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**DATE:** Month Day, 2020  
**TO:** Andrew Canon, Executive Director, RGVMPO  
**CC:** Luis M. Diaz, Ben Magallon, Ryan Graves  
**FROM:** JD Allen, AICP, WSO-CSSD, TSSP-RAIL/BUS  
**RE:** Equity Memorandum

## Introduction

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Environmental Justice (EJ) is defined by the U.S. Environmental Protection Agency (EPA) as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In addition to being Federally mandated, equity analysis is a critical component of transportation planning because it considers the potential impacts that transportation funding and infrastructure decisions may have on EJ communities. Transportation projects can have lasting impacts on all communities, so it is crucial to the planning process to establish and ensure fair and equitable transportation policies and funding decisions so that no group of people (based on race, ethnicity, or socioeconomic status) receives unfair treatment or bears a disproportionate share of negative consequences as a result of decisions made by all levels of government.

This analysis defines and locates EJ zones in the Rio Grande Valley Metropolitan Planning Organization's (RGVMPO) Metropolitan Area Boundary (RGVMAB). These zones are used to evaluate proposed transportation projects for equitable impacts.

### Environmental Justice Zones

EJ zones in the RGVMAB were identified by determining historically underserved and vulnerable communities. 2018 American Community Survey (ACS) data displays the median household income to be roughly \$36,600 and contains an average household size of 3.49 in the RGVMAB. The region's median household income is lower in comparison to the state average of Texas (\$60,629), with concentrations of low-income households along the United States-Mexico border, downtown McAllen, Edinburg, Hidalgo, Weslaco, and Harlingen. Using block group data from the 2018 American Community Survey (5-Year Estimates), EJ zones were defined as having at least two of the following criteria:

- High Minority Population – Block groups whose percentage of racial minorities is greater than the RGVMAB's total percentage of racial minorities (11%).
- High Population in Poverty – Block groups whose percentage of population in poverty is greater than the RGVMAB's total percentage of population in poverty (31%).
- High Limited English Proficient Population – The top 10% of block groups with the highest percentage of Limited English Proficient population.

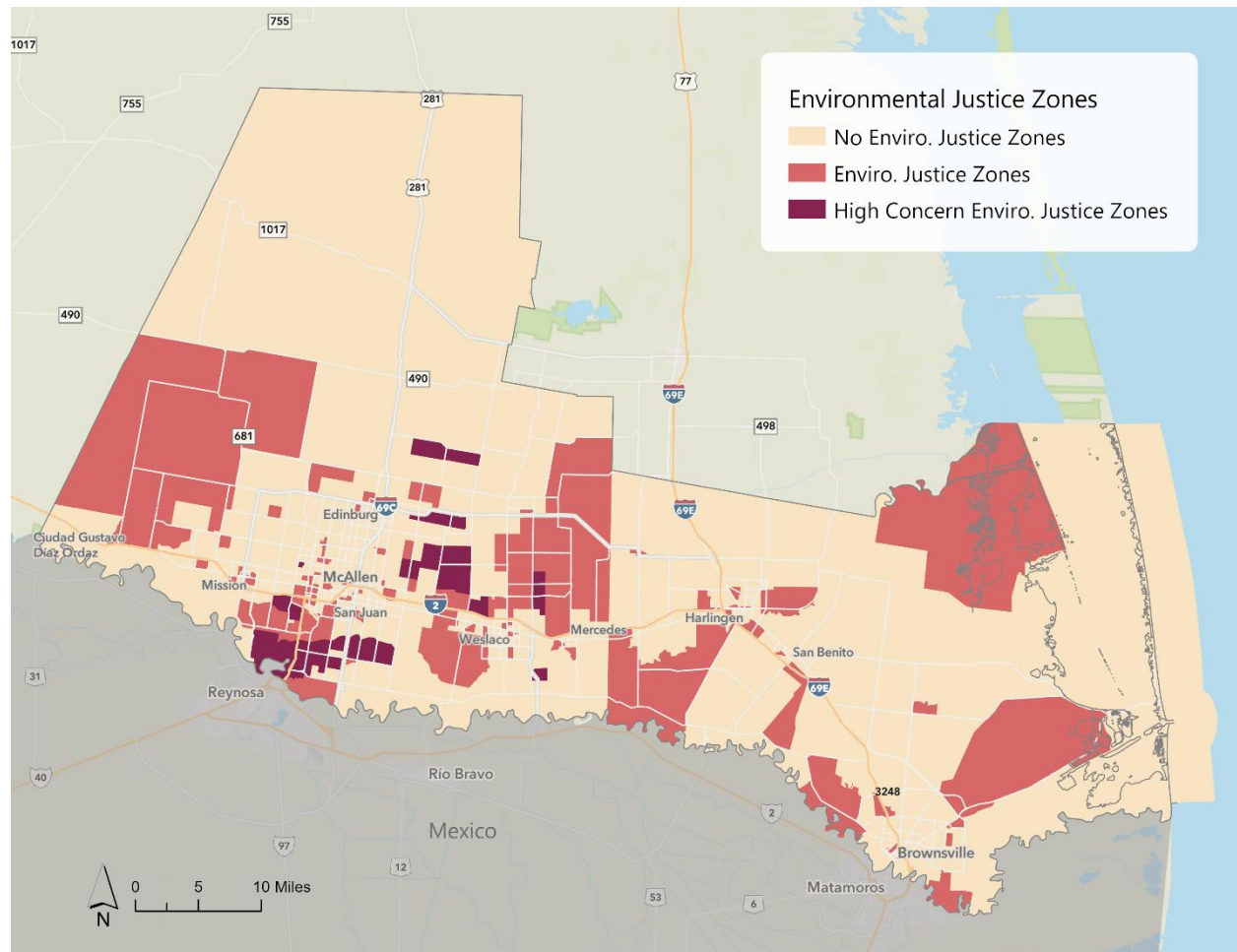
It must be noted that ACS minority data is represented by race subcategories (e.g. White; Black/African-American; American Indian or Alaska Native; Asian; Native Hawaiian or Other Pacific Islander; and some other Race) that do not include Hispanic, Latino, or Spanish origin ethnicity populations. These ethnicities are included in this analysis in a separate section, using overlay analysis of EJ zones to identify

potentially underserved and underrepresented cohorts of the Hispanic, Latino, or other Spanish origin populations within the RGVMAB.

**Figure 1** through **Figure 4** display where EJ zones are located within the RGVMAB. The EJ zones are spread throughout the region, with high numbers of EJ zones clustered in the urban cores. Many of the identified EJ zones are also clustered in Hidalgo County on the west, east, and county line. **Table 1** describes the EJ zones' demographic profile compared to the region at large.

High concern EJ zones were also identified. These block groups were identified as high concern due to meeting all three of the above-mentioned criteria. As shown in **Figure 1**, high concern EJ zones are only located in the central and southeast parts of Hidalgo County, with some clustering along I-69C. These zones will be given heightened attention during the impact analyses which will review the potential footprint of proposed transportation projects to ensure that they do not adversely impact these communities. As such, projects that include public transportation and active transportation facilities will be reviewed to ensure these populations are being provided with adequate access to the transportation system.

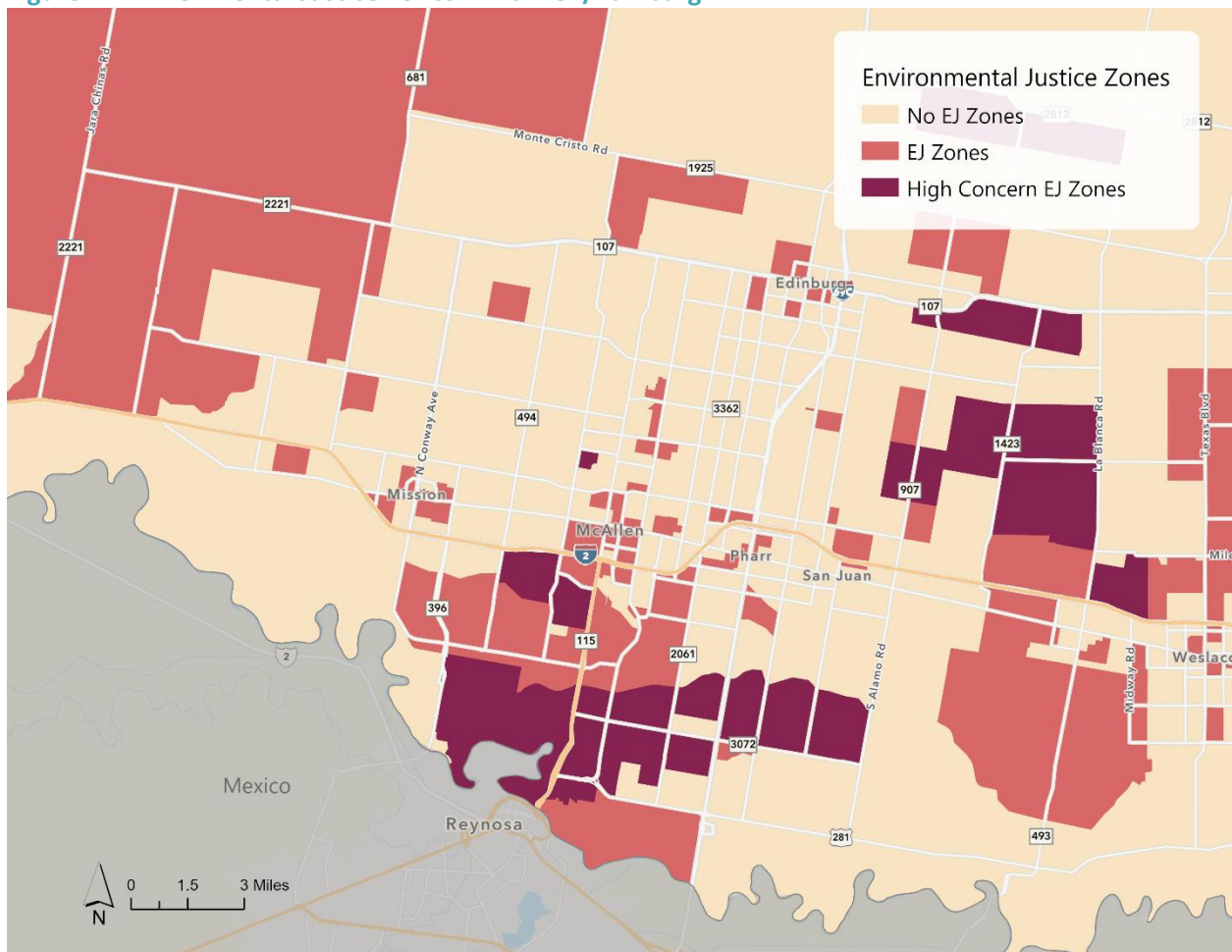
**Figure 1: RGVMAB Environmental Justice Zones**



The block groups with EJ areas in the McAllen/Edinburgh metropolitan area include (see **Figure 2**):

- The block groups south of FM 1016 (limits are S. Alamo Rd., FM 396, and the US-Mexico Border)
- The block groups adjacent to Muniz, a census designated area, (limits are W. Wisconsin Rd., W. Sioux Rd. FM 493, and N. Cesar Chavez Rd.)
- The block groups south of the La Plaza Mall (limits are I-2, FM 494, S. 23<sup>rd</sup> St., S. Shary Rd., and Idela Ave.)
- The block group east of the Orange Grove R.V. Park (limits are FM 107, FM 1423, S. Alamo Rd., and E. Curve Rd.)

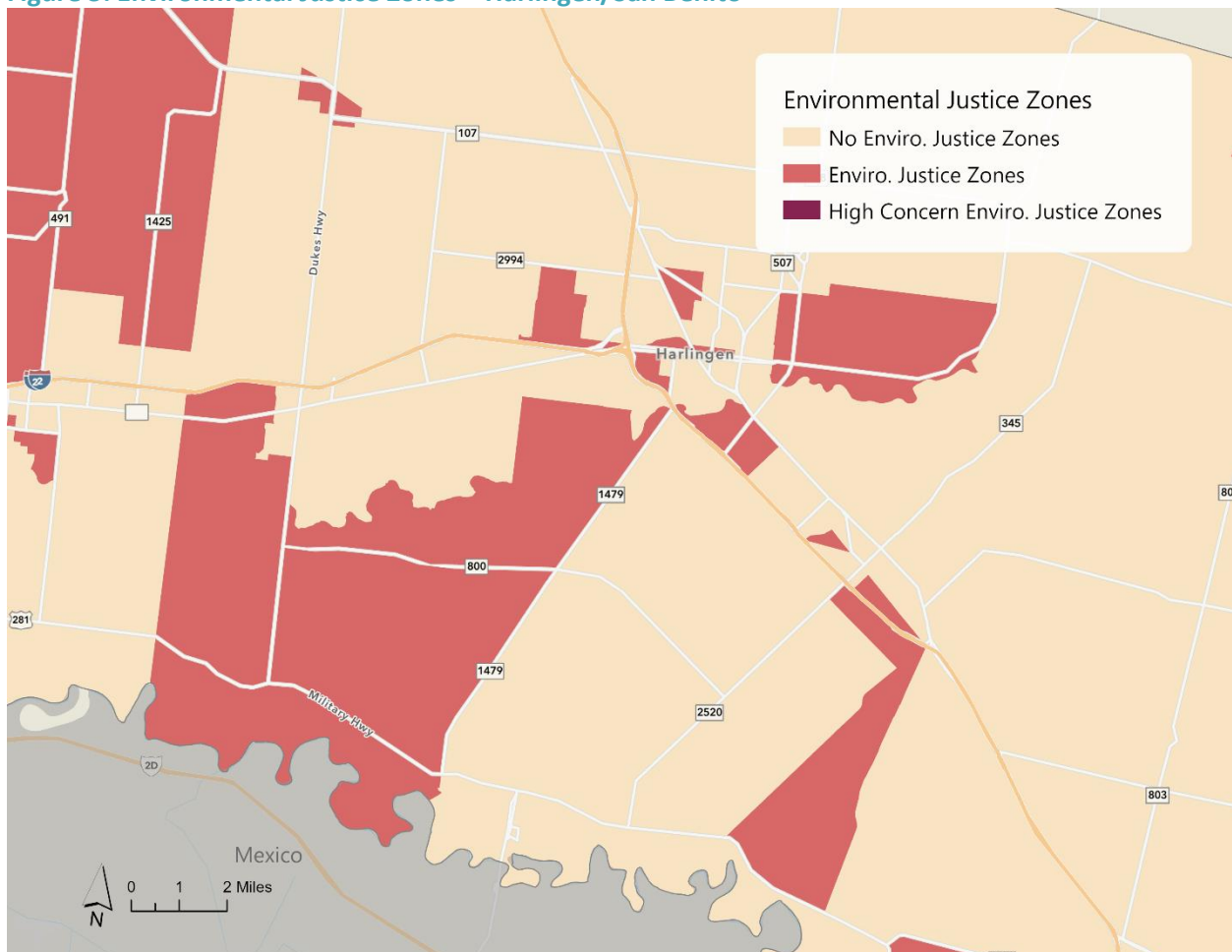
**Figure 2: Environmental Justice Zones – McAllen/Edinburg**



The Harlingen/San Benito metropolitan area does not contain any EJ zones which meet all three of the EJ criteria. The block groups considered EJ zones in the Harlingen/San Benito metropolitan area include (see **Figure 3**):

- The block groups south of the Valley International Airport (limits are the Arroyo Colorado River, FM 106, E. Harrison Ave., TX 499, and FM 1595)
- The block group adjacent to the south of the Tony Butler Golf Course (limits are the Tony Butler Golf Course, FM 1479, the US-Mexico Border and CR 9000)
- The block groups between I-69E and US-77 south of the Arroyo Colorado River (limits are the I-69E, US-77, the Arroyo Colorado River, and Whalen Rd.)
- The block groups north of I-2 east of the Harlingen Country Club (limits are FM 2994, I-2, Chester Park Rd., and Dilworth Rd.)

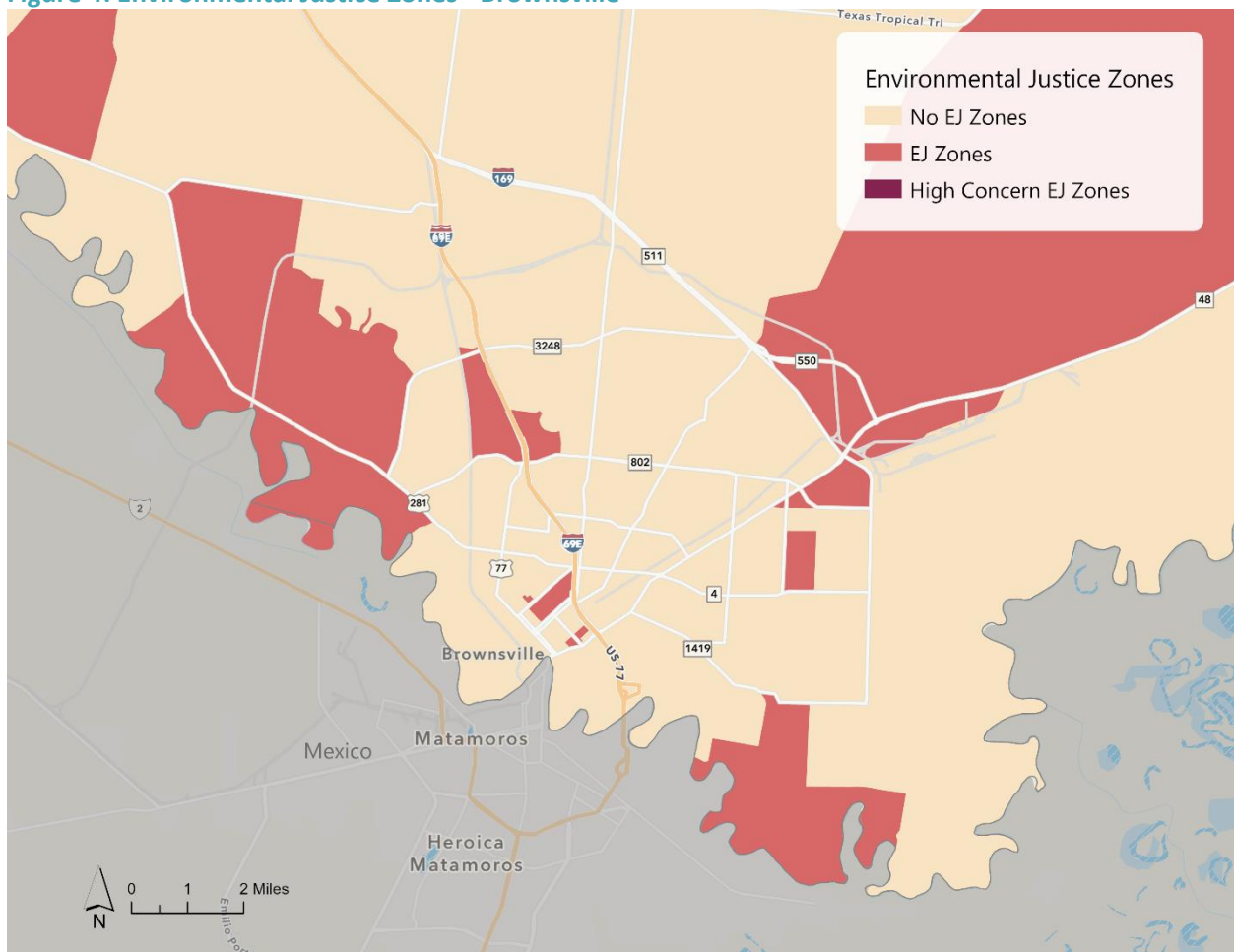
**Figure 3: Environmental Justice Zones – Harlingen/San Benito**



The Brownsville metropolitan area does not contain any EJ zones which meet all three of the EJ criteria. The block groups containing EJ zones in the Brownsville metropolitan area include (see **Figure 4**):

- The block group south of the Brownsville South Padre Island International Airport (limits are the US-Mexico Border, Dockberry Rd., FM 1419, Southpoint Rd., Calle Milpa Verde, and Southmost Rd.)
- The block group with the Laguna Atascosa National Wildlife Refuge (limits are the Brownsville-Port Isabel Hwy., FM 511, SH 100, and FM 510)
- The block group with the Gladys Porter Zoo (limits are I-69E, E. Washington St. Palm Blvd., and E. 6<sup>th</sup> St.)
- The block groups with the Sunrise Commons Shopping Mall (limits are FM 802, FM 3248, the Union Pacific Rail Line, and E. San Marcelo Rd.)

**Figure 4: Environmental Justice Zones - Brownsville**



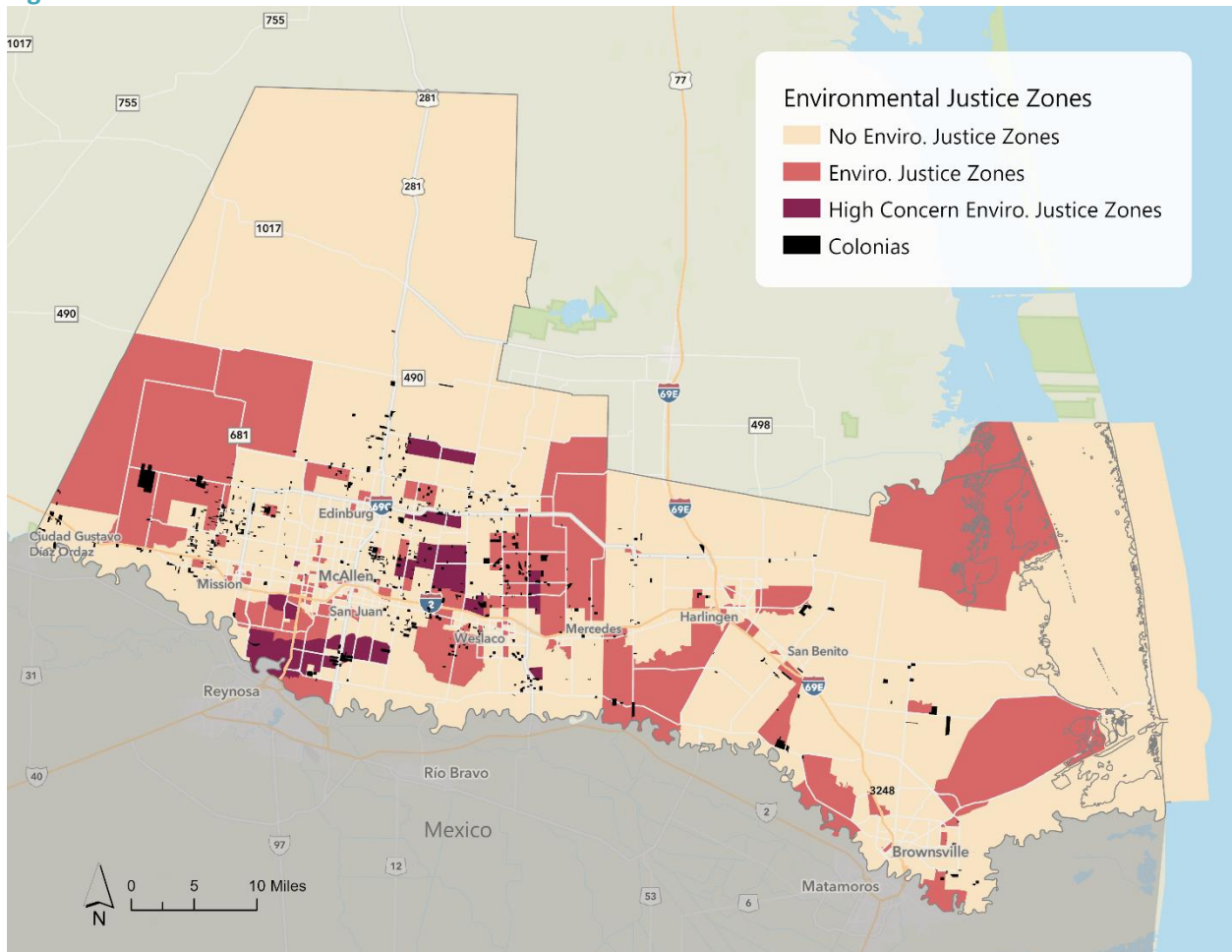
**Table 1: Environmental Justice Zone Metrics**

Metric	EJ Zones	RGVMAB
Total Population	365,465	1,271,139
Total Minority Population	62,707	140,018
% Minority Population	17%	11%
Total Population in Poverty	155,881	389,728
% Population in Poverty	43%	31%
Total Limited English Proficient Population	81,546	219,712
% Limited English Proficient Population	22%	17%

### Considering Potential Project Impacts on Colonias

Colonia is a Spanish term for neighborhood or community. The Office of the Governor defined colonia as “...unincorporated border communities that often lack adequate water and sewer systems, paved roads, and safe, sanitary housing.” Colonias flourish in counties along the Texas-Mexico border which includes the RGVMAB. Overlaying areas identified as colonias with identified EJ zones (**Figure 5** through **Figure 8**) creates a composite of areas that should represent a priority when future transportation projects are being taken into consideration.

Figure 5: RGVMAB Environmental Justice Zones & Colonias

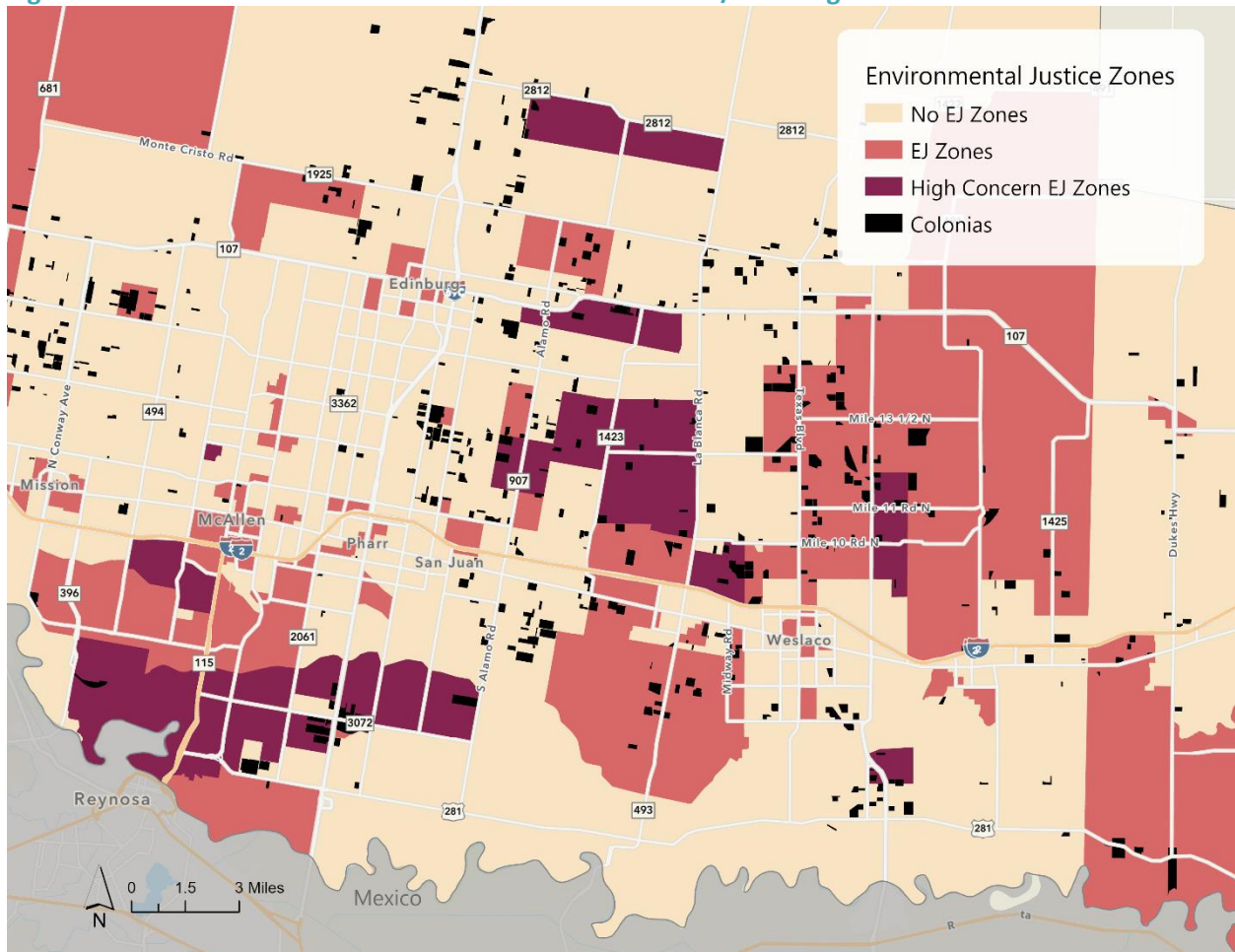


Overlay analysis suggests that many colonias within the RGVMAB are not found within identified EJ zones. The addition of the colonias makes this analysis more comprehensive and better informs the MPO about areas where it should set priorities when considering disadvantaged, underrepresented communities.

The block groups with high concern EJ zones and a clustering of colonias in the McAllen/Edinburg metropolitan area include (see **Figure 6**):

- The intersection of E. Dicker Dr. and S. Cage Blvd.
- The block groups adjacent to Muniz, a census designated area (limits are W. Wisconsin Rd., W. Sioux Rd., FM 493, and N. Cesar Chavez Rd.)
- The block group east of the Orange Grove R.V. Park (limits are FM 107, FM 1423, S. Alamo Rd., and E. Curve Rd.)
- The block group at the intersection of Fontera Dr. and FM 1015 (limits are FM 1015, Levee Rd., and E. Baker Dr.)
- The block group at the intersection of Mile 10 Rd. N. and FM 1015 (limits are Mile 9 Rd. N., FM 1015, Mile 2 Rd. W., and Mile 12 Rd. N.)

**Figure 6: Environmental Justice Zones & Colonias – McAllen/Edinburg**

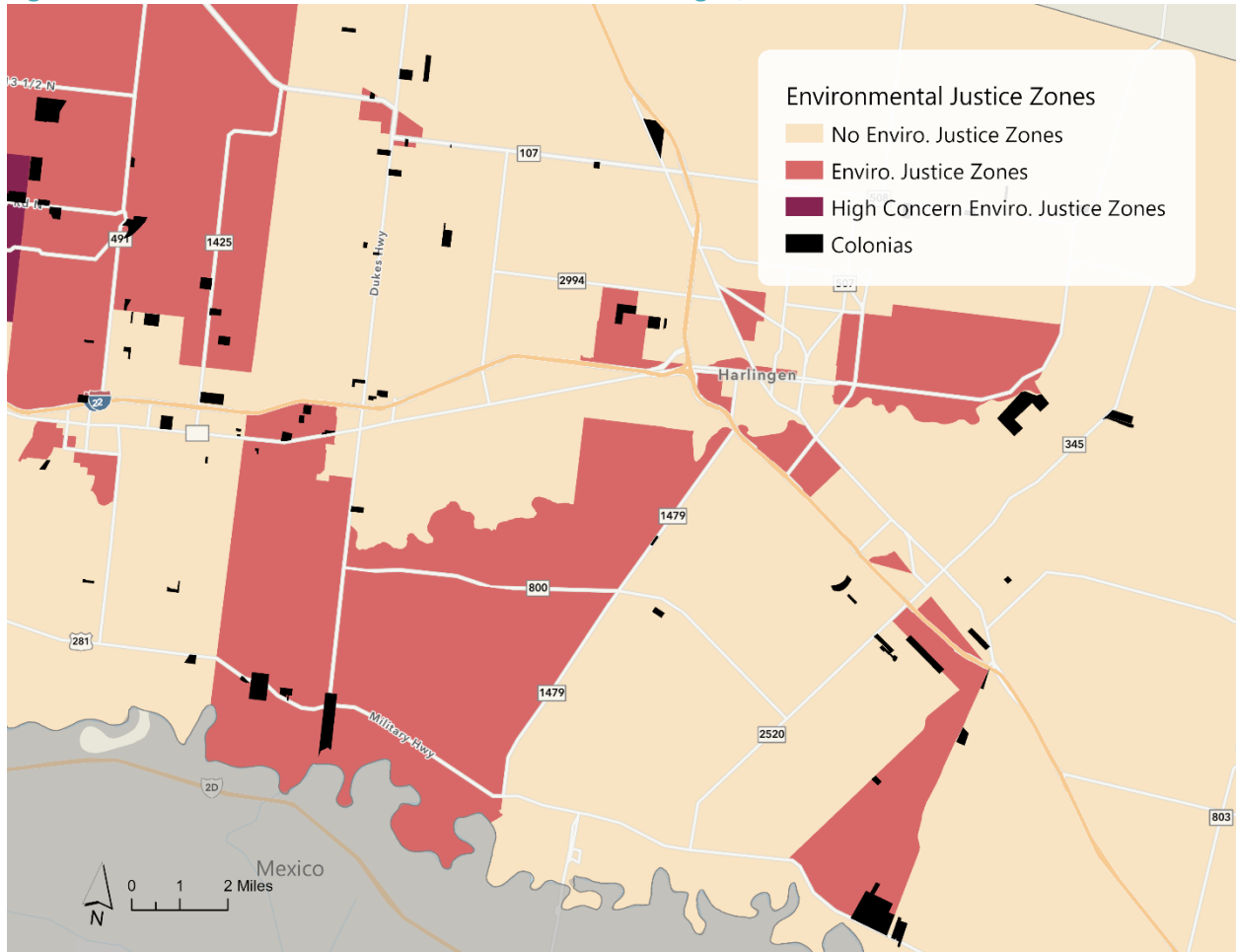




The block groups containing EJ zones and colonias in the Harlingen/San Benito metropolitan area include (see **Figure 7**):

- The block groups south of the Valley International Airport (limits are the Arroyo Colorado River, FM 106, E. Harrison Ave., TX 499, and FM 1595)
- The block groups north of I-2 east of the Harlingen Country Club (limits are FM 2994, I-2, Chester Park Rd., and Dilworth Rd.)

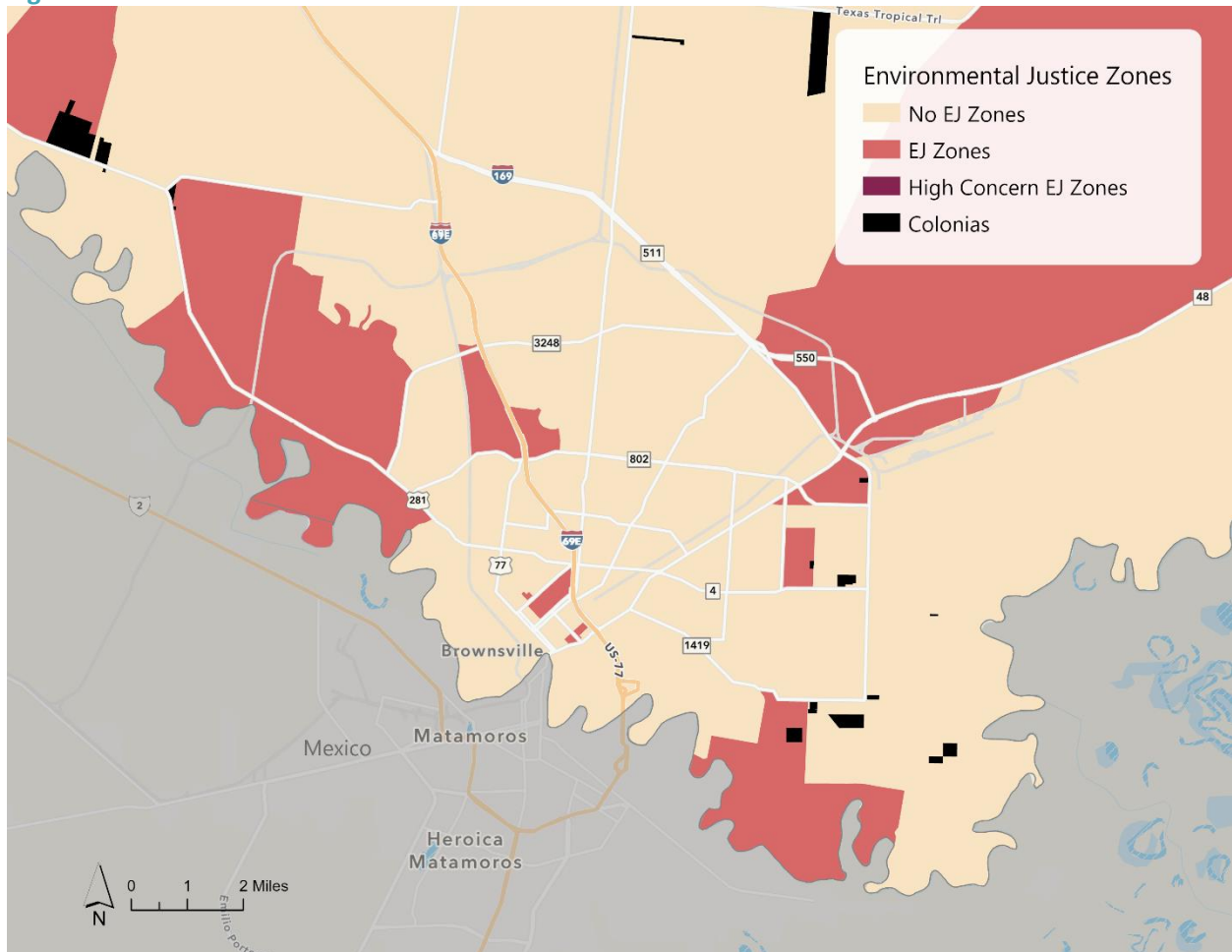
**Figure 7: Environmental Justice Zones & Colonias – Harlingen/San Benito**



The block groups containing EJ zones and colonias in the Harlingen/San Benito metropolitan area include (see **Figure 8**):

- The block group south of the Brownsville South Padre Island International Airport (limits are the US-Mexico Border, Dockberry Rd., FM 1419, Southpoint Rd., Calle Milpa Verde, and Southmost Rd.)
- The block group north of the Brownsville South Padre Island International Airport (limits are the Boca Chica Blvd., N. Minnesota Ave., N. Dakota Ave., and Travis Rd.)

**Figure 8: Environmental Justice Zones & Colonias - Brownsville**



## Hispanic, Latino, and Spanish Origin Population Consideration

Due to the substantial amount of population self-reported as Hispanic, Latino, or of Spanish origin in the RGVMAB, there is a tendency for demographic measures to disguise some of the issues that the EJ analysis tries to pinpoint. While this ethnic group makes up 91% of the RGVMAB - and accordingly does not appear to be a minority population - at a national level, this population group is considered historically disadvantaged and must not be left out of the EJ analysis. Similar methods for defining EJ zones were used to find block groups with Hispanic, Latino, or Spanish origin populations greater than the regional average. These block groups were then used in an overlay analysis with EJ zone and colonia layers to highlight areas with similar EJ needs.

**Figure 9** displays block groups with Hispanic/Latino/Spanish origin population percentages higher than the 91% RGVMAB average, therefore illustrating where the highest concentrations of these communities reside in the region. The majority of the RGVMAB's urbanized areas, alongside several rural subareas, fall within this measure. **Figure 10** displays these same block groups overlaid with EJ zones and high concern EJ zones. Colors represented by darker shades of blue indicate block groups designated as EJ/high concern EJ zones. This overlay analysis further highlights overlap in historically disadvantaged areas within the RGVMAB which can inform decision making necessary later in the planning process.

**Figure 9: RGVMAB High Percentage Hispanic, Latino, or Spanish Origin Populations**

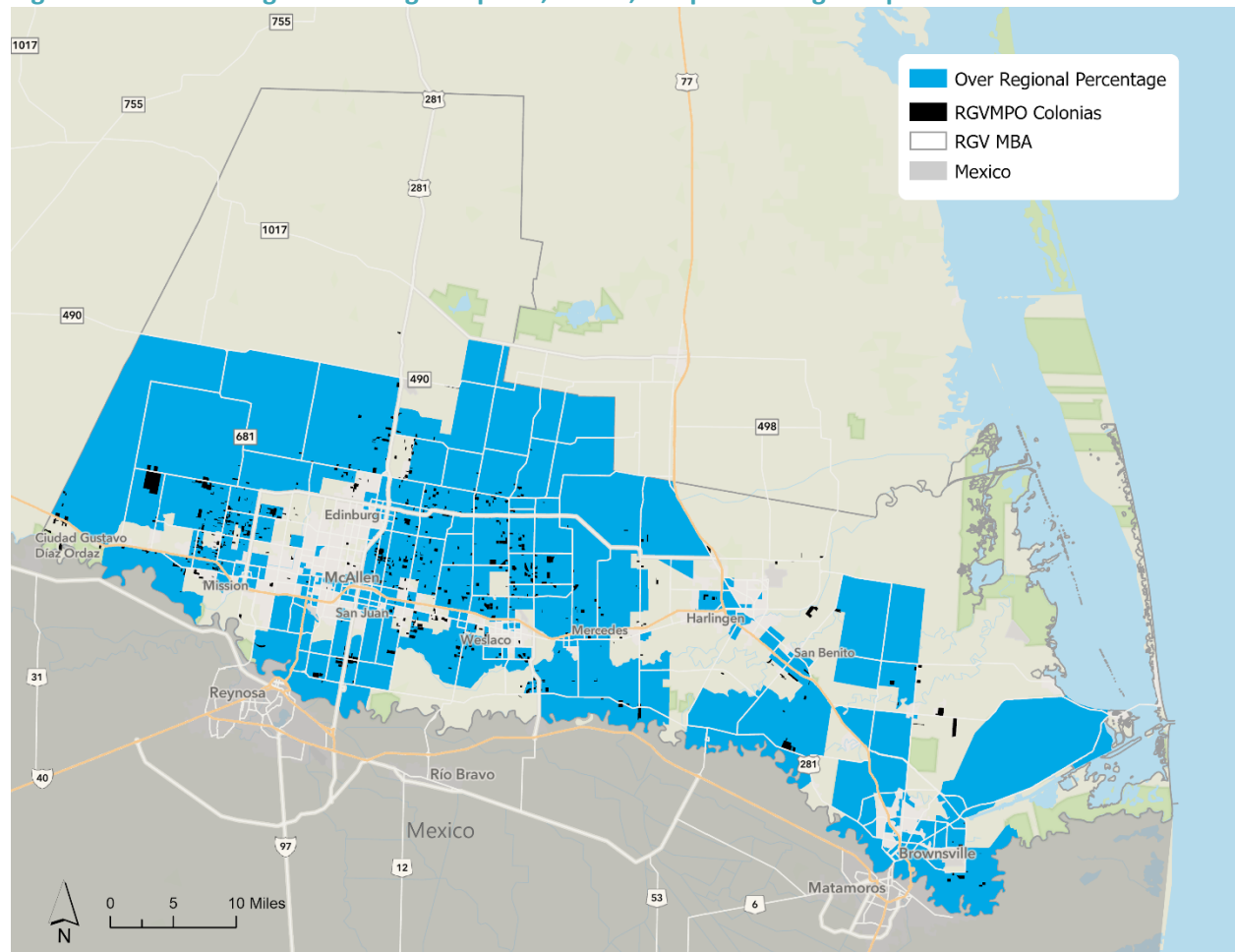
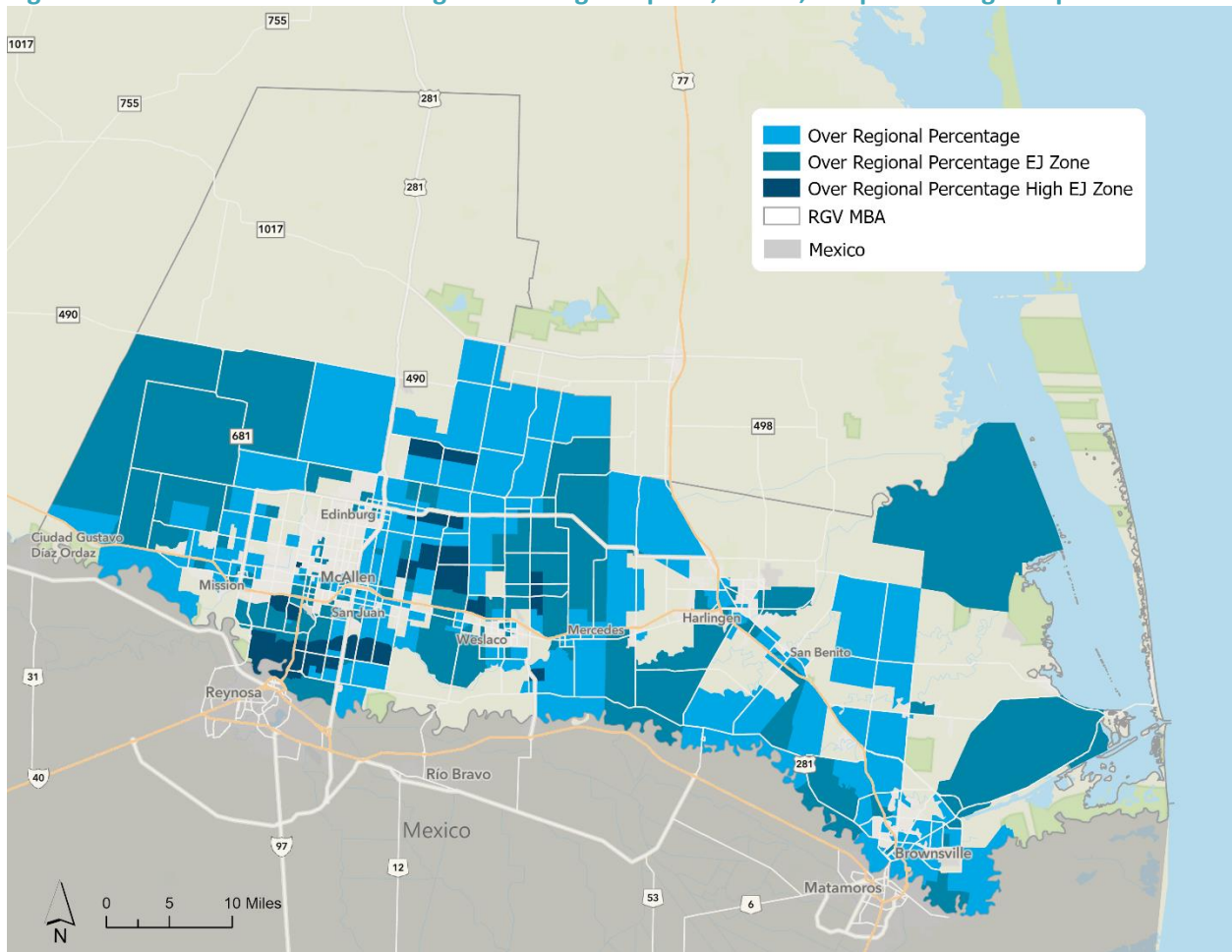


Figure 10: RGVMAB EJ Zones and High Percentage Hispanic, Latino, or Spanish Origin Populations



## Housing & Transportation Costs

Housing and transportation costs (H+T) are key indicators of a region's affordability. While housing is generally the singular criteria for looking at regional affordability, a household's transportation expenditure tends to be the second-largest expense. The combination of these two key expenditures provide a better understanding of affordability within the RGVMAB. Using the H+T Affordability Index<sup>1</sup> data, **Figure 11** identifies transportation and housing costs as a percentage of household income throughout the region.

According to the Index, housing and transportation costs reaching 45 percent of household income is considered unaffordable. Transportation costs consider well-researched factors<sup>2</sup> that drive household transportation costs, including the following:

- Neighborhood characteristics such as block density, regional household intensity, block density, employment access, transit connectivity.
- Household characteristics such as commuters per household, household size, auto ownership, auto usage, and public transit usage.

Using an affordability threshold of 45 percent of household income, all but eleven of the block groups (564 total block groups, 536 with data, and 525 considered unaffordable) within the RGVMAB that have H+T data are considered to be at an unaffordable level. The eleven block groups classified as affordable according to the H+T Index range between 42 percent and 44 percent of household income. The block groups with the highest H+T costs are located near South Padre Island, between Edinburg and McAllen, south of Weslaco, around Hidalgo, and between Rancho Viejo and Brownsville (**Figure 11** through **Figure 14**).

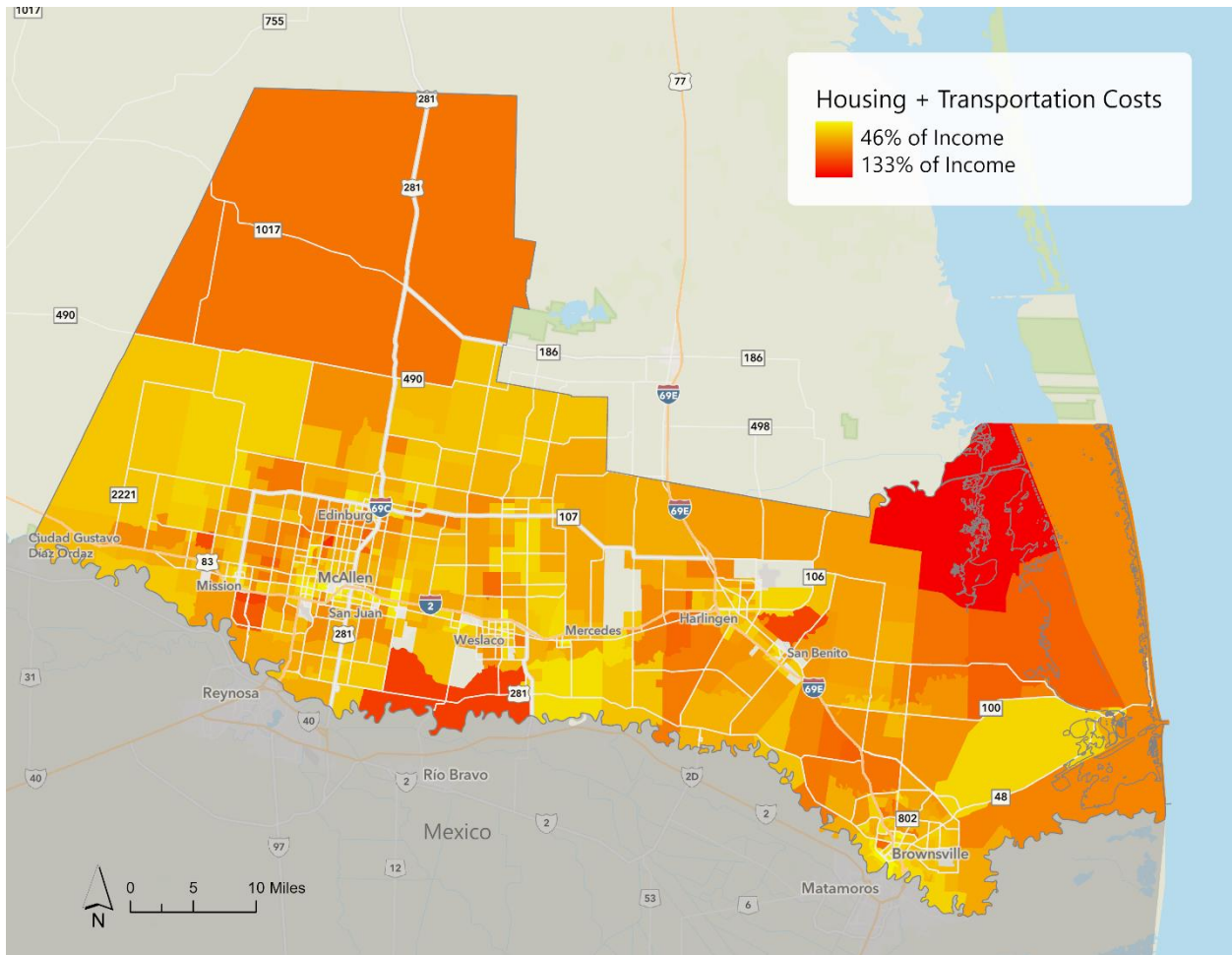
Planned transportation projects should consider how to alleviate transportation costs in these areas by linking multi-modal projects to areas with high concentrations of employment and key destinations. Planned transportation projects should consider improving mobility choice in the areas with high housing and transportation costs by assessing the potential for transit and active transportation facilities. Such improvements may help reduce the cost of transportation in these areas.

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<sup>1</sup> The Center for Neighborhood Technology's Housing and Transportation (H+T) Affordability Index - <https://htaindex.cnt.org/>

<sup>2</sup> The Center for Neighborhood Technology's Housing and Transportation (H+T) Affordability Index – H+T Index Methods - [https://htaindex.cnt.org/about/HTMethods\\_2016.pdf](https://htaindex.cnt.org/about/HTMethods_2016.pdf)

**Figure 11: RGVMAB Housing and Transportation Costs as a Percent of Household Income**

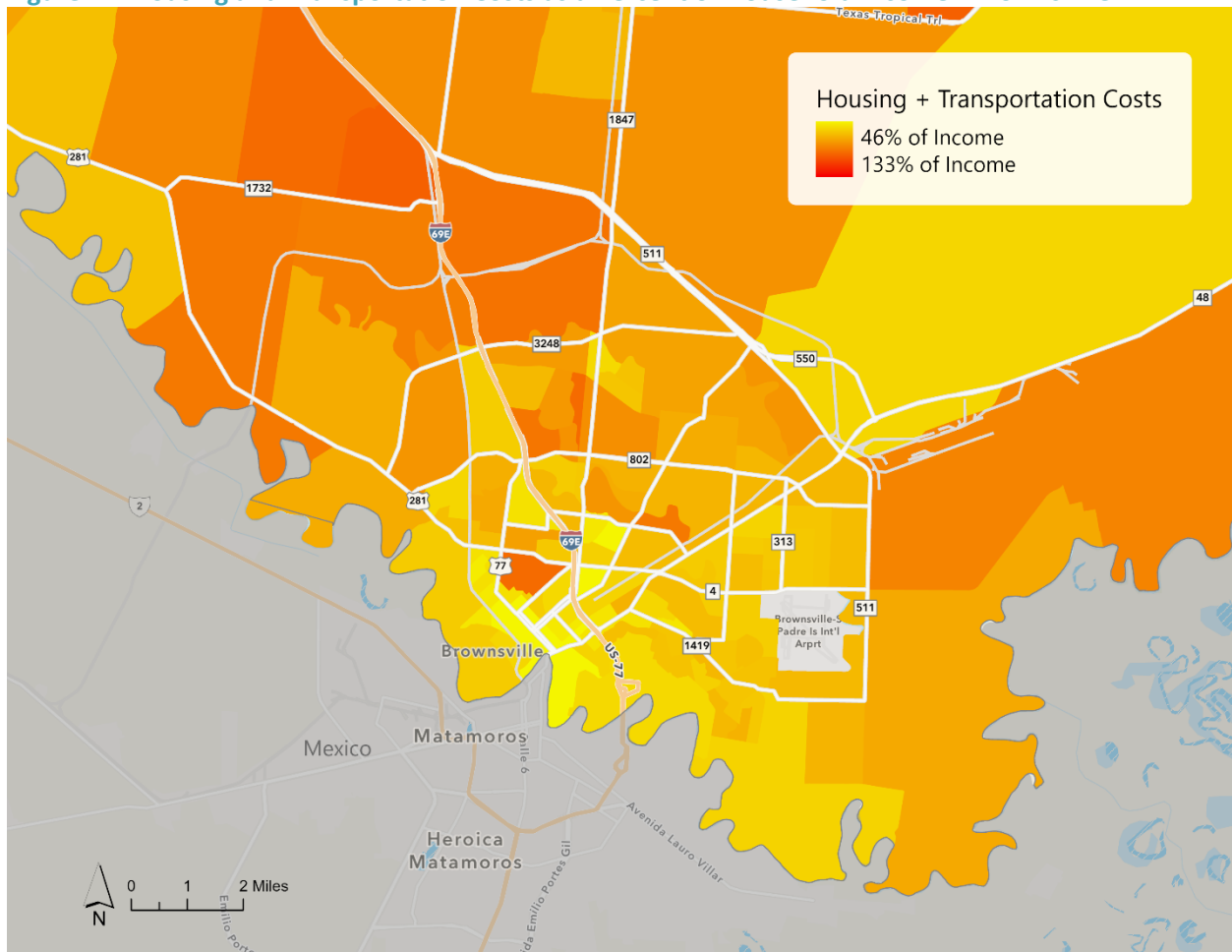


*\*There are some areas throughout the map where this data was not available, i.e. just north of Mercedes and just south of Weslaco.*

The block groups with high H+T cost areas in the Brownsville metropolitan area are shown in **Figure 12**. These areas include:

- The block group to the west of the intersection of I-69E and I-169 (limits are Carmen Ave. I-69E, and Cavazos Olmito Rd.)
- The block group with the Valley Baptist Medical Center Brownsville (limits are Palm Blvd., Boca Chica Blvd., Central Blvd., and W. Jefferson St.)
- The block group with the Homer Hanna Early College Highschool (limits are the Resaca de la Palma, the E. Price Rd., and FM 1847)
- The block groups with the Sun Rise Commons Mall (limits are I-69E, FM 802, FM 1847, and Morrison Rd.)

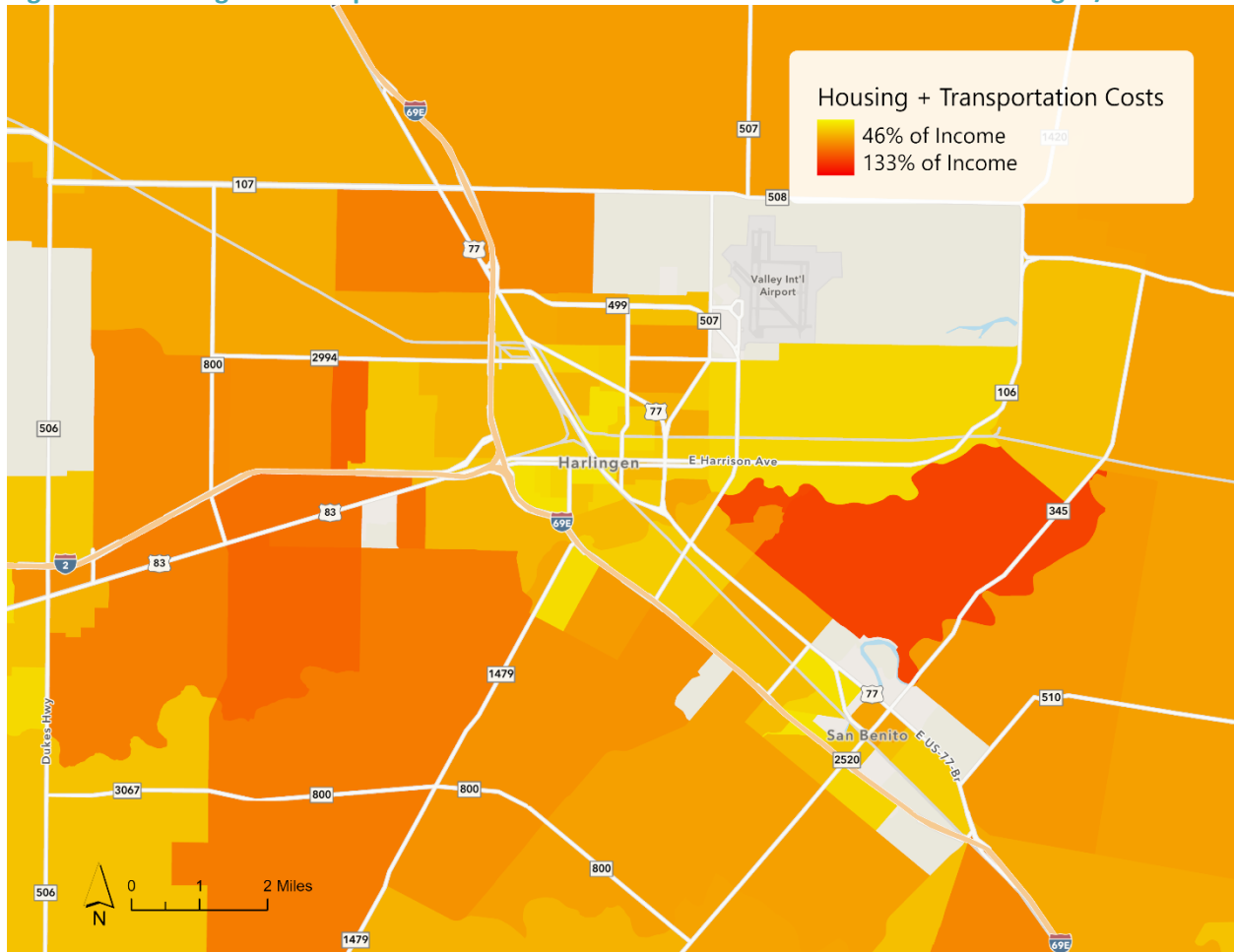
**Figure 12: Housing and Transportation Costs as a Percent of Household Income - Brownsville**



The block groups with high H+T cost areas in the Harlingen/San Benito metropolitan area include (see **Figure 13**):

- The block group with the Valley Baptist Medical Center: Harlingen (limits are the Arroyo Colorado River, Russel Ln., FM 345, and Cemetery Rd.)
- The block group with the Emerald Grove Travel Park (limits are W. Business 83, Garret Rd., Bass Blvd., Dilworth Rd., and the Arroyo Colorado River)
- The block group east of the Stuart Place Country Club (limits are Dilworth Rd., Stuart Place Rd., FM 2994, and I-2)

**Figure 13: Housing and Transportation Costs as a Percent of Household Income – Harlingen/San Benito**

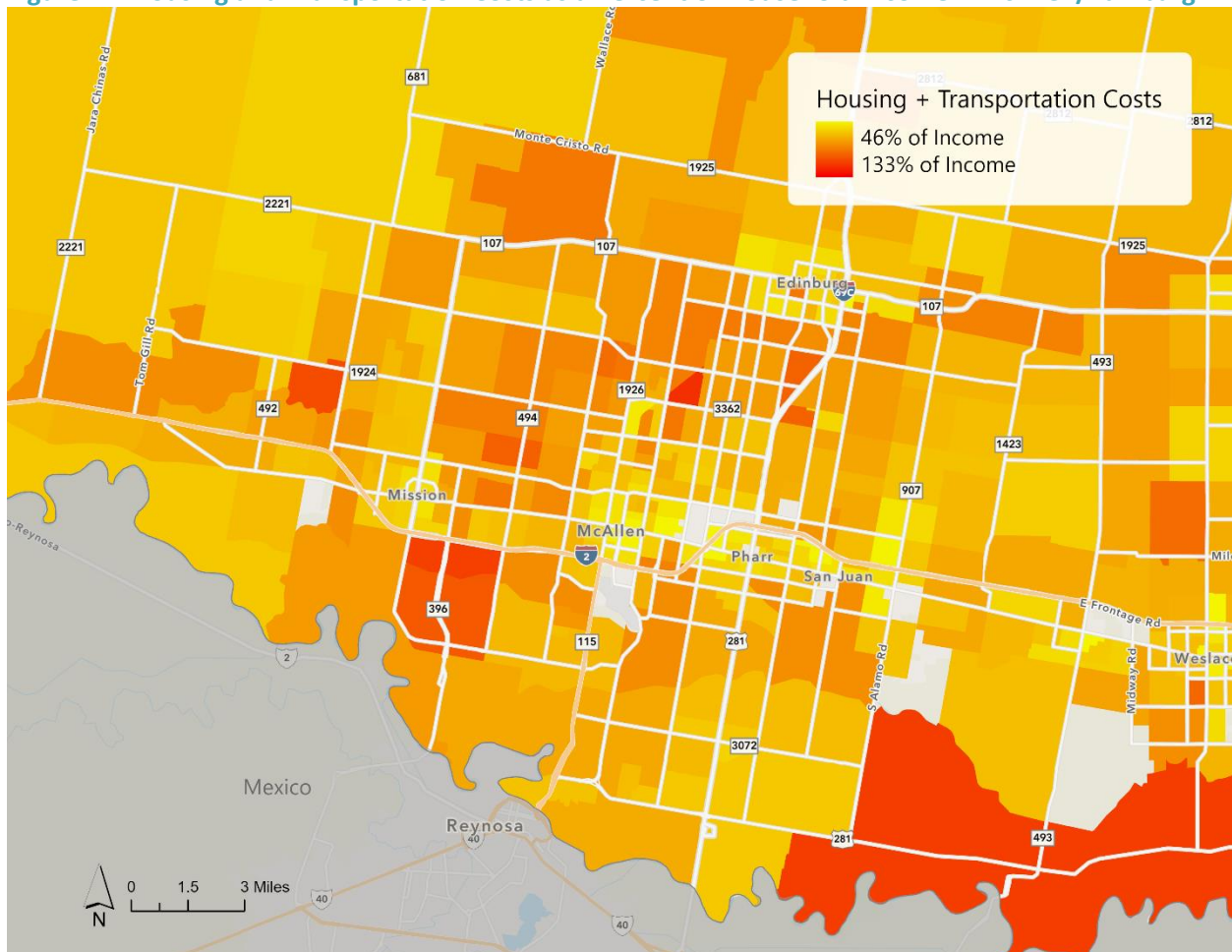




The block groups with high H+T cost areas in the McAllen/Edinburg metropolitan area are shown in **Figure 14**. These areas include:

- The block group on the north and south side of US-281 south of Weslaco (limits are FM 1015, FM 907, FM 2557, and the Arroyo Colorado River)
- The block group with the Mission Regional Medical Center (limits are I-2, S. Conway Ave. FM 1016, and S. Shary Rd.)
- The block group south of the Iglesia de Cristo (limits are E. 2 Mile Line, N. Glasscock Rd., N. Shary Rd., and E. Griffin Parkway)
- The block group southwest of the intersection of FM 1924 and FM 2894 (limits are 3 Mile North Rd., FM 2894, E. Goodwin Rd., W. Mile 2 Rd.)

**Figure 14: Housing and Transportation Costs as a Percent of Household Income – McAllen/Edinburg**



## Conclusion

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Environmental Justice is a critical factor when implementing new transportation plans. Environmental justice means implementing policies considering all people regardless of race, color, national origin, or income. These zones were identified by finding areas that contained High Minority Population, High Population in Poverty, or were designated as High Limited English Proficiency.

Informal settlements, known as colonias are present throughout the United States - Mexico border. These informal settlements can be overlooked in some analysis due to a lack of data. These areas should serve as priorities for active transportation and transit implementation as these communities have been historically underserved.

Hispanic, Latino, or Spanish Origin populations were also considered as they represent historically disadvantaged communities. These communities were considered through an overlay analysis comparing high Hispanic population block groups with the identified EJ zones and colonia locations to further identify areas needing prioritized consideration during the planning process.

The RGVMAB is made up of 536 block groups with 527 of these considered unaffordable when analyzing the H+T Affordability Index. The index shows what percentage of a household's income is spent on housing and transportation combined, with the unaffordable threshold being 45% of income. Planning projects to help alleviate the transportation costs in areas with higher unaffordability include those that increase modal choice and connectivity throughout the system.

The areas in the RGVMAB that are designated as EJ zones/high concern EJ zones, colonias, and high Hispanic/Latino/Spanish Origin population can be addressed in many ways. Informal settlements and areas with high transportation and housing cost can benefit from increased transit and active transportation options. These areas with potentially underserved populations should be given prioritized consideration when planning transportation improvements in the RGVMAB.

This analysis will help inform further stages of the MTP update process. Geographical Information Systems (GIS) analyses will be conducted to understand travel markets and potential impacts of the proposed program of projects from a social equity perspective.