to allocate the extra roadway width for other purposes, such as on-street parking, transit stops, street trees, and bike or pedestrian enhancements;
- A community-focused, "Complete Streets" environment with places for people, not just cars; and
- Simplifying road scanning and gap selection for motorists (especially older and younger drivers) making left turns from or onto the mainline.



Calton Road and Jacaman Road are both examples of underutilized four-lane streets. These types of conditions are being transformed around the country, from four lanes to three, typically adding bike lanes on each side of the street.

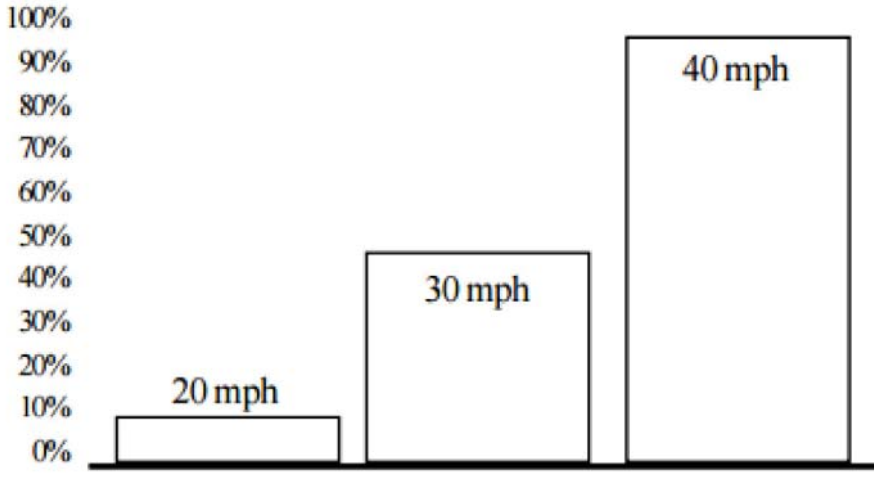
Speed Management

Another important aspect of walkability and public safety involves reduced traffic speeds and the use of traffic calming devices. The speed of vehicles is a critical component to pedestrian safety and comfort. A pedestrian involved in a collision with a vehicle has a 95% chance of survival if the car is traveling at 20 miles per hour; there is a 10% chance of pedestrian survival if the car is traveling at 40 miles per hour. Pedestrian-friendly speeds are typically 20-25 miles per hour, and are no more than 30 miles per hour.

Sidewalks

The availability of a complete sidewalk network also supports the movement of residents. Wide and continuous sidewalks create active, safe, and healthy lifestyles for citizens and increase the accessibility and attractiveness of alternative modes of transportation (e.g. bus and rail transit). Properly-designed pedestrian networks accommodate persons with disabilities, the elderly, and children who walk to school and other places. Currently, many Laredo neighborhoods have incomplete sidewalk networks, with some segments being broken, overgrown with weeds, or blocked by parked cars.

Illustration of a walkable boulevard.
Source: Claire Vlach, Bottomley Design & Planning



Fatalities Based on Speed of Vehicle (Source: Campaign to Make America Walkable, Wall Tall (Washington, DC, 1994))

Complete Streets: Clark / Park Street & I-35

Like much of the rest of the country, many major arterials in the City of Laredo, are dangerous places for people to walk or ride a bike. Large volumes of high-speed traffic are funneled onto these streets, often as a result of an insufficiently connected network of streets which would provide plenty of alternate routes to travel to one's destination. These heavily traveled streets also contain oversized lanes that encourage motorists to travel at high speeds and leave little room for sidewalks and bike lanes. Pedestrians and bicyclists are often forced to share a narrow strip of sidewalk located directly adjacent to vehicular lanes of travel.

Many streets are over-designed for the volume of cars that travel on them. In such cases, road diets, or narrowing or reduction in the number of travel lanes, can be applied to right-size the roadway and accommodate additional modes of travel. At the location at Clark/Park Street and I-35, the street currently has four vehicular travel lanes, along with on-street parking. Reconfiguring the roadway to include one vehicular travel lane in each direction, a center turn lane and on-street parking creates the space necessary to add a protected two-way bicycle facility.

To protect bicyclists from potential conflicts with doors opening from parked cars, a physical separation can be built; in this case a raised curb. This additional safety measure protects bicyclists on Clark Boulevard,

Clark / Park Street: existing broken sidewalks, no bicycle facility, and auto-oriented commercial.

and encourages new riders that would otherwise not feel safe to ride. Carefully designed intersections also improve safety for bicyclists when they are most vulnerable.

Pedestrians also feel more comfortable walking longer distances when shade trees protect them from the harsh sun. Street trees also provide a narrower field of vision for motorists – encouraging cars to drive at slower speeds. Regularly spaced, pedestrian-scaled lamp posts provide a sense of security and safety for people walking at night. Eventually, urban buildings can open out toward the street, with ample parking discretely tucked behind. These mixed-use, multi-story buildings activate Clark/Park Street with shopfronts, cafés and residential units with doors and windows that open up toward the street.

The proposed intervention on Clark/Park Street is one example of a road diet that returns a portion of the right-of-way to pedestrians and cyclists. Additional streets in Laredo may also benefit from a road diet; suggested street sections for a variety of new and existing roads can be found in the Bike Master Plan and the Future Thoroughfare Plan within this Mobility Chapter.

Clark / Park Street: reimagined with a protected two-way bike facility, urban, multi-story buildings with ample parking behind, creating street-oriented entrances, with residences on the second floor.

Reimagined Frontage Roads

Laredo's highways, including I-35 and Bob Bullock Loop, create several challenges for walkable development. The conventional layout of a Texas highway includes several lanes of limited-access, high-speed, through traffic in the central lanes, with bridges over major intersections. On either side of the highway is a one-way frontage road, with several more lanes of traffic that function as on-and-off ramps. These frontage roads typically have relatively high-speeds of car traffic and have a design that is unwelcoming to pedestrians and bicyclists. In response to the high-speed environment, auto-centric businesses, like gas stations and fast food restaurants, typically line these roads and have wide setbacks that accommodate parking in the front.

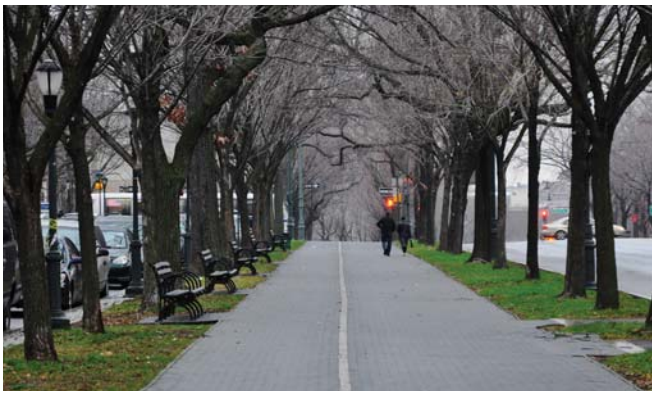
It might be difficult to reconcile this pattern of development with a vision for a more walkable and bikable City, but here the example of an historic multiway boulevard provides one potential solution. Multiway boulevards have long been the way cities accommodate heavy volumes of traffic while still creating a generous urban streetscape along the sides, that is pedestrian-friendly. Multiway boulevards have central travel lanes, and side travel lanes that separate local and through traffic with tree-lined medians.

The difference between historic boulevards and modern Texas highways is the limited-access of the through lanes and high-speed design of side traffic lanes of Texas' frontage roads. These frontage roads

Frontage roads are redesigned as pedestrian-friendly tree-lined frontage boulevards fronted by mixed-use buildings.

are more akin to the center traffic lanes on a traditional multiway boulevard rather than the slow speed of the boulevards access lanes.

The part that is missing is the tree-lined, pedestrian friendly, slow-speed local access lanes. Areas that would like to encourage walkability can retrofit high-speed frontage roads to become frontage boulevards. Oversized lanes are narrowed to discourage speeding; the outside lane is converted to a narrow slow-speed access lane with on-street parking; a wide tree-lined median with bike lanes separates the frontage lanes from the local access lane; buildings are brought up to a wide sidewalk shaded by street trees; and additional parking is provided behind buildings in mid-block locations. This new pattern of development creates a more walkable urban environment and creates additional value for property owners.



Eastern Parkway in Brooklyn, New York is a multiway boulevard that has wide tree-lined medians that include bike and pedestrian paths.

Multiway boulevards have center traffic lanes, and side traffic lanes that separate local and through traffic with tree-lined medians.

Manage Congestion

Traffic Congestion

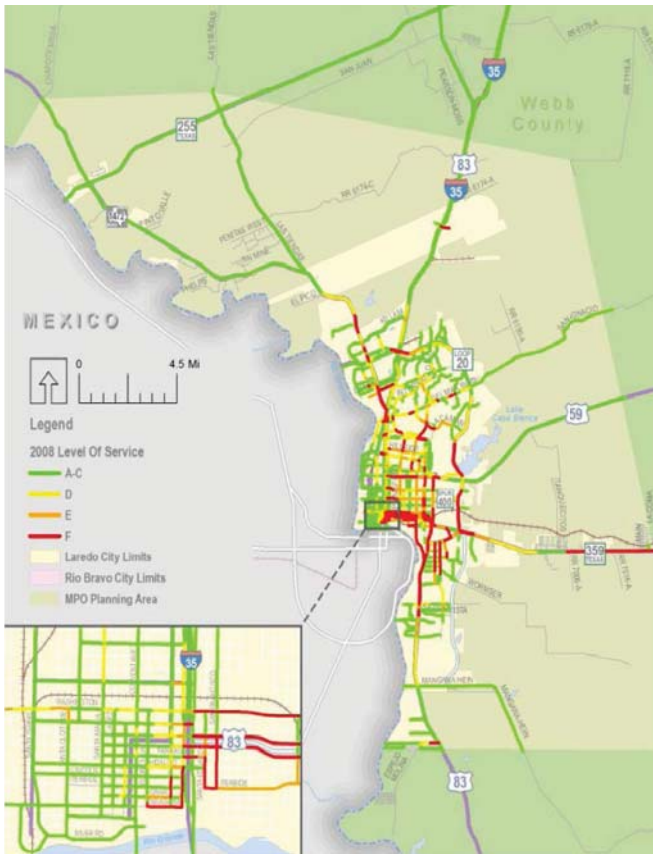
The shift in managing transportation and mobility in places that are transforming into multi-modal centers for people and activity, requires a comprehensive approach to traffic congestion.

Currently, traffic congestion exists on many Laredo streets; managing the congestion will involve a series of strategies.

Major roads throughout the City are either at or are predicted to soon be at capacity. Based on the Laredo Metropolitan Planning Organization (MPO) Congestion and Delay Study travel demand model results determined that in many cases, congestion or delays occurred due to stop signs or traffic signals. Less than optimal timing or signal progression may be the cause of delay in these areas. Results also observed that a majority of the delays are localized within 0.1 miles of a controlled intersection and typically do not occur mid-block.

According to the updated 2008 base travel demand model, current roadway congestion is most severe along the US 83 in south Laredo, combined segments of Guadalupe Street and Chihuahua Street, Las Cruces Drive, and segments of US 59, SH 359, Bob Bullock Loop, Mines Road, Bartlett Avenue, Meadow Avenue, McPherson Road, Jacaman Road, and Washington Street/Corpus Christi Street.

Projections for population and job growth by the year 2040 anticipated the City to grow by more than 50%, with most of the growth occurring in currently



Level of Service Congestion Map (2008)

Level of Service Congestion Map Projection (2040)

undeveloped areas. Congestion is projected to reach a Level of Service of E, the second lowest rating, if no additional transportation investments are made. LOS E represents congested traffic – unstable traffic flow, poor signal progression, significant congestion, traffic near roadway capacity.

The greatest growth in daily traffic volumes from 2002 to 2012 occurred along Bob Bullock Loop between I-35 and McPherson Avenue, between McPherson Road and Del Mar Boulevard, and between Del Mar Boulevard and US 59.

The average weekly commute time in Laredo is 3.5 hours (US Census 2012). The average weekly commute times for San Antonio, Austin, Dallas, and Houston are 3.95, 3.75, 4.25, and 4.55 hours, respectively (2015 NYC Economic Brief). Compared to other major Texas cities, weekly commute times are still less than average, even though times could still be improved.

In 2014, Laredo experienced approximately 3.9 million hours of total annual delay, which ranks 99th in the nation (Texas A&M Transportation Institute (TTI) 2015 Urban Mobility Report).

According to the Congestion and Delay Study prepared for the Laredo Urban Transportation Study in March 2015, the report listed 20 of the top congested routes in Laredo.

The conclusion of the Congestion and Delay Study was that the existing transportation system provides sufficient capacity for the current demand and that an increased focus should be placed on operations to maximize the benefits of the existing capacity and to minimize overall traffic delays, especially during peak periods. The distribution of recommend improvements from the study suggests that improvements to local operations related to intersection signal timing as the most heavily recommend solution.

Rank	Route Name	Intersection Segment	Peak Period
1	Del Mar - WB	Springfield to San Dario	PM
2	FM 1472 - SE	Muller Memorial to Interamerica	PM
3	Del Mar - WB	Springfield to San Dario	AM
4	Bob Bullock / Cuatro Vientos - NB	McPherson to IH 35 NBFR	PM
5	US 59 - EB	Buena Vista to Bartlett	PM
6	McPherson / McClelland - SB	Country Club to Del Mar	PM
7	Meadow - SB	Corpus Christi to Guadalupe	AM
8	US Highway 83 NB - NB	Canones to Sierra Vista	PM
9	FM 1472 - SE	FM 3464 to Bob Bullock WBFR	PM
10	McPherson / McClelland - SB	Tiera Trail to Shiloh	PM
11	US Highway 83 NB - NB	Palo Blanco to Zacatecas	AM
12	Del Mar - WB	McPherson to Lindenwood	AM
13	McPherson / McClelland - NB	Calle Del Norte to Jacaman	PM
14	IH 35 - SB	Scott Off-Ramp to Victoria	PM
15	US 59 - WB	Meadow to McPherson	PM
16	Santa Maria/Old Santa Maria - NB	Industrial to Del Mar	PM
17	Meadow - SB	Corpus Christi to Guadalupe	PM
18	Clark - EB	Aguila Azteca to Bob Bullock	AM
19	FM 1472 - SE	Interamerica to River Bank	PM
20	Bartlett - NB	Lane to Clark	PM

Top 20 Congested Segments (Source: MPO Congestion and Delay Study: March 2015)

Traffic Signaling, Intelligent Transportation System and Smart Streets

Important components for effectively managing a transportation network are completed through the implementation of strategies that efficiently manage the flow of traffic, as well as the implementation of best practices for prioritizing walkability, bikability and transit use. Regarding the flow of car traffic, methods for improving network efficiency without adding new roads or widening existing roads, include: optimization of traffic signal timing, proper traffic signal progression, effective access management policies, proper signage, and improved wayfinding.

Traffic Signaling

A relatively inexpensive way to make significant enhancements to the transportation network are through improvements to traffic signal timing, which can be a significant cause for delays and congestion due to inappropriately allocated green time signaling or signal progression. By adjusting cycle lengths and offsets, drivers can travel longer distances along the corridor before having to stop for a red light. These low cost improvements can make the best use of existing capacity, optimize allocation of funding, decrease travel time, and improve air quality.

Intelligent Transportation System

Intelligent transportation systems or ITS takes traffic signaling one step further by utilizing technology to mitigate real-time traffic congestion with rapid adjustments in traffic signal timing and coordination of response activities with local or regional transportation and emergency services.

Currently, the City's Traffic Department has deployed closed-circuit television (CCTV) cameras on arterial streets, synchronized traffic signal systems, improved vehicle detection capabilities, and operates a Traffic Management Center (TMC). The City's ITS Masterplan provides recommendations that include some of the following improvements:

- Expansion of the TMC and improved coordination and incorporation of the Emergency Operations Center (EOC) and 911 Dispatch Center;
- Upgrades to the existing traffic signal controllers and communications system;
- Deployment of 15 additional CCTV cameras.
- Implementation of signal preemption systems that allow for emergency vehicles to be given priority at 50 intersections;
- Smart cards for transit, parking meters, and international bridge crossing payment.

Smart Streets

Smart street principles are strategies that target the layout of streets (road diets/narrow streets), traffic-calming devices, land use development that promote higher densities and improve walkability like mixed use zoning, multiple choices of transportation modes and connections. Also, the utilization of the internet and GPS-enabled wayfinding can help to move people on the most efficient routes based on real-time user data. These are effective ways to increase the efficiencies of the existing transportation network, and all methods will need to be employed in order to create a more livable city.

Demand Management

Implementing Complete Streets in Laredo is one method for increasing the capacity of City streets; the City can also adopt strategies and policies aimed at reducing single-occupancy vehicle demand or redistributing the demand in space and/or in time. This approach is known as transportation demand management.

As with any network, managing demand can be a cost-effective alternative to increasing capacity. A demand management approach has the potential to improve the natural environment, public health, placemaking, and economic development that also extends the life of transportation infrastructure.

Strategies and Tools

Local governments use a number of legal tools to address traffic and transportation impacts, including access management regulations, Complete Street requirements, impact fees and adequate public facilities ordinances. Some notable examples include:

- Access management is a strategy to reduce the number of conflict points on arterial streets, thereby increasing both capacity and safety through Driveway Sharing Agreements. This strategy is applied primarily to areas where there are continuous retail and commercial developments along an arterial road, where the tendency is for each site to have its own driveway access points.
- Adequate public facilities ordinances require developers either to demonstrate the availability of adequate public facilities or to build whatever may be necessary to accommodate the needs of the new residents, including assurances that public schools, roads, sewers, police and rescue response times, and/or other infrastructure services are "adequate" to support the proposed new development.
- Traffic or transportation impact fees are used by governments to internalize the cost of transportation improvements associated with development proposals. Chapter 395 of the Texas Local Government Code authorizes a city to impose impact fees on landowners to cover the cost of capital improvements necessary to serve new development. Typically, this impact is assessed as part of a Traffic Impact Analysis (TIA) and Study. Examples of other cities who assess this impact fee on developers include San Antonio, El Paso, and Fort Worth.
- Special Assessment District is an additional fee assessed on properties near a new highway or transit facility that is expected to benefit from such proximity. Revenues raised must be targeted to improvements in the district.
- Tax Increment Finance (TIF) Zones provide a mechanism for allocating any increase in total property tax revenues accruing from new access to improvements in a designated district.

Parking Management

Parking management is a set of programs and regulations that affect the supply, demand, location and price of parking. Properly managed, the parking system can support economic vitality and make neighborhoods and business districts more livable. Given that parking is a tool for economic development and livable communities, especially in auto-centric cities such as Laredo, the careful prioritization of parking supply and management must be well thought out and coordinated.

The City manages its policies for on-street and off-street parking through Chapter 19, Article VIII (Motor Vehicles and Traffic – Stopping, Standing or Parking) of the Code of Ordinances and in the City's Land Development Code Book, which sets minimum standards and requirements for parking by land use.

Standard tools and strategies for efficient parking availability often include the use of on-street parking, off-street parking (parking lots), code enforcement policies, and connections to an effective transit system with park-and-ride locations.

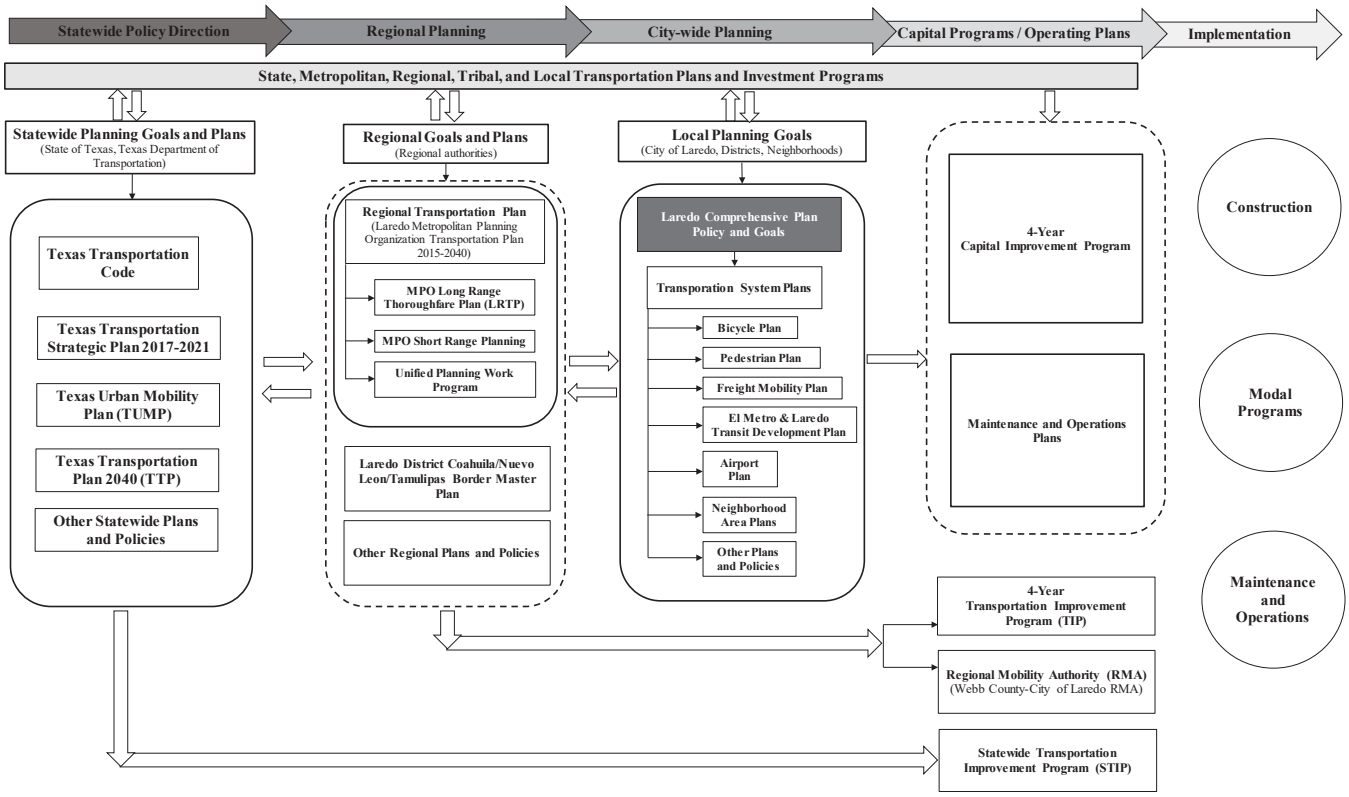
These standards do not always take into account the actual need for parking and were created with suburban drive-to only locations in mind. This can lead to vacant fields of parking throughout the City. In addition, the needs of a downtown or compact urban area are vastly different than further afield locations.

These standards should be reviewed for their effectiveness throughout the City and different standards should apply to suburban areas versus the downtown or compact urban areas.

Zoning and Parking Strategies

Zoning standards typically establish minimum requirements or formulas for how many parking spaces must be provided for specific land uses. The intent is often to require property owners to provide sufficient off-street parking spaces. Adequate off-street parking should not drive the development of a site. More creative solutions, especially in mixed-use or urban areas should be considered and encouraged. Some strategies include:

- Shared Parking, which allows adjacent land uses to provide parking based on the parking demand generated at different times of the day.
- Fees-in-Lieu of providing on-site parking can be considered in densely developed activity centers where the City allows developers to contribute to the costs of developing additional municipal parking facilities in lieu of providing the total required amount of parking for a development.
- Off-Site Parking, which allows for parking to be accommodated on another site, typically within a quarter mile, for on-site parking.
- On-Street Parking could allow spaces on the street to count toward parking requirements.
- Reduced Parking Requirements in urban and mixed-use areas.
- Ridesharing, which refers to various forms of carpooling, vanpooling, and subscription bus services associated with employees' trips to and from work.



How does it come together?

The transportation planning process from a statewide perspective to the local and regional level.

I would like to see more bike lanes that are secure to use. If they are made, I wouldn't like cars invading the bike lanes.

There should be more of an incentive to support biking in Laredo. This includes creating and maintaining bike lanes.

Bike Master Plan

Bicycling Facilities

Laredo currently has a handful of dedicated bicycle lanes located on:

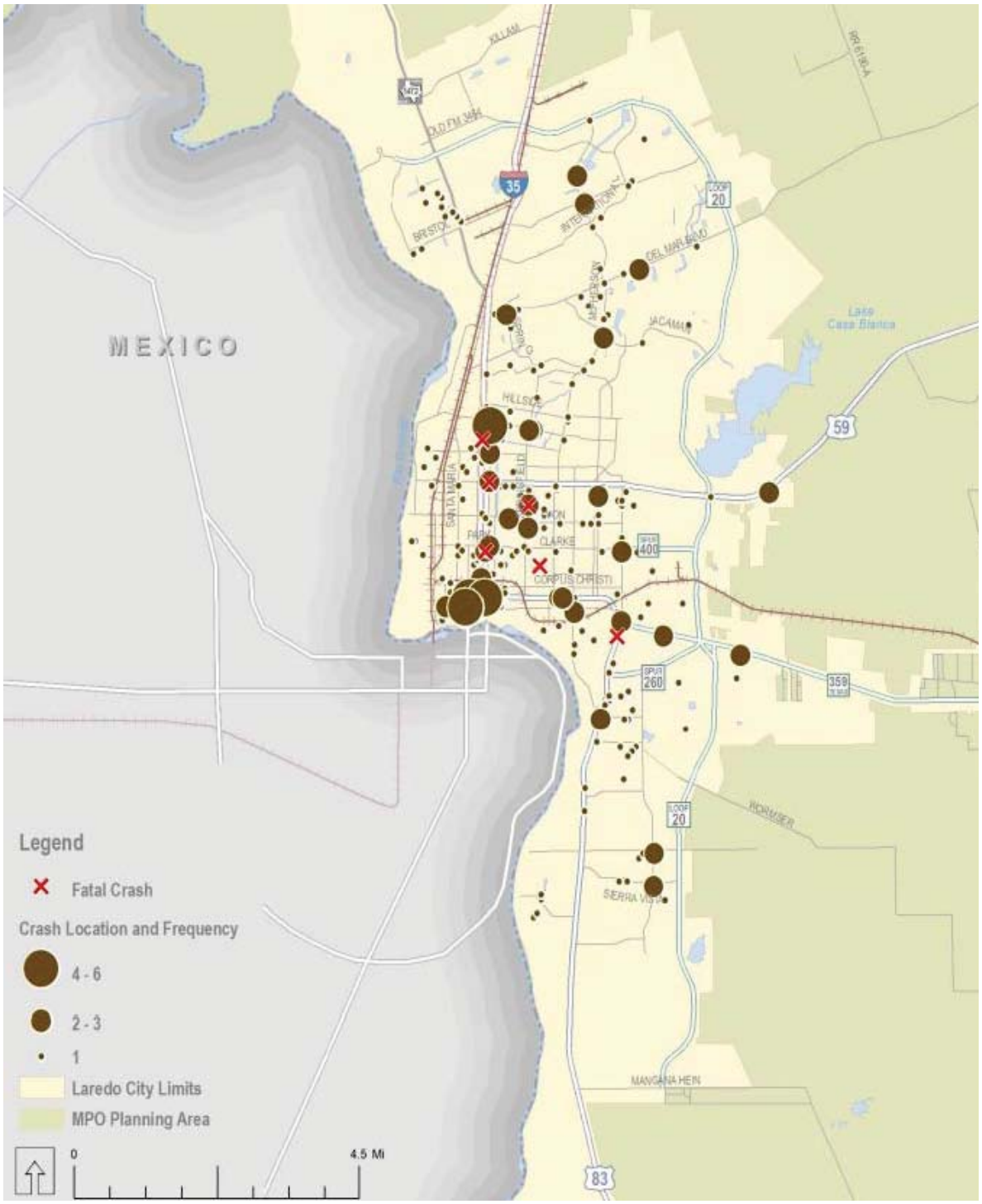
- Clark Boulevard from North Arkansas Avenue to Bob Bullock Loop;
- Country Club Drive;
- Convent Street; and
- Additional bicycle paths are provided on Chacon Creek Trail, the Bob Bullock Loop Cycle Track, Zacate Creek Greenway Trail, and Manadas Creek Trail.

Perception within the community is that it is not safe to bike on the City streets. Commuter bicyclists include visitors from Mexico crossing into the Downtown area across the international bridges. Recreational users perform most of their activities in the northern parts of Laredo, as represented in the Strava Activity Heatmap. Presently, the City does not have a Bike Master Plan. The Bike Master Plan, included here, includes planning for bicycle routes, parking, and safety.

Methods for creating a safe and desirable bicycle network include the process of making all significant destinations accessible. Traits of a proper bicycle network include the use of a combination of four types of bikeways:

1. Bicycle paths - are physically separated from vehicular traffic and are often located outside of the City center.
2. Bicycle lanes - are demarcated by striping within medium-speed roadways.
3. Separated Bicycle Facilities - include a cycle track, with a buffer (physical or paint), separating bikes from car traffic.
4. Shared Routes - the majority of thoroughfares—are low-speed streets in which cars and bikes mix comfortably. These streets have low traffic volumes and often include various traffic-calming devices and signing.

Strava User Bicycle Heatmap



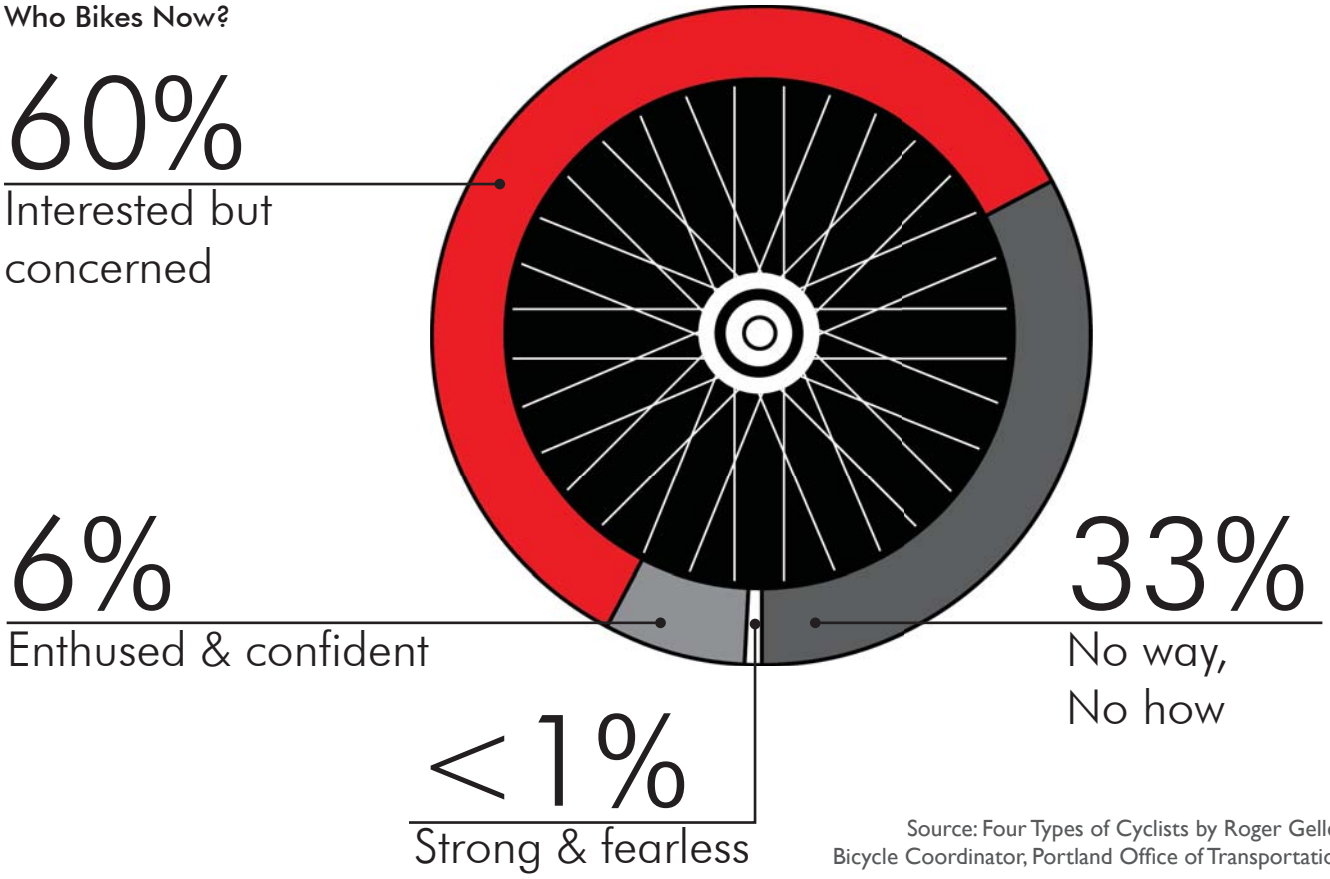
Bicycle and Pedestrian Crash Locations 2010-2012 (Source: MPO)

Planning for Bicycles

Bicycle planning in Laredo involves the process of assessing and addressing the needs of the community in the area of bicycle infrastructure, programs, and policies. It involves taking an inventory of the community's existing bicycle resources, and identifying strategies to build upon those resources. Consulting with the citizens of the community has been an important way to facilitate a vision for future transportation improvements. An assessment of the strengths and weaknesses of bicycle resources has resulted from on-the-ground observations and public outreach. The proposed approach capitalizes on the community's strengths while minimizing weaknesses.

Generally, there are two distinct types of cyclists in Laredo: recreational cyclists and 'last choice' cyclists. The recreational cyclists are those that use their bicycles for either training for races or occasional mountain biking on Laredo's trails. These types of users are rarely using their bikes on city streets or in urban conditions. The 'last choice' bicyclists include a group that uses their bike because it is their primary mode of transportation. These users brave the dangerous city streets, putting their own lives in danger.

Who Bikes Now?



Source: Four Types of Cyclists by Roger Geller, Bicycle Coordinator, Portland Office of Transportation

Laredo has been making advances in implementing bike facilities; yet concerns about the safety of cycling are still present. Bravery should not be required to ride a bicycle; yet cyclists and non-cyclists share this perception. Many cities are making improvements in bicycling conditions, and at the same time, each city is eliminating the fear associated with bicycling in an urban environment. Cities have created transportation systems that make cycling the most logical, enjoyable and attainable choice for many trips. For these residents, safety concerns are rarely a consideration.

Typically, there are four general categories of transportation cyclists: "The Strong and the Fearless," "The Enthused and the Confident," "The Interested but Concerned," and the last group are the non-riders, called the "No Way, No How" group.

Research shows that the number one reason people do not ride bicycles is because they are afraid to be on a bike in the street. This is not due to fear of other cyclists, pedestrians or injuring themselves in a bicycle-only crash; instead the fear is of people driving automobiles.

The largest percentage of cyclists, the "Interested but Concerned" group includes people who are curious about bicycling. The people are hearing the message about how easy urban biking is and how popular "bike culture" is becoming. They typically enjoy riding, but are afraid to do so. They don't like speeding cars and get nervous thinking about people running red lights, or passing them too closely. However, they would ride more often if they felt safer on the roadways.

Presently, the bicycle network lacks connectivity and does not yet appeal to the majority of people who are interested in riding. Indeed, the majority of the City's existing bikeway miles consist of bike lanes located along high-speed arterial thoroughfares that intimidate even the most experienced urban cyclist. Much of the City's existing infrastructure includes paved and unpaved trails along the local rivers and waterways. Laredo is currently constructing additional phases of these trail systems. As is the case with most bicycle infrastructure in cities around the country, these two types of bicycle infrastructure lack the ability to easily and safely move from one facility to the other.

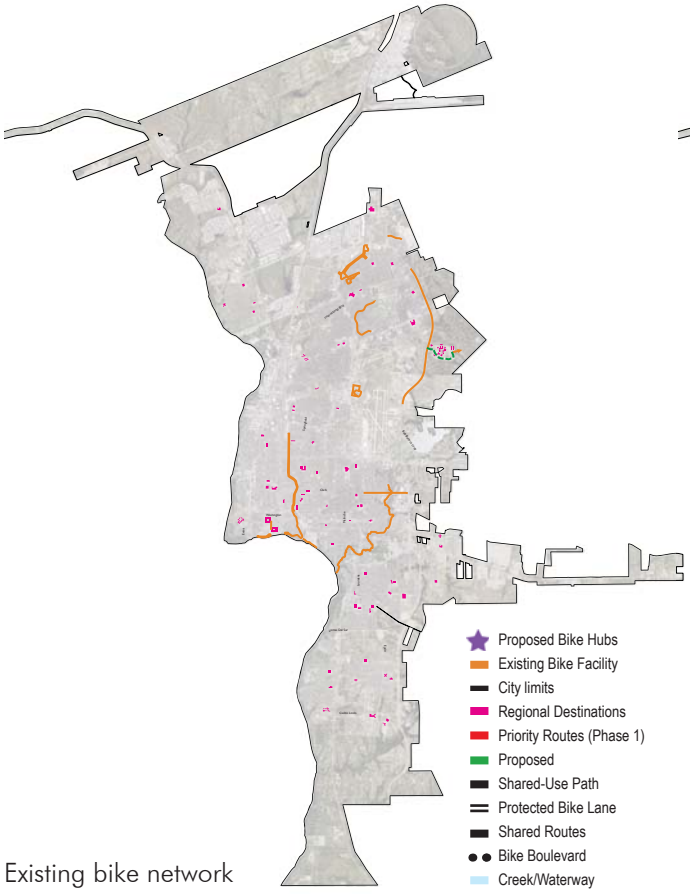
Areas of Laredo that are disconnected due to land use discourages active transportation

Transportation & Land Use

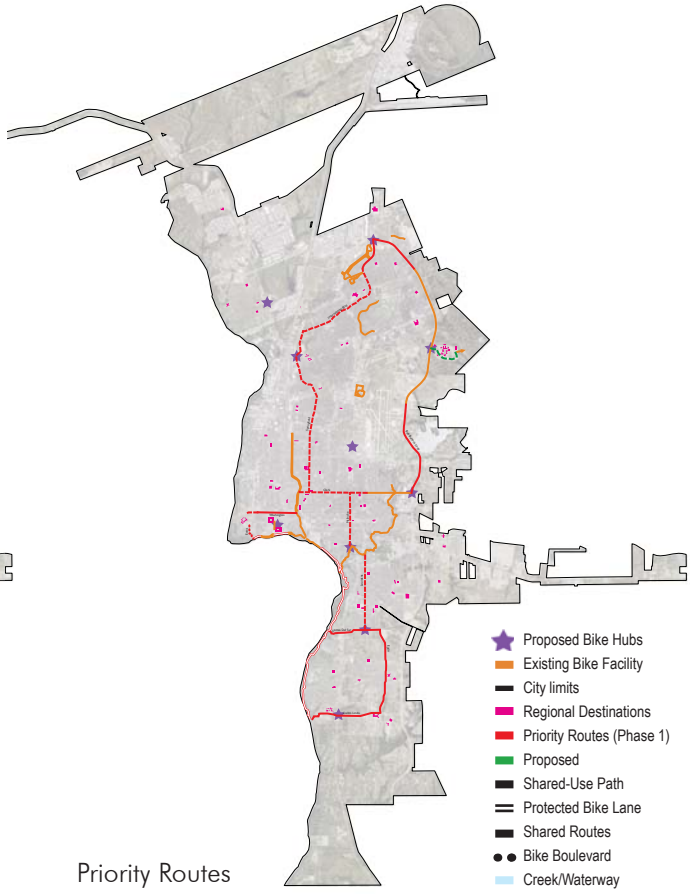
Like many American cities, Laredo's regulatory practice of separating land uses by function (e.g. commercial, residential, industrial, etc.) has directed commercial and employment districts to locate along busy streets, away from residential neighborhoods. Such land use patterns, in combination with the development of an increasingly disconnected street network, isolate rather than knit together the City's neighborhoods. Furthermore, the normative arterial/collector/local thoroughfare network pattern forces high volumes of car traffic onto an increasingly limited number of streets. As a result, reaching daily destinations by means other than a car is very challenging.

Historic neighborhoods of Laredo support active transportation with its interconnected network of streets

Bicycle Network Plan

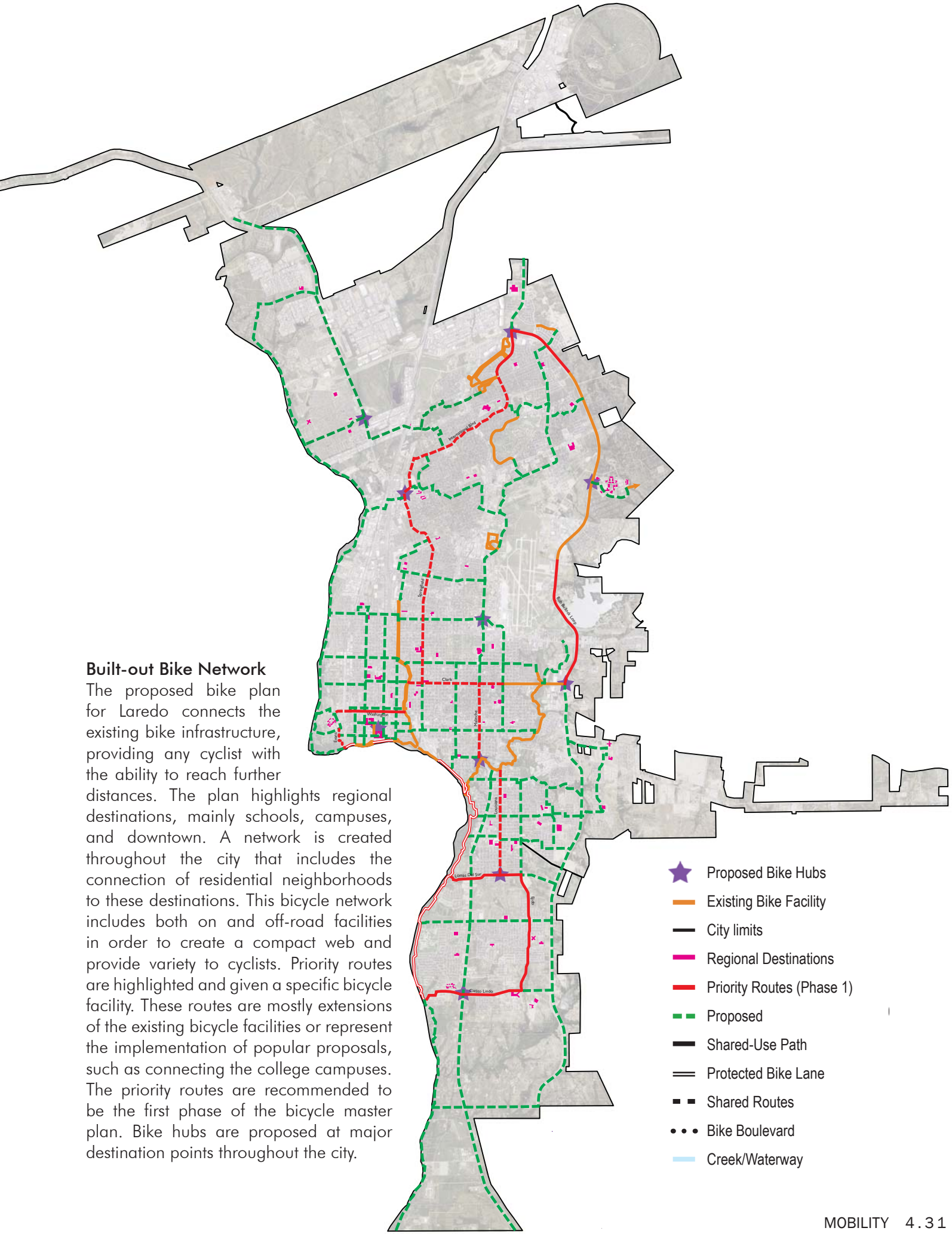


Existing bike network



Priority Routes (Phase 1)

> If cycling is to be universally adopted as a means of transportation, then the concerns of the majority must be addressed. - Roger Gellar



Built-out Bike Network

The proposed bike plan for Laredo connects the existing bike infrastructure, providing any cyclist with the ability to reach further distances. The plan highlights regional destinations, mainly schools, campuses, and downtown. A network is created throughout the city that includes the connection of residential neighborhoods to these destinations. This bicycle network includes both on and off-road facilities in order to create a compact web and provide variety to cyclists. Priority routes are highlighted and given a specific bicycle facility. These routes are mostly extensions of the existing bicycle facilities or represent the implementation of popular proposals, such as connecting the college campuses. The priority routes are recommended to be the first phase of the bicycle master plan. Bike hubs are proposed at major destination points throughout the city.

Bikeway Types

Shared Routes

Shared routes are typically located in compact or urban areas, at the center of a neighborhood, town, or city. They are often marked with a sharrow, a marking indicating that the travel lane is to be shared by cars and bikes.

Shared routes work best on streets with low design speeds, where car traffic moves slowly and parallel parking lines each side of the street. Travel lanes are typically narrow in this setting (10 feet) and street trees help to provide a sense of enclosure. Cyclists and pedestrians have the priority while motorists are permitted to travel through the streets.

Bike Lanes

A typical bike lane is a portion of the roadway which has been set aside for the exclusive or preferential use of cyclists. It is usually designated by adding a stripe, signage, and pavement markings. Bike lanes allow cyclists to ride at their own speed without interfering with motorists.

Conventional bike lanes run along the curb sides of the roadway or adjacent to parked cars when on-street parking is present. Cyclists usually travel in the same direction as traffic. These unprotected bike lanes work best on streets where the posted speed is less than 35 mph and should ideally be 6 feet in width, although 5 feet is also possible.

Buffered Bike Lanes

Like typical bike lanes, buffered bike lanes run along the curbs of the roadway or adjacent to on-street parking. However, they offer additional protection from moving traffic in the form of a buffer space between the edge of the bike lane and the edge of the vehicular travel lane. Adding a buffer helps encourage more cyclists to use the facility.

If the buffer is 3 feet or wider the interior shall have diagonal cross hatching or chevron markings. Narrower buffers can be marked with two solid white lines, which also helps discourage crossing. Buffered bike lanes are strongly preferred to typical bike lanes in areas with greater traffic volume and higher travel speeds.

Parking-Protected Cycle Track

Parking-protected cycle tracks are bikeways at the street level that are physically protected from vehicular traffic by parked cars and sometimes other additional barriers such as a wide painted buffer or elevated median. To reduce the risk of collision with parked car doors, a minimum 3 foot wide buffer should be provided between the parking lane and the bicycle facility.

Parking-protected bike lanes are more desirable for a wide variety of cyclists because of the additional protection they offer from traffic and parked car doors. They are only implementable, however, on streets where on-street parking is available or needed.

Raised Cycle Track

Raised cycle tracks are bike facilities that are vertically separated from the roadway. Sometimes they occur at the plane of the sidewalk, often with a furnishing zone or planting strip between the cycle track and the roadway, and sometimes the are placed at an intermediate height between the road and the sidewalk. At intersections they may be dropped and merged with the street or continue on the sidewalk, where they cross with pedestrians.

Raised cycle tracks are more attractive to a wider variety of cyclists and work best along higher speed streets with few driveways and interruptions.

Contra-Flow Bike Lanes

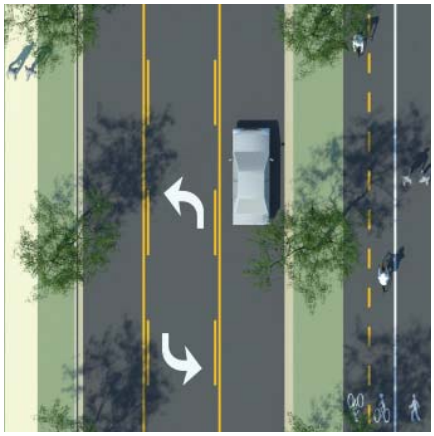
Like their names suggest, contra-flow bike lanes allow cyclists to ride in the opposite direction of vehicular traffic. The lanes are designated with yellow center lane striping. While this kind of design introduces additional points of conflict for motorists, they benefit cyclists traveling in both directions on a one-way street.

Contra-flow bike lines are typically recommended on streets where there are already many cyclists traveling in the wrong direction and on streets where alternate routes would require too much additional riding for cyclists. They work best on low speed and low volume roads unless additional protection is provided between cars and bicycles.

Two-Way Cycle Track

Two-way cycle tracks are physically separated cycle tracks that allow bicycle travel in both directions on one side of the road. They can be designed as a protected cycle track, at the street level with a parking lane or other barriers between bikes and vehicles, or as a raised cycle track with the track separated vertically from the roadway.

The benefits of a two-way cycle track are that they are attractive to a wide range of cyclists; they reduce the risk and fear of collisions; they allow for contra-flow bike travel on one-way streets; and they can have lower implementation costs. They work best on streets with fewer driveways and cross-streets on one side.



Shared-Use Path

Shared-use paths are a type of trail designed to provide off-road routes for many different users including cyclists, runners, pedestrians, and manual or motorized wheelchair users. While similar to other recreational trails, these paths are part of a larger transportation system and serve as a supplement to on-street bike lanes, shared roads, and paved shoulders.

Trail

A trail is a path designed for outdoor recreational use instead of mobility. Since they are not configured with transportation in mind, they are not usually adjacent to any roadway and they do not connect elements, spaces, or facilities within a site. They are mostly built for pedestrians and others to experience the outdoors and to provide a healthier lifestyle for community members.

Expanding the Network

Designing and implementing a bikeway network that is appropriate for the surrounding context should be strongly correlated to existing land use characteristics and to the desired development or preservation goals for each neighborhood in Laredo. The proposed network should be further fine-tuned at the scale of the block. This can occur through a Bicycle Master Plan update that incorporates these proposed bikeways and the latest advancements in bicycle planning.

In addition to a bikeway network, numerous design countermeasures may be applied to streets to increase the visibility and safety of existing and proposed bikeways. These include bicycle boxes, bicycle detection and signal heads, wayfinding and informational signs, and bicycle refuge islands.

Separated crossings at major points of interest


Bicycle detection and signal head

Bicycle hub at destination point


Clear pavement markings

Prioritized Interventions

Cielito Lindo

As with other infrastructure projects, when it comes to bicycle facilities, one size does not fit all. Existing conditions on Cielito Lindo include five travel lanes; the street is over-designed for the current traffic volumes. A future Cielito Lindo may include the installation of a separated bike lane in a median, shaded with trees.

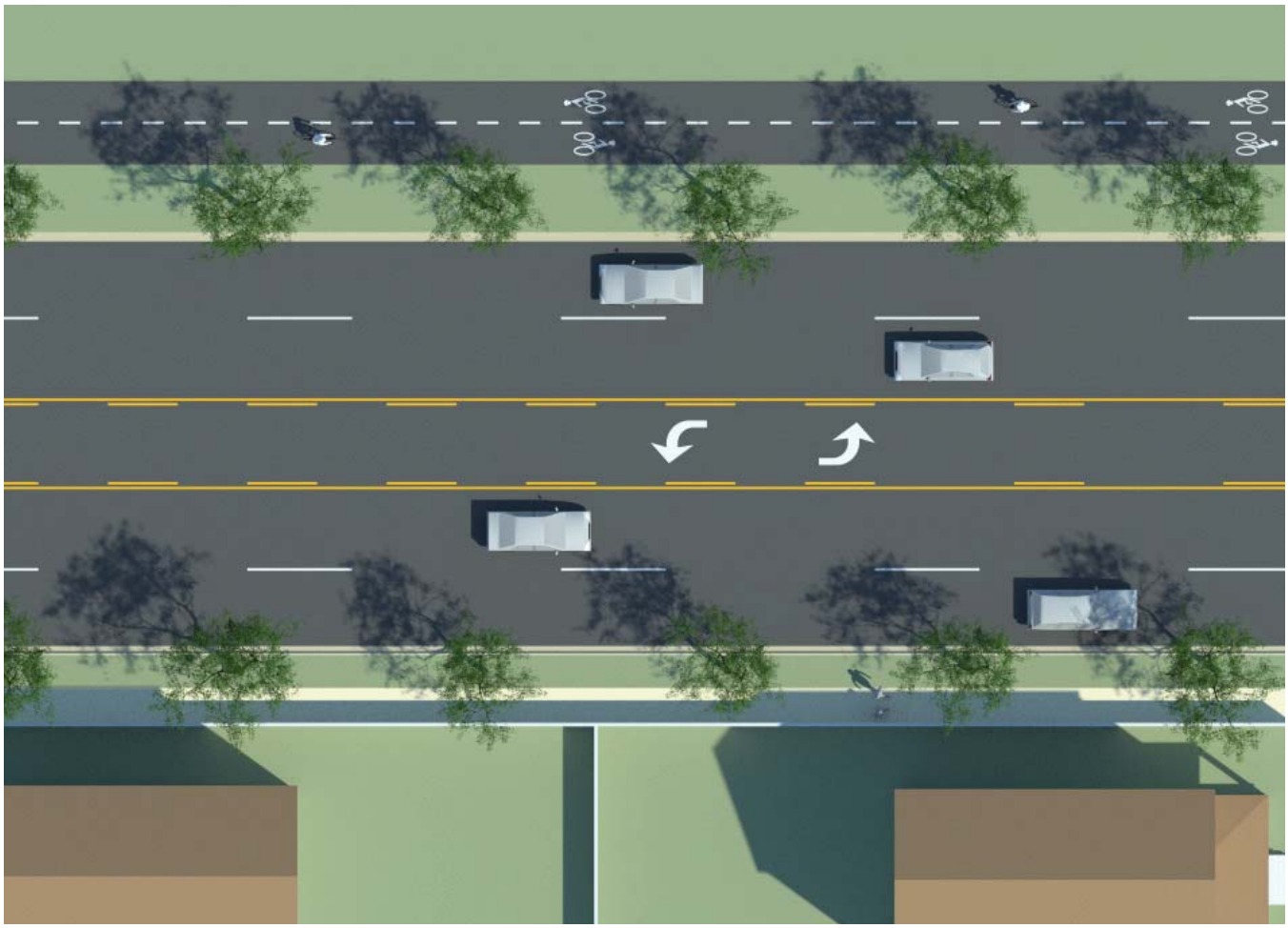
Existing Cielito Lindo Boulevard

An intervention on Cielito Lindo may include the installation of a separated bike lane in a multi-lane boulevard.

Lomas del Sur

Other thoroughfares, like Lomas del Sur, may require the motorized vehicular capacity. A two-way cycle track could be added as a low-stress bicycle facility for families in the adjacent neighborhoods.

Existing Lomas del Sur



A future Lomas del Sur can attract a greater number of cyclists with the addition of a two-way cycle track.

Evans Street & Typical Downtown Streets

Many streets in the Downtown and historic areas of Laredo have a narrow right-of-way and would be difficult to provide a separated bike facility. In these conditions, it may be appropriate to add Shared Use Lane Markings or "sharrows" to indicate that this is a preferred bicycle route.

Existing Evans Street

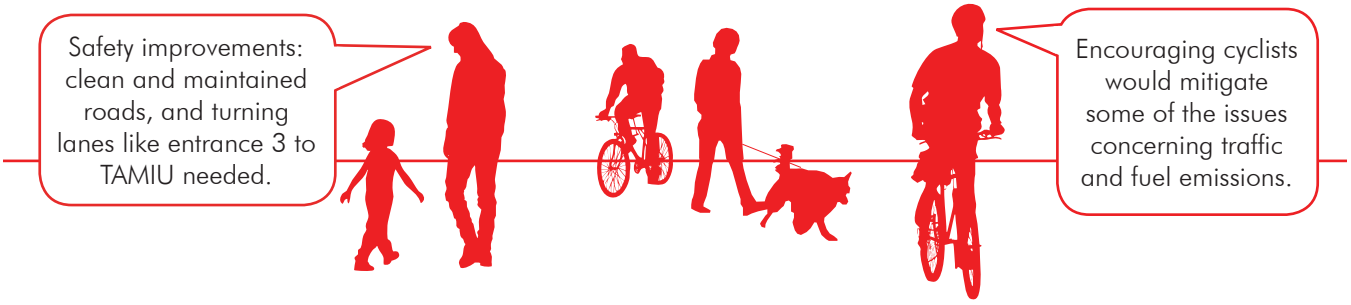
A low cost and immediate improvement for bicycle routes on narrow streets would be the addition of "sharrows"

Springfield Avenue & International Boulevard

The current configuration of International Blvd and Springfield Avenue includes overly-wide travel lanes that invite unwanted speeding. One approach to encourage more people to use bicycles would be the installation of a buffered bike lane, achieved by narrowing the travel lanes. Turn lanes would still be possible at intersections where the right-of-way widens.

Existing International Boulevard

An immediate and low cost improvement could include re-striping to include buffered bike lanes



Bike Parking

Laredo has the potential to become a premier bicycling destination through strategic policy changes and infrastructure investments. The City has opportunities to further link to the region's natural beauty, excellent weather, and network of streets connecting Downtown, El Azteca, St. Peters, El Cuarto, and the Heights neighborhoods.

In addition, few bicycle parking facilities are found across Laredo; they are specifically lacking at schools, civic buildings, and some commercial shopping areas. There is also a need for secure parking in the Downtown area, near the US Mexico border.

In Laredo, adopting bicycle parking regulations will result in two basic types of bicycle parking facilities: short-term and long-term as well as where each type should be located, depending on surrounding land uses. This distinction is crucial in the City's bicycle parking regulations, which is essential for meeting the needs of various types of cyclists and the multiplicity of trip types (commuting, errands, recreational etc).

Bicycle parking should not be tied to automobile parking requirements; supply and demand for cars is not an adequate indicator of actual bicycle parking need. Furthermore, if a municipality adopts automobile parking maximums, or later reduces such parking requirements, the amount of bicycle parking would also be reduced when the opposite may be necessary. Therefore, bicycle parking ratios should be based on uses of the property (e.g., a gym would require more bicycle parking than a lumberyard) and quantifiable indicators like unit count, employee count, or building square footage.

Bicycle parking standards should be created that include graphic examples depicting acceptable and unacceptable rack types, locations, and placement. For those who manually install bicycle parking facilities, visual guidance will prevent the poor location and configuration of otherwise acceptable bicycle parking types.

Existing non-connectivity of bike routes


Bicycle parking located at the US Mexico border

Public Transit Service

El Metro Bus Transit System

El Metro is the public transportation system for the City. El Metro is currently in the process of updating their Five Year Transit Development Plan. The agency's Long Range Comprehensive Transit Plan aims to create more frequent and efficient service routes along major corridors, providing better transit mobility between important activity nodes throughout the City. Operations and routes should be reviewed, and more efficient routes should be prioritized; the review should focus on modern best practices for bus transit systems.

There are currently 22 fixed bus routes, two of which (Routes 12A and 12B) are Express Routes and 18 El Lift Van paratransit services for the handicap. El Metro's service currently most extensively serves the Downtown area, with all routes beginning or ending at El Metro's Transit Center (located in Downtown Laredo).

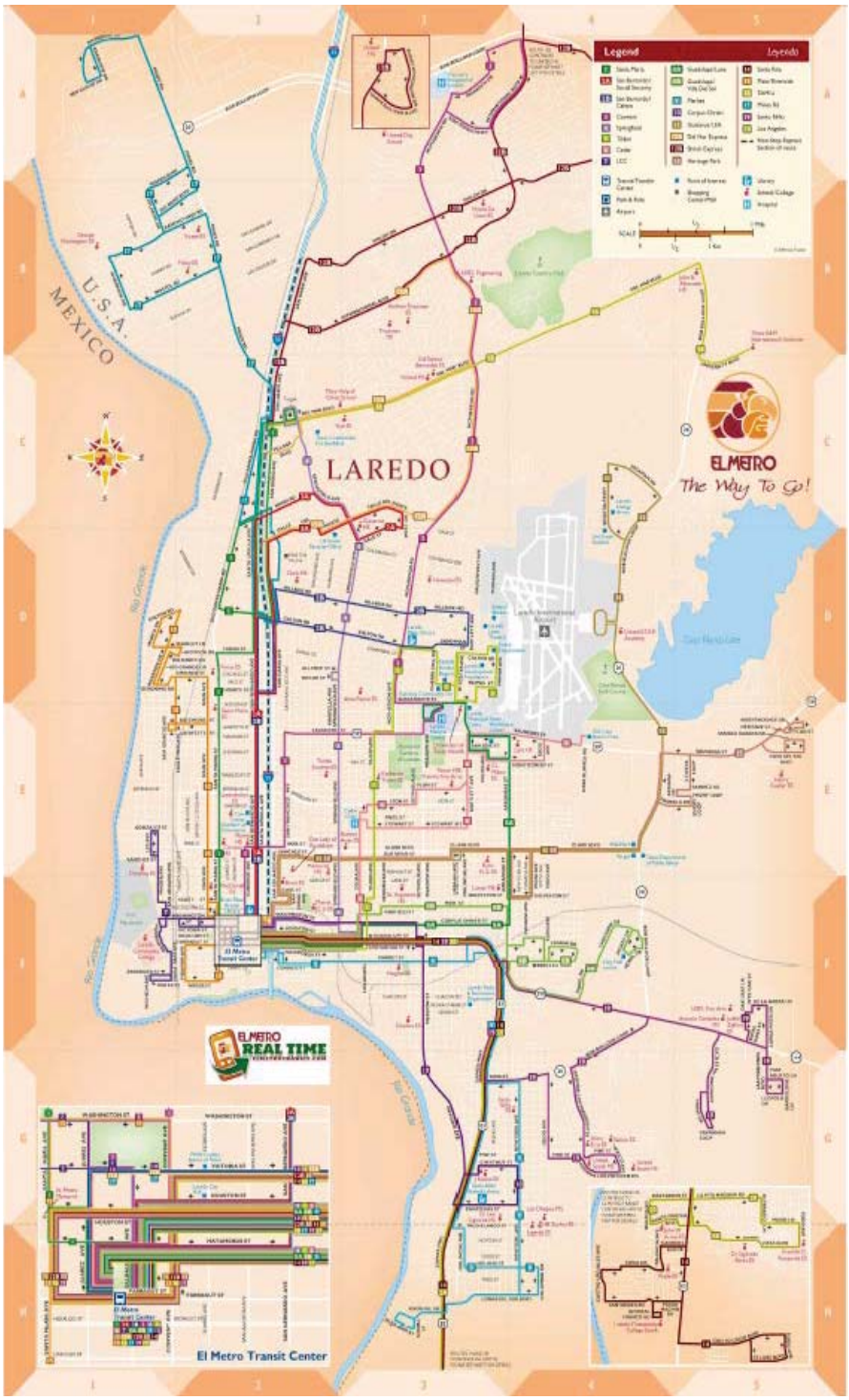
The bus transit and paratransit system has approximately 9,500 trips per day and serves over 3.1 million riders annually (2015). From the years 2007-2011 annual ridership decreased significantly by 27.2% over this 5-year period. Ridership appears to have stabilized since 2011.

Surveyed responses conducted as part of the Laredo Transit Development Plan (September 2009) documented that over one quarter (27%) of El Metro riders would like to see improvements to the schedule such as running the bus more frequently and extending service hours and operating more buses per route. About 14% of riders would like to see an improvement in the timeliness of the buses and 13% would like to ride in newer, cleaner buses.

In 2016, El Metro was awarded $9.9 million from the DOT's Federal Transit Administration's Bus and Bus Facilities Grant Program. The funding will be used to construct the first phase of a two-phase project for a new operations and maintenance facility located at Jacaman Road and Bartlett Avenue. [LMT 2016]

Route	Areas Served
1	Santa Maria Santa Maria - Mall del Norte - Target Store #1
2A	San Bernardo Mall del Norte - Social Security Office
2B	San Bernardo Park & Ride - Calton
3	Convent Laredo Medical Center - Doctor's Hospital
4	Springfield Target Springfield - Retama - Target Store #1
5	Tilden - Gateway Community Health Center - Public Library
6	Cedar - Casa Blanca Clinic
7	LCC - San Francisco Javier
8A	Guadalupe/Lane Corpus Christi - Texas Workforce
8B	Guadalupe Villa Del Sol Tilden - Cheyenne Subdivision
9	Market - New York/Lomas del Sur
10	Corpus Christi Meadow - Zacatecas/Bartlett
11	Gustavus/LEC Gustavus - Clark - Laredo Entertainment Center
12A	Del Mar Express Mall del Norte - International
12B	Shiloh Express Mall del Norte - Shiloh - International
13	Heritage Park Gustavus - Clark - Heritage Park
14	Santa Rosa LCC South Campus - Santa Rita
15	Main/Riverside Main - Riverside/Calton
16	TAMIU Texas A & M University
17	Mines Road Mall del Norte - Rancho Viejo
19	Santo Nino Concord Hills - Larga Vista
20	Los Angeles Zapata Highway - Los Angeles

El Metro Service Routes



El Metro Service Area Map

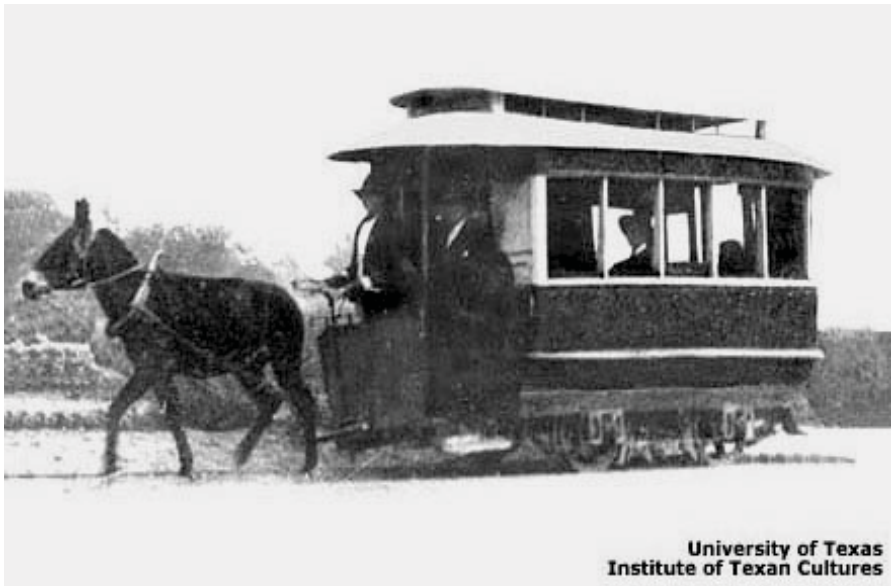
Phase II of the project will include the construction of a park-and-ride location.

Samuel Schwartz, a leading transportation expert, defines "a usefully frequent network" as "one that stops at a convenient transit node at least every fifteen minutes, and ideally even more often. The advantage of this of course, is that no one really needs to know a transit schedule to use such a system." Furthermore, a good system is one where most people live within a quarter-mile of a transit node where a bus (or streetcar) stops at least every fifteen minutes.

Electric Tramway Service Route

Downtown Street Car

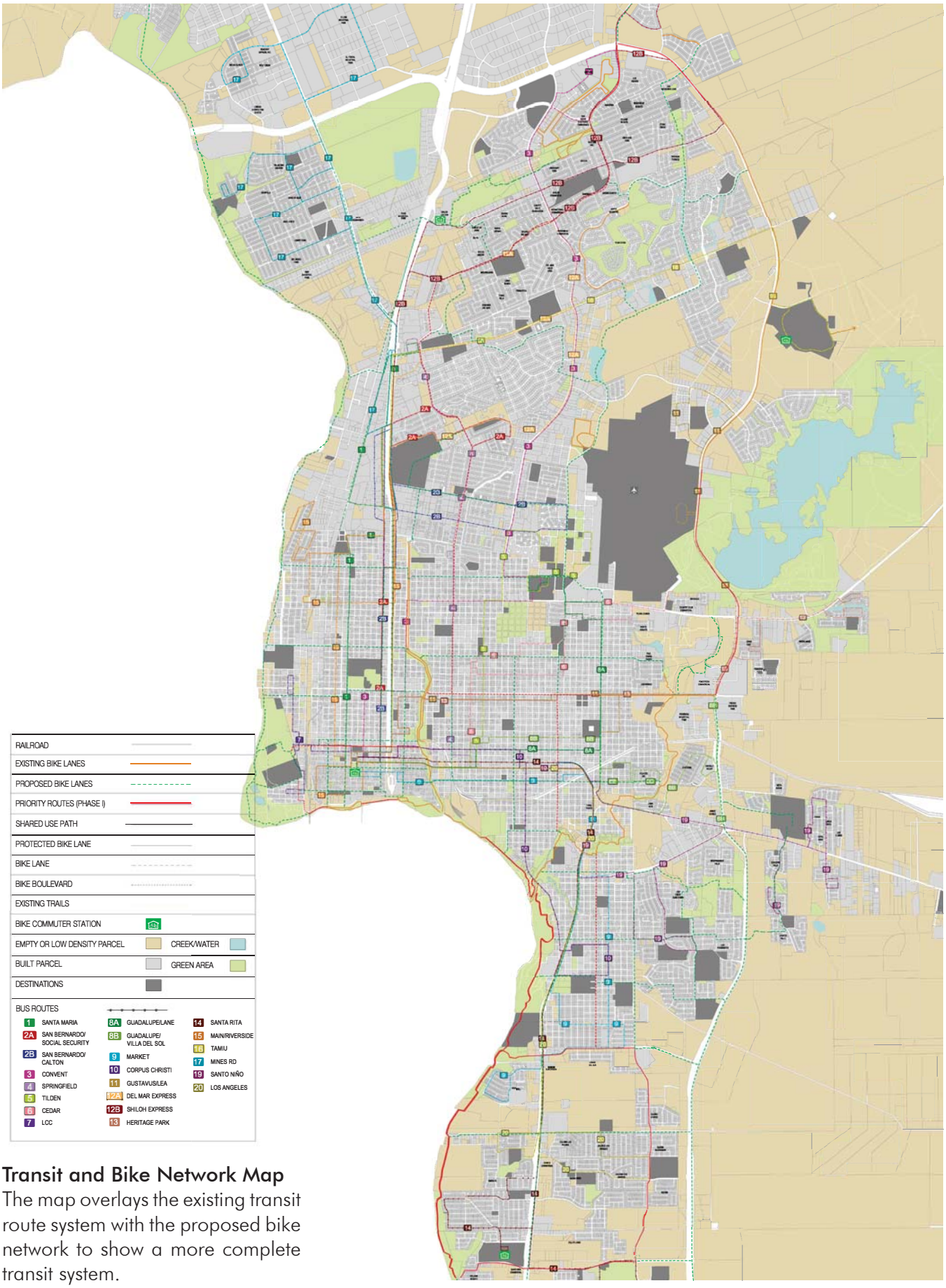
In 1890, the second international street car line between the United States and Mexico, was constructed between Nuevo Laredo, Tamaulipas and Laredo, Texas. It was the first international electric tramway in the world and the first electric railway of any kind in Latin America. The McGraw Electric Railway Director, published annually in the United States, states that streetcar operation continued until about 1918. The international bridge burned in 1920 and a new bridge was opened in 1922. Little information is available about the remaining history of the streetcar; however, the decline of the Laredo streetcar corresponds to the period of decline for the streetcars in the United States, generally.



Undated Photograph of Streetcar in Nuevo Laredo

The advent of the streetcar, and its historic significance for Laredo, provides the City with an opportunity to reintroduce the electric tramway and support a more diverse and vibrant transportation system for the central business district.

Convent Street Depiction of the Streetcar



Transit and Bike Network Map

The map overlays the existing transit route system with the proposed bike network to show a more complete transit system.

Ride-for-Hire Services & Ride-Sharing

The City of Laredo currently has eight taxi cab service companies concentrated mostly within the Downtown area. The rate schedule for the City varies but begins at $4.00. If traveling to Nuevo Laredo or Tamaulipas, Mexico, rates are the same as within Laredo except for an additional surcharge of $12.00.

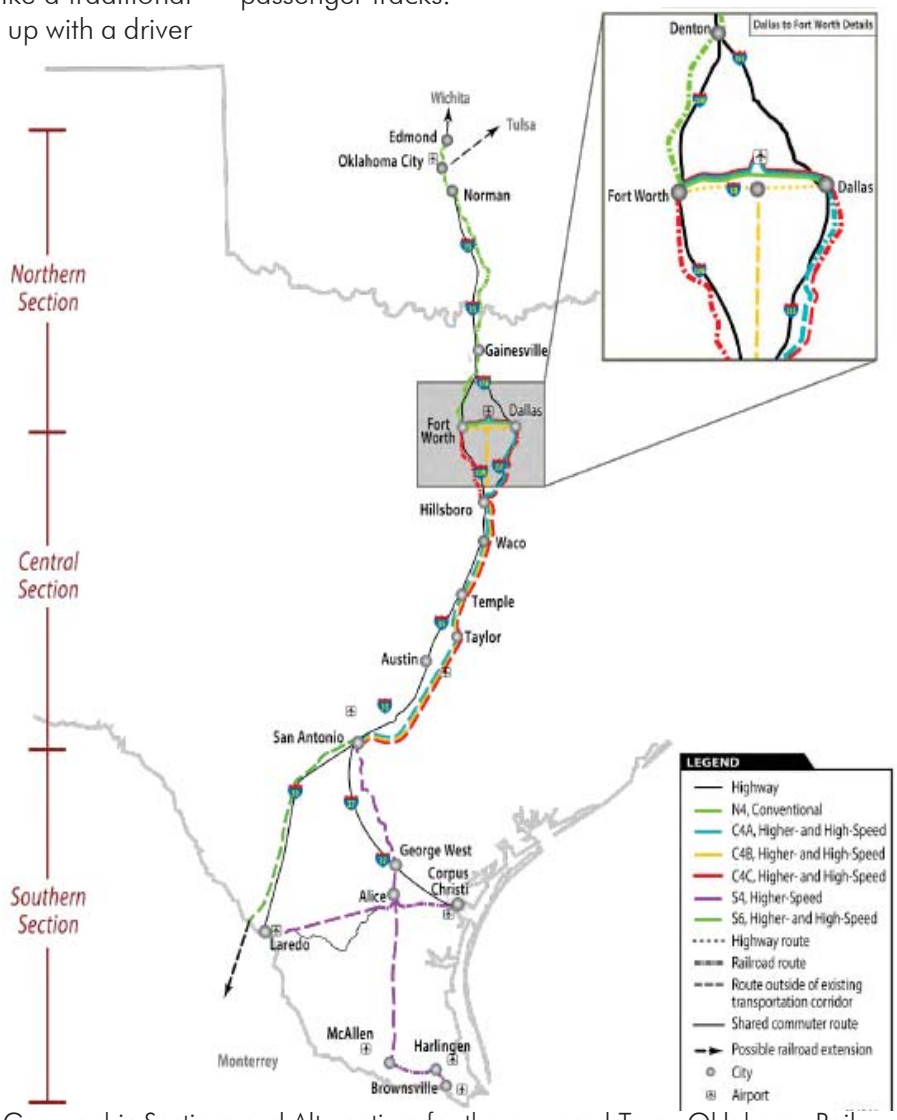
Ridesharing services, which are a relatively new transportation option, operate much like a traditional taxi service whereby a rider can match up with a driver by requesting a ride using their GPS-enabled smartphone or schedule a future ride at a predetermined time. Rides are generally found to be convenient, accessible, quick, reliable, safe, and economical. For these reasons, ridership has appealed to many people that normally would not use a ride-for-hire service.

Outside of the Downtown area, ride-for-hire services are sparse at best and generally perceived as unreliable, especially late at night. Ridesharing services such as Uber and Lyft have provided a reasonable option for those wishing to find a safe and reliable way home. City policies have recently been changed to allow ride-sharing services such as Uber and Lyft to operate in the area.

Passenger Rail Service

No known light-rail or local commuter service trains are planned in the City. However, TxDOT is currently in the early part of the planning process regarding the construction of the Texas-Oklahoma Passenger Rail System which would provide passenger rail intercity service from Oklahoma City to Dallas/ Fort Worth to San Antonio to Laredo and Brownsville/ Harlingen.

Additionally, a high speed rail line has been in the planning stages for a route between Monterrey to San Antonio, which would stop in Laredo. Current railroad infrastructure is built for freight lines and is not up to high-speed standards and cannot be utilized by passenger tracks.



Geographic Sections and Alternatives for the proposed Texas-Oklahoma Rail System
Source: TxDOT in cooperation with Oklahoma DOT

International Transport & Local Logistics

Airport Facilities

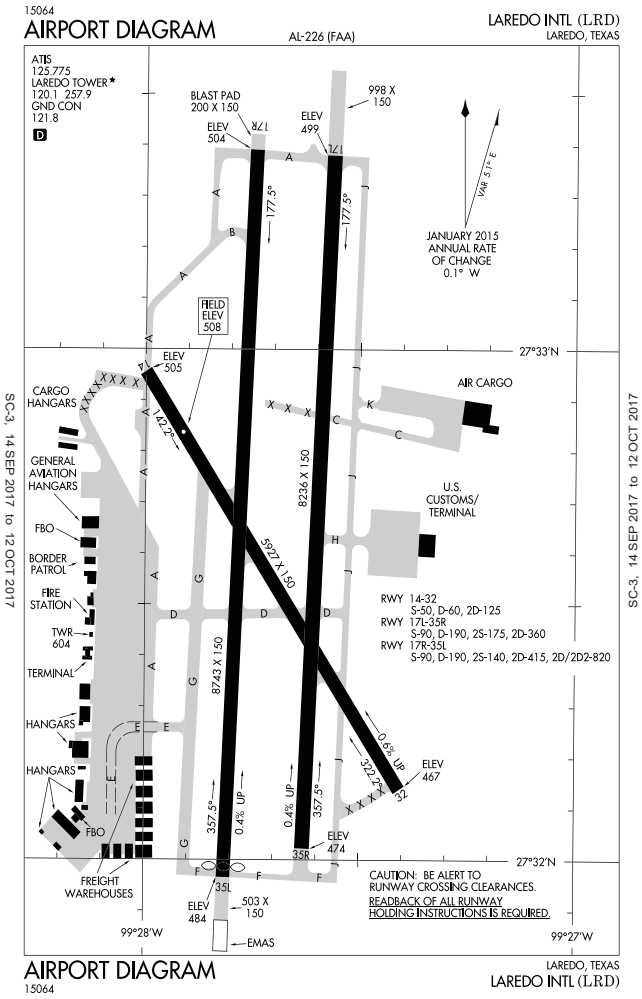
The site of the Laredo International Airport was originally established in the 1940s as part of a military wartime training activities. From 1952 to 1973 the airport became the Laredo Air Force Base to provide basic training for the U.S. Air Force. It was not until 1975 that the airport facility would be opened to provide commercial aviation for the region.

The airport is currently a public-use airport, operated by the City of Laredo, located three nautical miles northeast of the central business district, and about five miles north of the United-States-Mexico border. The airport is classified as a primary non-hub airport by the Federal Aviation Administration (FAA).

In 2013, approximately 103,000 passengers were enplaned and approximately 54.6 million pounds of cargo were accommodated at the airport. The airport is served by a number of airline cargo carriers including: Fed Ex, BAX Global, DHL, and Airborne among other cargo carriers. Currently, the airport has three commercial airline carriers: Allegiant Air, American Airlines, and United Airlines. A federal inspection station, which operates 24 hours a day, provides customs and immigration services and conducts agricultural inspections.

The airport has a 500 acre site that is designated as a Foreign Trade Zone (FTZ). It is one of eight FTZs in the Laredo area and is a North American Free Trade Agreement (NAFTA) gateway for air cargo.

Forecast for operations between 2013 to 2033 project that air carrier (passenger airlines) and air taxi/commuter (passenger airlines) are to change by 7.4%, and -0.2%, respectively. All-Cargo is anticipated to grow by 3% and all other air/taxi/general aviation is to grow by 1.1%. The number of enplaned passengers is expected to experience a compound annual growth rate of 4.3% according to the Laredo Airport Modernization Plan (Master Plan Update, December 2015).

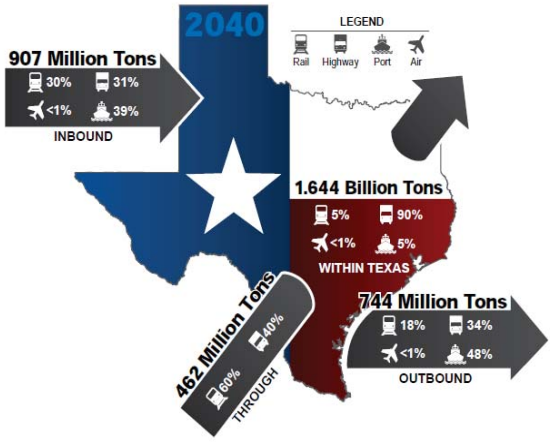


Laredo International Airport Diagram

Cross-Border Transportation Logistics

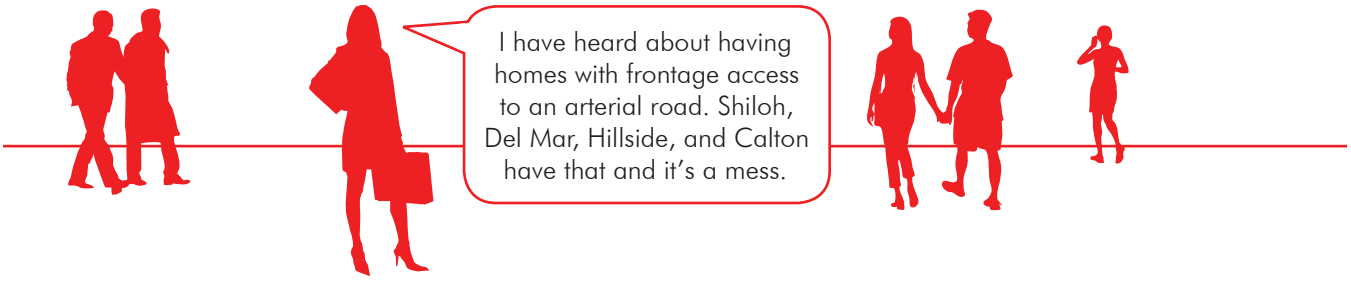
Ports of Entry

As the largest inland port along the US-Mexico border, Laredo benefits from the crossing of over $280 billion (2014) in commerce through the Laredo Customs District. This tremendous flow of goods through the region offers nearly endless opportunities to build up the local industry by finding ways to add value to products that are already moving through the area—keeping shipping costs and time low.



Texas Freight Mobility Plan 2040

Bridge Ports of Entry



International Bridges

Bridge I- Gateway to the Americas Bridge Non-commercial and Pedestrian

Bridge I is a four-lane bridge and allows privately owned vehicles (POVs) only. The original bridge was constructed in 1954 but was destroyed by a flood and reconstructed in 1956.

In December of 2015, Bridge I received $26.8 million in federal funding for renovation improvements that will allow for improved pedestrian, bicycle, and vehicle mobility. The improvements are anticipated to reduce peak automobile wait times from 33 minutes to 15 minutes and peak pedestrian wait times from 49 minutes to 21 minutes. As part of the improvements, the historic building is also rehabilitated.

Bridge II - Lincoln-Juarez International Bridge Non-commercial

Bridge II is a six-lane bridge and allows POV only. The bridge was constructed in 1976.

Bridge II is ranked as the busiest crossing for bus passengers in fiscal year 2014, with an average of 2,796 passengers per day (125-150 bus crossings per day). Modernization work at the bridge includes expansion and construction of new bus stalls and vehicle inspection lanes, a new waiting area, new restrooms, and a canopy for loading and unloading buses. The improved bus configuration is expected to reduce peak transit times from 160 minutes to 40 minutes.

As of late 2015, the City of Laredo and TxDOT are negotiating the transfer of the four city blocks between the end of I-35 and the entrance of Bridge II. These blocks are currently used as parkland. When this transfer is complete, the City will take over all maintenance of this area and may provide additional services that are associated with incoming travelers while the remainder is being used as parkland.

Bridge III - Columbia Solidarity Bridge Non-commercial and Commercial

Bridge III is an eight-lane bridge with two sidewalks. POV and commercial/cargo are permitted over the bridge. It was completed in 1991.

Bridge IV - World Trade Bridge Commercial

Bridge IV is an eight-lane bridge that allows commercial traffic only. It opened in 2000.

Between the World Trade Bridge and Columbia Solidarity Bridge, about 12,000 commercial trucks cross the bridges each day. This is only about 40% of the capacity of these bridges.

Future upgrades involve both the MPO and the City. They are currently looking at expanding the World Trade Bridge by doubling the lanes from eight to sixteen, with additional exit booths and weigh-in-motion, each of which support the FASTLANE Grant. FASTLANE Grants are awarded by the U.S. Department of Transportation to support transportation infrastructure for the new Fostering Advancements in Shipping and Transportation for Long-term Achievement of National Efficiencies.

Additionally, the City of Laredo, Webb County, the Webb County-City of Laredo Regional Mobility Authority (WC-CL RMA) and the TxDOT-Laredo District are proposing that Bob Bullock Loop from the World Trade Bridge to US 59 be upgraded to interstate highway standards and that this segment of Bob Bullock Loop be integrated into the I-69W corridor.

Bridge	Total Number of Bridge Lanes/Rail Tracks	
	2011	2035
Bridge #1 - Gateway to the Americas Bridge	4	4
Bridge #2 - Juárez-Lincoln Bridge	6	6
Bridge #3 - Laredo-Colombia Solidarity Bridge	6	6
Bridge #4 - World Trade Bridge	8	16
Rail - Texas-Mexican Railway International Bridge	1	1

Bridge Ports of Entry Total Number of Lanes

Commercial Truck Freight

Laredo experiences a very high volume of commercial vehicle traffic due to the importance of trade in the region. Commercial truck traffic into the City generally originates from the World Trade Bridge and southbound along I-35.

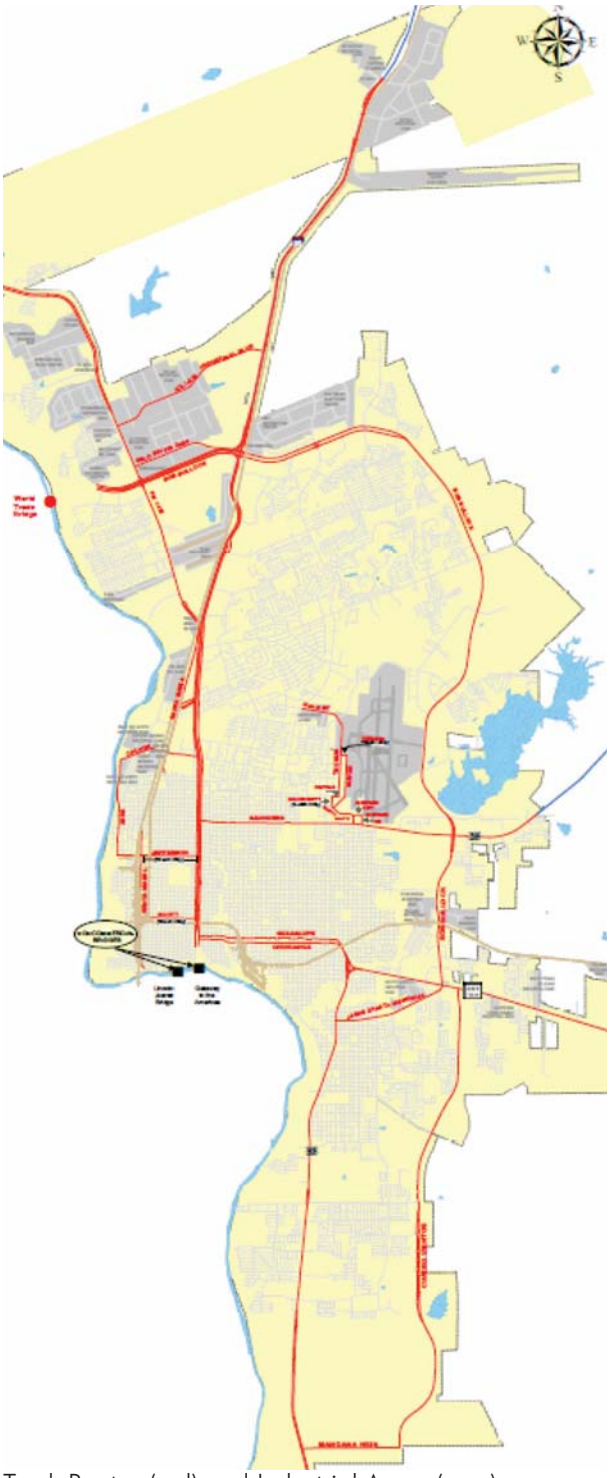
Major industrial facilities, including industrial parks and distribution centers, are situated along Mines Road, just north of Bob Bullock Loop. They are also located at the Unitec Industrial Park located on the east side of I-35, north of the Union Pacific terminal and about six miles north of Bob Bullock Loop. The gray areas on the adjacent map demarcate the industrial areas within the City.

Drayage truck traffic between the borders for distribution to warehouses is responsible for much of the congestion around the industrial areas and commercial routes. Drayage truck activities are defined as a truck pickup from or delivery to a seaport, border port, inland port, or intermodal terminal with both the trip origin and destination in the same urban area. Once a drayage truck unloads a shipment, the truck will often wait for the next dispatch request. This waiting period results in the drayage truck driving in a circuitous pattern around the industrial areas until the next dispatch is received.

Future freight demands are anticipated to grow by more than 200% by the year 2040, which will greatly increase the congestion and stressors on the existing transportation network, particularly in the areas near

Port Name	Year	Trucks	% truck/total
Laredo	2009	1,382,319	32%
Laredo	2013	1,846,282	36%
Total	2009	4,291,465	
Total	2013	5,194,867	

Border Crossings in Laredo, TX Compared to Total Entry at Southern Border Ports (Source: Bureau of Transportation Statistics 2015)



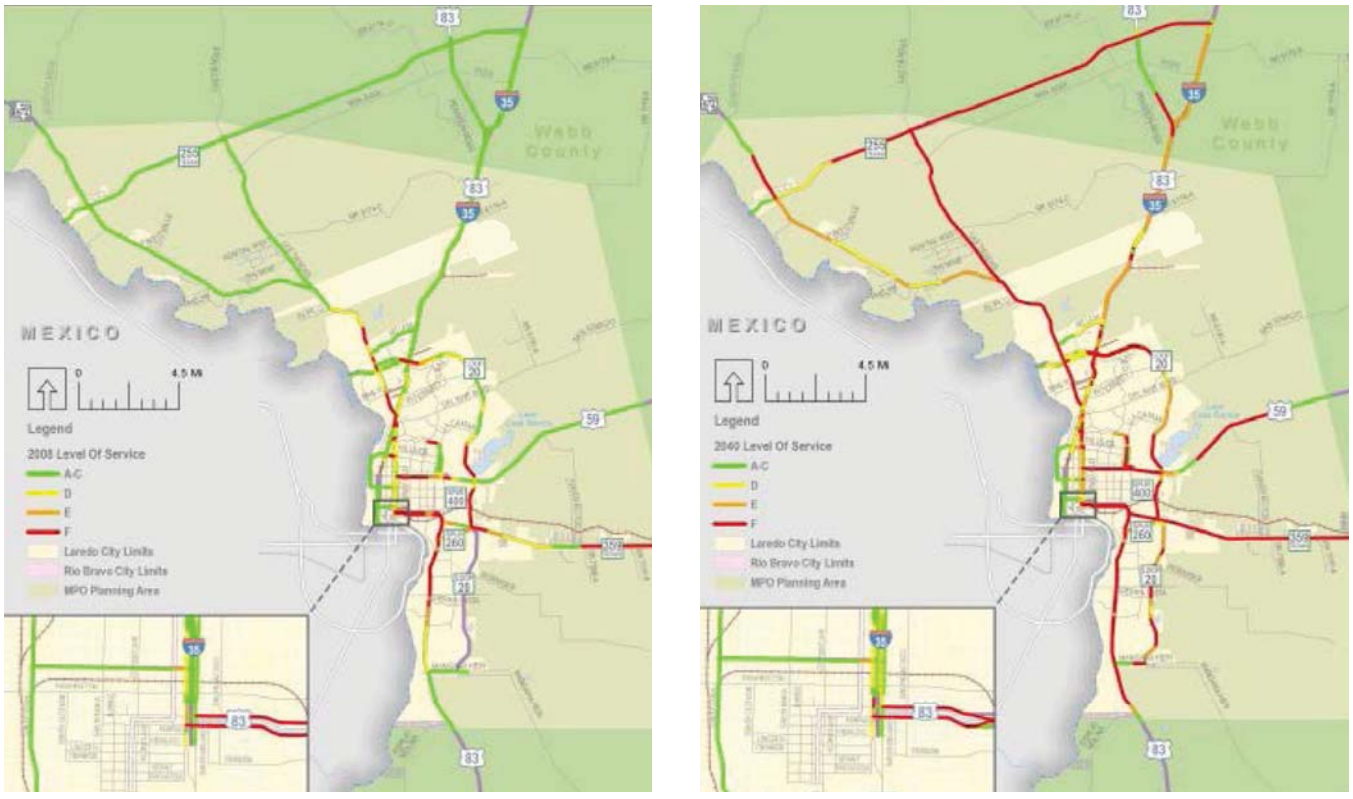
Truck Routes (red) and Industrial Areas (gray)

the World Trade Bridge, the industrial facilities along Mines Road, and northward along I-35. Adequate planning and funding for upgrades to these roadway networks should be appropriated to accommodate this growth. Efforts should be made to separate truck freight traffic from residential neighborhoods to improve public safety, and to separate commercial traffic from commuter traffic as best as possible.

Drayage and long-haul commercial truck traffic are in need of places to park between dispatches and adequate truck stops for overnight sleeping. Given the large number of trucks in the area, there remains an economic opportunity to accommodate the truckers who are presently left with little or no choice other than to either violate mandatory rest times between shifts, park on the side of the road, or find a truck stop that is far away.

Roadway	Location	2012
IH 35	Between Del Mar & International Blvd	14,205
IH 35	Between Hidalgo St & US 59	10,324
IH 35	Between Mines Rd & Bob Bullock Loop	9, 570
IH 35	6.5 miles north of Bob Bullock Loop	5, 579
US 83	Between Loma del Sur Blvd & Zacatecas	5,166
IH 35	9.7 miles north of Bob Bullock Loop	4,991
IH 35	Between W Hillside Rd & W Del Mar Blvd	4,798
US 59	Between IH 35 and N Meadow Ave	4,740
US 83	Between Magana Hein Rd & Loma del Sur Blvd	4,680
IH 35	Between US 59 & Mann Rd	4,649

High Truck Traffic Volume Locations Average Daily Traffic
Source: TxDOT, Transportation Planning and Programming Division



Truck Route Level of Service, 2008 vs. 2040

Freight Rail Service

Freight rail cargo service is provided by the Union Pacific Railroad (UPRR), Barlington Northern Santa Fe Railroaway (BNSF), and the Kansas City Southern Railway (KCSR). The Texas Mexican Railway was sold to the KCSR in 2005. KCSR and UPRR are privately owned U.S. carriers. All rail traffic crosses via the international rail bridge between Laredo and Nuevo Laredo, which is owned by KCSR and located in the heart of Laredo's Downtown area. After crossing the Rio Grande, the KCSR line turns and travels east-west.

There are three major rail yards in Laredo and Nuevo Laredo:

1. KCSR's Laredo Yard is a 750-car capacity yard and is located approximately 7.5 miles east of the Texas Mexican Railway International Bridge.
2. UP's Port Laredo Yard has a capacity of 750 cars and is located approximately 8.2 miles north of the bridge.
3. The Sanchez Yard is located 11 miles south of the bridge and to the west of Nuevo Laredo. The Sanchez Yard is a 1,500-acre facility that mirrors the functions at the Port Laredo and Laredo Yards. The yard has 22 tracks, including two for car repairs and an intermodal terminal capable of handling 1,500 trucks per day.

   The Sanchez Yard is equipped to handle all Mexican Customs and agricultural inspections, thereby eliminating the need for international traffic to stop on the bridge for inspection. Sanchez Yard has transformed rail operations over the bridge from alternating six-hour northbound/southbound windows to a single-track through right-of-way. Northbound trains staged at the Sanchez Yard can be pre- cleared, pre-blocked, and inspected at the yard. This has doubled the bridge capacity to almost 40 trains per day (Kansas City Southern, 2007).

In 2008 and 2009, train traffic reduced tremendously to levels similar to the beginning of the decade with 2,716 train crossings. This decline occurred during the economic recession. In 2010, during the economic recovery, train traffic increased again by 12% compared to 2009 – a growth very similar to the 2000 to 2001 time period when traffic increased by 9%.

According to a Kansas City Southern (KCS) study, UP crosses approximately 10 to 12 trains per day over the Texas Mexican Railway International Bridge. By 2020, it is projected that UP will cross approximately 20 trains per day over the bridge. KCS currently crosses approximately 8 to 10 trains per day and by 2020, KCS is expected to cross approximately 30 trains per day over the bridge. KCS's traffic projections indicate a projected future growth that is in itself higher than the traffic using the bridge today. The projected rail traffic in the future will thus exceed the capacity of the bridge (Kansas City Southern, 2007).

At-Grade Crossings and Quiet Zones

Laredo has 32 at-grade crossings operated by the Kansas City Railroad, and 41 at-grade crossings operated by Union Pacific Railroad with upwards of 50 trains per day throughout the City.

These at-grade crossings require a locomotive engineer to regularly sound a train-mounted horn as the train approaches. The horn is sounded for at least 15 seconds and no more than 20 seconds within 500 feet of the crossing for trains traveling 5 to 15 miles per hour. Train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long blasts. Volume decibels for train horns are 96 to 110 decibels. This warning exposes residents and businesses in the area to highly disruptive sounds, especially at night.

To alleviate this noise, Laredo has been looking at implementing Quiet Zones, which are improved railroad grade crossings where locomotives are not required to sound their horn. A quiet zone can therefore significantly improve the environmental quality of a neighborhood.

A crossing or a group of railroad crossings can qualify for a quiet zone if, in addition to modern crossing flashers and gates, additional specific crossing devices are used to increase the safety of each crossing. City projects underway include quiet zone projects, new railroad crossing signal upgrades, crossing surface projects, grade separations (bridges and underpasses), and other rail projects.

Laredo At-Grade Railroad Crossings

Air Quality

Air quality federal standards are set by the National Ambient Air Quality Standards (NAAQS), by providing allowable concentrations and exposure limits for certain pollutants. Primary standards are intended to protect public health, while secondary standards protect public welfare. Air quality standards have been established for the following six criteria pollutants:

- Ozone,
- Carbon monoxide,
- Particulate matter,
- Nitrogen monoxide,
- Lead, and
- Sulfur dioxide.

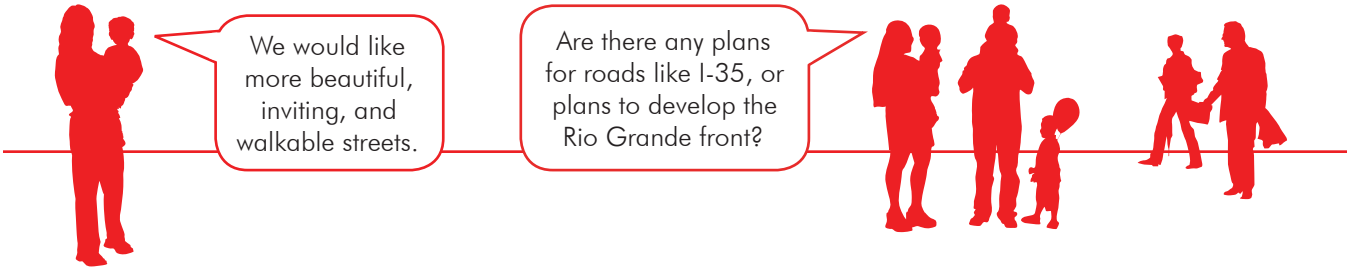
If monitored levels of any of these pollutants violate NAAQS, then the Environmental Protection Agency (EPA), in coordination with TCEQ will designate the contributing area as "nonattainment."

Laredo is considered to be in attainment, meaning it meets applicable air quality standards.

The City's transit department is currently in the process of replacing its diesel vehicles with those which utilize compressed natural gas. Over 50% of all City buses currently operate on compressed natural gas.

For the City to continue to be an attainment zone, transportation control measures should be implemented that include:

- Transportation emission reduction measures,
- Adoption of a local air quality mitigation fee program,
- Development of energy efficient incentive programs, and
- Adoption of air quality enhancing design guidelines.



Future Thoroughfare Plan

The updated Future Thoroughfare Plan ensures that the future mobility network will contain a reasonably dense network of continuous routes. The new plan identifies arterials and collectors; those designations are based on the intended network function.

Under the updated functional classification system, "principal arterials" will provide for longer trips on relatively straight paths. Principal arterials often connect to expressways and provide direct routes. This classification combines the city's previous classifications of "major arterials" and "modified major arterials" to match the "principal arterial" terminology used by TxDOT and the FHA.

"Minor arterials" are typically found between principal arterials and provide continuous paths to intermediate destinations and alternate routes for longer trips. Minor arterials can follow less direct routes than principal arterials. Minor arterials typically have only two lanes, but may have four lanes if necessary. They can also be used to connect isolated neighborhoods.

"Collectors" are typically found between minor arterials to provide for frequent interconnections between neighborhoods. Collectors can follow less direct routes than minor arterials and are part of a larger network of continuous paths. In many cases collectors may be indistinguishable from local streets except that they will include dedicated bicycle facilities. They can also be used to connect isolated neighborhoods.

Because Laredo is one of the largest inland ports of entry with large industrial areas, the "industrial collector" classification has been maintained. These collectors are to accommodate large vehicular traffic.

Local streets are not shown on the Future Thoroughfare Plan. They should be completely interconnected within each neighborhood and to adjoining neighborhoods. Local streets can be designed to slow or discourage, though not block, through traffic. Limitations on through movements is possible only because the network of collectors and arterials is sufficient to provide for most traffic flow.

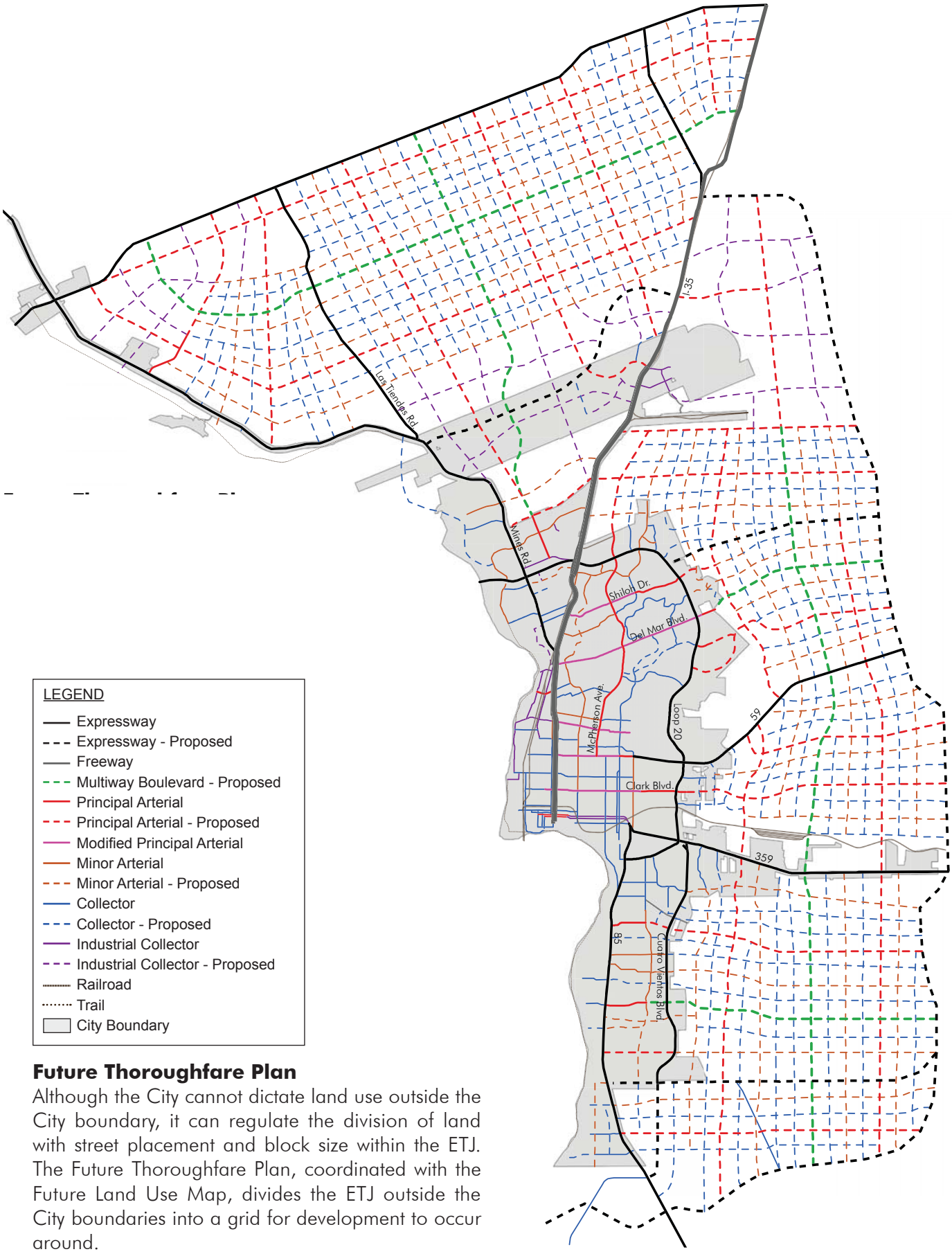
Existing Long Range Thoroughfare Plan	Updated Future Thoroughfare Plan
Expressway Freeways	Expressway
No Previous Designation	Multiway Boulevard
Modified Major Arterial Major Arterial	Principal Arterial
Minor Arterial Type A Minor Arterial Type A	Minor Arterial
Major Collector	Collector
Industrial Collector	Industrial Collector

Updated Functional Classification For Future Thoroughfare Plan

A "multiway boulevard" designation has been added as a new street classification. The multiway boulevard separates through travel lanes from local access lanes to simultaneously move vehicles while providing a calm, spacious pedestrian and living environment for adjacent residences. Multiway boulevards should occur along the most prominent arterials.

The design of individual thoroughfares will still be correlated to functional classification, but more choices will be provided than at present. Because of the variety of physical and social contexts that each type will traverse, a one-to-one correlation between thoroughfare types and street cross-sections is not desirable.

In more suburban areas, an important thoroughfare design determinant is the anticipated amount of traffic to be accommodated. In more compact or urban areas, however, the most important design determinant is managing traffic speeds to levels that are compatible with walking, bicycling, and transit use; this factor is much more important that accommodating anticipated traffic volumes on any given arterial or collector.

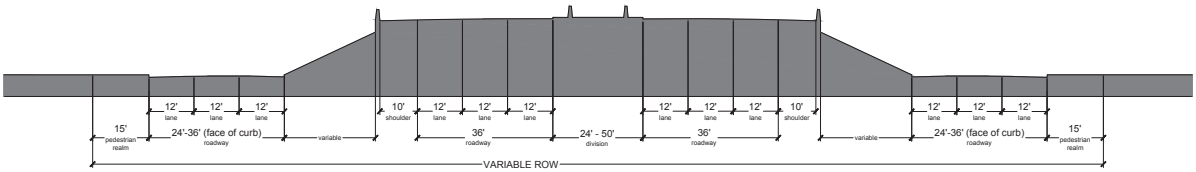


Future Thoroughfare Plan

Although the City cannot dictate land use outside the City boundary, it can regulate the division of land with street placement and block size within the ETJ. The Future Thoroughfare Plan, coordinated with the Future Land Use Map, divides the ETJ outside the City boundaries into a grid for development to occur around.

Matrix of Updated Functional Classification Characteristics and Design Criteria

	Expressway	Multiway Boulevard	Principal Arterial	Minor Arterial	Collector	Industrial Collector	Local Streets
TYPICAL THOROUGHFARE CHARACTERISTICS							
Network Function	High-speed travel to regional destinations	Straight paths to distant destinations; blends faster moving travel with slower moving access lanes	Straight paths to distant destinations; connects to freeways	Continuous paths to intermediate destinations; alternate routes for longer trips	Continuous paths to arterial network; allows local trips to avoid the arterial network	Continuous paths between primarily industrial areas and the arterial network	Access to local destinations; Slow travel speeds
Direct Route	Yes	Yes	Yes	Yes, may include minor deflections	Yes, may include deflections & minor jogs	Yes, may include deflections & minor jogs	No
Spacing	Not applicable	Occurs along most prominent principal arterials	1 mile	Mid-way between principal arterials	Between arterials	Between arterials	Not applicable
Maintenance	State	State or municipality	State or municipality	Municipality or county	Municipality or county	Municipality or county	Municipality or county
Transit	Express bus routes	High-capacity transit, option for dedicated bus lanes	High-capacity transit, option for dedicated bus lanes	Minor bus routes	Para-transit, occasional minor bus routes	Occasional minor bus routes and large vehicle capacity transit	None
DESIGN CRITERIA FOR NEW & RECONFIGURED THOROUGHFARES							
Number of Travel Lanes							
Compact / Urban	4 - 8 lanes	5 thru lanes w/ side access lanes	5 lanes typical; 7 lanes in boulevard	3 lanes typical; 5 lanes if necessary	2-3 lanes	N/A	2 lanes
Suburban		N/A	5 lanes typical; 7 lanes if necessary	3 lanes typical; 5 lanes if necessary	2-3 lanes	2-3 lanes	2 lanes
Width of ROW							
Compact / Urban	Variable Width	>140′	100′ - 120′; >120′ in boulevard	90′	80′	N/A	60′ - 90′
Suburban		N/A	100′ - 120′	90′	80′	70′	50′ - 65′
Target Speed							
Compact / Urban	65 mph	30–35 mph	30–35 mph	25–30 mph	20–25 mph	N/A	10-25 mph
Suburban		N/A	45 mph	40 mph	20–30 mph	20–30 mph	10-25 mph
Bicycle Facilities							
Compact / Urban	None	Raised cycle track, sharrows in side lane	Raised cycle track	Raised cycle track	Sharrows or raised cycle track	N/A	Full Use of Lane or Sharrow
Suburban		N/A	Raised cycle track	Raised cycle track	Raised cycle track	Buffered bike lanes	Full Use of Lane
Pedestrian Facilities							
Compact / Urban	None	Wide sidewalks	Wide sidewalks	Wide sidewalks	Wide sidewalks	N/A	Wide Sidewalks
Suburban		N/A	Sidewalks	Sidewalks	Sidewalks	Sidewalks	Sidewalks
On-street Parking							
Compact / Urban	None	Yes	Yes (not at bus stops)	Yes (not at bus stops)	Yes	N/A	Yes
Suburban		N/A	Occasionally	Occasionally	No	No	Yes (unmarked)
Maximum Curb Radius (without curb extensions)							
Compact / Urban	None	15 feet	15 feet	15 feet	15 feet	N/A	10 feet
Suburban		N/A	20 feet	20 feet	15 feet	15 feet	15 feet



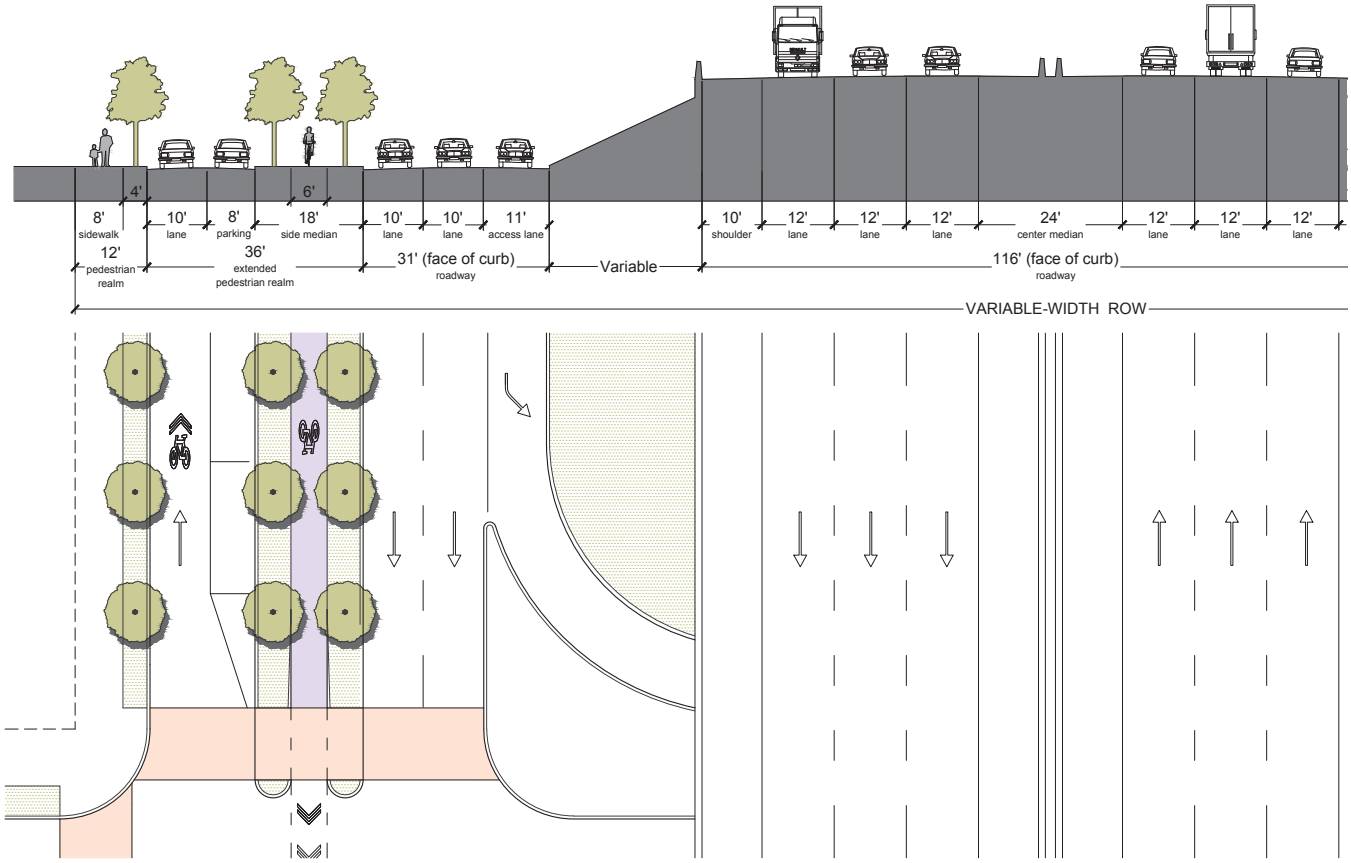
Existing Policy Cross Section: Major Arterial

EXPRESSWAY

COMPACT / URBAN

New expressways should include complete and urban frontage roads that include on-street parking, access lanes, and parkway-protected, elevated cycle tracks. Designing expressways like this will encourage more urban development along highways instead of sprawl, as well as providing superior bicycle facilities for long stretches across the City.

Reimagined Frontage Road in Laredo



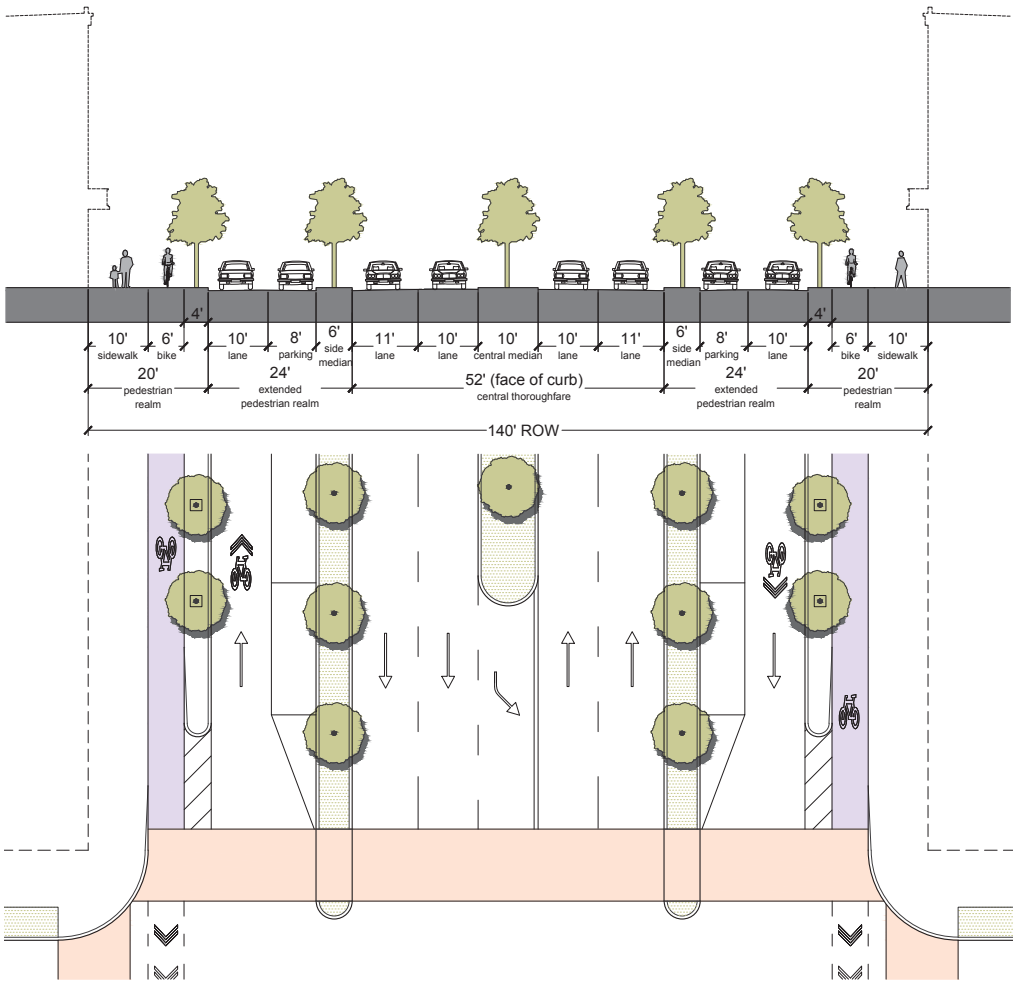
MULTIWAY BOULEVARD A: 140' ROW

COMPACT / URBAN

This multiway boulevard is a new policy section, to be used on important principal arterials in compact / urban areas across Laredo. These boulevards have a minimum ROW of 140' and can be widened as needed to accommodate additional travel lanes in higher traffic areas. They feature elevated and protected bicycle tracks as well separate on-street parking access lanes. Any principal arterial that exceeds 120' should become a multiway boulevard.

A Multiway Boulevard in Brooklyn, NY

TYPE A: 140' ROW



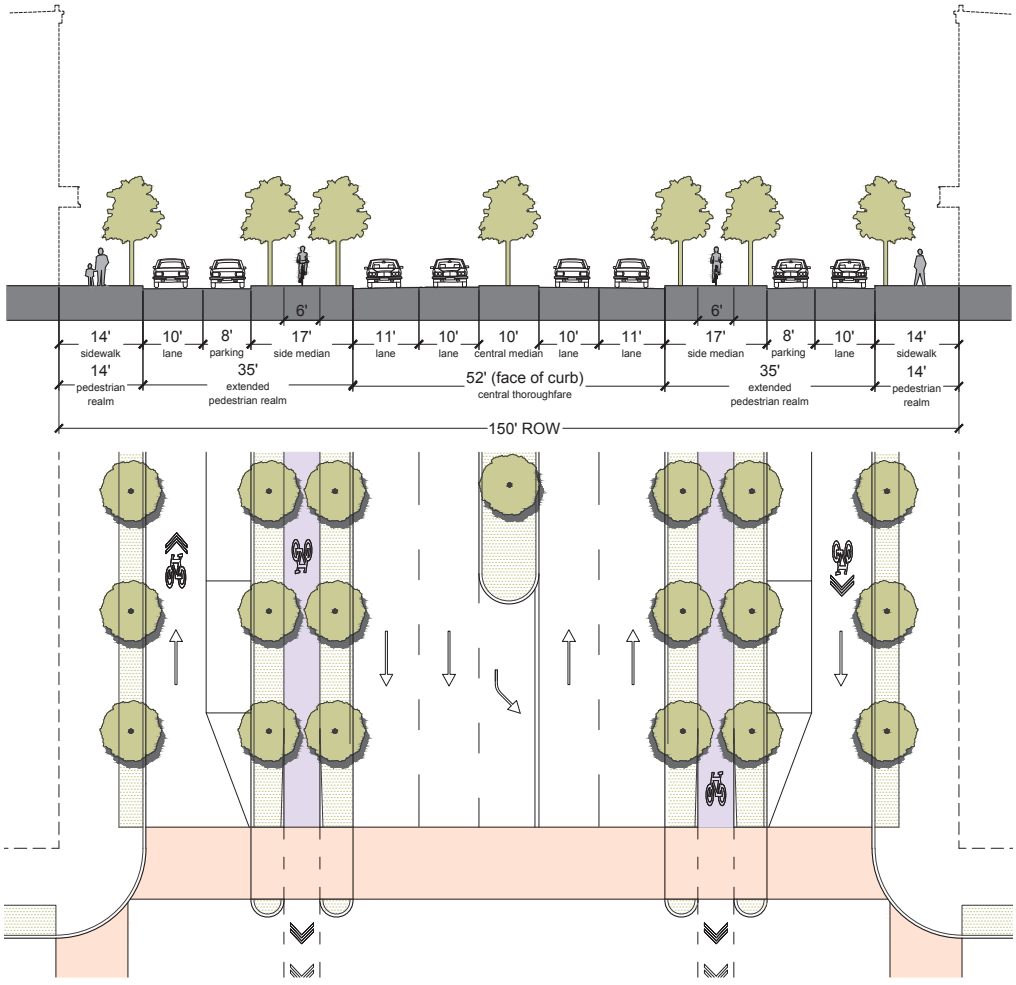
MULTIWAY BOULEVARD B: 150' ROW

COMPACT / URBAN

This multiway boulevard with a 150' right-of-way features a parkway-protected and elevated cycle track along the secondary median as well as bike sharrows along the parking access lanes in the opposite direction, which makes it easier for cyclists to make U-turns and reduces conflicts at intersections.

A Multiway Boulevard with Parkway Cycle Track

TYPE B: 150' ROW



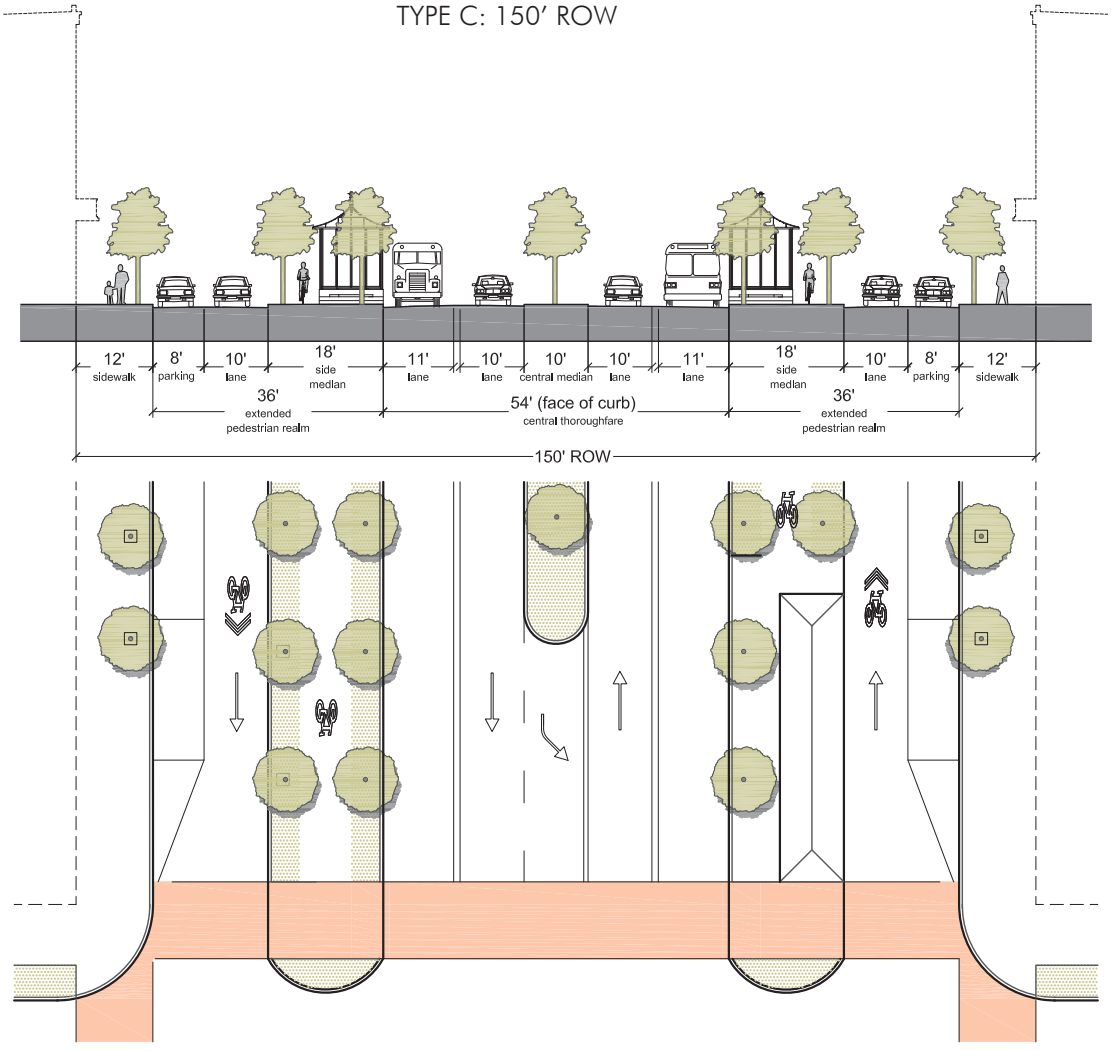
MULTIWAY BOULEVARD C: 150' ROW

COMPACT / URBAN

This multiway boulevard features a separated bike path in the parkway and future transit or bus stops along the secondary median, as well as bike sharrows within the access lanes. This example features two lanes of traffic, one in each direction, in order to accommodate the off-street bike facility and buffered bus-only lane.

Bike path on Eastern Parkway in Brooklyn, NY

TYPE C: 150' ROW



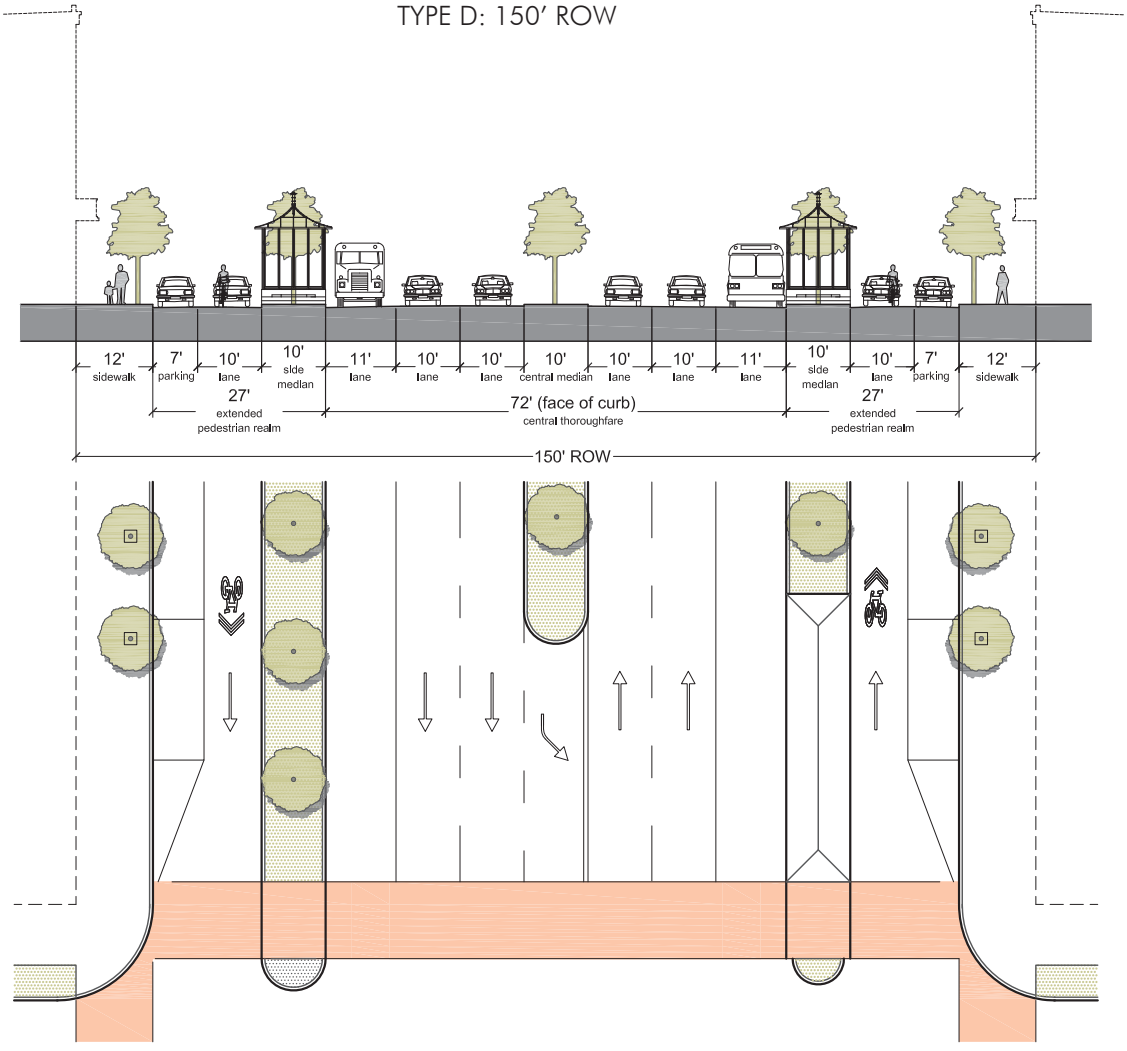
MULTIWAY BOULEVARD D: 150′ ROW

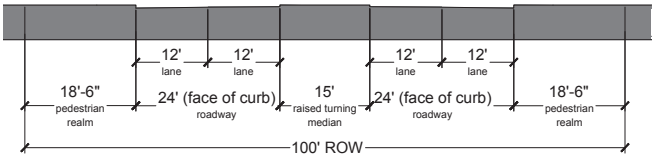
COMPACT / URBAN

This multiway boulevard type features future transit or bus stops and bus-only lanes along the secondary median as well as bike sharrows along the parking access lanes.

A Multiway Boulevard separated transit lines

TYPE D: 150′ ROW



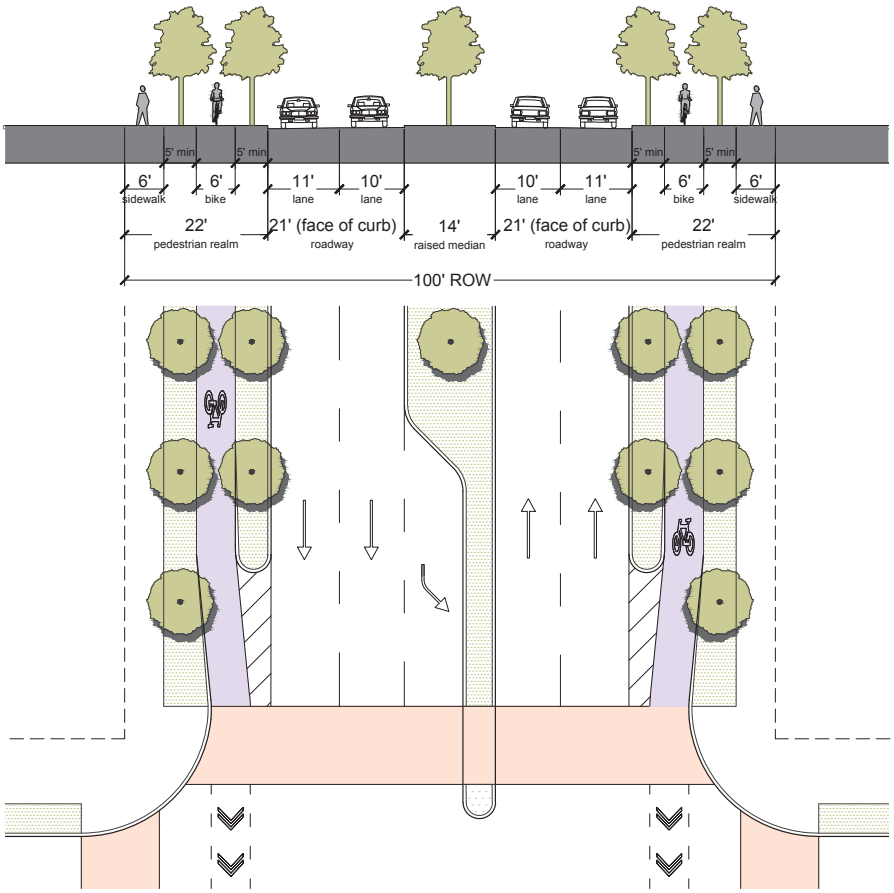


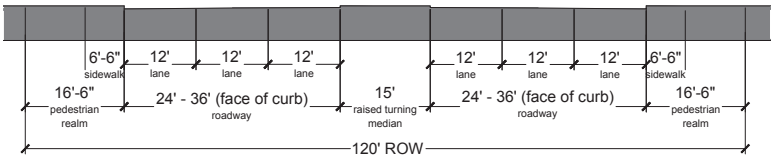
Existing Policy Cross Section: Modified Major Arterial

PRINCIPAL ARTERIAL A: 100' ROW

SUBURBAN

In suburban areas, new principal arterials should include four travel lanes, with 11' outer lanes and 10' inner lanes, and a 10' center turn lane with a raised median. Because it maintains the previous modified major arterial policy section with a 100' right-of-way, this section allows for a parkway-protected, raised cycle track.



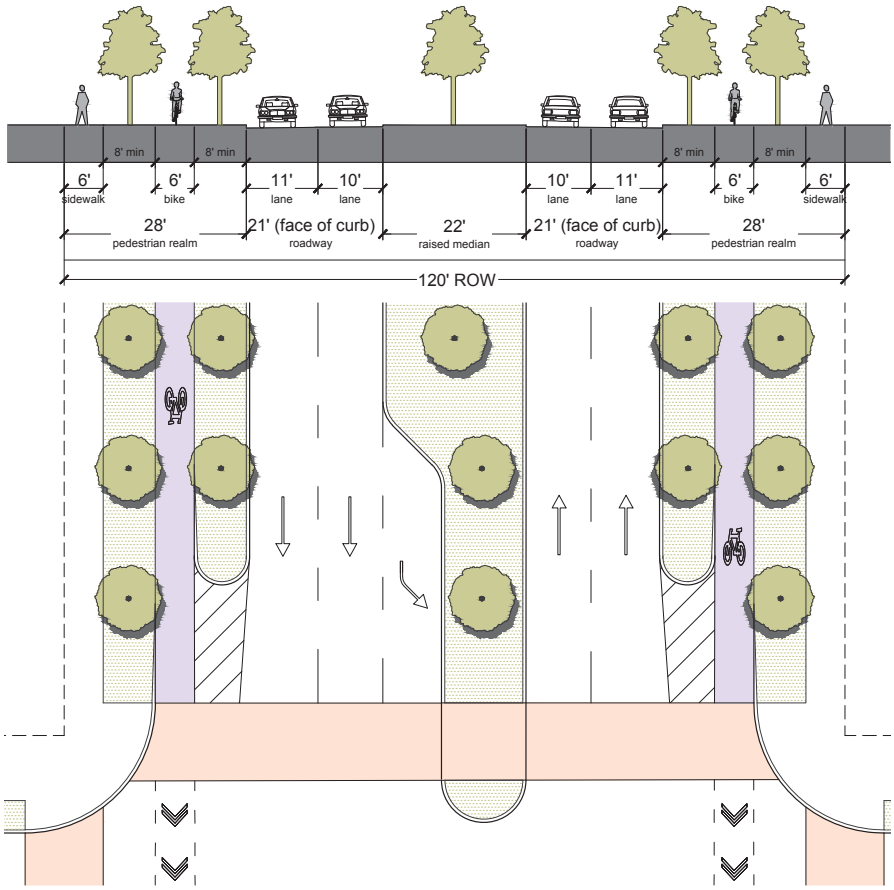


Existing Policy Cross Section: Major Arterial

PRINCIPAL ARTERIAL B: 120' ROW

SUBURBAN

In suburban areas, new principal arterials should include four travel lanes, with 11' outer lanes and 10' inner lanes, and a 10' center turn lane with a raised median. This section maintains the previous policy section's major arterial 120' right-of-way, which allows for a wider center median and wider parkway planting strips than principal arterial A when the right-of-way is wide enough.



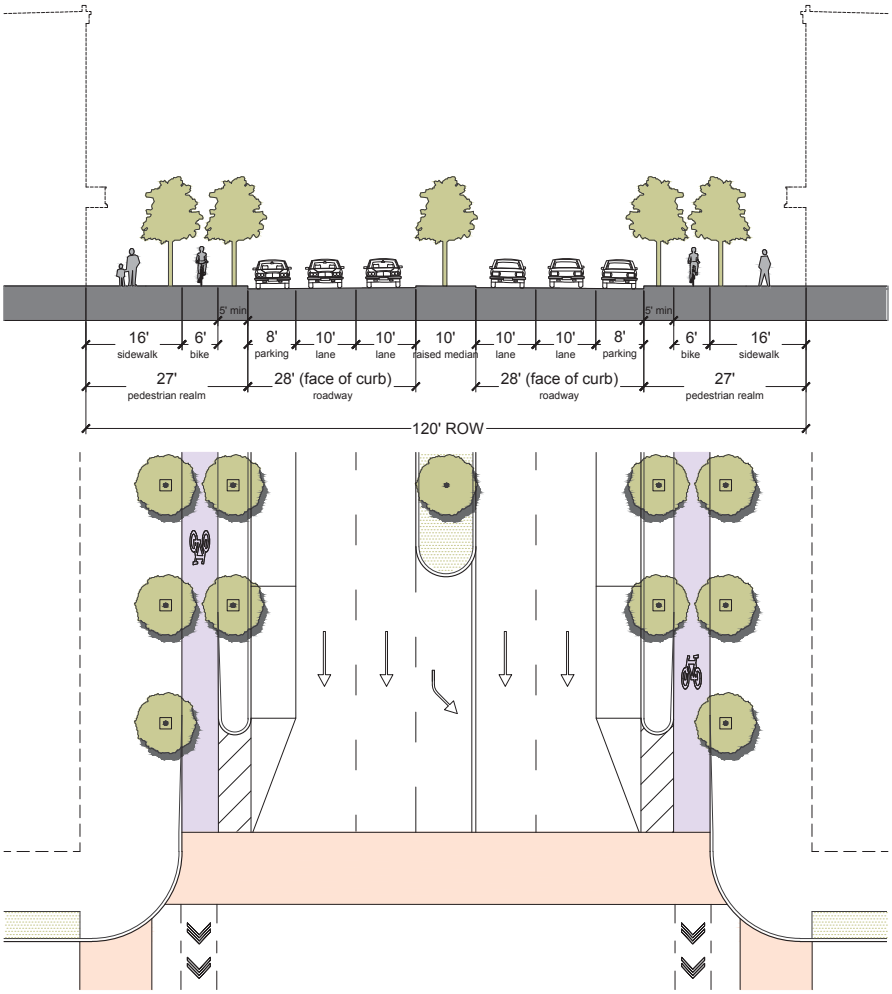
PRINCIPAL ARTERIAL B: 120′ ROW

COMPACT / URBAN

In compact / urban areas, new principal arterials should have four 10′ travel lanes with a center median and turn lane. The travel lane width has been reduced to help slow down traffic and 8′ wide on-street parking is added. Commercial streets feature wider 16′ sidewalks (which easily accommodate outdoor dining) and planter boxes. They also include elevated and protected cycle tracks in both directions.

Protected Bicycle Track Along an Arterial in Laredo

COMMERCIAL

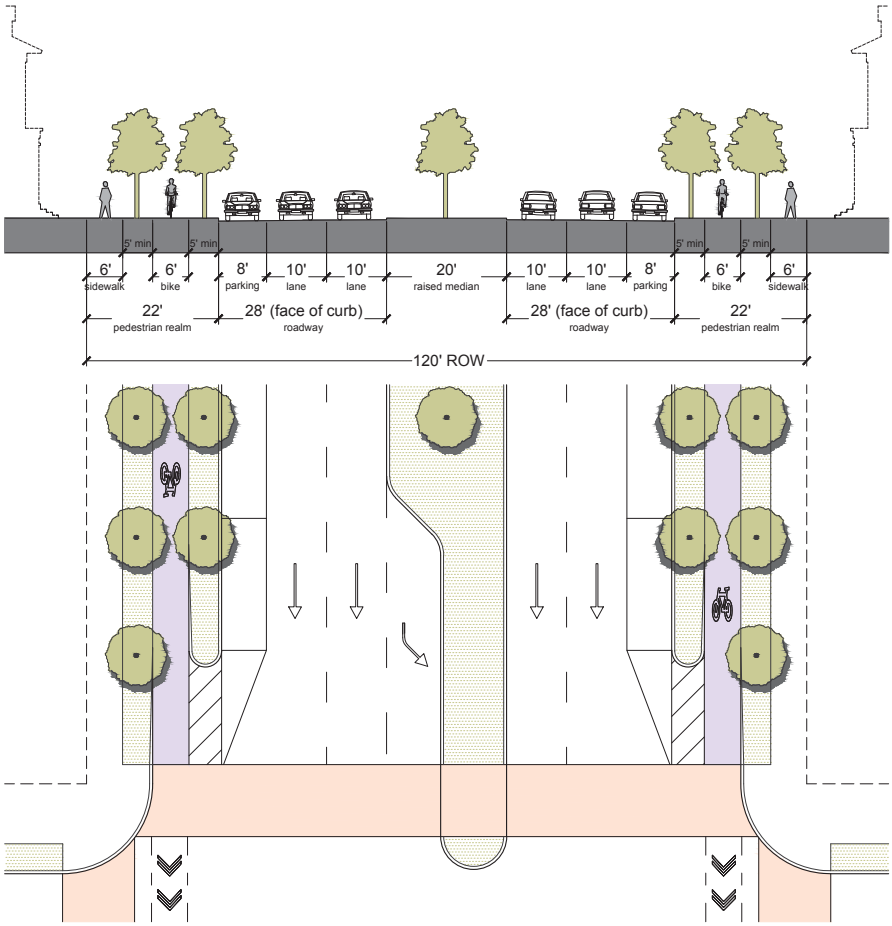


PRINCIPAL ARTERIAL (B)

COMPACT / URBAN

In compact / urban areas, new principal arterials should have four 10′ travel lanes with a center median and turn lane. The travel lane width has been reduced to help slow down traffic and 8′ wide on-street parking is added. Primarily residential streets maintain 6′ sidewalks and planting strips in the pedestrian zone and includes a parkway-protected, elevated cycle tracks.

RESIDENTIAL

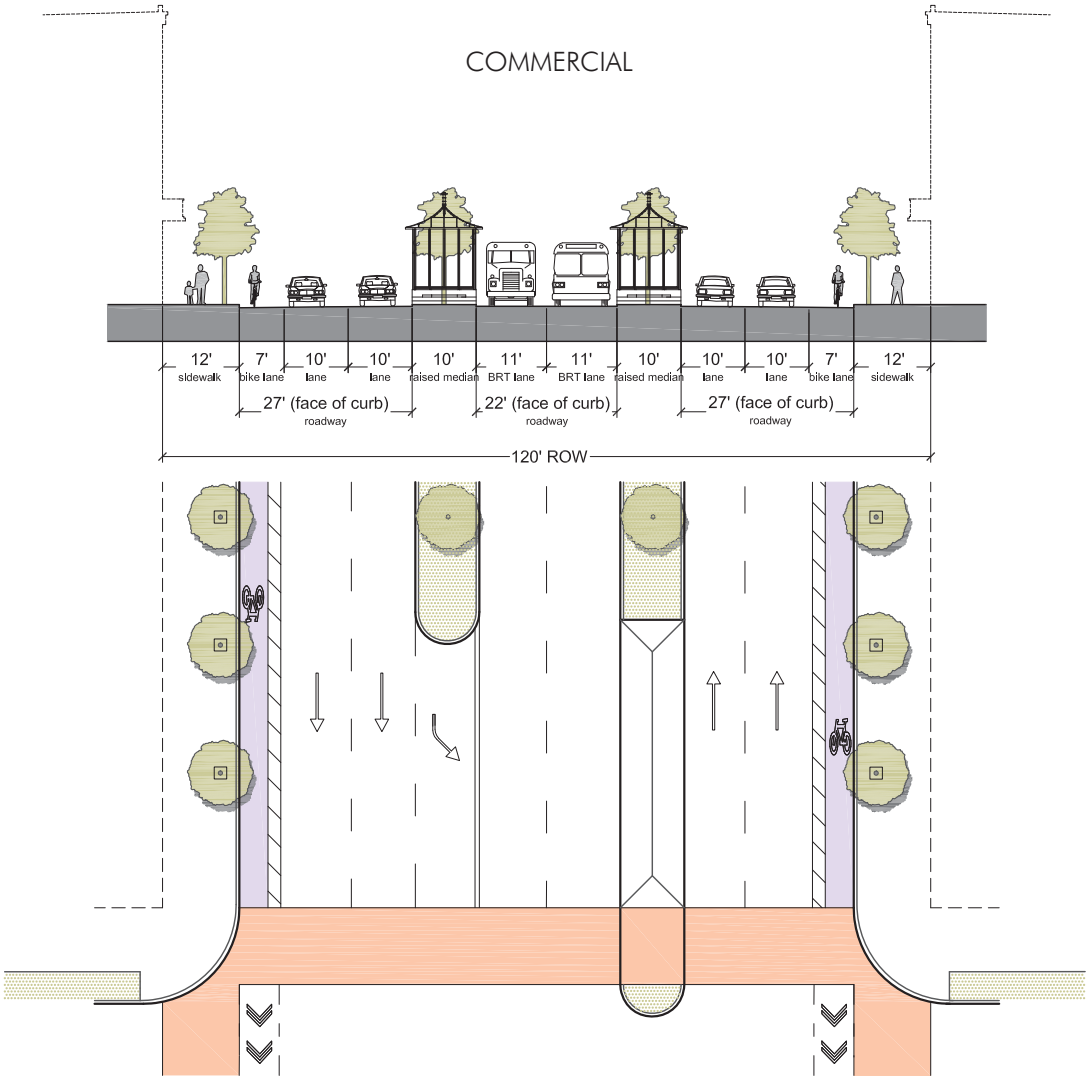


PRINCIPAL ARTERIAL B: 120′ ROW

COMPACT / URBAN

In compact / urban areas, future transit or bus-only lanes are accommodated in the center lanes, separated from travel lanes with a median including bus or transit stops. Principal arterials have four 10′ travel lanes with the median and turn lane. Commercial streets feature 12′ sidewalks and planter boxes. A buffered bike lane is also included in both directions.

Double travel lanes, with transit in the center

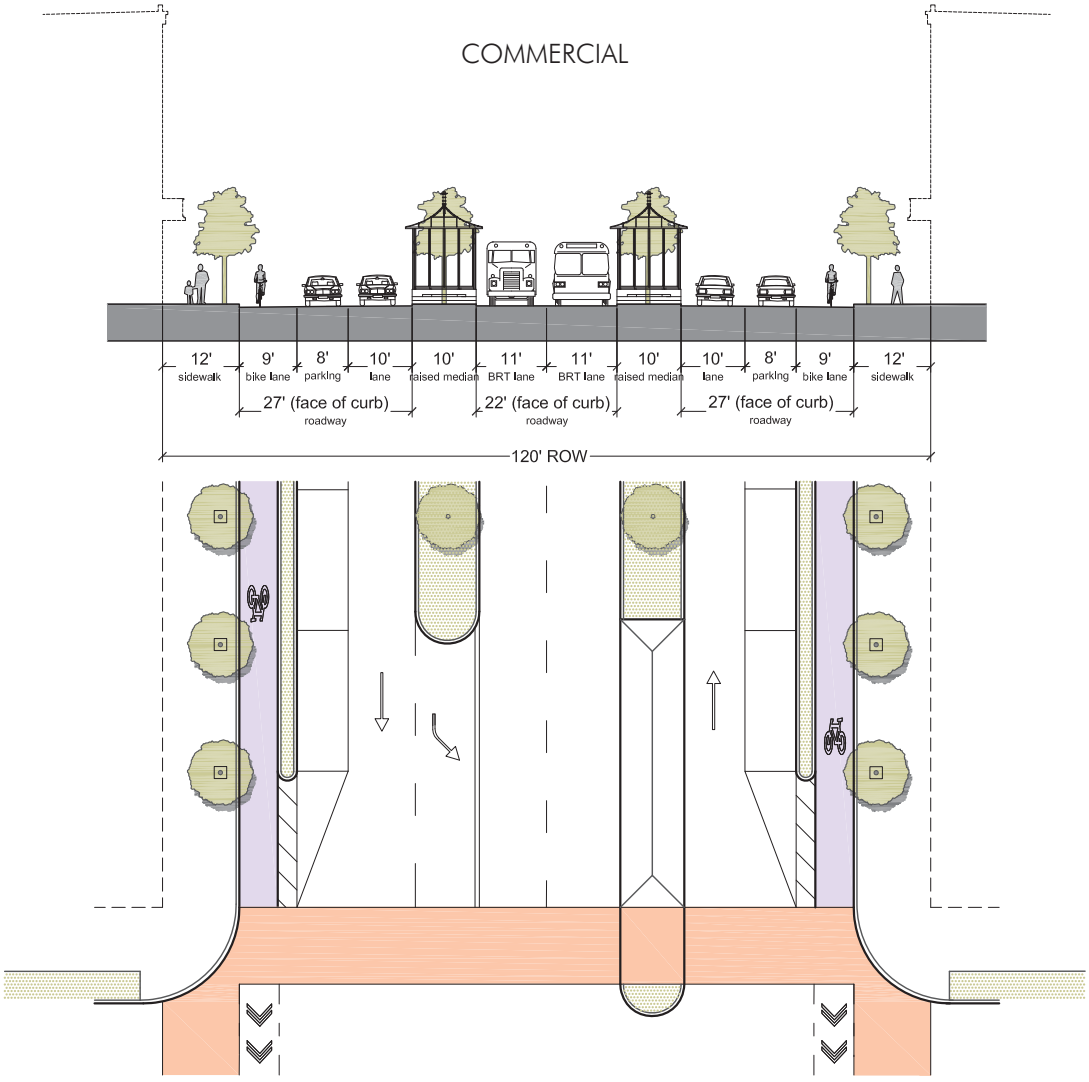


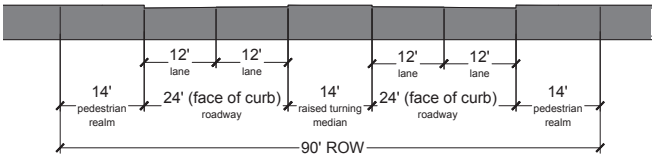
PRINCIPAL ARTERIAL (B)

COMPACT / URBAN

In this principal arterial, four lanes are reduced to two 10′ travel lanes with a median and turn lane separating the future transit or bus-only lanes. The number of lanes has been reduced to provide 8′ wide on-street parking and a separated bike lane.

Travel lanes are located on the sides with parallel parking





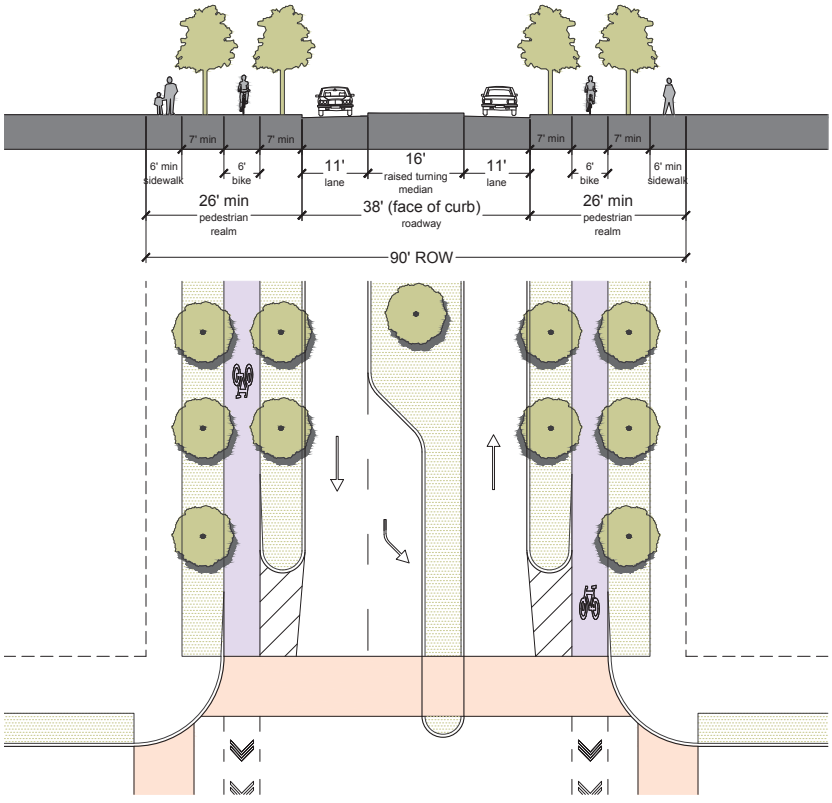
Existing Policy Cross Section: Minor Arterial (Type A)

MINOR ARTERIAL

SUBURBAN

In a suburban context, all new minor arterials should include two 11' travel lanes and a 10' center turn lane with a median. The pedestrian realm has increased, allowing for a parkway-protected, elevated cycle track protecting cyclists from both cars and pedestrians. If traffic demands are too high, there is an option to add two 10' inner travel lanes to create a five-lane roadway.

Raised Cycle Track in Vancouver; Source: NACTO

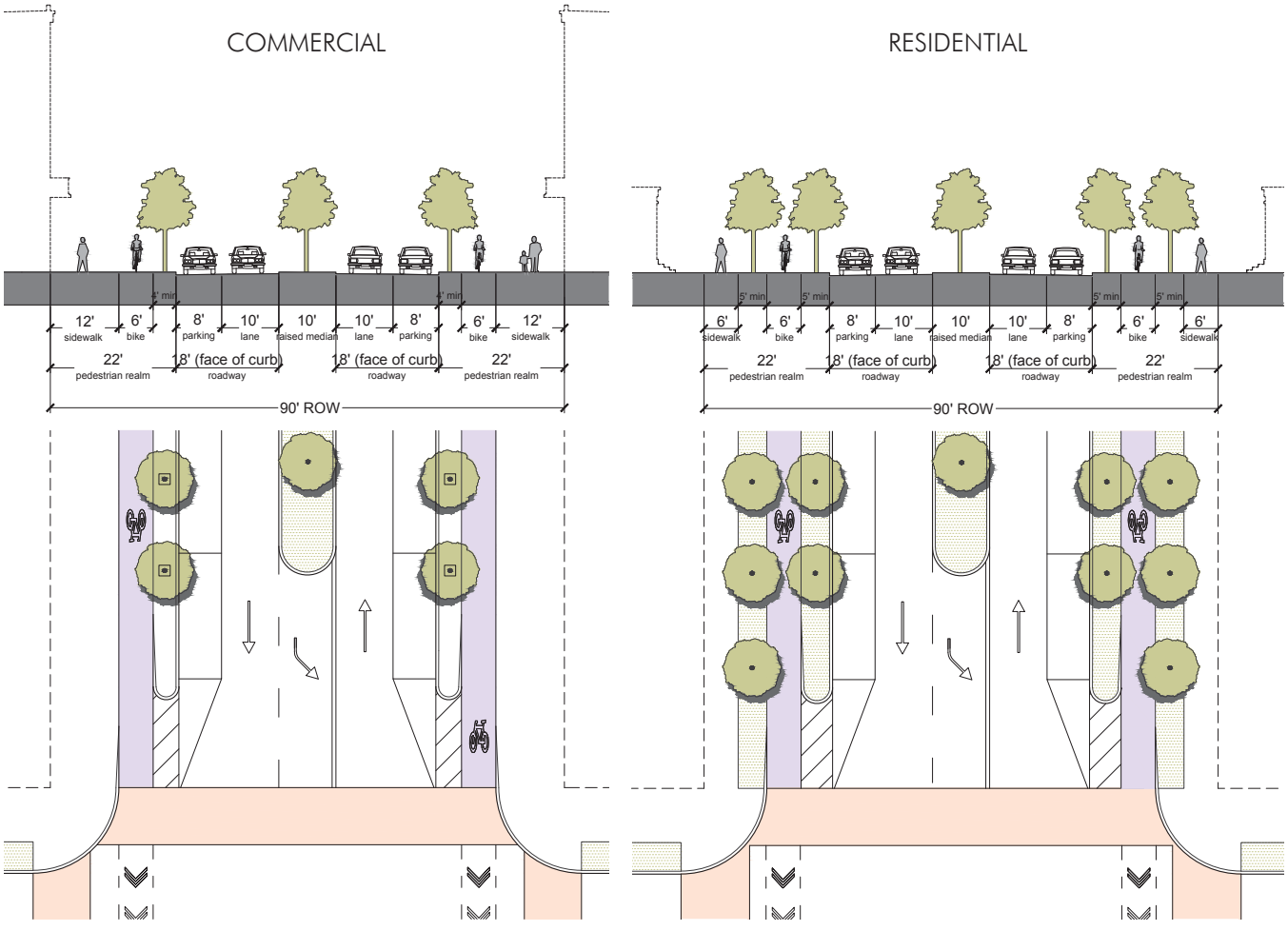


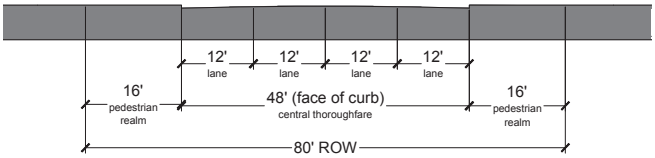
MINOR ARTERIAL

COMPACT / URBAN

In compact / urban areas, new minor arterials should have two 10′ lanes with a center median and turn lane. Lanes have been reduced to help slow down traffic and 8′ wide on-street parking is added. Commercial streets feature wider 12′ sidewalks and planter boxes while primarily residential streets maintain 6′ sidewalks and parkway planting strips in the pedestrian zone. Both streets include elevated and protected cycle tracks.

Protected and Elevated Bicycle Track Along Arterial





Existing Policy Cross Section: Industrial Collector

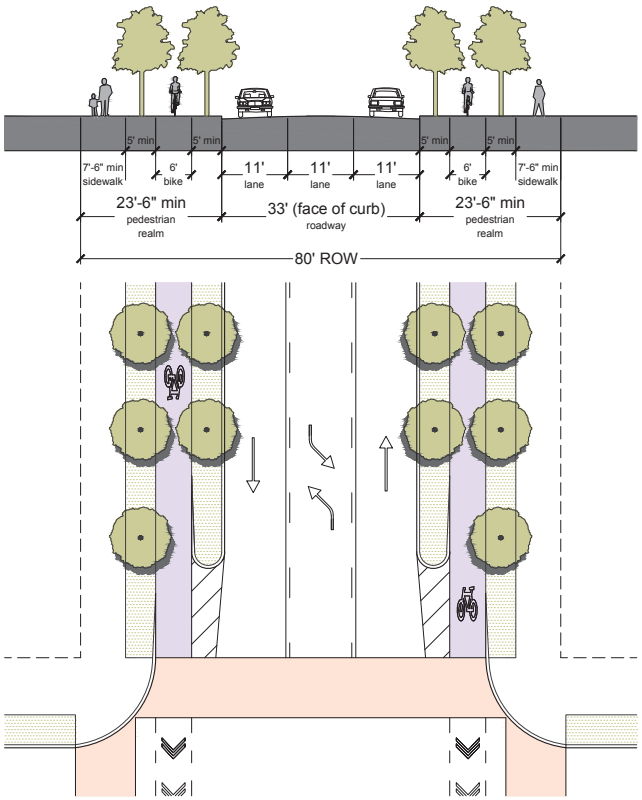
COLLECTOR

SUBURBAN

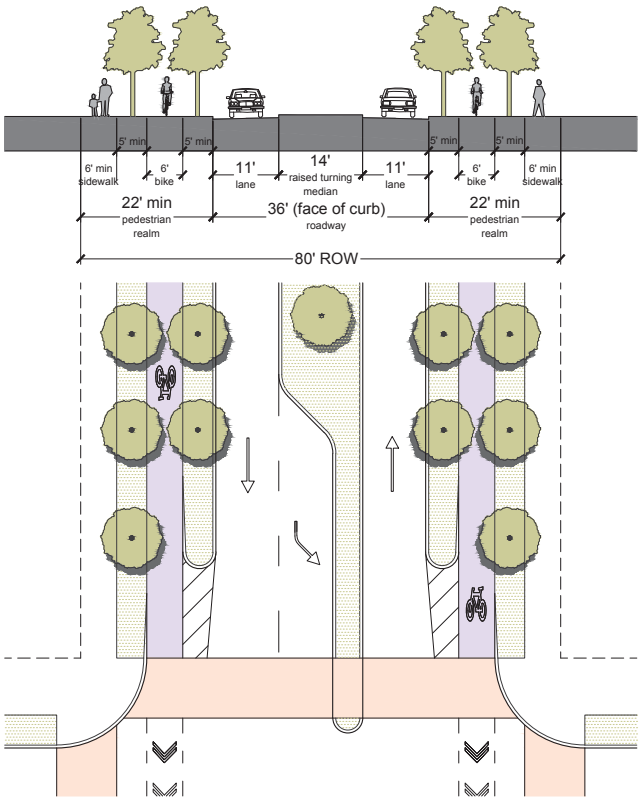
Maintaining the 80' right-of-way of the previous policy section, all new collectors should be reduced to two 11' travel lanes and a 10' center turn lane (with or without a medium, depending on the context). The pedestrian realm has also been increased to just over 23', allowing for a parkway-protected, elevated cycle track in both directions. This keep cyclists away from pedestrians in the sidewalk and cars on the roadway.

Raised Cycle Track in Vancouver; Source: NACTO

TYPE A: Two-Way Center Turn Lane



TYPE B: Center Turn Lane With Median

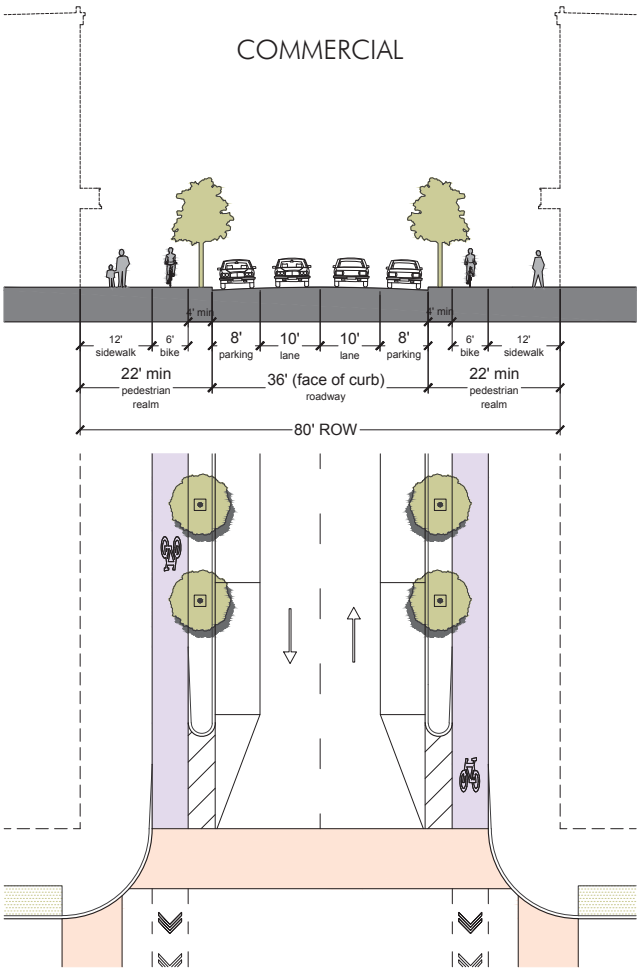


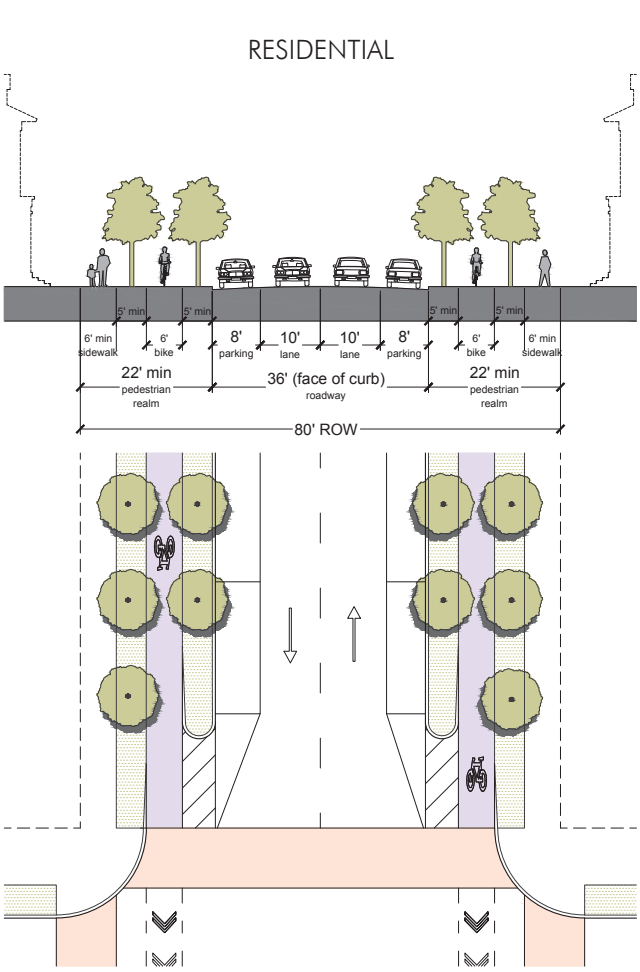
COLLECTOR

COMPACT / URBAN

In compact / urban areas, new collectors should have two 10′ lanes with or without an additional center turn lane. The travel lane width has been reduced to help slow down traffic and 8′ wide on-street parking is added. Commercial streets feature wider 12′ sidewalks and planter boxes while primarily residential streets maintain 6′ sidewalks and planting strips in the pedestrian zone. Both streets include elevated and protected cycle tracks.

Elevated Bicycle Track Along Commercial Street





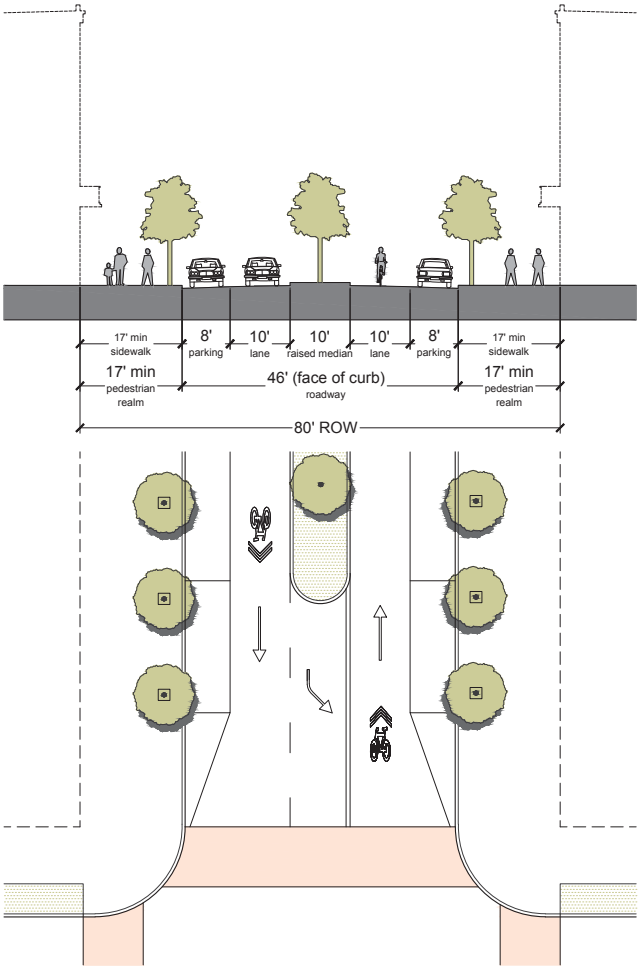
COLLECTOR

COMPACT / URBAN

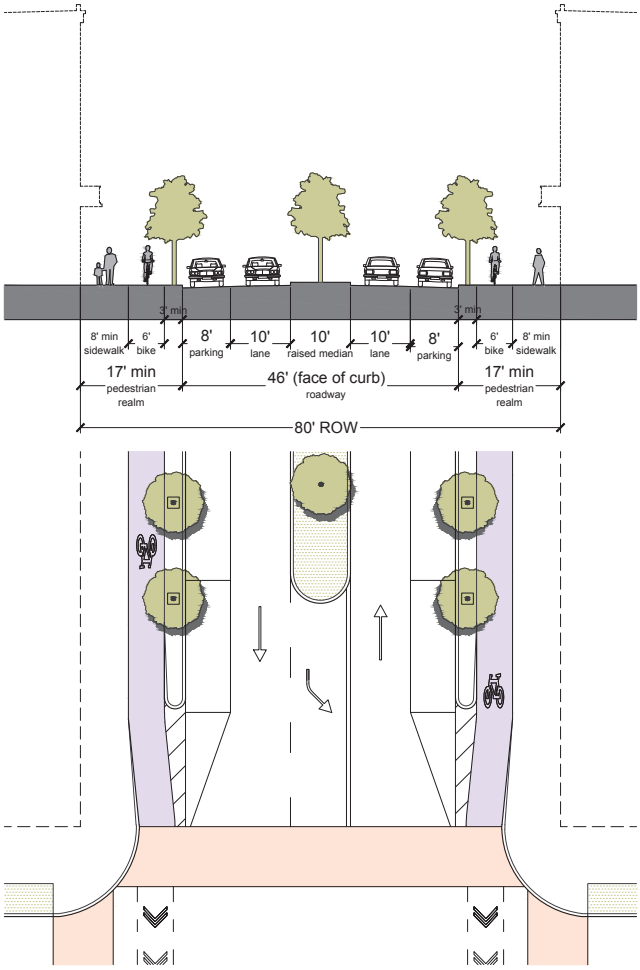
For neighborhood main streets, new collectors should include a 10′ center turn lane with planted median to help move traffic along. There is an option for 15′ wide sidewalks that easily accommodate outdoor dining with bicycles sharing the street with cars, or an option for narrower 8′ sidewalks and an elevated bicycle track in both directions that would protect cyclists from cars.

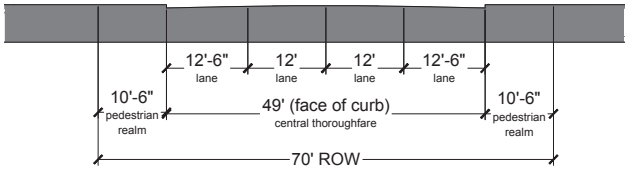
Bicycles and Cars Share the Road Along Main Street

MAIN STREET A: Center Median Turn Lane with Bike Sharrows and Space for Outdoor Dining



MAIN STREET B: Center Median Turn Lane with Raised Cycle Track and 8′ Sidewalks





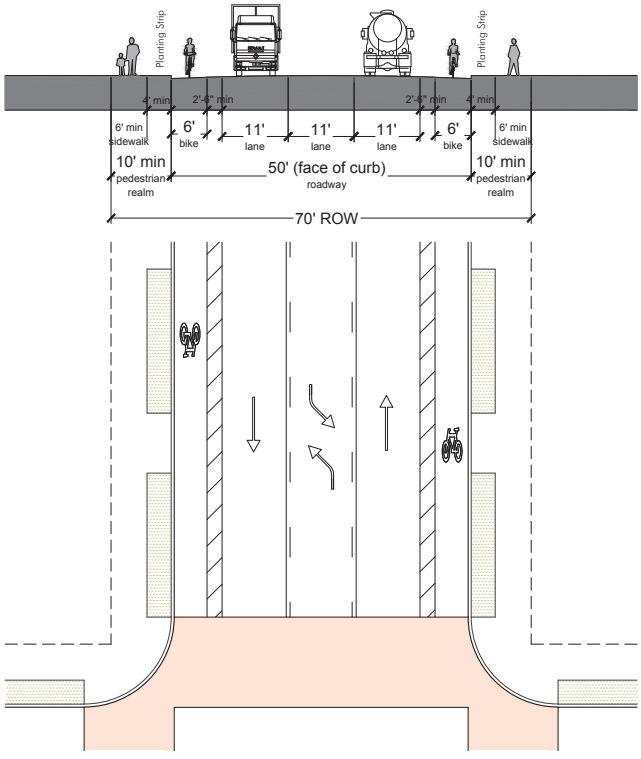
Existing Policy Cross Section: Industrial Collector

INDUSTRIAL COLLECTOR

SUBURBAN

In suburban settings, industrial collectors should have two 11′ travel lanes with an 11′ two-way center turn lane. This three lane configuration already exists along some industrial collectors, but lanes should be reduced and buffered bike lanes added in each direction. Sidewalks should also be included. Today many industrial collectors have some interrupted sidewalks, or none at all.

Buffered Bike Lane in Fairfax, CA; Source: NACTO

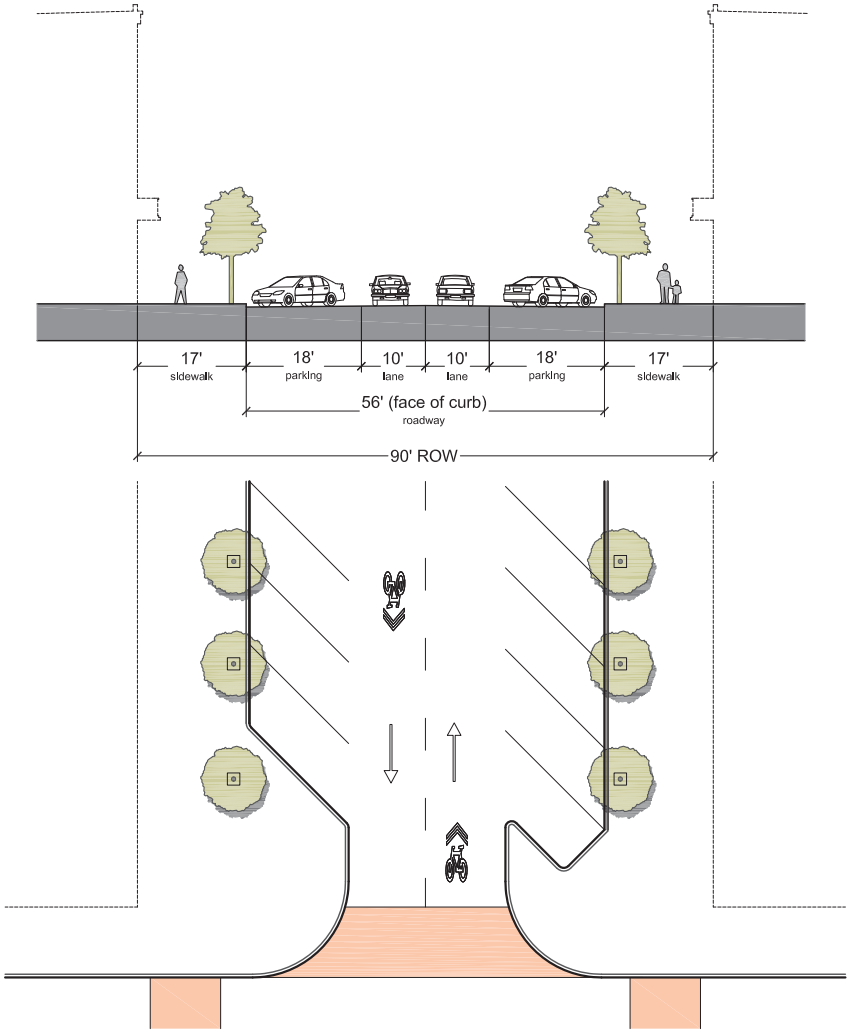


LOCAL STREET

MAIN STREET WITH ANGLED PARKING

In a small-scale neighborhood with a need for additional parking, a local main street should have two 10′ travel lanes with an 18′ back-in angled parking. Another option could allow for front-in angled parking. Wide sidewalks should also be included and provide space for outdoor dining.

Back-in angled parking in San Marcos, TX

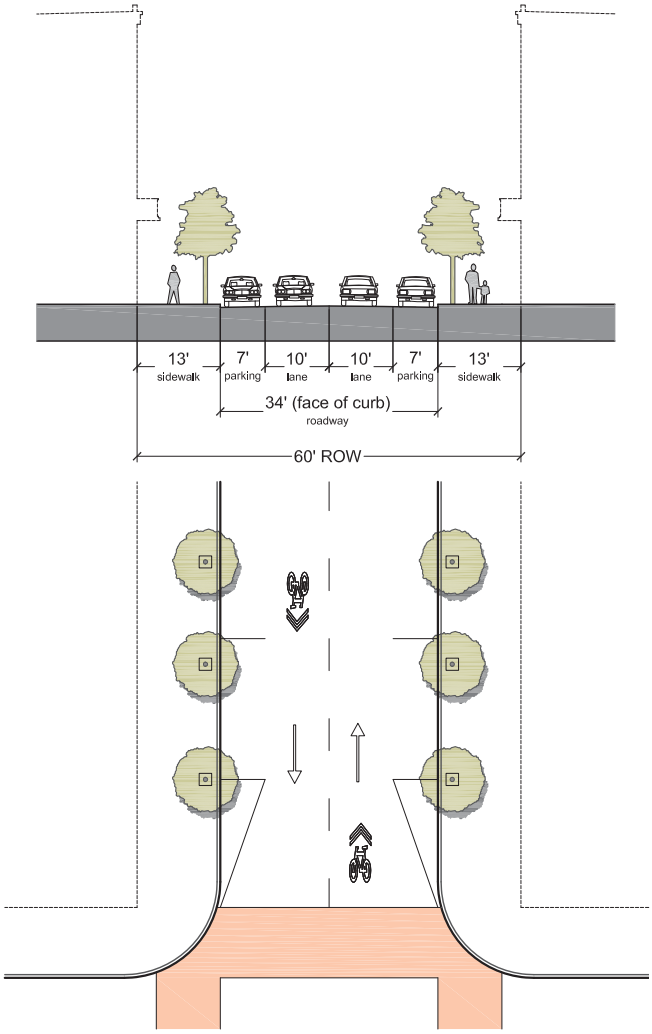


LOCAL STREET

MAIN STREET

In a smaller commercial settings, the main street should have two 10′ travel lanes with 7′ parallel parking on both sides to accommodate shops and store fronts. Sidewalks should also be wide enough for outdoor cafés and dining.

Main Street in Rhinebeck, NY

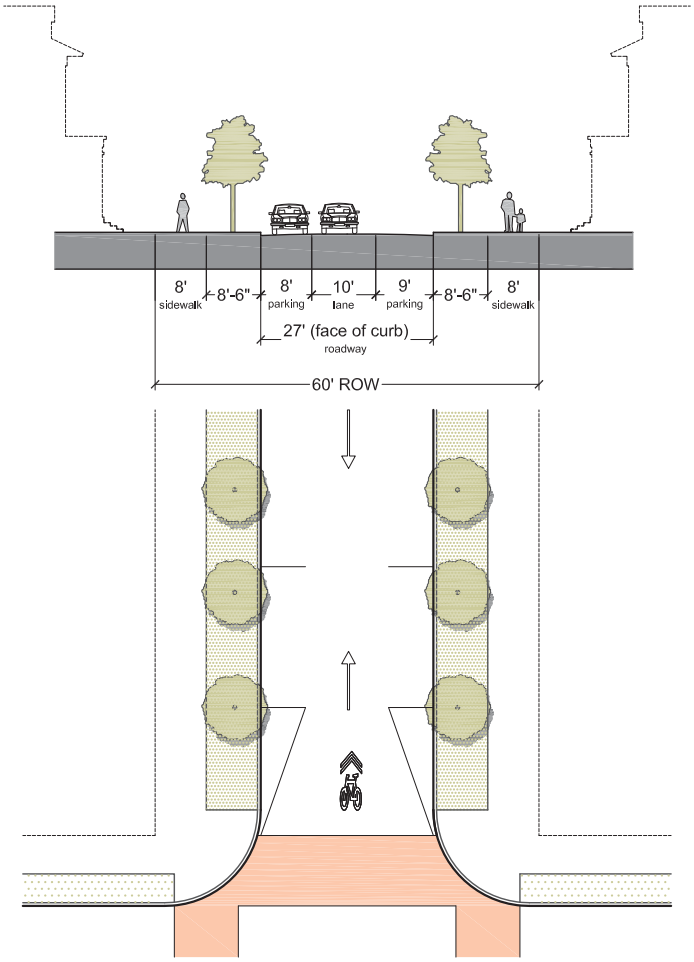


LOCAL STREET

YIELD STREET

In residential neighborhoods with low traffic counts, a local yield street should be used. It should have 27' of pavement between curbs to accommodate parking on both sides and one unmarked 10' travel lane. This condition requires cars to move at slow speeds and stop when approaching an on-coming car. A wide planting strip can grow large trees. Sidewalks should be included for casual walking.

Yield Street condition on Balfour Road, London



GOALS & POLICIES

Overall Goal

Create a multimodal transportation network throughout Laredo that provides access to opportunity, improves public health, reduces carbon emissions, and provides civic recreational opportunities while efficiently moving pedestrians, cyclists, transit, motor vehicles, cargo, and freight.

Land Use and Transportation Coordination

Goal 4.1: Create a coordinated, efficient, and more affordable multimodal transportation system that supports, complements, and meets the needs of different types of places throughout the City. Land use patterns and connections among different land uses are key elements defining the form and character of places.

Policy 4.1.1: Transportation planning and development, expansion, and investment in transportation facilities should be coordinated with the growth in the region.

Policy 4.1.2: New and modified thoroughfares will match the existing or proposed character of land along their paths as well as serving their essential functions in the regional road network.

a. In urban areas, multimodal transportation design will become the norm to enhance neighborhood character, safety, and walkability. Character and function will be more important than capacity, and the street network will be sized to yield smaller blocks with greater "people moving" capacity.

b. Existing Suburban areas are likely to maintain a predominately automobile-dependent development pattern. Thoroughfares will have sidewalks and bike lanes will be provided where travel speeds are higher.

Policy 4.1.3: Safe and attractive transportation choices among all modes should be encouraged through street patterns that consider multimodal transportation alternatives and access to and circulation between adjacent neighborhoods, parks, and commercial and employment nodes.

Policy 4.1.4: New roadways and widening of existing roadways should utilize context-sensitive design to minimize impacts on historic buildings, neighborhoods, parks, and sensitive natural areas.

Policy 4.1.5: Comprehensive transportation impacts, including parking and impacts on all modes of transportation, should be identified and addressed before a development or redevelopment is implemented. Considerations should not assume that all travel is by personnel vehicle.

Complete Streets

Goal 4.2: Laredo's thoroughfares will form a well-connected network of complete streets that support driving, walking, bicycling, and public transit.

Policy 4.2.1: Street design standards should provide safe, accessible, and meaningful travel choices – driving, walking, bicycling, and public transit.

Policy 4.2.2: Where optimal street connectivity cannot be or has not been provided, non-motorized connections should be added to reduce walking and bicycling trip lengths.

Policy 4.2.3: In urban areas, walkability will be prioritized with wide sidewalks, shade, alleys, and street-facing access to adjacent land uses.

a. Widen sidewalks where appropriate and feasible.

b. Plant regularly spaced drought-tolerant trees along streets.

c. Provide streetlights that improve safety for drivers, cyclists, and pedestrians while maintaining a dark sky.

d. Curb radii should be small to discourage drivers from turning corners quickly and to shorten pedestrian crosswalk lengths.

e. Alleys should be included when possible so that buildings may be serviced from the rear, driveways and curb cuts can be minimized, and parking can be consolidated at mid-block locations.

f. Provide safe and convenient crosswalks at intersections, and at mid-block crossings where feasible and needed.

Policy 4.2.4: In urban areas, most new streets should have on-street parking in order to increase access to properties while calming traffic. Except on multiway boulevards, medians should be limited to short segments so that vehicular access to properties is not overly restricted.

Policy 4.2.5: New streets and redesigned streets should be two-way (unless they are designed as a narrow, slow speed, one-way streets).

Policy 4.2.6: The City wishes to achieve high levels of landscaping and other aesthetic improvements on all thoroughfares including those maintained by the county and state.

Policy 4.2.7: Continually update the City-wide plan that establishes priority locations for sidewalks, sidewalk repairs, and sidewalk improvements, prioritizing areas near schools, parks, transit stops, mixed residential and commercial districts, and other areas with high or potentially high levels of pedestrian activity.

Street Conversions

Goal 4.3: The City of Laredo will improve its thoroughfares over time as opportunities are found to increase transit service and improve connectivity, walkability, bikability, and economic benefits to surrounding areas.

Policy 4.3.1: The City will consider multiway boulevards for major travel corridors to balance regional through traffic, local traffic, other travel modes, and access to adjoining land.

Policy 4.3.2: The City will study and implement the conversion of Downtown's one-way street couplets to two-way operation.

Policy 4.3.3: The City will consider the use of roundabouts at intersections to calm traffic, increase safety, eliminate traffic lights, and create sites for public art and monuments on local and collector streets.

Policy 4.3.4: The City will incorporate "green infrastructure design" and similar light-imprint and low-impact principles for stormwater management and landscaping in streets that it builds and requires others to build.

Improve Connectivity

Goal 4.4: Reduce service disparities and achieve equitable access to all types of facilities and transportation modes.

Policy 4.4.1: Gaps in the street system should be eliminated by providing for network connectivity. The existing grid network should be preserved and extended where feasible to increase overall connectivity.

Policy 4.4.2: New residential, commercial, and mixed-use developments that require construction or extension of roadways should include a multimodal network. The use of cul-de-sacs and dead-end streets and local residential loops should be minimized.

Policy 4.4.3: New development should be encouraged to connect to the existing street network through collector streets, which should tie into the existing network at multiple points to improve trip distribution and emergency access. Street stubs for future connections should be required.

Policy 4.4.4: Access management strategies should be applied based on the functional characteristics of the roadway, surrounding land uses, and roadway users. Curb cuts along public streets should be minimized. Internal connections between parking lots should be encouraged.

Policy 4.4.5: When considering closure of public streets, alleys, and other rights of way, affected City departments and utility providers should consider the integrity of the City's street network, pedestrian and vehicular safety, emergency access, the ability to provide utility services, impacts on health and safety, and the welfare of the community.

Policy 4.4.6: Adding lanes to increase traffic capacity should be considered only after the street exceeds an established threshold of full capacity and all other alternative approaches have been considered. Improvements to the street network should increase vehicle dispersion and circulation.

Policy 4.4.7: Ongoing regional transportation planning efforts should be supported to coordinate planning, operations, and funding priorities and to identify existing and future transportation corridors that should be linked across jurisdictional boundaries.

Policy 4.4.8: New roadway projects and major reconstruction projects should preserve desirable existing trees where possible or plant new street trees where necessary. Multi-lane roads should be enhanced with landscaped medians when possible.

Policy 4.4.9: Bridge monitoring, maintenance, and rehabilitation should be coordinated with the TxDOT and the Federal Highway Administration. Bridge improvements, including provisions for all travel modes, should be considered when roadway investments are being pursued.

Future Thoroughfare Plan

Goal 4.5: Implement the Future Thoroughfare Plan that integrates all major travel modes and carries out the goals and policies of *Viva Laredo*.

Policy 4.5.1: The City of Laredo will use the Future Thoroughfare Plan that appears in *Viva Laredo* as the City's official Thoroughfare Plan.

Policy 4.5.2: Laredo's future transportation network will shape the City and its inhabitants. The network must meld all viable modes of transportation and carry out the goals of *Viva Laredo*.

Policy 4.5.3: Capacity and redundancy should be created by a densely interconnected network rather than by achieving high capacities on individual arterial streets.

Policy 4.5.4: Economically vital cities require multiple transportation modes and cannot hope to maintain free flowing traffic during all peak periods.

Policy 4.5.5: The character of each thoroughfare should be based on the physical context the thoroughfare is passing through in addition to its role in the larger network.

Policy 4.5.6: Limited-access freeways disrupt the healthy functioning of cities and should be the thoroughfare type of last resort when planning the City's network.

Policy 4.5.7: The regional transportation network must respect the human and natural environment and minimize or eliminate negative impacts such as bisecting or isolating communities, inducing suburban sprawl, or interfering with arroyos and other natural systems.

Policy 4.5.8: Implement a public announcement and mandatory waiting period for the deletion of any road appearing in the future thoroughfare plan.

Bicycle and Pedestrian Circulation

Goal 4.6: Enhance and connect the bike and pedestrian circulation system throughout Laredo.

Policy 4.6.1: Bicycle and pedestrian circulation, access, and safety should be enhanced, especially along corridors, Downtown, in activity and employment centers, within densely-developed areas, at transit stations, and near schools, libraries, and parks.

Policy 4.6.2: A continuous bicycle and pedestrian network should be provided within and between existing and new developments to facilitate safe and convenient travel. New subdivisions, mixed-use developments, and large-scale commercial developments should include safe pedestrian walkways or multiuse paths that allow direct links between roadways and major destinations, transit stops, and schools.

Policy 4.6.3: New development, redevelopment, street reconstruction, and resurfacing projects should include bicycle and pedestrian facilities as appropriate for the roadway character. Existing development should be retrofitted with connections where possible.

Policy 4.6.4: Where possible, and especially where pedestrians are prioritized, tools such as protected left turns, pedestrian head start, raised crosswalks, curb extensions, medians, pedestrian refuge islands or mid-block crossings, and restricted right turns on red should be used to improve pedestrian and bicycle movements and safety.

Policy 4.6.5: Safe and convenient pedestrian and bicycle facilities should be maintained and should be universally accessible, adequately lit, and properly designed to reduce conflicts between motor vehicles, bicycles, and pedestrians.

Policy 4.6.6: Pedestrians and bicyclists should be accommodated on bridges, interchanges, and over- and underpasses, where permitted by law. Bicycle lanes and wide sidewalks should be included in all new bridges, and over- and underpasses.

Policy 4.6.7: The City's greenways and trails network should be treated as part of the City's transportation network and connections should be planned for accordingly.

Policy 4.6.8: Infrastructure that encourages students to walk or bike safely to school should be supported. The City should continue to coordinate with the Laredo MPO to partner with schools, the Laredo Police Department, Webb County and the TxDOT to identify funding and opportunities to enhance walking routes to school.

Policy 4.6.9: Primary building entrances should front onto publicly accessible, easily discernible, and Americans with Disabilities Act-compliant sidewalks that lead directly from the street to the building entrance without parking lots in between.

Policy 4.6.10: Roadways and rail corridors should be retrofitted with bicycle and pedestrian facilities such as multi-use paths, cycle tracks or bike lanes, bike boxes, and bike detectors.

Policy 4.6.11: The City should continue to coordinate with the Laredo MPO to work with partners to identify creative funding solutions for bike and pedestrian infrastructure, including partnerships with the Webb County, Webb County-Laredo Regional Mobility Authority, and the TxDOT, parks and recreation partnerships, and public-private partnerships.

Bike Plan Network

Goal 4.7: Vigorously expand bicycle facilities throughout Laredo to create a full network of connected, safe, and attractive bikeways and supporting facilities for both transportation and recreation.

Policy 4.7.1: Continue developing and maintaining a system of bicycle lanes, bicycle routes, and multi-use pathways in accordance with *Viva Laredo*.

Policy 4.7.2: Investigate the possibility of a local bicycle share program in the City that places bicycles for rent at automated stations at key areas beginning with the Downtown and university areas.

Policy 4.7.3: Fund a bicycle and pedestrian coordinator position to be the steward of the bicycle master plan and all of its individual components.

Policy 4.7.4: Use best practices in physical design (i.e. bikeway width, type, signing, and advanced bicycle facility types) to create safer bikeways. Train select City staff to design bikeways.

Policy 4.7.5: Enhance the safety and visibility of the bicycle network through the implementation of safety and wayfinding signage improvements along all current and future bikeways.

Policy 4.7.6: Continue the regular street sweeping program, with priority given to bicycle lanes and primary bicycle routes.

Policy 4.7.7: Bicycle facilities such as secure racks, personal lockers, and showers should be encouraged in new and redeveloped office and employment centers to facilitate bicycling and walking as viable alternative modes for commuting to work.

Bicycle Outreach

Goal 4.8: Encourage increased bicycling by promoting health, recreation, transportation, tourism opportunities, and environmental benefits.

Policy 4.8.1: Make Laredo a safer City for bicycle riders through measures such as:

a. Work with the Laredo Police Department to address bicycle-vehicle safety measures through increased awareness of bicycle-related traffic laws and enforcement of existing and new laws.

b. Provide on-going training for City of Laredo police officers regarding bicycle safety laws and issues.

c. Advocate for bike safety as a prominent part of state driver's requirements, and for the creation of a volunteer bike patrol group.

Policy 4.8.2: Create and distribute print and online versions of the Laredo Bike Master Plan on an annually updated basis, to include wayfinding, safety, and facility type information.

Policy 4.8.3: Develop a Laredo bicycle programs website to store and disseminate all bicycle-related information, including bicycle traffic statistics.

Policy 4.8.4: Identify the most common conflicts between bicycle and motor vehicle users and create strategies to educate all roadway users.

Policy 4.8.5: Increase awareness of bicycle options and safety through trainings, public events, public service announcements, educational materials, and partnerships.

Policy 4.8.6: Promote bicycling for commuting, running errands and other short trips and socializing through social media/web-based communication tools and traditional communication outlets to position bicycling as a viable option for people who are interested in bicycling, but concerned about safety.

Policy 4.8.7: Continue to foster and implement Safe Routes to School programs.

Street Design, Complete Streets, and Age-friendly Design

Goal 4.9: Ensure safety for users of all transportation modes, with attention to the most vulnerable users, including people with disabilities, those using mobility devices, the young, and the elderly.

Policy 4.9.1: The majority of the City's streets should be designed as public spaces that are scaled for pedestrians and should be enhanced with appropriate street trees and landscaping.

Policy 4.9.2: Complete street design standards that provide mobility for all types of transportation modes and users should be promoted on all streets.

Policy 4.9.3: New roadway projects and major reconstruction projects should provide appropriate and adequate right-of-way for safe and convenient movement and amenities for all users, including bicyclists, pedestrians, transit riders, and motorists.

Policy 4.9.4: When reviewing traffic impact analyses for infill and redevelopment, level of service measurements should consider all modes of transportation, including bicycles, pedestrians, and transit, in addition to automobile level of service.

Policy 4.9.5: Complete street amenities should be designed with all users in mind, with multimodal amenities appropriate for the type of roadway.

Transportation Safety, Traffic Calming, and Neighborhood Traffic

Goal 4.10: Support a safe, multimodal transportation network for all users, and include consideration of traffic calming, bike and pedestrian crossings, and crash analysis.

Policy 4.10.1: Safe routes for motorists, transit riders, bicyclists, and pedestrians should be provided. The City should work with its partners to improve the multimodal system to enhance safe transportation options across modes.

Policy 4.10.2: Traffic calming measures should be incorporated into the design of new or retrofitted local and neighborhood streets, within schools and parks, and around pedestrian-oriented business areas. Pedestrian and bicyclists should have safe, convenient, well-marked means to cross streets.

Policy 4.10.3: Feasible solutions to lessen the impacts of major street improvements on local streets should be developed with neighborhoods on an individual project basis.

Transportation Demand Management

Goal 4.11: Establish demand management procedures as a cost-effective alternative to increasing capacity. A demand management approach has the potential to improve the natural environment, public health, placemaking, and economic development that also extends the life of transportation infrastructure.

Policy 4.11.1: Incentivize a mix of uses at key nodes of activity, including Downtown, the universities and new development sites.

Policy 4.11.2: Programs that increase vehicle occupancy should be encouraged. Employer-based transportation demand management programs should be supported.

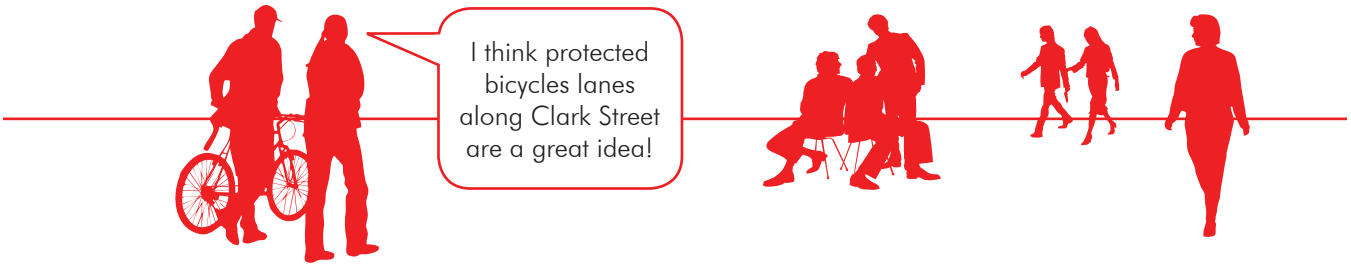
Policy 4.11.3: An integrated, multimodal transportation system that offers safe and attractive choices among travel modes should be promoted.

Policy 4.11.4: Conduct el Metro Ridership Service Survey.

Air Quality

Goal 4.12: Improve the region's air quality through more sustainable and energy-efficient transportation and land use practices.

Policy 4.12.1: Encourage compact land uses and urban design patterns that increase travel choices, reduce reliance on single-occupant vehicle travel, and reduce the overall number of vehicle-miles traveled.



Policy 4.12.2: Invest in bus service, rapid transit service, and high-capacity transit to reduce pollution and greenhouse gas (GHG) emissions while better serving the traveling public.

Policy 4.12.3: Take steps that can reduce the travel frequency, distance, and duration of single-occupant vehicle trips.

Policy 4.12.4: Implement intelligent transportation systems (ITS) to reduce congestion and facilitate cross-border travel.

Parking Management

Goal 4.13: The City will strategically manage the amount, location, and physical form of on-street and off-street parking to help achieve the goals of *Viva Laredo*.

Policy 4.13.1: The effective supply of parking can be increased by building more spaces or by reducing demand.

a. Where parking supply needs to be increased on valuable land, parking garages may be constructed provided they are lined with habitable or storefront space to shield the garage from view and to provide a safe interesting environment for pedestrians.

b. As part of a long-term strategy, land devoted to surface parking lots in existing developed areas should be reduced through shared parking strategies, reduction in parking demand, and infill development on unneeded parking lots.

Policy 4.13.2: As part of the development and redevelopment process, the following policies should be followed:

a. Shared on-street parking spaces are preferred to separate parking lots for each user.

b. New parking lots should be placed behind or on the side of buildings instead of between buildings and the street.

c. Do not provide more parking than is likely to be needed.

d. Provide suitable loading zones for deliveries.

Policy 4.13.3: The amount of land devoted to surface parking should be minimized through measures such as parking decks and underground parking, shared parking, flexible ordinance requirements, improved parking standards, the implementation of transportation demand management plans, and provision of public transit to reduce parking needs.

Policy 4.13.4: Parking and development that encourages multiple destinations within pedestrian-connected areas should be encouraged. This will decrease single purpose trips for the user, saving time and miles driven and increase the economic potential for businesses located near other businesses.

Policy 4.13.5: A parking program and management strategies should be established at existing and planned transit stations.

Policy 4.13.6: On-street parking and drop-off areas should be located adjacent to sidewalks and building frontages to maximize on-street parking turn-over and for customer convenience. Excessive parking between sidewalks and building fronts should be discouraged.

Policy 4.13.7: Shared-use parking should be encouraged for land uses where peak parking demands occur at different times of the day, reducing the overall total number of spaces needed. Parking lots should be sized and managed so that spaces are frequently occupied.

Policy 4.13.8: Parking lots should include vehicular and pedestrian connections between and through lots. Parking facility quality should be considered equally with quantity of parking spaces. Parking lot design should minimize pedestrian conflicts, make use of appropriate landscaping, and properly manage stormwater.

Policy 4.13.9: The capacity of existing parking facilities should be optimized through tools such as small vehicle, motorcycle, and bicycle spaces, allowing motorcycles to share spaces, reducing the minimum parking space area requirement for low-turnover spaces such as residential and employee parking, and removing equipment and storage from parking spaces.

Policy 4.13.10: Single-occupancy automobile trips should be discouraged through parking supply and/or pricing strategies in areas where supply is limited and alternative transportation modes are available.

Public Transportation

Goal 4.14: Make a Metro Transit Master Plan and turn it into the most used Citywide transit system in Texas.

Policy 4.14.1: Review routes and operations to plan for the future and ensure El Metro Transit is meeting the needs of the community in the most efficient way possible.

Policy 4.14.2: Promote quality transit services that enhance mobility options, meet the needs of City residents and visitors, focus on transit-dependent households, and incorporate age-friendly elements.

Policy 4.14.3: Where opportunities exist, right-of-way for future transit should be reserved. New development and redevelopment should provide transit easements for planned alignments, rail stations, and bus stops within existing and planned transit corridors as appropriate.

Policy 4.14.4: Local and regional bus service along key corridors should be enhanced. Transit efficiency, including improved frequency of routes and transfer time, should be promoted within the El Metro Transit system.

Policy 4.14.5: Bus shelters, seating, lighting, trash receptacles, and related elements should be provided at transit stop locations. New developments located within planned transit corridors should coordinate with El Metro Transit to provide bus stop facilities at appropriate locations.

Policy 4.14.6: The use of transit facilities should be encouraged through enhancing the bike and pedestrian network near transit stops and sufficient sidewalk infrastructure should be installed near all transit stops. Where necessary, enhancements to make sidewalks compliant with the Americans with Disabilities Act (ADA) should be prioritized.

Policy 4.14.7: Features such as traffic signal priority, queue jumps, and exclusive transit lanes to improve transit reliability should be encouraged, where possible.

Policy 4.14.8: Transit-oriented development should be encouraged. Planning for transportation, transit stop locations, public spaces, density, and land use should be coordinated, and high-density, mixed-use development patterns should be encouraged around express bus lines, the transportation center Downtown, and any future transit stations.

Policy 4.14.9: The possibility of returning the Downtown streetcar to Laredo should be considered.

Commercial Transport & Port Freight Mobility

Goal 4.15: Enable the safe and efficient movement of goods via rail, truck, and air. A reduction of the impacts of rail and truck operations on adjacent neighborhoods and sensitive lands is also important.

Policy 4.15.1: The safe and efficient movement of truck traffic in, around, and through the City via designated truck routes should be properly managed.

Policy 4.15.2: Infrastructure improvements and the use of emerging technologies 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.

Policy 4.15.3: Roadway and railway design and retrofit, to include complete streets upgrades, should balance the needs of freight movements along with the needs of all other types of transportation.

Policy 4.15.4: The City encourages the expanded use of railroads for regional and international shipment of goods due to the fuel-efficiency of rail transport and the heavy burden that trucks place on the system.

Policy 4.15.5: The relocation of major rail yards away from intensely developed areas could allow that land to be reclaimed for redevelopment, drainage improvements, parks, and civic spaces.

Policy 4.15.6: Preserve the ability and opportunity to transform any abandoned and underused railroad rights-of-way for other valuable uses.

Policy 4.15.7: The City should explore all opportunities for intercity passenger rail to other metropolitan areas such as San Antonio, Austin, and Corpus Christi.

Policy 4.15.8: The City should create a port master plan including a study of the ports economic impact to be updated yearly.

Global Trade and Airport

Goal 4.16: The Laredo International Airport will increase its role as a welcoming gateway for passengers, as an intermodal hub for incoming and outgoing goods, and as a center for related economic activities that serve the City and the region.

Policy 4.16.1: Utilize and improve El Metro Transit connections to the airport to improve passenger access to the airport and maximize the value of airport property for related purposes.

Policy 4.16.2: The City supports new mixed-use development and redevelopment on and around airport land.

Policy 4.16.3: Incorporate the Laredo International Airport Plan into the Port Plan. (See Policy 11.3.6).

Ports of Entry

Goal 4.17: Strengthen multimodal connections with Nuevo Laredo for binational mobility, commerce, economic development, familial bonds, tourism, and convenient routine travel between the two cities and countries.

Policy 4.17.1: Continue to manage the Ports of Entry as an integrated network to balance traffic flow and travel needs (employment, commerce, and tourism) while minimizing traffic in surrounding areas.

Policy 4.17.2: Provide meaningful alternatives to single-occupant vehicles at all Ports of Entry, including pedestrians, bicyclists, and restoration of public transit.

Policy 4.17.3: The need for and feasibility of an additional international point of entry in south Laredo should be explored.

Policy 4.17.4: Support the creation of additional public rest areas with bathrooms and showers where truck drivers can rest during federally mandated rest periods between shifts.