

**Appendix J**  
**Cumulative Impacts Analysis Technical Report**

# CUMULATIVE IMPACTS ANALYSIS

## LOOP 375 BORDER HIGHWAY WEST EXTENSION PROJECT

CSJ: 2552-04-027

EL PASO COUNTY, TEXAS

TEXAS DEPARTMENT OF TRANSPORTATION

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## TECHNICAL REPORT OVERVIEW

### Purpose

This technical report assesses the cumulative impacts related to the proposed Loop 375 Border Highway West Extension Project. The purpose of cumulative impacts analysis is to view the direct and indirect impacts of the proposed project within the larger context of past, present and future activities that are independent of the proposed project, but which are likely to affect the same resources in the future. This approach allows the decision maker to evaluate the incremental impacts of the reasonable alternatives in light of the overall health and abundance of selected resources.

### Types of Impacts: Direct, Indirect and Cumulative

As shown in **Table 1**, there are three types of impacts that may be caused by a roadway project: direct, indirect and cumulative.

Direct impacts are those impacts which are caused by the action and occur at the same time and place [40 Code of Federal Regulations (C.F.R.) § 1508.8]. Indirect impacts are those impacts which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 C.F.R. §1508.8). The Council on Environmental Quality (CEQ) regulations define a cumulative impact as an impact which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 C.F.R. §1508.7).

**Table 1: Types of Direct, Indirect and Cumulative Impacts**

Type of Impact	Direct	Indirect	Cumulative
Nature of Impact	Typical/Inevitable/Predictable	Reasonably Foreseeable/Probable	Reasonably Foreseeable/Probable
Cause of Impact	Project	Project's Indirect Impacts	Project's Direct and Indirect Impacts and Impacts of Other Activities
Timing of Impact	Project Construction and Implementation	At Some Future Time Other than Direct Impact	At Time of Project Construction, in the Future or in the Past
Location of Impact	At the Project Location	Within Boundaries of System Affected by the Project	Within Boundaries of System Affected by the Project

Source: National Cooperative Highway Research Program (2002)

Direct impacts are discussed and identified in **Chapter 4** of the draft Environmental Impact Statement (DEIS) and indirect impacts are discussed in the Indirect Impacts Analysis (**Appendix I**). This technical report focuses on an analysis of cumulative impacts that were considered for the proposed project.

## CUMULATIVE IMPACTS ANALYSIS METHODOLOGY

Relatively minor individual impacts may collectively result in significant cumulative impacts. Project-related direct and indirect impacts must be analyzed in the context of non-project-related impacts that may affect the same resources. Cumulative impacts are the incremental impacts that the project's direct or indirect impacts have on a resource in the context of the myriad of other past, present and future impacts on that resource from related or unrelated activities. This analysis of cumulative impacts relies heavily on past land use impacts, existing land use impacts, the anticipated land use changes expected to occur in the project area, and the impacts these changes would have on the resources considered in this analysis. As a result, land use serves as the background for cumulative impacts analysis and would not be considered a resource itself.

The evaluation process for each resource considered may be expressed in shorthand form as follows:

**BASELINE CONDITION + FUTURE EFFECTS + PROJECT IMPACTS = CUMULATIVE EFFECTS**  
(historical and current) (expected projects) (direct and indirect)

Unlike direct impacts, quantifying cumulative impacts may be difficult since a large part of the analysis requires an eye to the future and what may happen in the study area. The evaluation of cumulative impacts followed the eight steps in TxDOT's *Guidance on Preparing Indirect and Cumulative Impact Analyses* (September 2010). This eight-step approach was utilized to assess the potential cumulative impacts of the past, present and reasonably foreseeable actions on the resources in the proposed study area. The eight-step methodology from TxDOT's *Guidance* is depicted in **Table 2**.

**Table 2: TxDOT Eight-Step Approach to the Cumulative Impact Analysis**

Step No.	Step
1	Identify the resources to consider in the analysis.
2	Define the study area for each affected resource.
3	Describe the current status/viability and historical context for each resource.
4	Identify direct and indirect impacts of the project that might contribute to a cumulative impact.
5	Identify other reasonably foreseeable future effects.
6	Identify and assess cumulative impacts.
7	Report the results.
8	Assess the need for mitigation.

Source: TxDOT (September 2010)

### Step 1: Identify Resources

All of the resource categories considered in the DEIS were candidates for indirect and cumulative impacts analysis. The initial step of the cumulative impacts analysis uses information from the evaluation of direct and indirect impacts in the selection of environmental resources that should be evaluated for cumulative impacts. TxDOT's *Guidance* states: "If a project will not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on the resource. The cumulative impact analysis should focus only on: 1) those resources significantly impacted by the project; and 2) resources currently in poor or

declining health or at risk even if the project impacts are relatively small (less than significant).” Similarly, CEQ guidance recommends narrowing the focus of the cumulative impacts analysis to important issues of national, regional or local significance.

Applying the above criteria, the resources or environmental issues considered for cumulative impacts assessment are listed in **Table 3**. **Table 3** reflects the resources or environmental issues assessed in **Chapter 4** of the DEIS. As recommended by CEQ guidance, specific indicators of each resource’s condition are identified and shown. The use of indicators of a resource’s health, abundance and/or integrity are helpful tools in formulating quantitative or qualitative metrics for characterizing overall impacts to resources. These indicators are also key aspects of each resource that have already been evaluated in terms of the project’s direct and indirect impacts and facilitate greater consistency and objectivity in the analysis of cumulative impacts.

The following topics were analyzed for direct impacts in **Chapter 4** of the DEIS, but were excluded from this cumulative impacts analysis because they are not considered to be resources: Right-of-Way (ROW) acquisition and potential displacements (except as related to environmental justice populations); available housing and commercial property in the area (except as related to environmental justice populations); toll road considerations (except as related to environmental justice populations); traffic and public safety; traffic patterns and accessibility; traffic noise impacts; hazardous materials; and oil/gas well sites.

**Table 3: Resources Considered for the Cumulative Impacts Analysis**

Resource or Issue Evaluated	TxDOT/CEQ Criteria <sup>1</sup>			Included for Cumulative Impacts Analysis (Yes or No)	Explanation for Including or Excluding the Resource or Topic from Cumulative Impacts Analysis
	Would the Resource or Topic be Directly or Indirectly Impacted? (Yes or No)	Would the Direct or Indirect Impacts be Substantial? (Yes or No)	Is the Resource in Poor or Declining Health? (Yes or No)		
<b>Land Use Impacts</b>					
Land Use Impacts	Yes	No	No	No	Anticipated impacts to residential, commercial, and mixed use land uses. The reasonable alternatives generally follow existing roadway alignment through industrial and commercial areas.
<b>Social and Economic Impacts</b>					
Community Cohesion	No	No	No	No	Excluded because no impacts to community cohesion are anticipated.
Right-of-Way (ROW) Acquisition and Potential Displacements <sup>2</sup>	---	---	---	---	Excluded because ROW acquisition and potential displacements are issues that do not warrant cumulative impacts analysis. However, the potential impact associated with displacements is assessed under Environmental Justice Community.
Available Housing and Commercial Property in the Area <sup>2</sup>	---	---	---	---	Excluded because available housing and commercial property are issues that do not warrant cumulative impacts analysis. However, the potential impact associated with displacements is assessed under Environmental Justice Community.
Toll Road Considerations <sup>2</sup>	---	---	---	---	The potential impact associated with toll roads is assessed under Environmental Justice Community.

Resource or Issue Evaluated	TxDOT/CEQ Criteria <sup>1</sup>			Included for Cumulative Impacts Analysis (Yes or No)	Explanation for Including or Excluding the Resource or Topic from Cumulative Impacts Analysis
	Would the Resource or Topic be Directly or Indirectly Impacted? (Yes or No)	Would the Direct or Indirect Impacts be Substantial? (Yes or No)	Is the Resource in Poor or Declining Health? (Yes or No)		
Traffic and Public Safety <sup>2</sup>	---	---	---	---	Excluded because traffic and public safety are issues that do not warrant cumulative impacts analysis.
Traffic Patterns and Accessibility <sup>2</sup>	---	---	---	---	Excluded because traffic patterns and accessibility are issues that do not warrant cumulative impacts analysis.
Limited English Proficiency (LEP) Populations	No	No	No	No	Excluded because no impacts to LEP populations are anticipated.
Environmental Justice Populations	Yes	No	Yes	Yes	The environmental justice community would be affected by displacements, change in access, proximity impacts associated with traffic noise and visual intrusion, and tolling.
Community or Public Resources	Yes	No	No	No	Excluded because direct and indirect impacts would not be substantial.
Economic Impacts	Yes	No	No	No	Excluded because direct and indirect impacts would not be substantial.
<b>Traffic Noise Impacts<sup>2</sup></b>					
Traffic Noise Impacts	---	---	---	---	Excluded because traffic noise is an issue that does not warrant cumulative impacts analysis.
<b>Climate and Air Quality Impacts</b>					
Climate and Air Quality Impacts	No	No	Yes	Yes	Resource included because part of El Paso county is in moderate non-attainment status for particulate matter (PM <sub>10</sub> ) and maintenance status for carbon monoxide; even though this proposed project is not expected to adversely affect the region's ability to comply with prevailing regulations/standards.

Resource or Issue Evaluated	TxDOT/CEQ Criteria <sup>1</sup>			Included for Cumulative Impacts Analysis (Yes or No)	Explanation for Including or Excluding the Resource or Topic from Cumulative Impacts Analysis
	Would the Resource or Topic be Directly or Indirectly Impacted? (Yes or No)	Would the Direct or Indirect Impacts be Substantial? (Yes or No)	Is the Resource in Poor or Declining Health? (Yes or No)		
<b>Geology and Soil Features</b>					
Geology and Soil Features	Yes	No	No	No	Excluded because direct impacts are not expected to be substantial and the resources are not in declining health.
<b>Water Resources</b>					
Surface Water	Yes	No	No	No	Excluded because adverse impacts to water quality due to construction would be minimized by a Storm Water Pollution Prevention Plan (SW3P). Best Management Practices (BMPs) would be incorporated to address erosion control, sedimentation control, and post-construction total suspended solids (TSS) control.
Groundwater	No	No	No	No	Excluded because direct impacts are not anticipated and resource is not in declining health.
Floodplains	Yes	No	No	No	Excluded because the insignificant impacts on floodplains would be mitigated by the construction of drainage ponds. The hydraulic design practices of the proposed project would be in accordance with current TxDOT design policies and standards.
<b>Resource or Issue</b>	<b>TxDOT/CEQ Criteria<sup>1</sup></b>			<b>Included</b>	<b>Explanation for Including or Excluding the</b>

Evaluated	Would the Resource or Topic be Directly or Indirectly Impacted? (Yes or No)	Would the Direct or Indirect Impacts be Substantial? (Yes or No)	Is the Resource in Poor or Declining Health? (Yes or No)	for Cumulative Impacts Analysis (Yes or No)	Resource or Topic from Cumulative Impacts Analysis
<b>Wetlands and Other Waters of the U.S.</b>					
Wetlands and Waters of the U.S.	Yes	No	No	No	Excluded because the potential impacts to potential wetlands are considered minor for a project of this magnitude and range from 0.3 acres to 0.9 acres within the proposed ROW. These wetlands are all located within the American Canal or adjacent to the Rio Grande. Once a preferred alternative is chosen, a wetland delineation will be performed to identify and delineate all of the wetlands and other waters of the U.S. Based on preliminary design information, all features would be avoided during construction by placing all piers and pilings outside the jurisdictional limits of these areas.
<b>Ecological Resources</b>					
Vegetation	Yes	No	No	No	Excluded because direct impacts would not be substantial. No rare vegetation communities would be impacted.
Wildlife	Yes	No	No	No	Excluded because direct impacts would not be substantial. The primary impacts to wildlife species inhabiting the study area are loss of habitat and habitat fragmentation.
Threatened and Endangered Species	Yes	No	No	No	Excluded because direct impact would not be substantial. The proposed project has the potential to affect three species of rare plants, one species of rare amphibians, one species of rare birds, one species of rare fish, six species of rare mammals, and two species of rare reptiles; however, it is not likely that these species would experience adverse impacts from the proposed project.

Resource or Issue Evaluated	TxDOT/CEQ Criteria <sup>1</sup>			Included for Cumulative Impacts Analysis (Yes or No)	Explanation for Including or Excluding the Resource or Topic from Cumulative Impacts Analysis
	Would the Resource or Topic be Directly or Indirectly Impacted? (Yes or No)	Would the Direct or Indirect Impacts be Substantial? (Yes or No)	Is the Resource in Poor or Declining Health? (Yes or No)		
<b>Cultural Resources</b>					
Archeological Resources	Unknown	Unknown	No	Deferred	Analysis of this resource is deferred at this time because it is not possible to accurately assess the extent of these impacts until the location and ROW requirements of the proposed project has been determined. The potential for unrecorded historic period archeological resources ranges from low to high depending on the reasonable alternative.
Non-Archeological Historic Resources	No	No	No	No	Excluded because direct impacts are not anticipated.
<b>Hazardous Material Sites</b>					
Hazardous Materials <sup>2</sup>	---	---	---	---	Excluded because hazardous materials are an issue that does not warrant cumulative impacts analysis.
Oil/Gas Well Sites <sup>2</sup>	---	---	---	---	Excluded because oil/gas well sites are issues that do not warrant cumulative impacts analysis.
<b>Visual and Aesthetic Quality</b>					
Visual and Aesthetic Quality	Yes	No	No	No	Excluded from resource analysis because direct impacts would not be substantial. Aesthetic impacts would be addressed because the outward appearance of the proposed project is being designed through a collaborative approach referred to as context sensitive solutions (CSS). However, potential impacts to environmental justice populations are assessed under Environmental Justice Community.
Notes: 1. In accordance with TxDOT (2010) and CEQ (2007) selection criteria for limiting the scope of cumulative impacts analysis. 2. "---"represents an environmental "issue" but not a resource (i.e. natural resource, ecosystem, or human community).					

As shown in **Table 3**, the resources included in this cumulative impacts analysis include the following resources: environmental justice community and climate/air quality. The proposed project could substantially impact environmental justice communities in the region; therefore, environmental justice communities were included in the cumulative impacts analysis. Climate and air quality, although not substantially impacted by the project, may be considered to be in poor or declining health and therefore warrant inclusion in the cumulative impacts analysis.

### **Step 2: Define Resource Study Areas (RSAs)**

In Step 2, a resource-specific study area is defined for each resource. The setting of spatial limits for the study of each resource, an RSA, also known as “zone of potential impact”, was established using TxDOT/CEQ criteria, and in consideration of each resource’s physical characteristics, biological relationships (for example, habitat availability for a given species) and regulatory jurisdictions. The use of indicators of a resource’s health, abundance and/or integrity are helpful tools in formulating quantitative or qualitative metrics for characterizing overall effects to resources. These indicators are also key aspects of each resource that have already been evaluated in terms of the project’s direct and indirect impacts, and facilitate greater consistency and objectivity in the analysis of cumulative effects. Development, political and management realities for each resource are also taken into consideration. The geographic study area is described below for each resource considered in the analysis. These RSAs are illustrated on the **Exhibit (Cumulative Impacts Resource Study Areas)**.

- Environmental Justice Community – RSA bounded by Census 2010 Census Block Groups associated with adjacent communities.
- Air Quality – two distinct RSAs (Particulate Matter- 10 microns or less (PM<sub>10</sub>) RSA – the portion of El Paso County designated to be in moderate non-attainment for PM<sub>10</sub> and in maintenance status for Carbon Monoxide RSA – ROW line which would represent locations with highest potential carbon monoxide concentration).

### **Step 3: Health and Historic Context of Resources**

This discussion describes the historical and current condition of each resource within the context of its RSA. The examination of the current health and historical context of each resource is necessary to establish a baseline for determining the impacts of the proposed action and other reasonably foreseeable actions on the resource. For each resource, special concerns identified from the direct and indirect impacts analyses and the resource’s present abundance and quality were evaluated. The impacts of historical activities, the resource’s response to those activities, and the continuing stresses imposed on the resource and resource resilience to these stresses were considered.

Demographic and land use information, as well as the current status of air quality in the region, was obtained from local government planning offices, meetings with stakeholders and government web sites. Information on the various resources studied was digitized, and spatial data were developed through the use of geographic information systems software. RSA information, including indicators of resource condition and potential resource impacts, are found in **Table 4**.

**Table 4: Resource Indicators and RSAs for the Cumulative Impacts Analysis**

Resource Category	Indicators of Resource Condition and Potential Impacts	RSA
Environmental Justice Community	Minority and Low-Income Populations	<i>Census 2010</i> census block groups traversed by the reasonable alternatives
Air Quality	24-hour inhalable particulate matter-10 microns or less (PM <sub>10</sub> ): ability of the region to meet this air quality standard	Part of the El Paso County which is designated as moderate non-attainment for PM <sub>10</sub>
	Carbon Monoxide: carbon monoxide concentrations modeled along the ROW under the worst meteorological conditions	Project ROW Line

**Step 4: Identify Direct and Indirect Impacts of the Project**

The analysis of cumulative impacts must consider the direct and indirect impacts of the proposed action within the RSAs. Identification of the direct and indirect impacts of the proposed action would also assist in determining the project’s contribution to the cumulative impact on the resource. The direct and indirect impacts expected from the proposed project were discussed in detail in **Chapter 4** and **Appendix I** (Indirect Impacts Analysis) of the DEIS, respectively.

**Step 5: Reasonably Foreseeable Actions**

CEQ regulations indicate that cumulative impacts analyses must include an assessment of impacts of other past, present and/or reasonably foreseeable future actions affecting the resources studied (40 C.F.R. §1508.7). This portion of the cumulative impacts analysis identifies other transportation projects and planned large-scale public or private developments. The identification of other past, present and reasonably foreseeable future actions for the respective RSAs was based on a review of proposed and ongoing resource analysis, development projects, local municipality plans, master plan communities and county economic development studies. Past, current and planned transportation projects were determined from the Camino Real Regional Mobility Authority’s *Regional Toll Implementation Plan* (2010), Burlington Northern Santa Fe (BNSF) Railway’s *Proposed Chihuahuita’s Improvement Project* (2009); The City of El Paso’s *Community Profile 2010* (2010); the Metropolitan Planning Organization (MPO) *Mission 2035* and the *El Paso MTP Project List*; the *El Paso Downtown 2015 Plan*, and the *El Paso District Mobility Program*. The TCEQ’s *El Paso: Current Attainment Status* (2012) was also reviewed to determine the current state of the resources in the RSA.

**Steps 6, 7, and 8: Assess Cumulative Impacts, Report Results, and Discuss Mitigation**

Cumulative impacts are evaluated using the following factors: the historical context of each resource, current condition and trend, future land use and zoning plans and the pertinent regulations and standards associated with each resource. These factors capture the influences that have shaped and are shaping the amount and quality of each resource, and which would continue to shape the resources into the future. Several key assumptions that are implicit in the approach to predicting the future condition of resources include:

- All reasonably foreseeable actions would be completed as currently planned;
- The relationships between the resources, ecosystems and human communities that have been identified from historical experience would continue into the future; and
- The sponsors of government and private projects would abide by relevant federal, state and local laws designed to protect each resource, and regulatory agencies would perform their duties in accordance with legal requirements and internal guidelines.

Of particular importance is the assumption concerning compliance with relevant environmental laws designed to ensure the sustainability of resources. Over the past several decades, federal, state and local lawmaking bodies have enacted statutes, regulations and ordinances designed to preserve and enhance the abundance and quality of natural resources by requiring project sponsors to avoid, minimize and mitigate the environmental impacts of their projects or actions. The cumulative impacts analysis focuses on the net effects on each resource that remain after full compliance with the regulatory requirements at all levels and in light of mitigation that would likely be applied. The discussion of cumulative impacts for each resource studied first outlines key regulatory measures government leaders and agencies have implemented to manage and sustain the resource for long-term use, then evaluates expected net cumulative impacts for each of the resources analyzed. More detailed discussions of specific regulatory measures to control adverse impacts to various resources are contained in discussions of direct impacts to specific resources in **Chapter 4** of the DEIS.

In order to have a cumulative impact on a resource, the proposed action must have either a direct or indirect impact on that resource. Additionally, the cumulative impact analysis focuses on those resources impacted by the proposed action and resources currently in poor or declining health, even if the impacts resulting from the project are relatively small (less than significant). Lastly, resources of importance to stakeholders are considered. All of the resource categories considered in this DEIS are candidates for analysis with regard to indirect and cumulative impacts.

Cumulative impacts are analyzed in terms of the specific resource being affected. The resources considered in this environmental analysis are:

- Environmental Justice Community
- Air Quality

## ENVIRONMENTAL JUSTICE COMMUNITY

### Step 1: Identify Resource

As disclosed in **Chapter 4** and **Appendix I**, the proposed project has the potential to directly and indirectly impact predominantly low-income and/or minority communities within the City of El Paso (Downtown El Paso, Chihuahuita, Buena Vista, La Calavera Canyon, Old Fort Bliss/Hart's Mill and Anapra) with regard to ROW acquisition, changes in access, proximity impacts (related to traffic noise and visual intrusion), and economic impacts associated with the cost of tolling.

### Step 2: Define RSA

The RSA for this environmental justice community is comprised of the *Census 2010* census block groups traversed by the reasonable alternatives as depicted in the **Appendix (Cumulative Impacts Resource Study Areas)**. The temporal boundaries for the cumulative impacts analysis related to this resource are the years circa 1900 to 2035. The early date was established because it coincides with the establishment of the (former) ASARCO facility. The year 2035 was chosen to correlate with the current *Mission 2035* Metropolitan Transportation Plan (MTP).

### Step 3: Health and Historic Context

The portions of the City of El Paso which falls within the RSA consists of several sub communities. The predominant environmental justice communities located within the RSA include Downtown El Paso, Chihuahuita, Buena Vista, La Calavera Canyon, Old Fort Bliss/Hart's Mill and Anapra. Each of these communities contains a high percentage of minorities; the largest minority group in these communities is Hispanic/Latino. Each community also has a prevalence of low-income populations. Examples of health and historic context for several of the environmental justice communities are provided below to illustrate the varying histories contained by the RSA. Additional census data which quantifies the "health" for all of the environmental justice communities are presented in more detail in **Section 3.2.3** of the DEIS.

#### **Downtown El Paso**

Early trails and roads northwest of Downtown El Paso followed along the canyon that paralleled the Rio Grande and formed the corridor of the transportation developments that followed, including railroad, highway, and transit in the form of electric streetcars. The establishment of rail transportation in El Paso was directly linked to the ability to easily pass between Basin and Range mountain chains. This geographical advantage resulted in the establishment of transcontinental railroads crossing the continental divide at this point. The construction of railroad transportation through the region between 1881 and the early 1900s changed the character of the settlement of El Paso, including the downtown area. The railroads brought immigration from around the country, increasing the population tenfold by 1890 and leading to a boom in the development of commerce and industry.

Demographically, Downtown El Paso, like the City of El Paso as a whole, has a high percentage of minorities (97.3%). The largest minority group in the downtown area is Hispanic/Latino (96.3%) which is higher than that of the City of El Paso (82.2%). According to the *2010 Census*, the population of the downtown region is approximately 17,496 persons. The median household income in the downtown area ranges from \$15,091 to \$18,984. Income levels in the downtown area are generally lower than the City of El Paso which has an average median

income of \$37,428. The downtown community has an average poverty rate of approximately 61.0%, which is much higher than that of the City as a whole (24.1%). Two rail yards are located in the downtown area. However, a majority of the development in the downtown region is mixed-use, including residential and commercial.

### ***Buena Vista and La Calavera Canyon***

A low wage economic structure, such as is present in El Paso, develops the need for low-income housing. Prior to large scale public transportation, workers lived in close proximity to the work place. This is evident along the industrial corridor which is traversed by the RSA. The first residential structures for employees of the ASARCO smelter were located in the hill near the plant. The smelter laborers lived on the north side of the hill generally between the smokestack on the property at that time and the Smelter Cemetery in primitive, overcrowded conditions in houses constructed mostly of adobe. There was no gas, electricity, sewer connections, or running water. The communities of Buena Vista and La Calavera Canyon are both small communities that were created for the workers of ASARCO. Both of these communities are located within CT 14.00, BG 1 and contain a total population of approximately 640, according to *2010 Census*. Land use in these areas is almost exclusively residential, with a few restaurants and a few other small commercial establishments. Median household income is approximately \$19,537. This is lower than that of the City of El Paso and the downtown area. These communities have an approximately 30.3% poverty rate, which is also much higher than that of the City of El Paso and the downtown area.

### ***Chihuahuita***

Another example of historic context within the RSA is the Chihuahuita neighborhood. It is currently recognized by the City of El Paso as a local historic district (Chihuahuita Historic District). The area takes its name from Chihuahua, the Mexican state from which the largest percentage of population immigrated, and translates to English as "Little Chihuahua". Mexican workers were initially drawn to the El Paso area at the end of the nineteenth century and beginning of the twentieth century because of the rapid economic growth and opportunity offered in the United States. The Chamizal Treaty signed in 1964 required rerouting some of the railroad tracks through the neighborhood and the channelization of the Rio Grande required resettlement of many households from 8<sup>th</sup> Street south. Although the Local Chihuahuita Historic District is much reduced from its original boundaries as the First Ward in El Paso, it retains its cultural connections with El Paso's Hispanic heritage. Some of the characteristics that make it significant include narrow streets with abutting houses, as well as the gradual transition from adobe construction to masonry construction (Chihuahuita Historic District). Although it is predominantly residential in character, it does include the El Paso Laundry constructed in 1895.

The community has developed the Chihuahuita Neighborhood Plan in order to preserve, protect and improve upon the uniqueness of their community while continuing to support existing and future economic opportunities in the area. Chihuahuita is located within CT 18.00, BG 2 and contains a total population of approximately 716, according to *2010 Census*. Land use in this area is mixed-use; mostly residential and commercial. Median household income is approximately \$15,531. This is slightly lower than that of the City of El Paso as a whole and the downtown area. Chihuahuita has an approximately 65.3% poverty rate, which is also much higher than that of the City of El Paso as a whole and the downtown area. Demographically, Chihuahuita, like the City of El Paso, has a high percentage of minorities (97.8%).

## Step 4: Identify Direct and Indirect Impacts of the Project

### ***Direct Impacts***

Federal Highway Administration (FHWA) Order 6640.23 states that the agency shall avoid disproportionately high and adverse impacts on minority and/or low-income populations by "...proposing measures to avoid, minimize, and/or mitigate disproportionately high and adverse environmental health effects and interrelated social and economic effects, and providing offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by FHWA programs, policies, and activities..." As documented in **Chapter 4** of the Loop 375 Border Highway West Extension Project DEIS, the principal impacts of the proposed action on these populations are expected to include the relocation/displacements of residences and businesses, changes in access, tolling of low-income populations, and proximity impacts (i.e., noise and visual intrusion).

Potential benefits of the new facility would include improved system linkage and access, in addition to improved mobility. The proposed toll facility has the potential to directly impact low-income populations (**Chapter 4** of the DEIS) as a higher percentage of their income would be required to utilize the facility, than that of higher income populations. Further, low-income populations would not benefit from improved system linkage that would be afforded to those motorists who have the ability to pay for the proposed toll facility. However, as an alternative, Interstate Highway 10 (I-10) and United States Highway (US) 85 (Paisano Drive) would remain non-tolled facilities and would continue to provide access to and from downtown. Due to the existence of a non-toll alternative route, it is anticipated that there would be no disproportionate and adverse impacts to minority and low-income populations as a result of tolling the proposed project.

### ***Indirect Impacts***

Populations representing notable features associated with local communities (Downtown El Paso, Chihuahuita, Buena Vista and La Calavera Canyon) would experience some degree of adverse impact due to changes in or loss of access, and/or increased noise and visual intrusion. However, populations within these communities (including the communities of Old Fort Bliss/Hart's Mill and Anapra) could also benefit from the indirect effects of improved east-west mobility, improved local and regional access, improved safety, reduction of incident delay along I-10, inclusion of context sensitive solutions related to aesthetics, and a design that coexists with border security.

As stated in the Indirect Impacts Analysis Technical Report in the DEIS (**Appendix I**), all of the reasonable alternatives would require changes in access to each of the eight notable features within the indirect impact area of influence (AOI). Overall the access changes associated with the proposed facility can be expected to have minor negative impacts on the local communities. Regarding Downtown El Paso, the change of Santa Fe, Kansas and Park Streets to cul-de-sacs or turnarounds as well as the closing of Oregon Street at 9th Avenue may also have some impacts to business in that area; however, to compensate for these reduced access points, the Coles Street-Paisano Drive interchange is proposed. It is not anticipated that these downtown business would be negatively impacted by these changes in access as the proposed Coles Street-Paisano Drive interchange would provide more convenient access to most of the downtown area via Paisano Drive.

Regarding the Chihuahuita community, the proposed project compliments the *Chihuahuita Neighborhood Plan* such as the neighborhood boundaries, residential core area, park and open space area and neighborhood commercial areas would generally remain preserved as a result

of the proposed build alternatives. Residents of this community would retain pedestrian access to the adjacent downtown El Paso, but could endure different and longer travel routes to the east side of El Paso due to the access changes proposed by the reasonable alternatives.

The residents of the Buena Vista community would be some of the least affected as their access would remain similar to existing conditions; however, routing may be different depending on the Reasonable Alternative. Residents of La Calavera Canyon would be impacted under all build alternatives because trips to eastbound Paisano Drive would be approximately 1.1 miles longer than the existing condition due to the need to travel west then make a U-turn. Trips to I-10 would be approximately 850 feet longer compared to the existing condition.

The community of Old Fort Bliss/Hart's Mill would not be impacted by access changes associated with the proposed project. The community of Anapra would experience positive impacts in the form of increased access to Paisano Drive and the proposed project.

### **Step 5: Reasonably Foreseeable Actions**

As documented in **Section 3.1.1.1** of the DEIS, *The Plan for El Paso: Connecting El Paso* (2010) developed a vision for an updated transportation system for the City of El Paso including the regulatory groundwork for transit-oriented development. This plan proposes redevelopment at the former ASARCO site, which includes over 450 acres of potentially developable land near the center of the City. At the ASARCO site connected networks of pedestrian-friendly streets, protected open spaces, office and commercial uses, and regional landmark destinations are planned.

As discussed in **Section 3.1.1.2** of the DEIS, the goal of the City of El Paso's *Downtown 2015 Plan* is to create revitalization by providing opportunities to live, work, shop, and play in the downtown region, while fostering a productive and energetic economy for all citizens of El Paso. The *Downtown 2015 Plan* sets a vision through which the public and the private sector work together to increase the value and attractiveness of the downtown area. The *Downtown 2015 Plan* identifies redevelopment districts and areas in need of reinvestment. The Chihuahuita Neighborhood Plan (guided by the *Downtown 2015 Plan*) outlines objectives and actions to reach the goal of preserving, protecting, and improving the quality of residential life for the current and future residents of the neighborhood.

Regarding transportation, the El Paso District Mobility Program (2006) focuses on larger mobility projects for the region, including I-10 relief routes and the completion of Loop 375 and the Inner Loop. The City of El Paso's *Downtown 2015 Plan* suggests that the current surface street network will be sufficient until the redevelopment plans for the downtown El Paso area are implemented. At that time, it is anticipated that north/south interchanges at I-10 and along the border will become more congested. The *Downtown 2015 Plan* suggests that the "Southern Relief Route" (a former name for Border Highway West) will serve downtown mobility needs. Under a separate project, TxDOT is also considering the addition of the Spur 1966 project as an improvement to the current connection between US 85/Paisano Drive and Schuster Avenue.

### **Steps 6 and 7: Assess Cumulative Impacts and Report Results**

The socio economic impacts associated with the proposed project associated with the past, present and reasonably foreseeable future actions were considered to determine their likely cumulative effects on the environmental justice communities within the RSA. The combined effect of desired development patterns outlined in the City of El Paso's planning documents, in conjunction with other reasonably foreseeable actions mentioned in the previous step could

make the environmental justice community RSA more attractive to continued residential, commercial and light industrial development. Because of the potential for improved access for undeveloped or developable properties to an improved regional transportation system providing increased mobility and access for the El Paso region, the likelihood of continued residential, commercial and light industrial development in the long-term as a cumulative impact is moderate. The environmental justice community RSA has adequate capabilities to absorb the potential displacements and relocations associated with the proposed Loop 375 Border Highway West Extension Project as documented in **Section 4.2.2** in the DEIS.

Changes in access would pose positive and negative impacts to the environmental justice communities within the RSA that may see the closure of current utilized access points, or the addition of interchanges that increase mobility in the region. In addition, TxDOT would work closely with local and regional transit agencies, such as Sun Metro, to minimize impacts to the public transit system services and routes. The potential for all six environmental justice communities to be adversely impacted by changes in access is unlikely as a result of the proposed project. Improved access, mobility, linkage and safety are anticipated to benefit and support the planned transition within the RSA to a more pedestrian and transit friendly environment as suggested by the City of El Paso's *SmartCode (2008)*, *The Plan for El Paso (2012 comprehensive plan)*, *Plan El Paso 2010: Connecting El Paso* and the *El Paso Downtown 2015 Plan*.

All of the proposed project's reasonable alternatives are expected to result in varying degrees of traffic noise and visual impacts throughout the environmental justice community RSA. The traffic noise associated with the proposed project and all other noise sources associated with past, present and reasonably foreseeable actions were analyzed to determine their likely cumulative impacts on the communities in the study area. The results indicated that highway traffic is and would continue to be, the primary/dominant source of noise. No other reasonable and foreseeable actions are expected to substantially affect the overall noise environment; therefore, no cumulative impacts to the community due to traffic noise are anticipated.

At the present time, the environmental justice communities RSA does not offer a substantial viewshed, but other projects planned for the RSA could focus on enhancing the visual qualities of the communities within the RSA. The City of El Paso is the primary agency with regulatory authority to influence the visual resources within the environmental justice communities RSA, and would be expected to continue to influence all construction projects that could affect visual resources.

Historically, TxDOT has financed highway projects on a "pay-as-you-go" basis, using motor fuel taxes and other revenue deposited in the state highway fund. However, population increases and traffic demand have outpaced the efficiency of this traditional finance mechanism. As funding mechanisms evolve, the trend towards utilization of toll facilities in this region would through time create "user impacts" as access to highway systems becomes an issue to the economically disadvantaged.

As acknowledged in the environmental justice assessment (**Chapter 4** of the Loop 375 Border Highway West Extension Project DEIS), the economic impact of tolling would be higher for low-income users of the proposed facility since the cost of paying tolls would represent a higher percentage of household income than for non-low-income households. Further, low-income populations would not directly benefit from increased mobility that the proposed facility is anticipated to provide if they are unable to use the roadway due to the cost of paying

tolls. However, they may see increased mobility on local streets if a portion of the through traffic is diverted along the new facility.

The proposed facility, as an element of the emerging system of toll roads being developed for the El Paso region, would contribute to a cumulative impact on low-income users of the system. Although it is likely that a user may routinely travel one or more elements of the toll system en-route to and from various destination points throughout the city, it is unlikely that the user would travel the entire length of those elements. Further, given the layout and orientation of the emerging regional system, it is virtually inconceivable that a driver would routinely travel the entire length of the entire system during the course of normal activities.

### **Step 8: Discuss Mitigation**

As discussed in the Loop 375 Border Highway West Extension Project DEIS, TxDOT would be responsible for the ROW acquisitions associated with the construction of the proposed facility and other state transportation projects. Acquisition and relocation assistance would be in accordance with the TxDOT Right-of-Way Acquisition and Relocation Assistance Program. Consistent with the USDOT policy, as mandated by the Uniform Relocation Assistance and Real Properties Acquisitions Act, as amended in 1987, TxDOT provides relocation resources to all displaced persons without discrimination. All property owners from whom property is needed are entitled to receive just compensation for their land and property. Just compensation is based upon the fair market value of the property. TxDOT also provides through its Relocation Assistance Program, payment and services to aid in movement to a new location.

Relocation assistance is available to all individuals, families, businesses, farmers and non-profit organizations displaced as a result of a state highway project or other transportation project. Thus assistance applies to tenants as well as owners occupying the real property needed for the project. Residential replacement structures must be located in the same type of neighborhood and be equally accessible to public services and places of employment. The TxDOT Relocation Office would also provide assistance to displaced businesses and non-profit organizations to aid in their satisfactory relocation with a minimum of delay and loss in earnings. The proposed project would proceed to construction only when all displaced residents have been provided the opportunity to be relocated to adequate replacement sites. The available structures must also be open to persons regardless of race, color, religion, or nationality and be within the financial means of those individuals affected.

Impacts associated with changes in access that may result from reasonably foreseeable actions would be determined by separate environmental studies conducted for each project. The associated travel patterns and accessibilities analyses would determine if the projects would result in negative impacts to environmental justice communities and if any mitigation would be warranted.

Regarding visual impacts, it is expected that context sensitive design considerations would serve to ameliorate any impacts to the key views identified in **Section 4.11**. TxDOT is expected to continue to have an active role in preparing final design features if the proposed facility is cleared for construction.

As examined in **Section 4.2.8** in the DEIS, the tolling of the proposed Loop 375 Border Highway West Extension Project would not result in disproportionately high and adverse effects on minority and low-income populations; therefore, according to Executive Order 12898 regulation, mitigation associated with environmental justice is not currently proposed. Other options, such

as community outreach, could be considered to benefit the public including environmental justice populations.

## AIR QUALITY

### Step 1: Identify Resource

#### *Particulate Matter-10 microns or less (PM<sub>10</sub>) and Carbon Monoxide*

In order to protect human health and the environment, the Clean Air Act (CAA) of 1970 mandated the establishment of the National Ambient Air Quality Standards (NAAQS) and regulations to reduce air pollutants. When the pollutant level within an area exceeds the NAAQS, Environmental Protection Agency (EPA) designates the area as “non-attainment” for the pollutant.

### Step 2: Define RSA

The RSA for evaluating air quality associated with the NAAQS and transportation conformity was designated as the part of El Paso County which is in moderate non-attainment for PM<sub>10</sub> and along the ROW line to represent the locations with the highest potential for carbon monoxide concentrations, as depicted in the **Exhibit (Cumulative Impacts Resource Study Areas)**. These areas represent the management unit for mobile source pollutants as regulated by federal, state and local government agencies. The NAAQS criteria pollutants include ozone, carbon monoxide, particulate matter, nitrogen dioxide, sulfur dioxide and lead. Unlike the other resources evaluated, air quality impacts from mobile sources are evaluated and managed on a regional basis primarily through the MPO, in coordination with the EPA, TCEQ, TxDOT and FHWA. Evaluating air quality in relation to cumulative impacts requires looking at two distinct RSAs, as described below:

#### *Particulate Matter-10 microns or less (PM<sub>10</sub>)*

The RSA for evaluating the PM<sub>10</sub> NAAQS was the portion of El Paso County designated as moderate non-attainment.

#### *Carbon Monoxide*

The RSA for carbon monoxide was based on the ROW line, which represents the locations with the highest potential for carbon monoxide concentrations.

### Step 3: Health and Historic Context

The EPA establishes limits on atmospheric pollutant concentrations through enactment of the NAAQS for six principal, or criteria pollutants. The TCEQ (2012) designated the City of El Paso as moderate non-attainment for PM<sub>10</sub> on November 6, 1991 (56 FR 56694). The TCEQ states:

*Modeling of U.S. emissions indicated that the non-attainment area would have been in attainment in 1991, and at the 1994 deadline, if not for emissions transported from outside the United States. Based on §179B of the Federal Clean Air Act, which provides that an area does not have to meet the moderate non-attainment deadline if the state demonstrates attainment if not for emissions from another country, there was no requirement for a reasonable further progress demonstration. The EPA approved the El Paso PM<sub>10</sub> [State Implementation Plan] SIP revision, effective February 17, 1994.*

According to the TCEQ (2012), the El Paso carbon monoxide non-attainment area is limited to an area of the City of El Paso immediately adjacent to the Rio Grande, in El Paso County, adjacent to Ciudad Juárez, Mexico. The rest of the City of El Paso is considered to be in attainment for carbon monoxide. On February 13, 2008, the State submitted a revision to the

SIP containing an eight-hour carbon monoxide maintenance plan to provide for the City of El Paso continued attainment of the eight-hour carbon monoxide NAAQS until 2020. The request and plan were approved on August 4, 2008.

The region is currently in attainment for all other criteria pollutants. The trend of improving air quality in the region is attributable in part to the effective integration of highway and alternative modes of transportation, cleaner fuels and improved emission control technologies.

#### **Step 4: Identify Direct and Indirect Impacts of the Project**

##### ***Direct Impacts***

Direct impacts on air quality and MSAT from the project are primarily those associated with the increased capacity, accessibility and the resulting projected increases in VMT. Emission reductions as a result of EPA's new fuel and vehicle standards are anticipated to offset impacts associated with VMT increases.

##### ***Indirect Impacts***

Indirect impacts on air quality and MSAT are primarily related to any expected development resulting from the proposed project increased accessibility or capacity to the area. Any increased air pollutant or MSAT emissions resulting from the potential development of the area must meet regulatory emissions limits established by the TCEQ and EPA as well as obtain appropriate authorization from the TCEQ and therefore, are not expected to result in any degradation of air quality or MSAT levels.

#### **Step 5: Reasonably Foreseeable Actions**

Increased development and urbanization can result in increased air pollutant emissions. Proposed projects must meet regulatory emissions limits established by the TCEQ and EPA as well as obtain appropriate authorization from the TCEQ and therefore are not expected to result in any degradation of air quality. Reasonably foreseeable actions that could impact air quality within the RSA include recommended funded improvements listed in the *Mission 2035 MTP* Project List.

#### **Steps 6 and 7: Assess Cumulative Impacts and Report Results**

Any increased air pollutant resulting from increased capacity, accessibility and development are projected to be more than offset by emissions reductions from EPA's new fuel and vehicle standards or addressed by EPA's and TCEQ's regulatory emissions limits programs. Projected traffic volumes are expected to result in no impacts on air quality; improved mobility and circulation may benefit air quality. Increases in urbanization would likely have a negative impact on air quality. However, planned transportation improvements in the project area as listed in a conforming MTP (*Mission 2035*), the upcoming draft *Horizon 2040* MTP (scheduled for completion at the end of 2012), and the 2011-2014 Transportation Improvement Program (TIP), coupled with EPA's vehicle and fuel regulations fleet turnover, are anticipated to have a cumulatively beneficial impact on air quality.

The EPA and TCEQ initiatives and programs are not expected to have any impact on future PM<sub>10</sub> emissions from countries outside of the U.S.

#### **Step 8: Discuss Mitigation**

The mitigation of future development within the region considered for this study would rest with the agencies with the authority to implement such controls. This authority rests with the

municipal governments and to a lesser extent, the county governments. The responsibility of transportation providers such as TxDOT, local and regional transit agencies, and the local governments would be to implement a transportation system to complement the land use or development controls implemented.

A variety of federal, state and local regulatory controls as well as local plans and projects have had a beneficial impact on regional air quality. The CAA, as amended, provides the framework for federal, state, tribal and local rules and regulations to protect air quality. The CAA required the EPA to establish NAAQS for pollutants considered harmful to public health and the environment. In Texas, the TCEQ has the legal authority to implement, maintain and enforce the NAAQS. The TCEQ establishes the level of quality to be maintained in the state's air and to control the quality of the state's air by preparing and developing a general comprehensive plan. Authorization in the Texas Clean Air Act (TCAA) allows the TCEQ to do the following: collect information and develop an inventory of emissions; conduct research and investigations; prescribe monitoring requirements; institute enforcement; formulate rules to control and reduce emissions; establish air quality control regions; encourage cooperation with citizens' groups and other agencies and political subdivisions of the state as well as with industries and the federal government; and to establish and operate a system of permits for construction or modification of facilities. Local governments having some of the same powers as the TCEQ can make recommendations to the commission concerning any action of the TCEQ that may affect their territorial jurisdiction, and can execute cooperative agreements with the TCEQ or other local governments. In addition, a city or town may enact and enforce ordinances for the control and abatement of air pollution not inconsistent with the provisions of the TCAA or the rules or orders of the TCEQ.

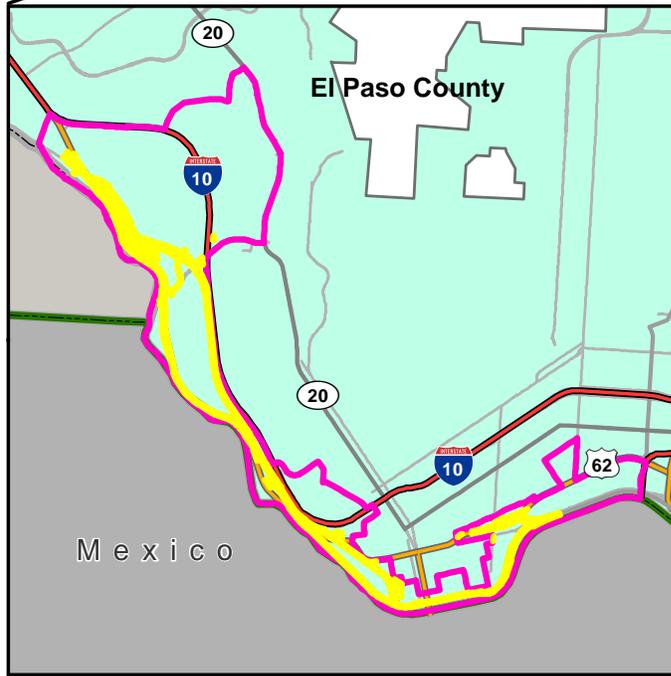
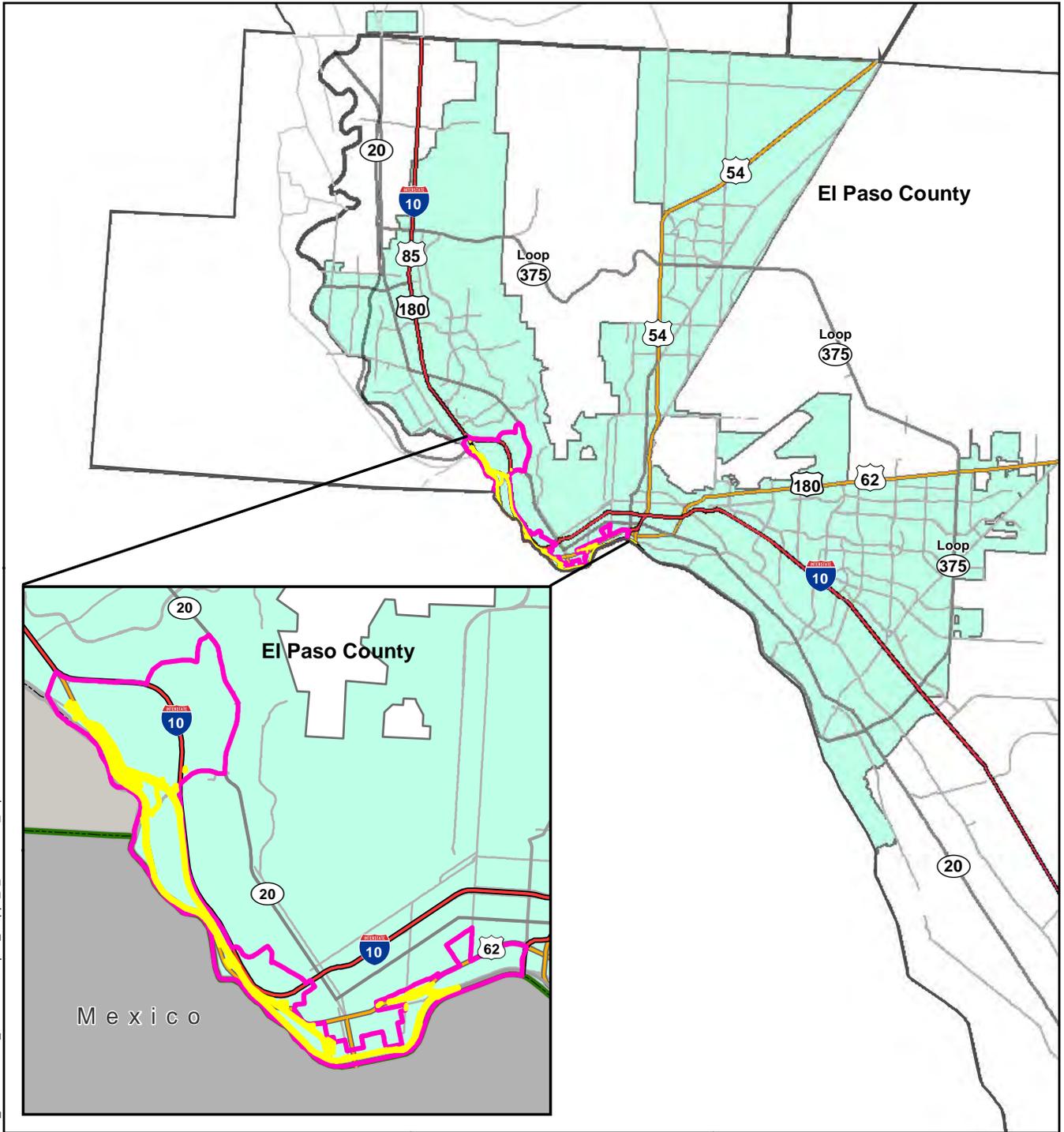
The CAA also requires states with areas that fail to meet the NAAQS prescribed for criteria pollutants to develop a SIP. The SIP describes how the state would reduce and maintain air pollution emissions in order to comply with the federal standards. Important components of a SIP include emission inventories, motor vehicle emission budgets, control strategies to reduce emissions and an attainment demonstration. The TCEQ develops the Texas SIP for submittal to the EPA. One SIP is created for each state, but portions of the plan are specifically written to address each of the non-attainment areas. These regulatory controls, as well as other local transportation and development initiatives implemented throughout the El Paso metropolitan area by local governments and other entities provide the framework for growth throughout the area consistent with air quality goals. As part of this framework, all major transportation projects, including the proposed project, are evaluated at the regional level by the El Paso MPO for conformity with the SIP.

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**Exhibit**  
**Cumulative Impacts Resource Study Areas**

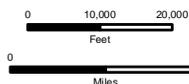
Path: \\aus000\jobs\42085 Border Hwy West\Tech\prod\GIS\MX\DEX\HNTB\PL\_010\DEIS\2nd\_Submittal\Chapter\_5\Appx\_5\Appendix\_5\_Cumulative\_Impacts.mxd Date Saved: 8/21/2012



- Interstate
- US Highway
- State Highway
- State Loop
- International Boundary
- Particulate Matter (PM<sub>10</sub>) RSA
- Environmental Justice (EJ) Community RSA
- Carbon Monoxide (CO) RSA
- El Paso Metropolitan Planning Organization Boundary



1:316,800  
1" = 26,400'



**Sources**  
MPO Boundary: El Paso Metropolitan Planning Organization (MPO), 2012  
Carbon Monoxide RSA: Schematic ROW Hall & Associates, 2012  
PM<sub>10</sub> RSA: Mission 2035 El Paso Metropolitan Transportation Plan, 2012



## Loop 375 Border Highway West Extension Project

From Racetrack Drive to US 54

### Cumulative Impacts Resource Study Areas

El Paso County, Texas  
CSJ: 2552-04-027  
August, 2012

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