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TECHNICAL MEMORANDUM

TxDOT Project: Alamo Regional Rural Planning Organization (ARRPO) Planning Process Summary

DATE: November 10, 2016

TO: Darcie Schipull, Project Manager
San Antonio District, TxDOT

FROM: Tina Geiselbrecht, Research Supervisor
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FOR MORE INFORMATION:

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TASK REPORT:

INTRODUCTION

The Alamo Area Council of Governments, the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI) worked with the Alamo Regional Rural Planning Organization (ARRPO) to conduct workshops in the following counties:

- Atascosa County.
- Bandera County.
- Frio County.
- Gillespie County.
- Karnes County.
- Kendall County.
- Kerr County.
- McMullen County.
- Medina County.
- Wilson County.

The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

WORKSHOP FORMAT

The following section details the activities that attendees participated in during the county planning workshops.

TRANSPORTATION PLANNING OVERVIEW

The workshops began with a presentation that provided attendees with an overview of transportation planning in the state of Texas and the role that rural planning organizations play in the transportation planning process. The presentation also covered transportation funding and the project development process. Appendix A includes the slides from the overview.

COUNTY CHARACTERISTICS AND TRENDS

In addition to information about the transportation planning process, attendees were provided with an overview of existing demographic and transportation conditions and trends in their county. County demographic characteristics and trends included:

- County historic and projected population (1960–2040).
- ARRPO regional population (1960–2013).
- Median age in ARRPO and Alamo Area Metropolitan Planning Organization (AAMPO) region (2013).
- Current (2010) and projected (2040) county population by sex and age cohort.

In addition, the following transportation characteristics were presented:

- Employment location of workers in the county (2010).
- Commute times of workers in the county (2013).
- Average daily traffic in the county (2013).
- Average daily heavy truck traffic in the county (2013).
- County pavement conditions (2013).
- Incapacitating and fatal crashes in the county (2010–2015).
- County projects in the Statewide Transportation Improvement Plan (2015–2017).

Example maps and charts showing existing demographic and transportation conditions can be found in Appendix B.

NEEDS IDENTIFICATION

Workshop attendees participated in breakout groups to identify transportation needs and issues within the county. Participants were asked to provide input on three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 1 shows an example of a mobility and connectivity exercise.

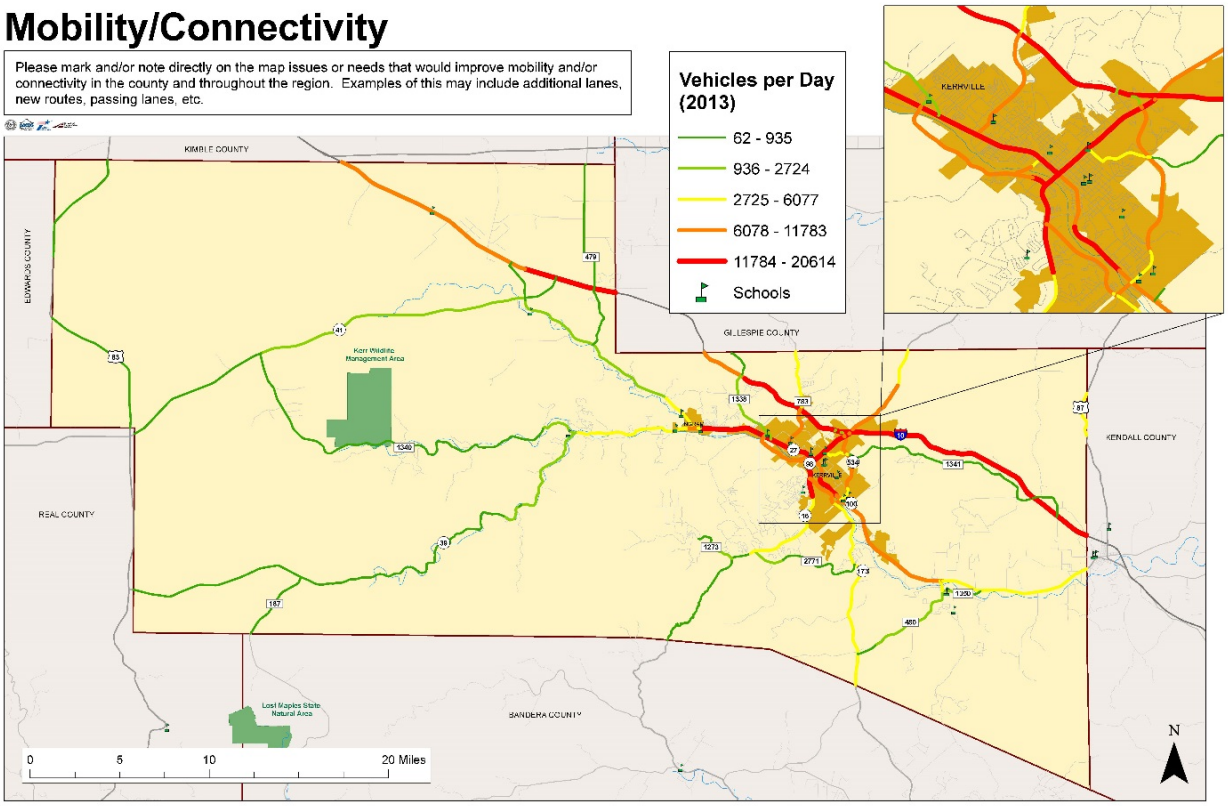


Figure 1. Example of Mobility and Connectivity Exercise Map.

For the maintenance and safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to mark and/or note directly on the map issues or needs related to maintenance and/or safety issues in the county and throughout the region. Examples included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 2 shows an example of a maintenance and safety exercise.

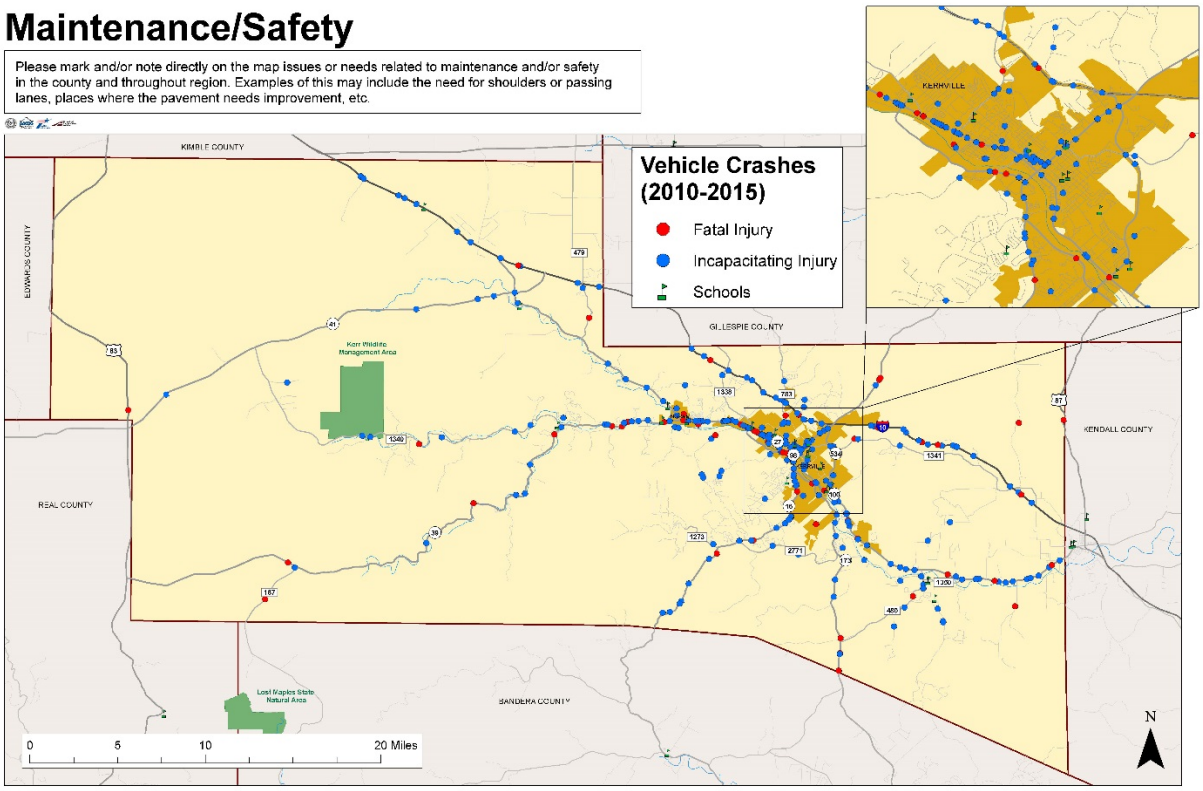


Figure 2. Example of Maintenance and Safety Exercise Map.

For the bicycle, pedestrian, and transit exercise, attendees were provided a map of the county and asked to mark and/or note directly on the map issues or needs related to bicycle, pedestrian, or transit improvements in the county and throughout the region. Examples included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Figure 3 shows an example of a bicycle, pedestrian, and transit exercise.

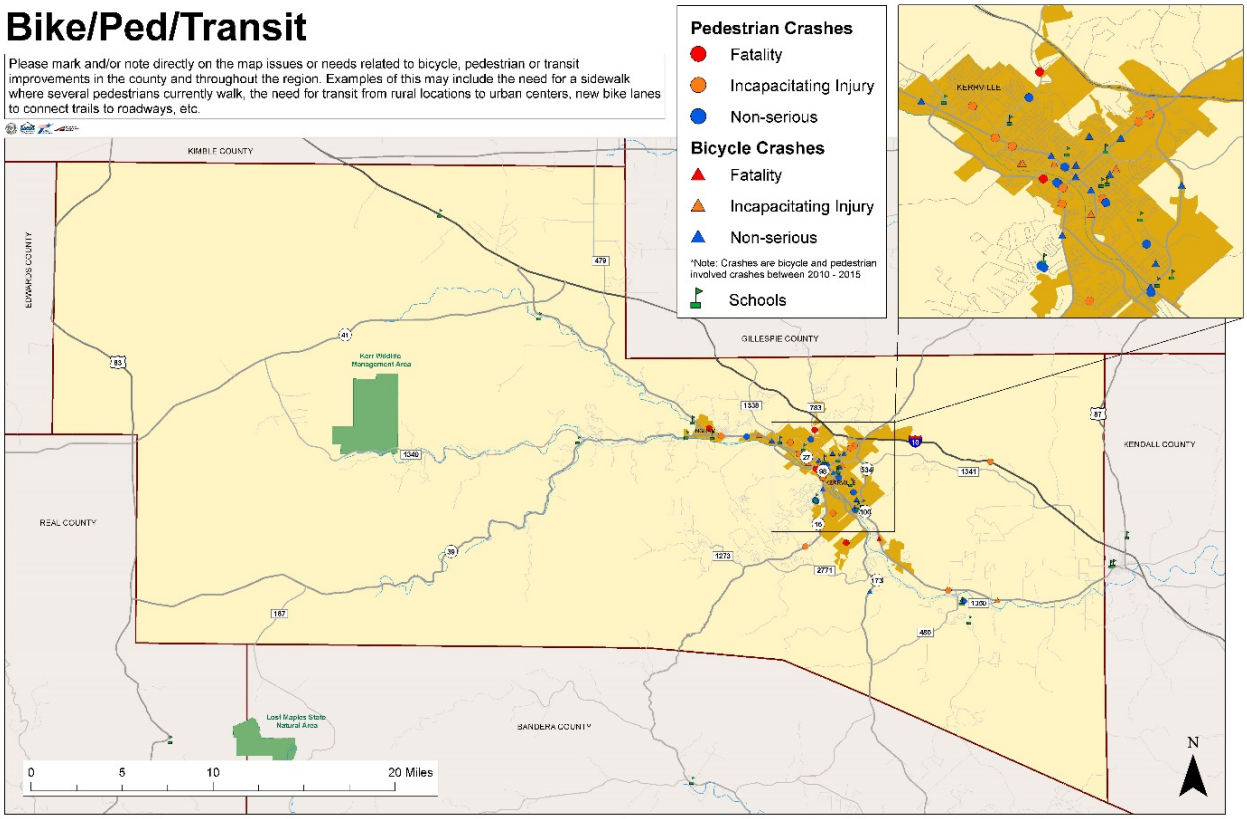


Figure 3. Example of Bicycle, Pedestrian, and Transit Exercise Map.

MEETING WRAP-UP

Once participants had the opportunity to provide input on all three transportation areas, they were provided with the next steps in the ARRPO planning process, and the workshop was adjourned.

WORKSHOP LOCATIONS AND DATES

Table 1 details the location, date, and number of attendees at each of the ARRPO county planning workshops. Figure 4 shows a collage of photos from the workshops.

Table 1. Date, Location, and Number of Attendees for ARRPO Workshops.

County	Date	Location	Number of Attendees
Atascosa	12/8/2015	Jourdanton Library and Community Center	19
Bandera	11/9/2015	Silver Sage Community Center	29
Frio	1/21/2016	Frio Community Room	5
Gillespie	10/21/2015	Hill Country University Center	40
Karnes	11/11/2015	Karnes County Courthouse	7
Kendall	1/21/2016	Boerne Civic Center	45
Kerr	12/1/2015	County Youth Event Center	29
McMullen	11/16/2015	McMullen County Courthouse	9
Medina	11/10/2015	South Texas Regional Training Center	33
Wilson	12/16/2015	Commissioners' Court	9

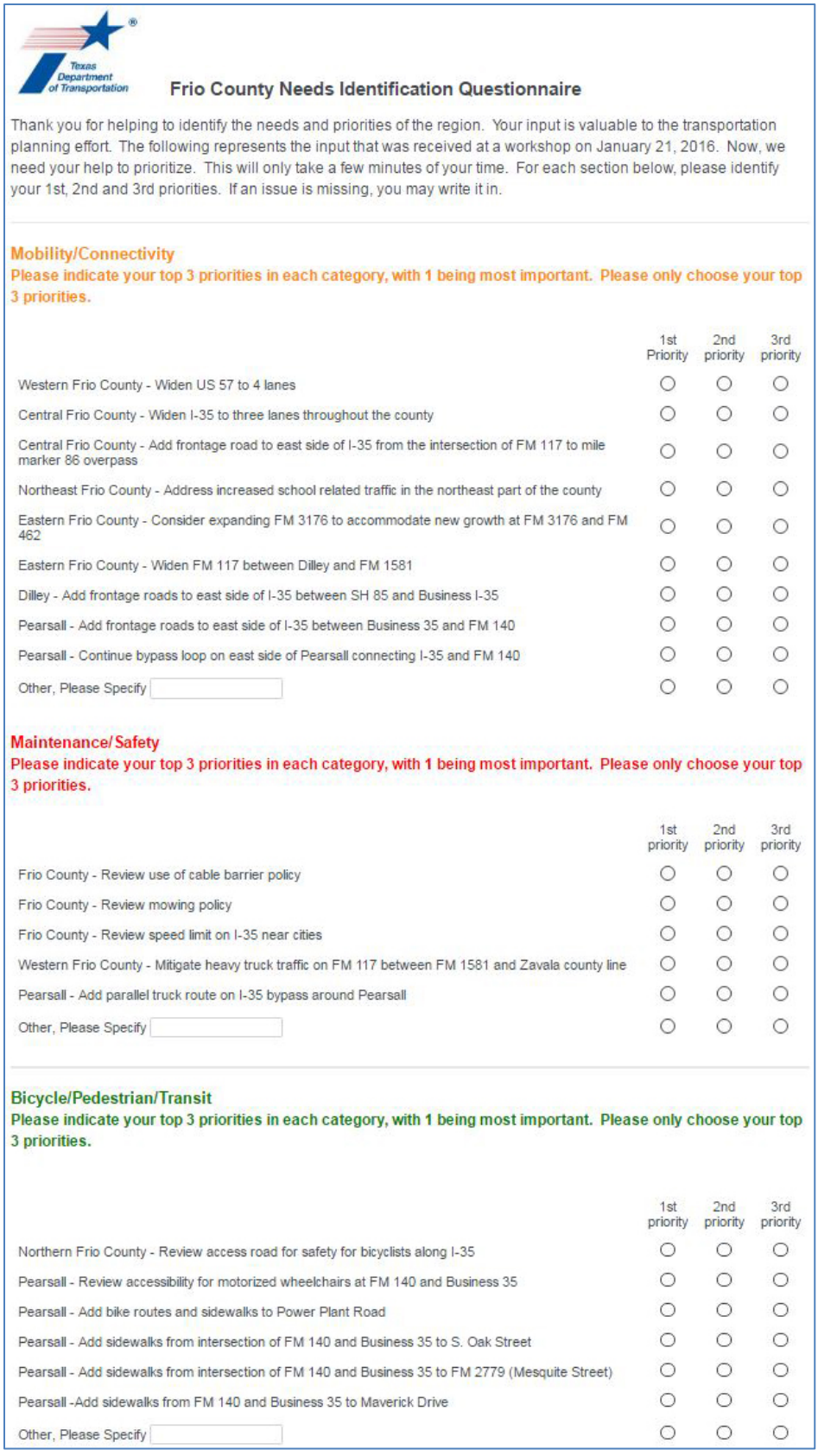
Figure 4. Collage of Photographs from ARRPO Workshops.

OUTCOMES

The following section details the outcomes of the ARRPO county workshops.

TRANSPORTATION NEEDS PRIORITIZATION PROCESS

TTI staff compiled all of the needs and issues that workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit) for each of the counties in the ARRPO region. TTI staff then developed transportation needs prioritization surveys for each of the counties. The web-based surveys were distributed to all workshop attendees, and TxDOT requested that recipients distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities in each category from the list of transportation needs developed through the workshops. Figure 5 shows an example of one of the county needs surveys.



Frio County Needs Identification Questionnaire

Thank you for helping to identify the needs and priorities of the region. Your input is valuable to the transportation planning effort. The following represents the input that was received at a workshop on January 21, 2016. Now, we need your help to prioritize. This will only take a few minutes of your time. For each section below, please identify your 1st, 2nd and 3rd priorities. If an issue is missing, you may write it in.

Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
Western Frio County - Widen US 57 to 4 lanes	○	○	○
Central Frio County - Widen I-35 to three lanes throughout the county	○	○	○
Central Frio County - Add frontage road to east side of I-35 from the intersection of FM 117 to mile marker 86 overpass	○	○	○
Northeast Frio County - Address increased school related traffic in the northeast part of the county	○	○	○
Eastern Frio County - Consider expanding FM 3176 to accommodate new growth at FM 3176 and FM 462	○	○	○
Eastern Frio County - Widen FM 117 between Dilley and FM 1581	○	○	○
Dilley - Add frontage roads to east side of I-35 between SH 85 and Business I-35	○	○	○
Pearsall - Add frontage roads to east side of I-35 between Business 35 and FM 140	○	○	○
Pearsall - Continue bypass loop on east side of Pearsall connecting I-35 and FM 140	○	○	○
Other, Please Specify	○	○	○

Maintenance/Safety

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
Frio County - Review use of cable barrier policy	○	○	○
Frio County - Review mowing policy	○	○	○
Frio County - Review speed limit on I-35 near cities	○	○	○
Western Frio County - Mitigate heavy truck traffic on FM 117 between FM 1581 and Zavala county line	○	○	○
Pearsall - Add parallel truck route on I-35 bypass around Pearsall	○	○	○
Other, Please Specify	○	○	○

Bicycle/Pedestrian/Transit

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
Northern Frio County - Review access road for safety for bicyclists along I-35	○	○	○
Pearsall - Review accessibility for motorized wheelchairs at FM 140 and Business 35	○	○	○
Pearsall - Add bike routes and sidewalks to Power Plant Road	○	○	○
Pearsall - Add sidewalks from intersection of FM 140 and Business 35 to S. Oak Street	○	○	○
Pearsall - Add sidewalks from intersection of FM 140 and Business 35 to FM 2779 (Mesquite Street)	○	○	○
Pearsall -Add sidewalks from FM 140 and Business 35 to Maverick Drive	○	○	○
Other, Please Specify	○	○	○

Figure 5. Example of Transportation Needs Prioritization Survey.

Questionnaires were distributed in April 2016, and recipients were provided approximately four weeks to complete them. Table 2 provides a summary of the number of responses for each county survey.

Table 2. Summary of Response Rate for ARRPO County Transportation Needs Prioritization Surveys.

	Number of Respondents
Atascosa County	4
Bandera County	11
Frio County	3
Gillespie County	23
Karnes County	6
Kendall County	147
Kerr County	9
McMullen County	1
Medina County	10
Wilson County	3

QUESTIONNAIRE RESULTS

Once the questionnaire period ended, TTI staff ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided ranking of the transportation needs identified during each of the county workshops for each of the transportation topic areas.

TxDOT district staff focused primarily on the mobility and connectivity area for the ARRPO planning process and worked with TxDOT area engineers to develop the three top-ranked needs into projects. These projects were vetted by local elected and appointed officials in order to develop a final list of 33 projects (three for each ARRPO county and three for Uvalde County).

The remaining prioritized list of needs for the safety and maintenance category and the pedestrian, bicycle, and transit category were provided to TxDOT staff and will be provided to the transit agencies and county and city staff that focus on these areas (e.g., bicycle needs and issues were provided to staff working on the San Antonio District Rural Bicycle Plan).

PROJECT SCORING

TxDOT developed a rural performance-based planning tool that calculated a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These three categories were vetted by the ARRPO board prior to analysis. The specific data sets were determined by TTI and TxDOT. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

Data and Scores Used to Calculate Technical Score for Connectivity

The following categories were used to calculate the technical score for the connectivity for each project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials. The hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal arterial or interstate highway = 1.
- Minor arterial = 0.
- Major collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day = −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap; the gap could have been the extension of an expanded section of the roadway or unimproved section of the roadway connecting to a town or a city within the TxDOT system, and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: Freight is a component of the scoring because it is a direct correlation to TxDOT's mission of connecting communities. The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040.

If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

Data and Weights Used to Calculate Technical Score for Project Readiness

The following categories were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations

provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate: The averages of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below the statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project.

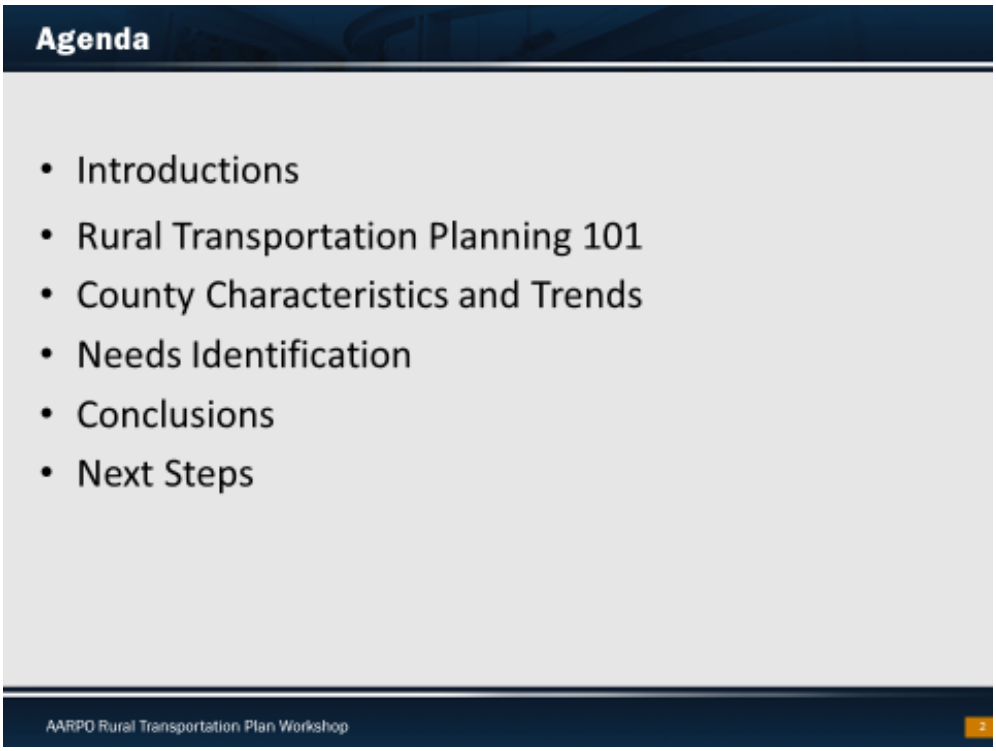
FINALIZING THE PROCESS

TxDOT presented the projects with their associated scores to the ARRPO board on August 27, 2016. The board accepted the process through a motion memorializing its agreement and accepted the prioritized list of projects and corridors. At the October meeting, the ARRPO board received the documentation of the process and the prioritized projects for each of their respective counties. Smaller reports documenting the process in each of the counties were also presented to board members. These are also included in Appendix C. The final list of projects, as noted in Table 3, comprises the priorities for ARRPO over the next 10–20 years. This list of project will also be included in TxDOT's long-range planning documents. TxDOT district staff will continue to work with local officials to define the specific project details. Many of the projects cannot be implemented immediately and will require further project development, some will require phasing over multiple years due to funding constraints, and others will require significant involvement of local governments to acquire ROW. The districts are committed to moving all these projects forward and will work with the counties and other affected local governments to develop these projects and to program them into our plans.

Table 3. ARRPO Priorities 10–20 Year Plan.

County	Highway	Description	Limits	Length (in miles)	Estimated Cost (in millions)
Atascosa	SH 16	Widen Bridge	SH 16 at Atascosa River	0.134	$ 1.6
Bandera	SH 16	Expand to 5 lane	Old San Antonio Road to Robindale East	1.0	$ 10.0
Frio	IH 35	Frontage Road Connection (Dilley)	IH 35 at SH 85 and Business IH 35 (Dilley)	2.3	$ 7.0
Karnes	US 181	Expand to 4 lane divided	County line to County line	16	$ 40.0
Kendall	IH 10	Operation Improvements	IH 10 at US 87 North	.99	$ 5.0
Kerr	SH 27	Expand to 5 Lanes	Kerrville to Centerpoint	8	$ 56.0
Gillespie	US 290	Operational Improvements	Johnson City to Fredericksburg	29	$ 29.0
Medina	FM 1957	Expand to 4 Lanes	SH 211 to FM 471 West	6.52	$ 45.6
McMullen	SH 16	Expand to 4 Lane Divided	SH 27 to Atascosa County Line	12.83	$ 89.6
Wilson	US 87	Expand to 4 Lane Divided	LaVernia to Bexar County Line	4.2	$ 29.4
Uvalde	US 90	Super 2	SH 481 to Kinney County Line	17	$ 42.5

APPENDIX A—SLIDES PRESENTED DURING TRANSPORTATION OVERVIEW


Agenda
• Introductions
• Rural Transportation Planning 101
• County Characteristics and Trends
• Needs Identification
• Conclusions
• Next Steps
AARPO Rural Transportation Plan Workshop
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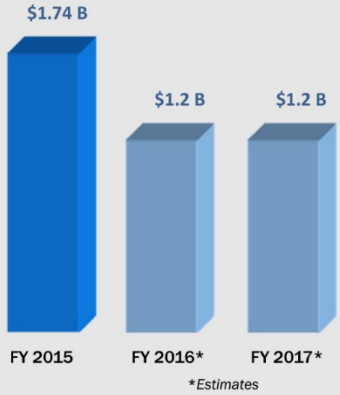
Implementation of Prop 1 funding

- $1.74 billion transferred to State Highway Fund in FY 2015.
- Estimated $1.2 billion to be transferred in each of the next two fiscal years.
- $659 million in Prop 1 projects let from March-June 2015.



Prop 1 Distribution – Upcoming 2nd and 3rd Rounds (Fiscal Years 2016 and 2017)

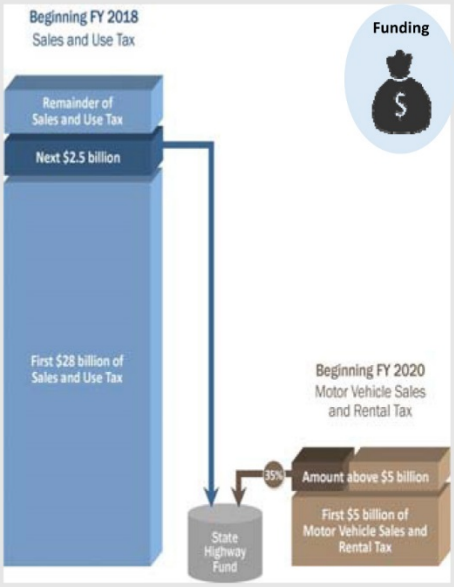
Category	Percent
Mobility & Added Capacity (Urban)	45%
Regional Connectivity (Rural)	25%
Maintenance (Statewide)	20%
Energy Sector Roads	10%
Total	100%

Implementation of Proposition 7 (SJR 5)

Constitutional amendment to allocate a portion of general sales tax and motor vehicle sales tax revenues to the State Highway Fund.

Estimated revenue gain for the State Highway Fund:

FY 2018	$2.5 billion
FY 2019	$2.5 billion
FY 2020	$2.9 billion
FY 2021	$3.0 billion



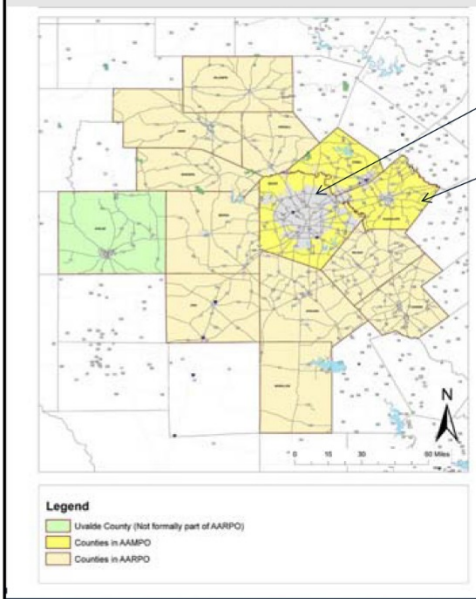
What is an RPO? What do they do?

- RPOs represent rural and small urban areas outside metropolitan planning area (MPA) for transportation planning
- Non-Metropolitan area (aka "rural") is an area of the state not included within the boundaries of a metropolitan planning organization

TxDOT Transportation Planning Rules

- RPO is a voluntary organization
  - Created and governed by elected officials
  - Provide recommendations and priorities to TxDOT in areas NOT included in MPO
  - RPOs are recognized in TAC rules
  - TxDOT and RPO work **cooperatively** on transportation planning and programming
  - Projects are approved by TxDOT
  - The TAC does not set RPO boundaries
  - Provides for public involvement

Alamo Regional Rural Planning Organization



MPO Area (UZA)

MPO Boundary

Rural Area in MPO

Small Urban Area in RPO

ARRPO Rural Transportation Plan Workshop 5

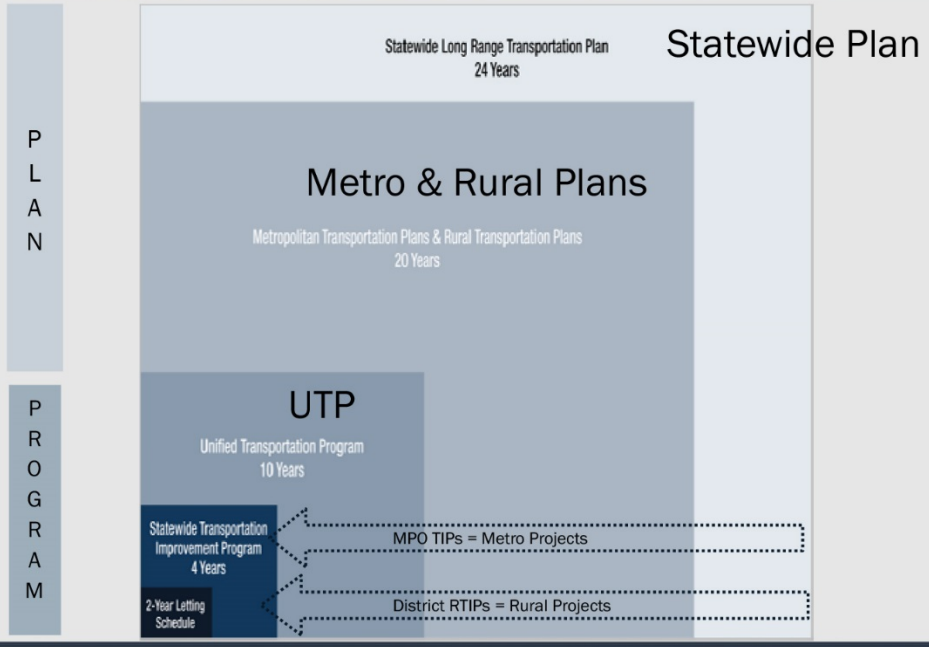
Transportation Planning Emphasis Areas in Plans and Legislation

TxDOT Strategic Plan 2019	TxDOT Transportation Plan 2040	HB 20 84th Legislature	USDOT MAP 21
Safe System	Safety	Safety	Safety
	Asset Management		Infrastructure Condition
Address Congestion	Mobility and Reliability	Congestion	Congestion and Reliability
Connect Communities	Multimodal Connectivity		
Best in Class Agency	Stewardship	Economic Development	Freight Mobility
		Available Funding	
		Environmental Impact	Environmental Sustainability
		Socioeconomic Impact	
	Customer Service	Other	

ARRPO Rural Transportation Plan Workshop 6

Transportation Planning Process

Transportation Planning Products



FUNDING AT A GLANCE

FUNDING CATEGORY	PROJECT SELECTION	USUAL FUNDING
1 - Preventive Maintenance and Rehabilitation	Projects selected by districts. Commission allocates funds through Allocation Program.	Federal 90% State 10% *or* Federal 80% State 20% *or* State 100%
2 - Metropolitan and Urban Area Corridor Projects	Projects selected by Metropolitan Planning Organizations (MPOs) in consultation with TxDOT. Commission allocates funds through Allocation Program.	Federal 80% State 20% *or* State 100%
3 - Non-Traditionally Funded Transportation Projects	Project selection varies based on the funding source, such as Proposition 12, Proposition 14, Pass-Through Toll Finance, Regional Toll Revenue and Local Participation.	Federal 80% State 20% *or* State 100% *or* Local 100% Varies by agreement and rules
4 - Statewide Connectivity Corridor Projects	Projects selected by commission based on corridor ranking. Project total costs cannot exceed commission-approved statewide allocation.	Federal 80% State 20% *or* State 100%
5 - Congestion Mitigation and Air Quality Improvement	Projects selected by MPOs in consultation with TxDOT and funded by districts' Allocation Program. Commission allocates funds based on population percentages within areas failing to meet air quality standards.	Federal 80% State 20% *or* Federal 80% Local 20% *or* Federal 90% State 10%
6 - Bridges Federal Highway Bridge Program; Federal Railroad Grade Separation Program	Projects selected by the Bridge Division as a statewide program based on the Federal Highway Bridge Program and the Federal Railroad Grade Separation Program eligibility and ranking. Commission allocates funds through Statewide Allocation Program.	Federal 90% State 10% *or* Federal 80% State 20% *or* Federal 80% State 10% Local 10%
7 - Metropolitan Mobility/Rehabilitation	Projects selected by MPOs in consultation with TxDOT. Funded by district's Allocation Program. Commission allocates funds according to the federal formula.	Federal 80% State 20% *or* Federal 80% Local 20% *or* State 100%
8 - Safety Federal Highway Safety Improvement Program, Federal Railway-Highway Crossing Program, Safety Bond Program, Federal Safe Routes to School Program, and Federal High Risk Rural Roads	Projects selected statewide by federally mandated safety indices and prioritized listing. Commission allocates funds through Statewide Allocation Program. Projects selected and approved by commission on a per-project basis for Federal Safe Routes to School Program.	Federal 90% State 10% *or* Federal 90% Local 10% *or* Federal 100% *or* State 100%
9 - Transportation Enhancements	Local entities nominate projects and TxDOT, in consultation with FHWA, reviews them. Projects selected and approved by commission on a per-project basis. Projects in the Safety Rest Area Program are selected by the Maintenance Division.	Federal 80% State 20% *or* Federal 80% Local 20%
10 - Supplemental Transportation Projects State Park Roads, Railroad Grade Crossing Replanking, Railroad Signal Maintenance, Landscape Incentive Awards, Green Ribbon Landscape Improvement, Curb Ramp Program, Coordinated Border Infrastructure Program, Comprehensive Development Agreements and Congressional High Priority Projects	Projects selected statewide by Traffic Operations Division or Texas Parks and Wildlife Department or district. Commission allocated funds to districts or approves participation in federal programs with allocation formulas. Coordinated Border Infrastructure Program funds are allocated to districts according to the federal formula.	State 100% *or* Federal 80% State 20% *or* Federal 100%
11 - District Discretionary	Projects selected by districts. Commission allocates funds through Allocation Program.	Federal 80% State 20% *or* Federal 80% Local 20% *or* State 100%
12 - Strategic Priority	Commission selects projects which generally promote economic opportunity, increase efficiency on military deployment routes or to retain military assets in response to the federal military base realignment and closure report, or maintain the ability to respond to both man-made and natural emergencies. Also, the commission approves pass-through financing projects in order to help local communities address their transportation needs.	Federal 80% State 20% *or* State 100%

Most Common Rural Funding Categories

- Preventative Maintenance and Rehabilitation
- Statewide Connectivity
- Structures Replacement and Rehabilitation Bridge Program, Railroad Grade separation Program
- Safety – Federal Highway Safety Improvement Program (HSIP), Federal Railway-Highway Crossing Program, Safety Bond Program
- Transportation Alternatives/Transportation Enhancements
- District Discretionary

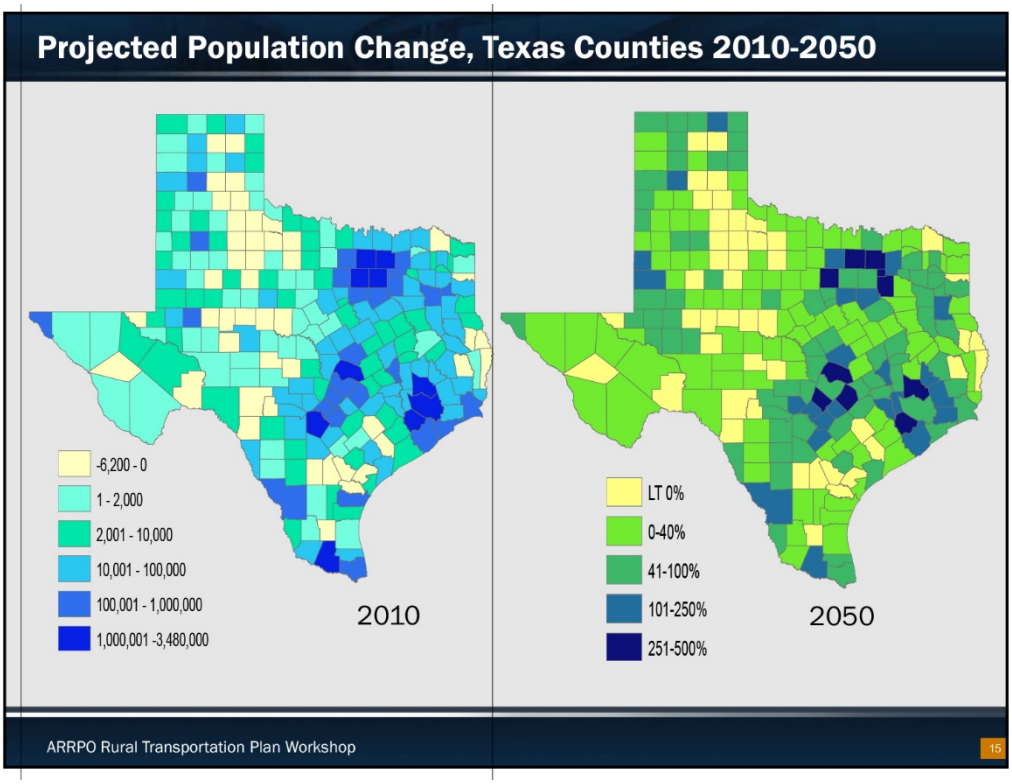
ARRPO Rural Transportation Plan Workshop 12

TxDOT District Challenges

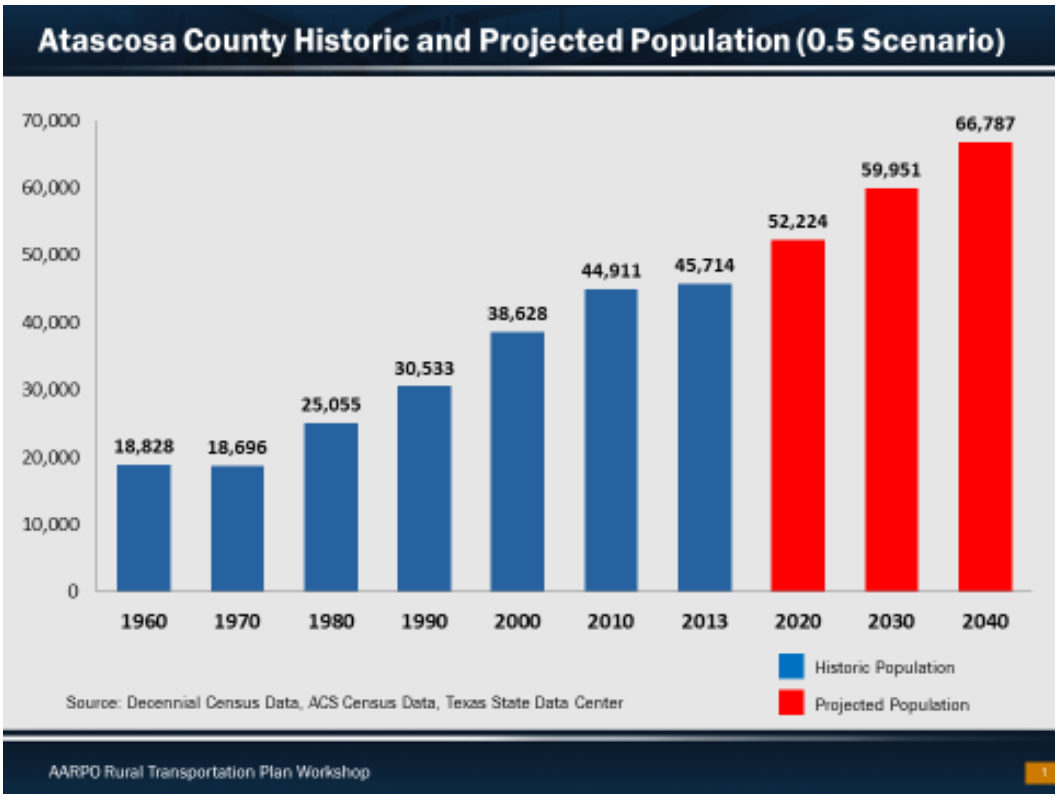
- Multiple objectives may be in conflict
- Competition for scarce resources
- Institutional and political fragmentation
- Attaining and keeping public interest
- Trade-offs over modes and programs

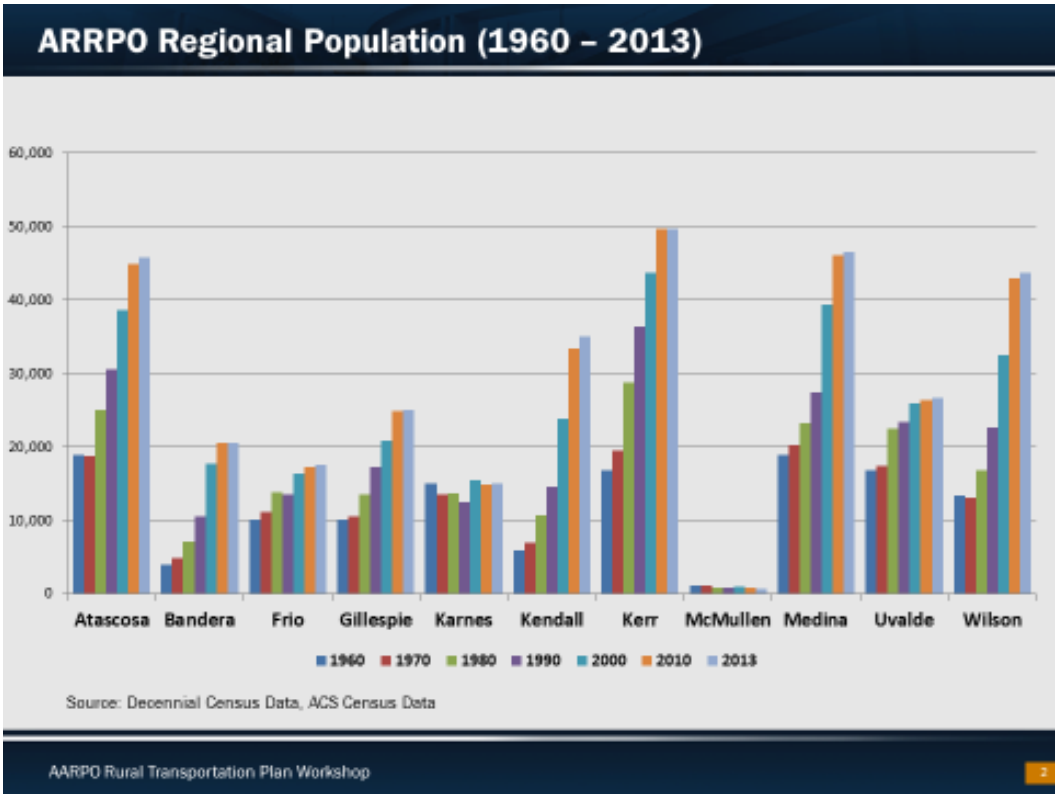
Think

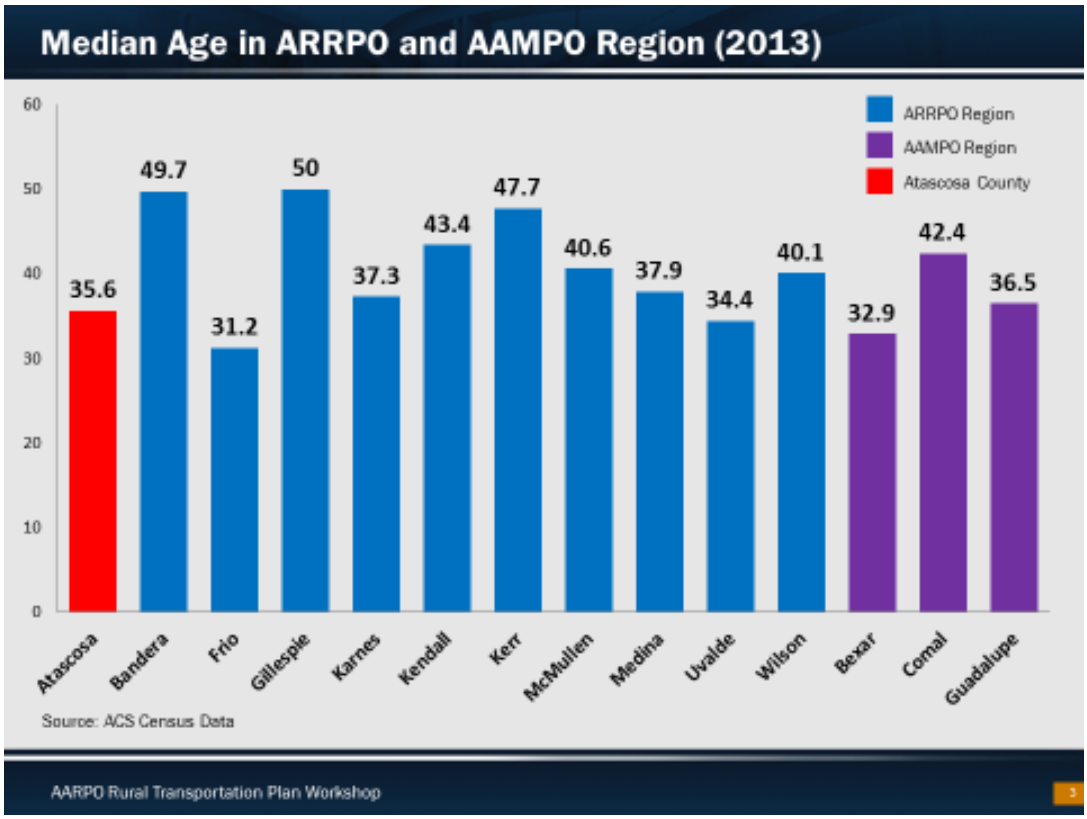
- Regionally
- Long range
- Statewide plans and priorities
  - Safety
  - Asset Management
  - Mobility and Reliability
  - Multimodal Connectivity
  - Stewardship
  - Customer Service

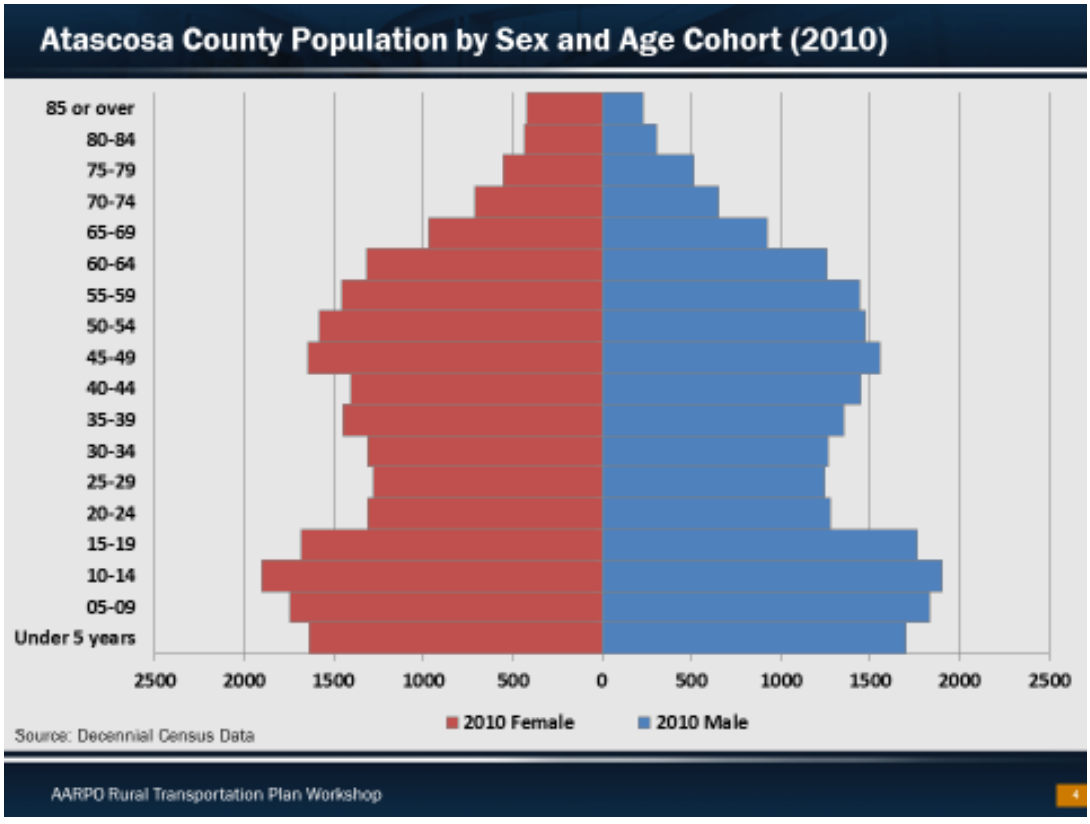

Projected Population Change, Texas Counties 2010-2050
-6,200 - 0
1 - 2,000
2,001 - 10,000
10,001 - 100,000
100,001 - 1,000,000
1,000,001 -3,480,000
2010
LT 0%
0-40%
41-100%
101-250%
251-500%
2050
ARRPO Rural Transportation Plan Workshop
15

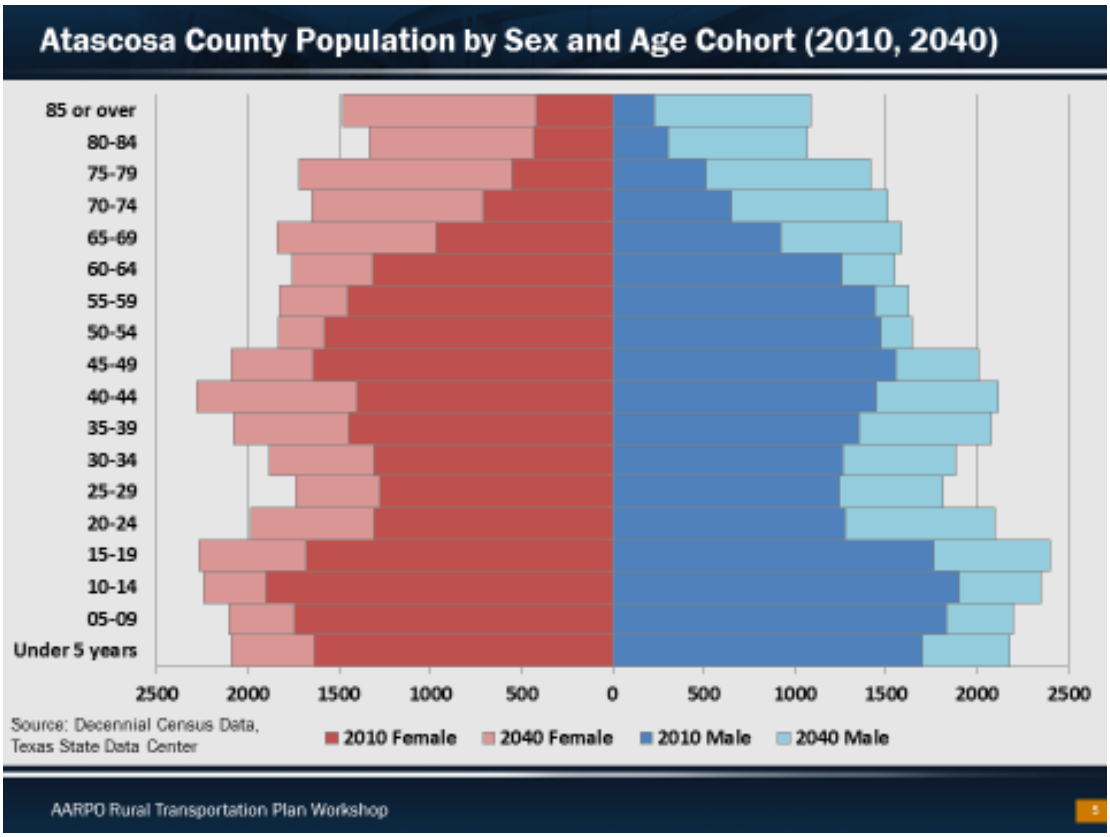
APPENDIX B—EXAMPLE OF EXISTING DEMOGRAPHIC AND TRANSPORTATION CONDITIONS SHOWN AT COUNTY WORKSHOPS

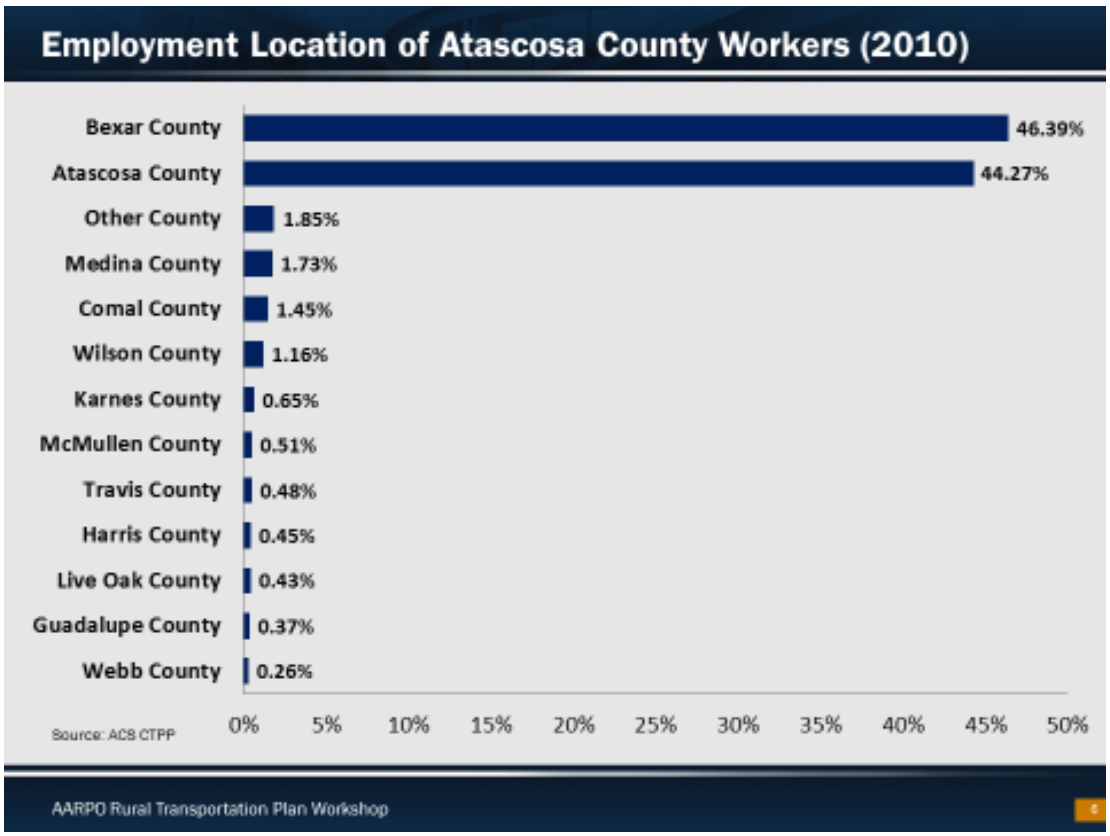

Atascosa County Historic and Projected Population (0.5 Scenario)
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
18,828
18,696
25,055
30,533
38,628
44,911
45,714
52,224
59,951
66,787
1960
1970
1980
1990
2000
2010
2013
2020
2030
2040
Historic Population
Projected Population
Source: Decennial Census Data, ACS Census Data, Texas State Data Center
AARPO Rural Transportation Plan Workshop

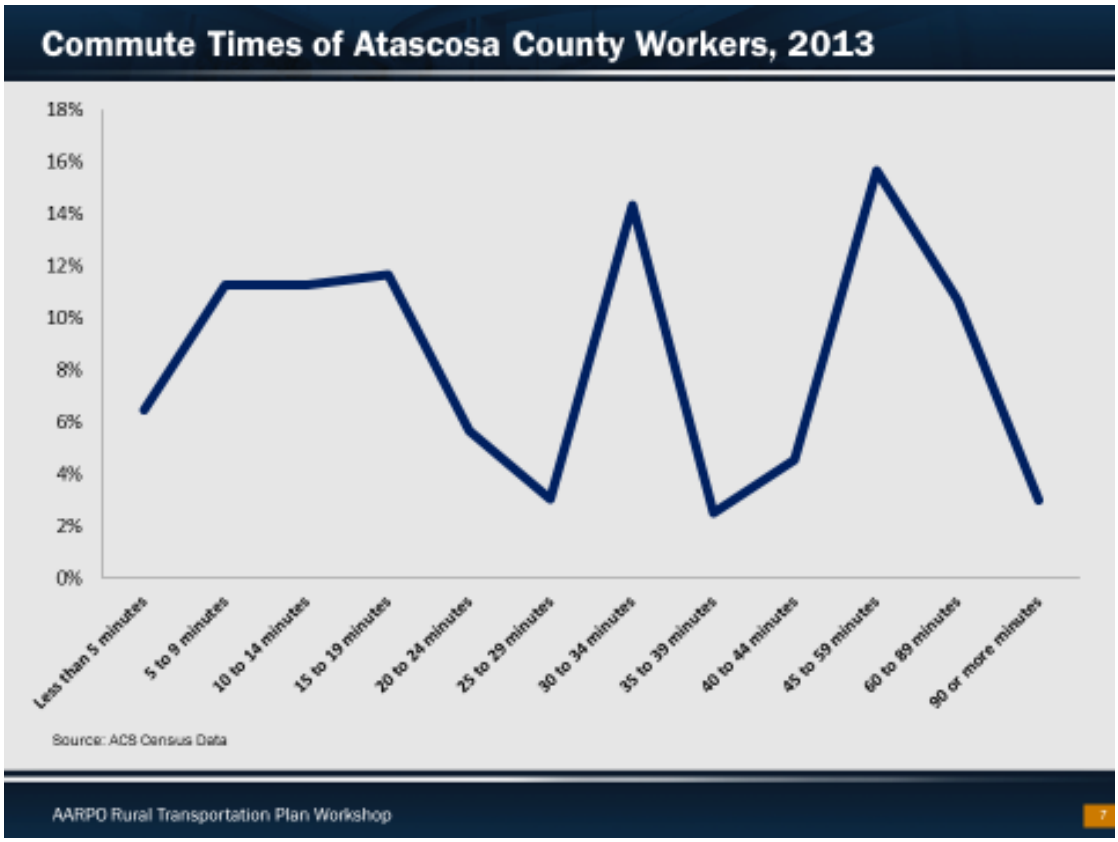

ARRPO Regional Population (1960 – 2013)
60,000
50,000
40,000
30,000
20,000
10,000
0
Atascosa
Bandera
Frio
Gillespie
Karnes
Kendall
Kerr
McMullen
Medina
Uvalde
Wilson
1960
1970
1980
1990
2000
2010
2013
Source: Decennial Census Data, ACS Census Data
AARPO Rural Transportation Plan Workshop

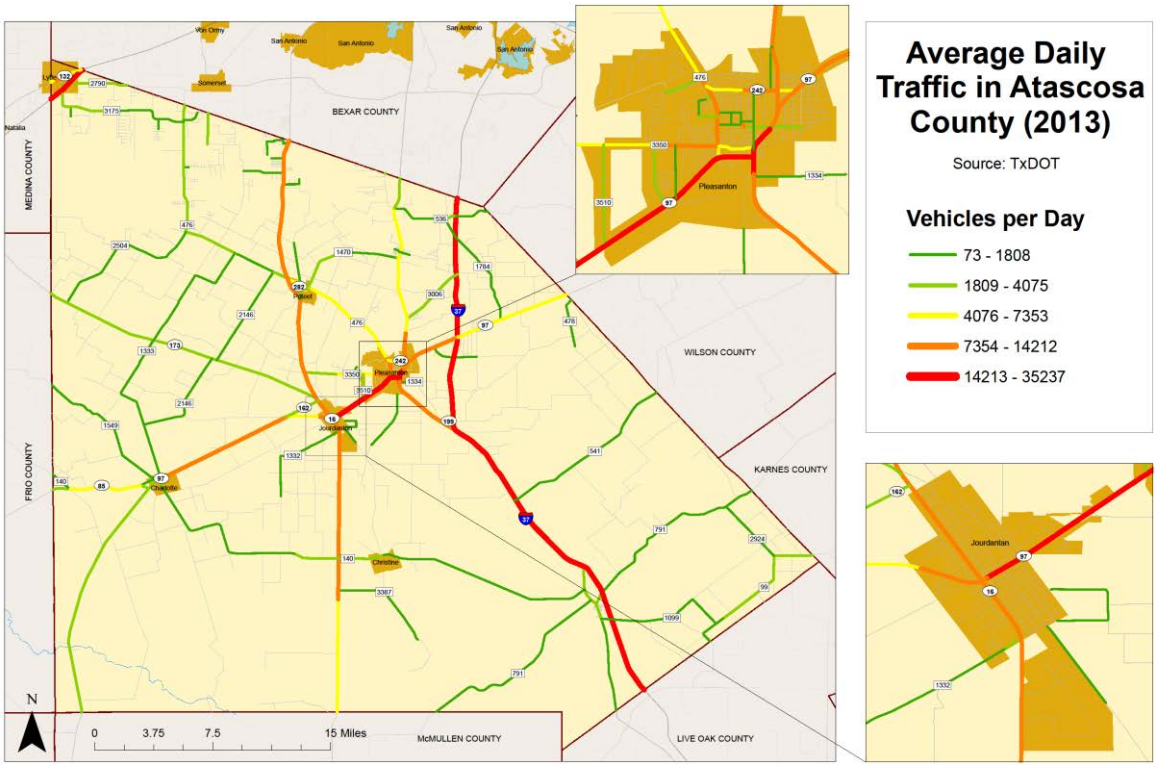

Median Age in ARRPO and AAMPO Region (2013)
ARRPO Region
AAMPO Region
Atascosa County
60
50
40
30
20
10
0
35.6
49.7
31.2
50
37.3
43.4
47.7
40.6
37.9
34.4
40.1
32.9
42.4
36.5
Atascosa
Bandera
Frio
Gillespie
Karnes
Kendall
Kerr
McMullen
Medina
Uvalde
Wilson
Bexar
Comal
Guadalupe
Source: ACS Census Data
AARPO Rural Transportation Plan Workshop

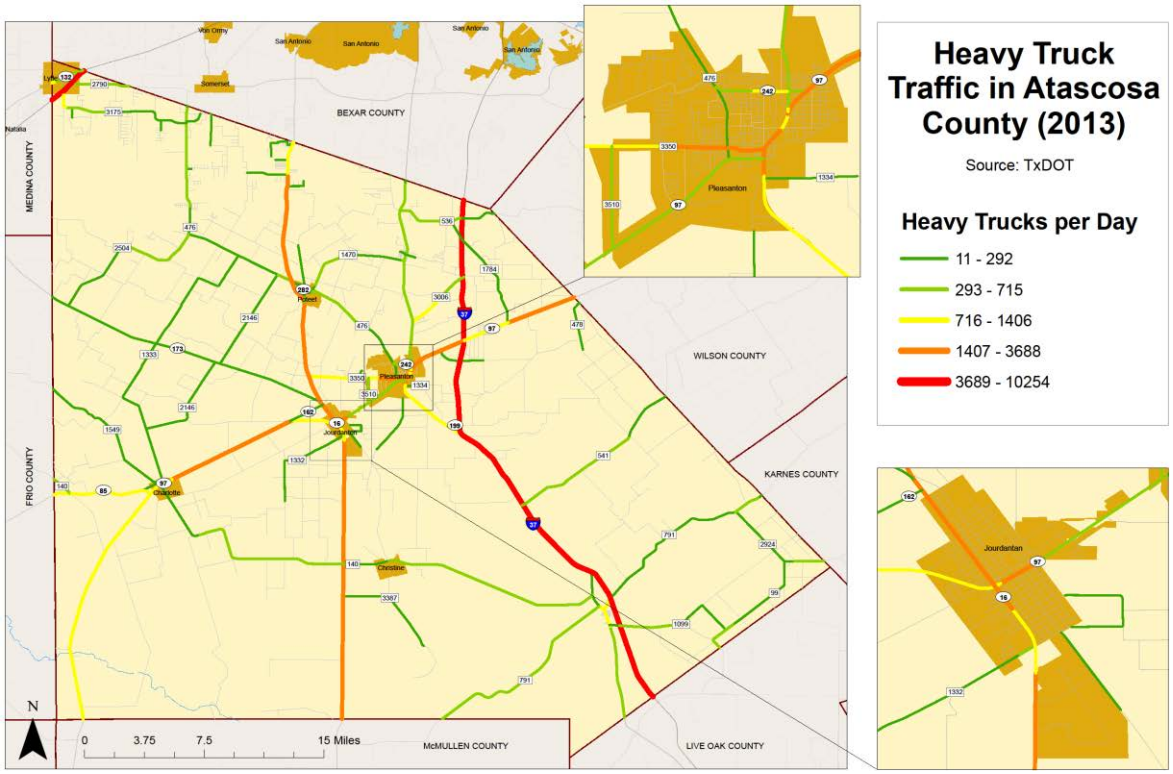

Atascosa County Population by Sex and Age Cohort (2010)
85 or over
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
05-09
Under 5 years
2500
2000
1500
1000
500
0
500
1000
1500
2000
2500
2010 Female
2010 Male
Source: Decennial Census Data
AARPO Rural Transportation Plan Workshop

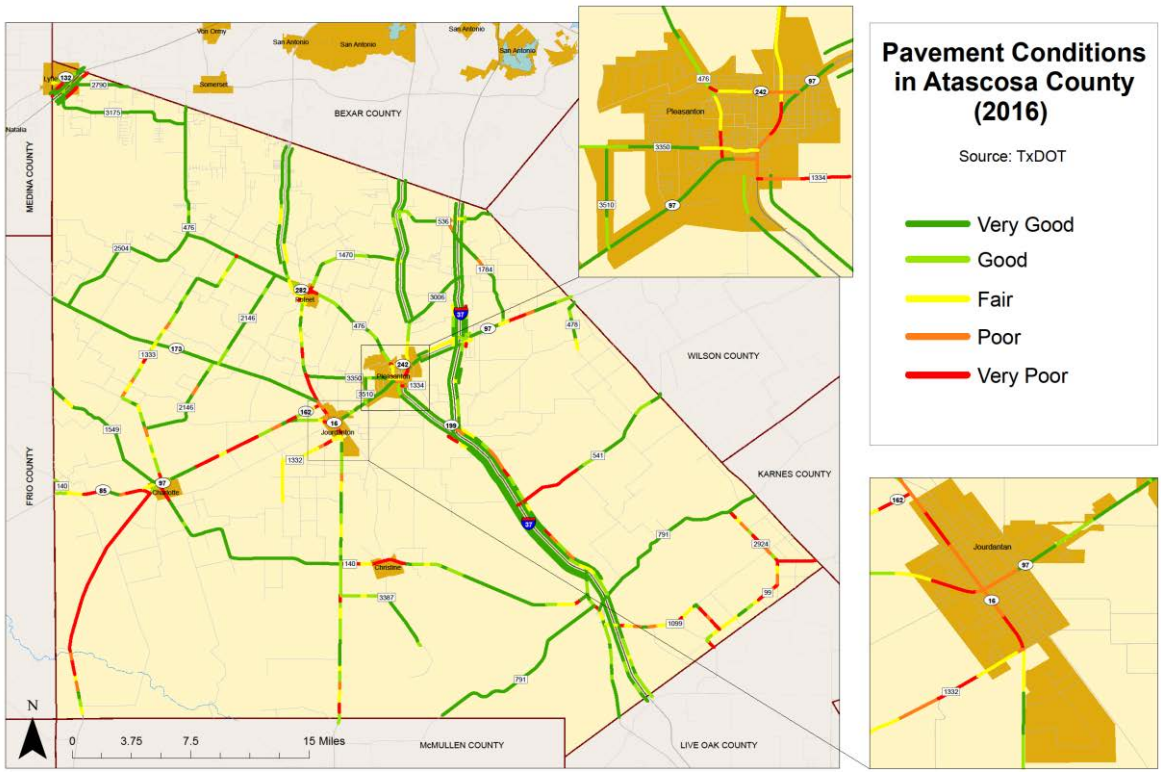

Atascosa County Population by Sex and Age Cohort (2010, 2040)
85 or over
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
05-09
Under 5 years
2500
2000
1500
1000
500
0
500
1000
1500
2000
2500
Source: Decennial Census Data, Texas State Data Center
2010 Female
2040 Female
2010 Male
2040 Male
AARPO Rural Transportation Plan Workshop

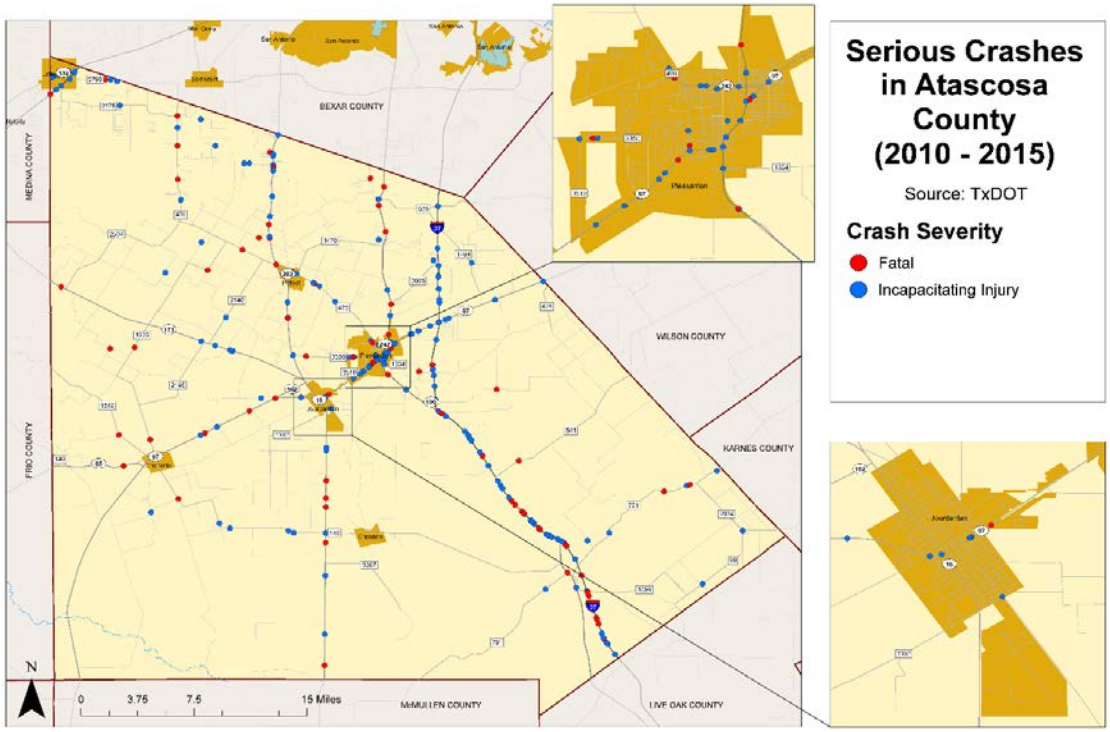

Employment Location of Atascosa County Workers (2010)
Bexar County
46.39%
Atascosa County
44.27%
Other County
1.85%
Medina County
1.73%
Comal County
1.45%
Wilson County
1.16%
Karnes County
0.65%
McMullen County
0.51%
Travis County
0.48%
Harris County
0.45%
Live Oak County
0.43%
Guadalupe County
0.37%
Webb County
0.26%
Source: ACS CTPP
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
AARPO Rural Transportation Plan Workshop

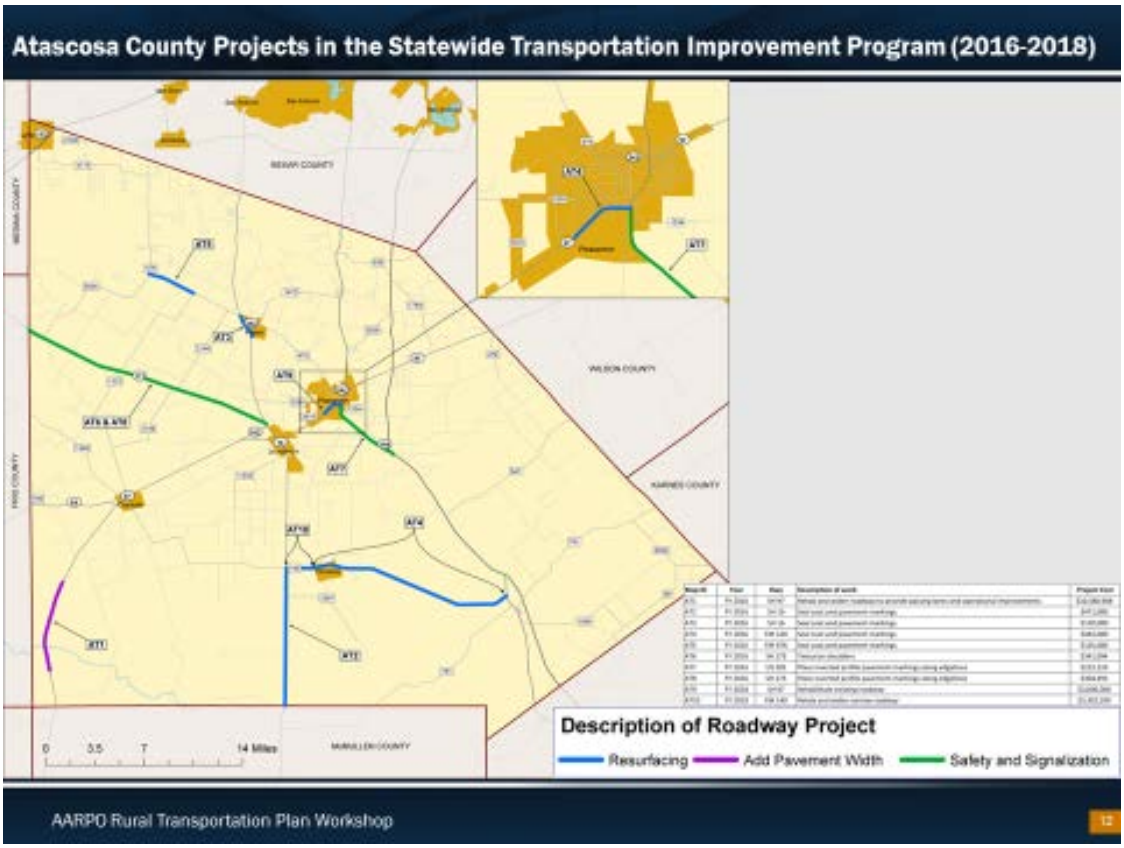

Commute Times of Atascosa County Workers, 2013
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
Less than 5 minutes
5 to 9 minutes
10 to 14 minutes
15 to 19 minutes
20 to 24 minutes
25 to 29 minutes
30 to 34 minutes
35 to 39 minutes
40 to 44 minutes
45 to 59 minutes
60 to 89 minutes
90 or more minutes
Source: ACS Census Data
AARPO Rural Transportation Plan Workshop


Average Daily Traffic in Atascosa County (2013)
Source: TxDOT
Vehicles per Day
73 - 1808
1809 - 4075
4076 - 7353
7354 - 14212
14213 - 35237
BEXAR COUNTY
MEDINA COUNTY
FRIO COUNTY
WILSON COUNTY
KARNES COUNTY
McMULLEN COUNTY
LIVE OAK COUNTY
Pleasanton
Jourdanton
N
0
3.75
7.5
15 Miles


Heavy Truck Traffic in Atascosa County (2013)
Source: TxDOT
Heavy Trucks per Day
11 - 292
293 - 715
716 - 1406
1407 - 3688
3689 - 10254
BEXAR COUNTY
MEDINA COUNTY
FRIO COUNTY
WILSON COUNTY
KARNES COUNTY
McMULLEN COUNTY
LIVE OAK COUNTY
Pleasanton
Jourdanton
Christine
Charlotte
Poteet
N
0 3.75 7.5 15 Miles


Pavement Conditions in Atascosa County (2016)
Source: TxDOT
Very Good
Good
Fair
Poor
Very Poor
BEXAR COUNTY
MEDINA COUNTY
FRIO COUNTY
WILSON COUNTY
KARNES COUNTY
McMULLEN COUNTY
LIVE OAK COUNTY
Pleasanton
Jourdanton
Christine
Charlotte
N
0 3.75 7.5 15 Miles


Serious Crashes in Atascosa County (2010 - 2015)
Source: TxDOT
Crash Severity
Fatal
Incapacitating Injury
BEXAR COUNTY
MEDINA COUNTY
FRIO COUNTY
WILSON COUNTY
KARNES COUNTY
McMULLEN COUNTY
LIVE OAK COUNTY
N
0 3.75 7.5 15 Miles


Atascosa County Projects in the Statewide Transportation Improvement Program (2016-2018)
Description of Roadway Project
Resurfacing
Add Pavement Width
Safety and Signalization
AARPO Rural Transportation Plan Workshop

APPENDIX C—COUNTY NEEDS ASSESSMENTS

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Atascosa County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Atascosa County workshop was organized by TxDOT with the help of Atascosa County Judge Robert Hurley. TxDOT sent a letter (shown in the Appendix) to Judge Hurley requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Tuesday, December 8, 2015, from 1:00 PM to 3:00 PM at the Jourdanton Library and Community Center in Jourdanton. Nineteen people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Atascosa County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Atascosa County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Atascosa County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Atascosa County both now and in the future. The following is a summary of the data presented at the Atascosa County workshop.

2.1. Atascosa County Demographic Data

Figure 1 provides the historic and projected population growth for Atascosa County between 1960 and 2040.

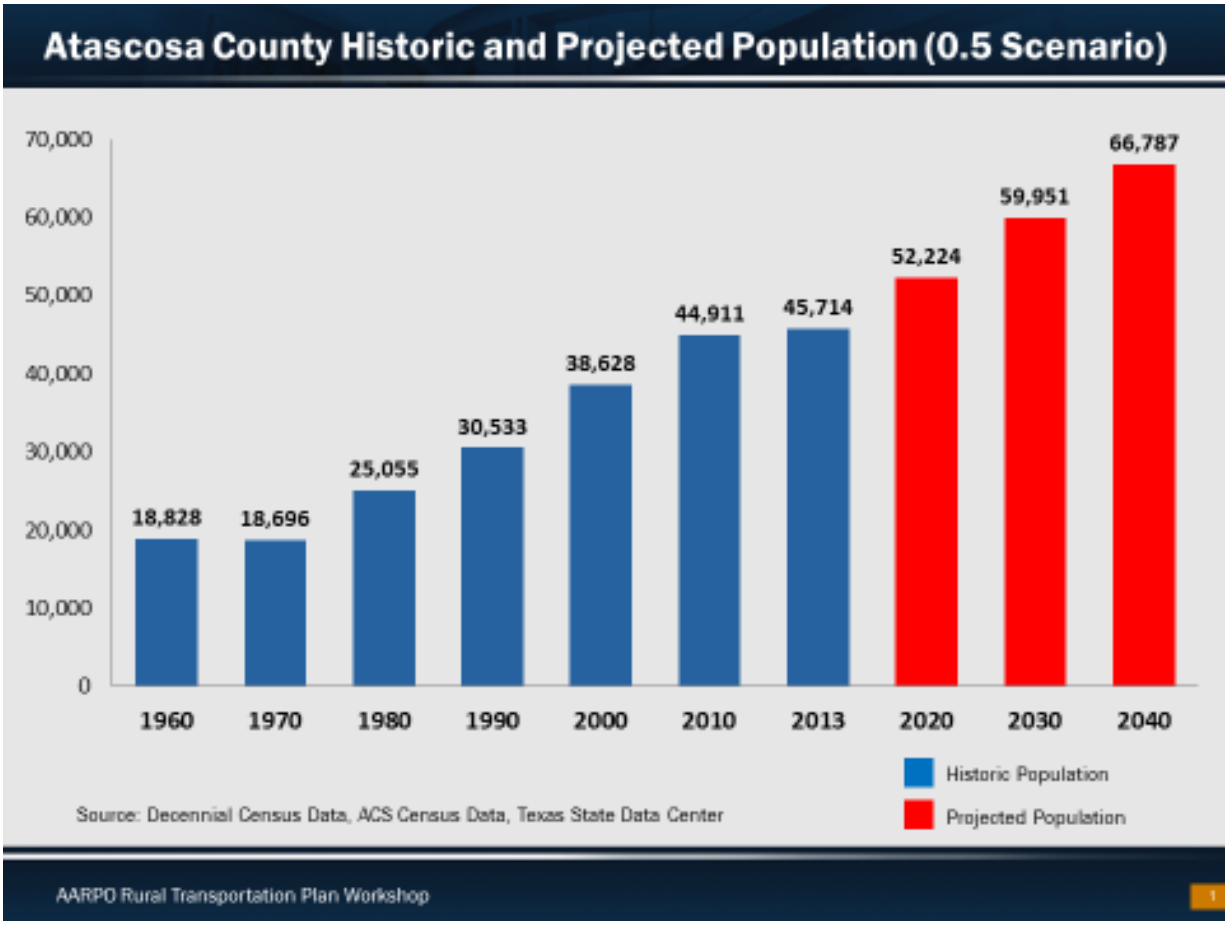


Figure 1. Atascosa County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Atascosa County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

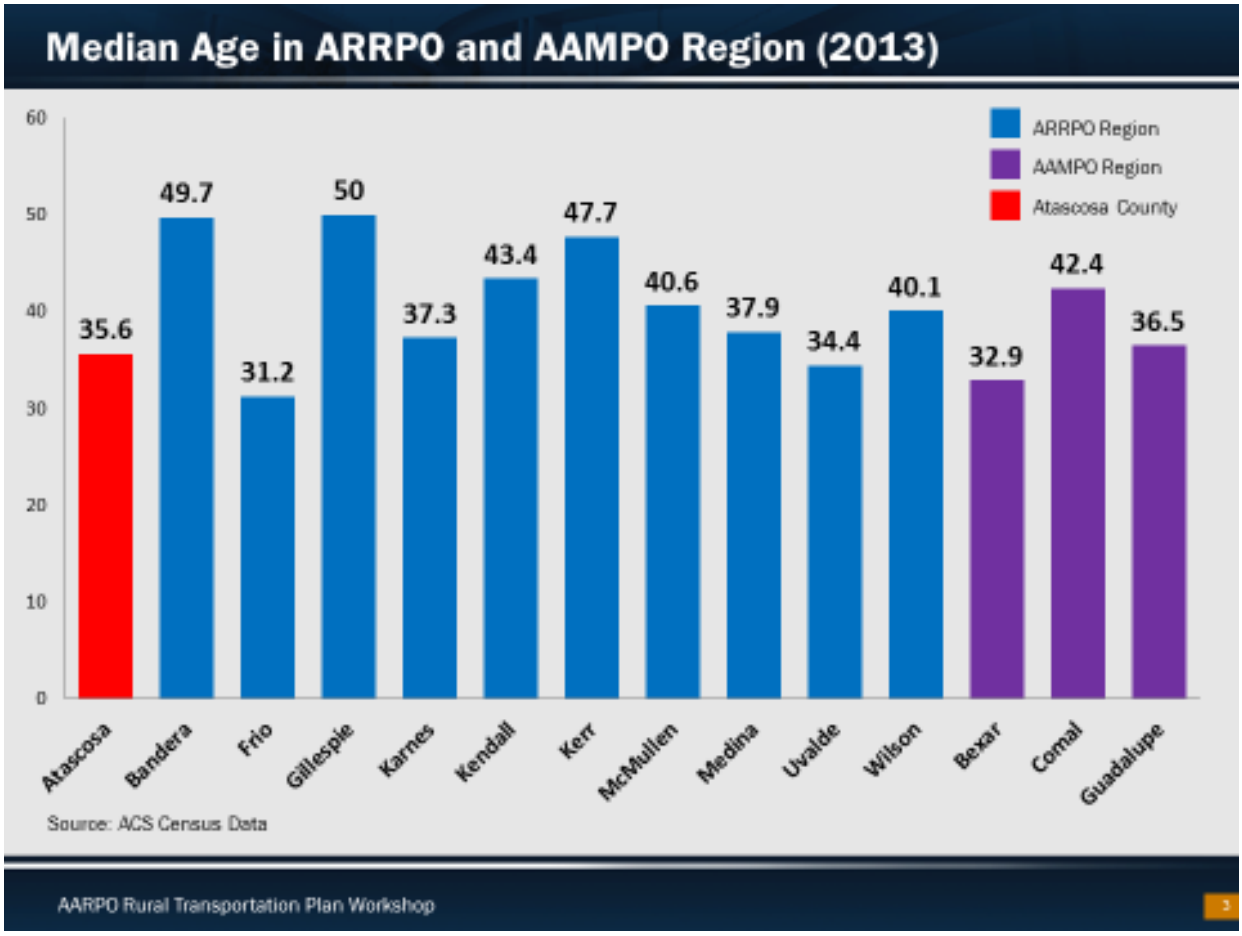


Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Atascosa County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

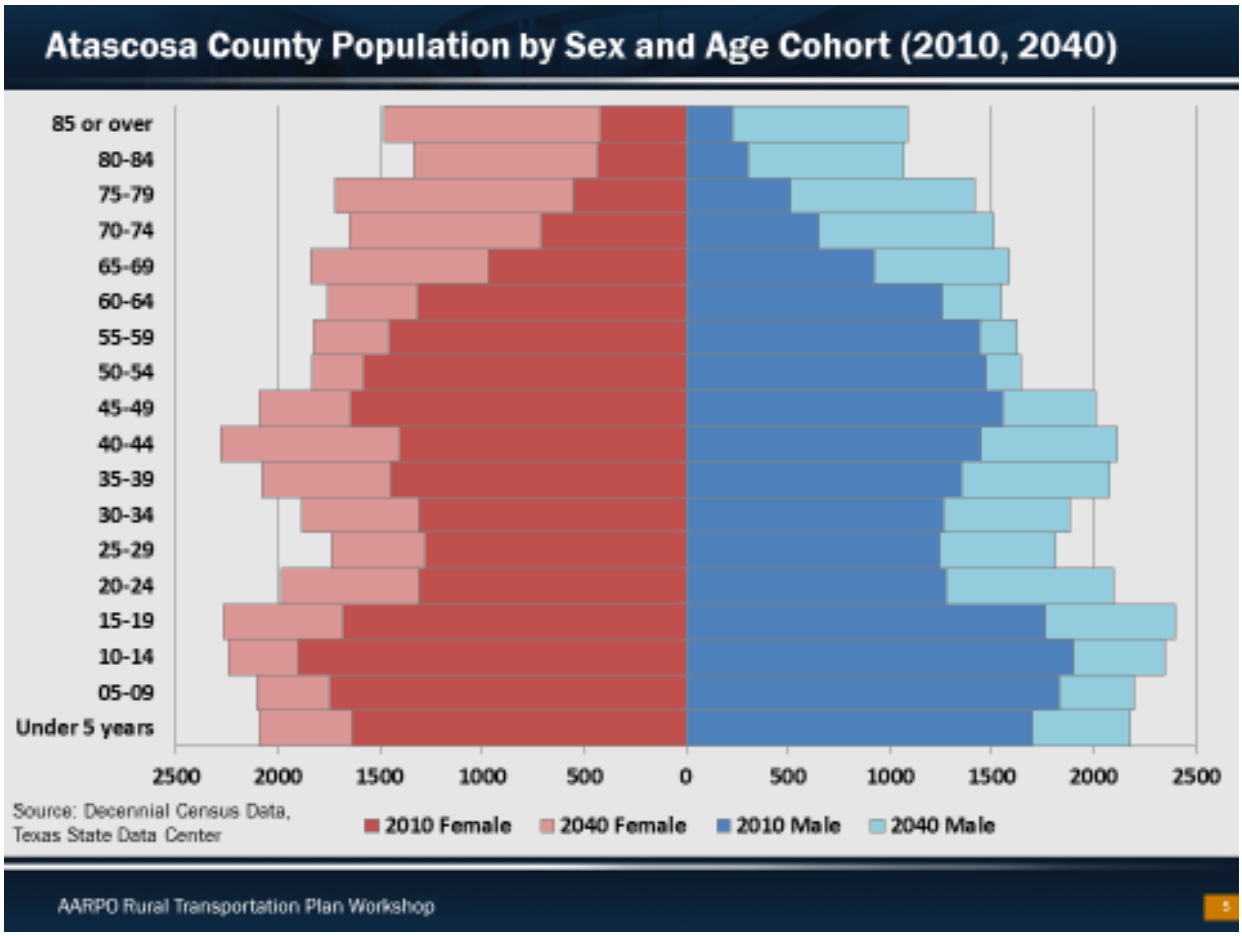


Figure 3. Atascosa County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Atascosa County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Atascosa County.

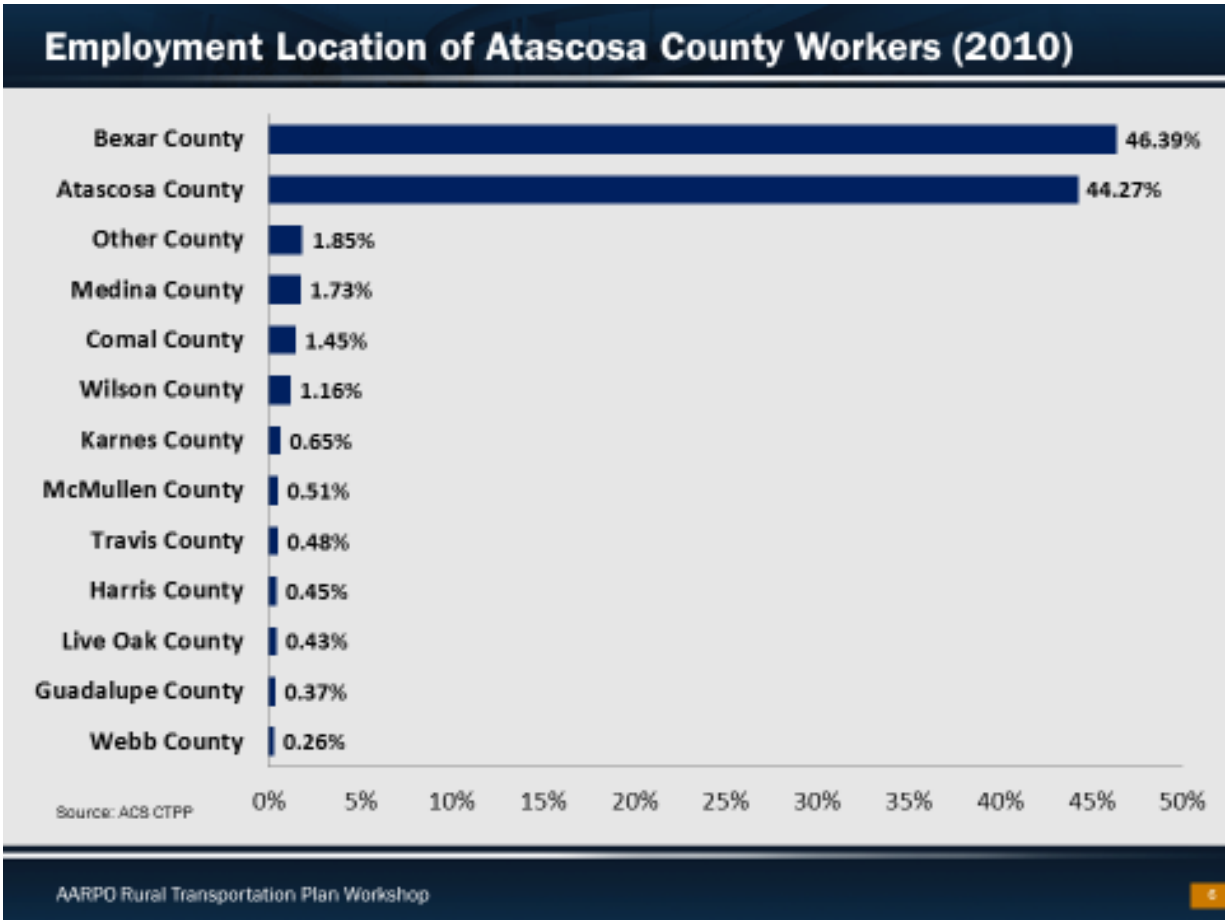


Figure 4. Employment Location of Atascosa County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Atascosa County.

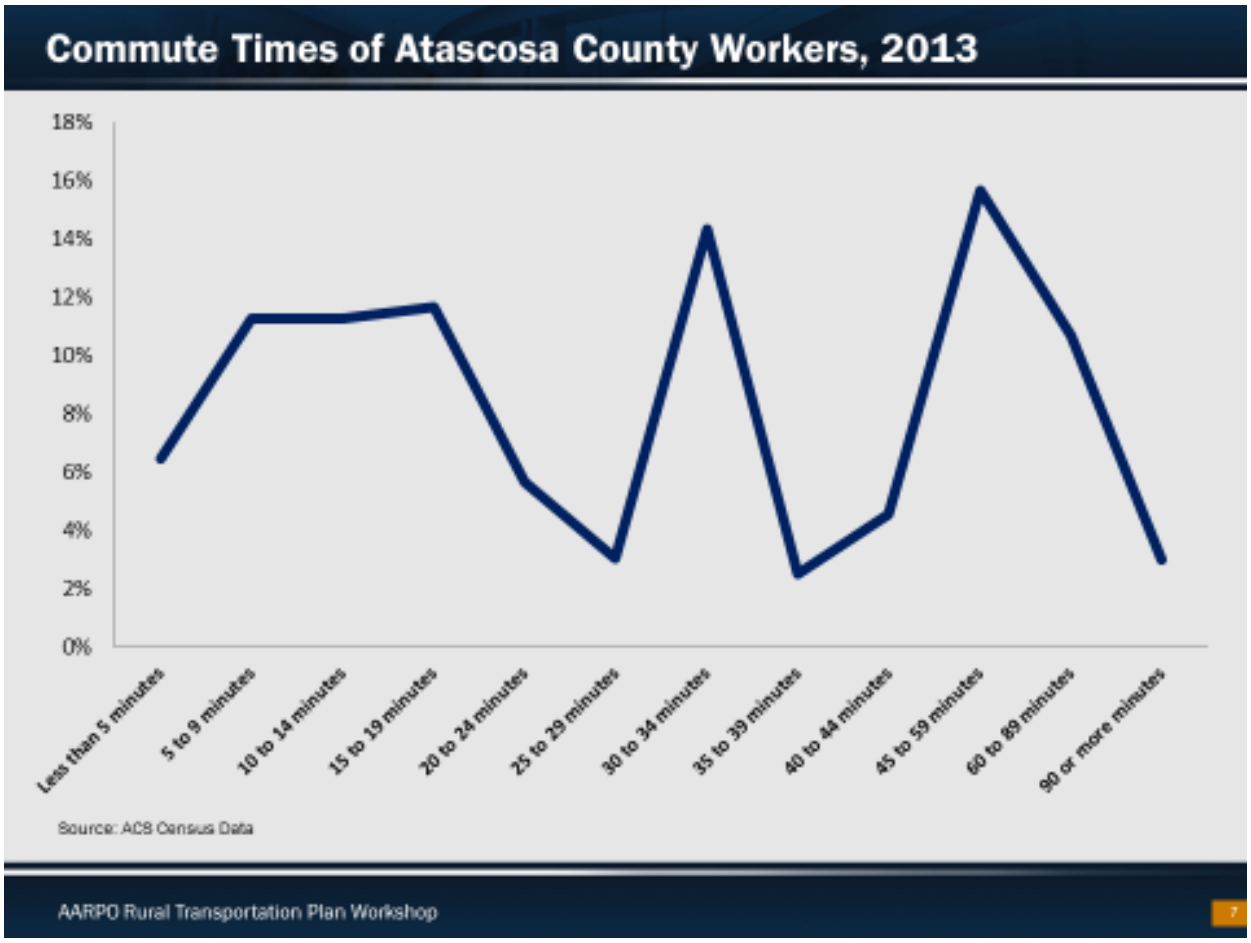


Figure 5. Commute Times of Atascosa County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Atascosa County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

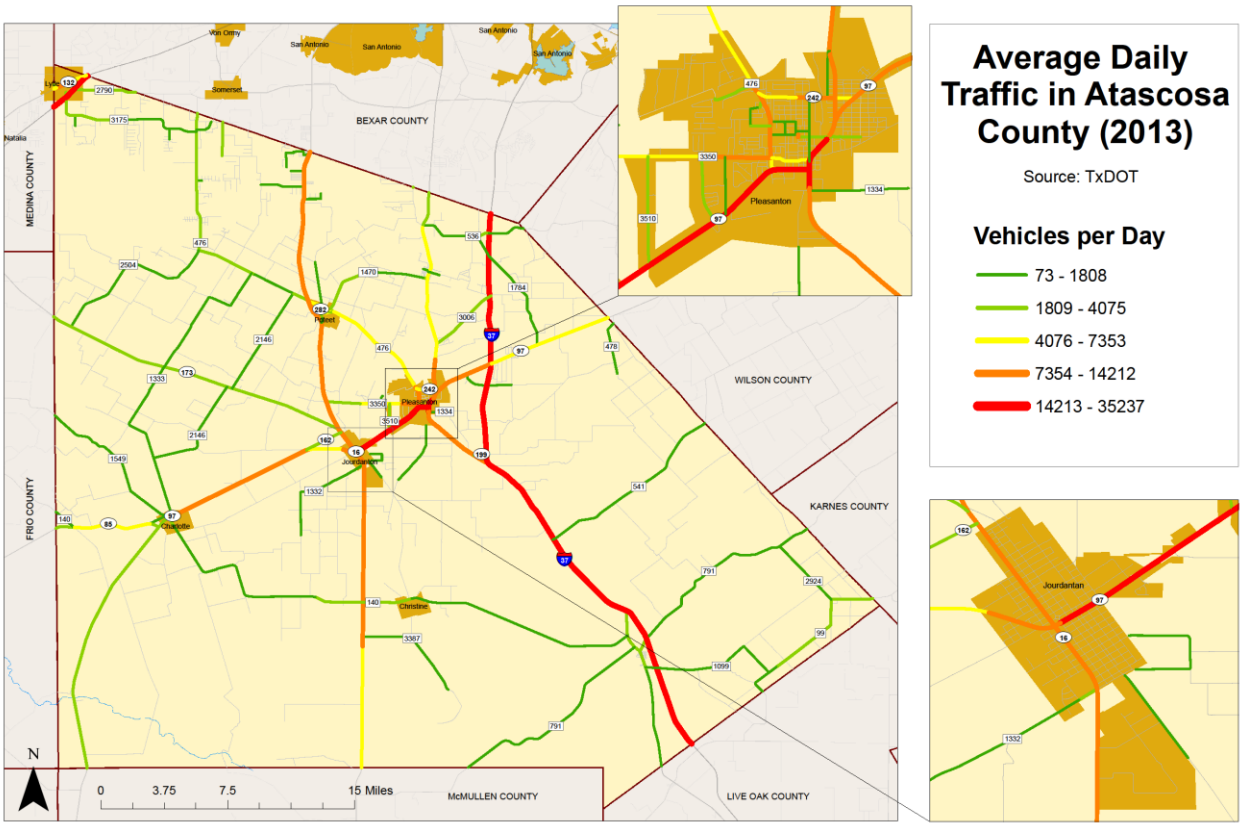


Figure 6. Average Daily Traffic in Atascosa County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Atascosa County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

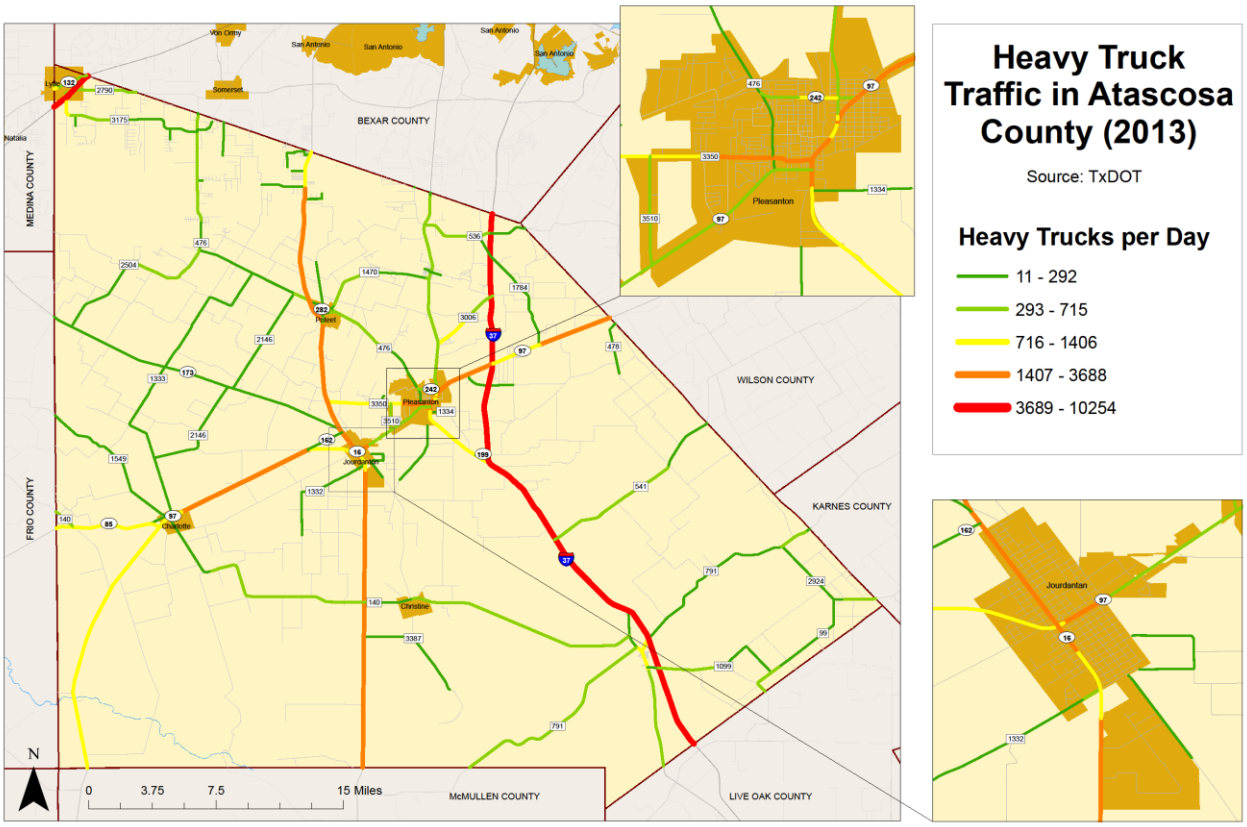


Figure 7. Heavy Truck Traffic in Atascosa County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Atascosa County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

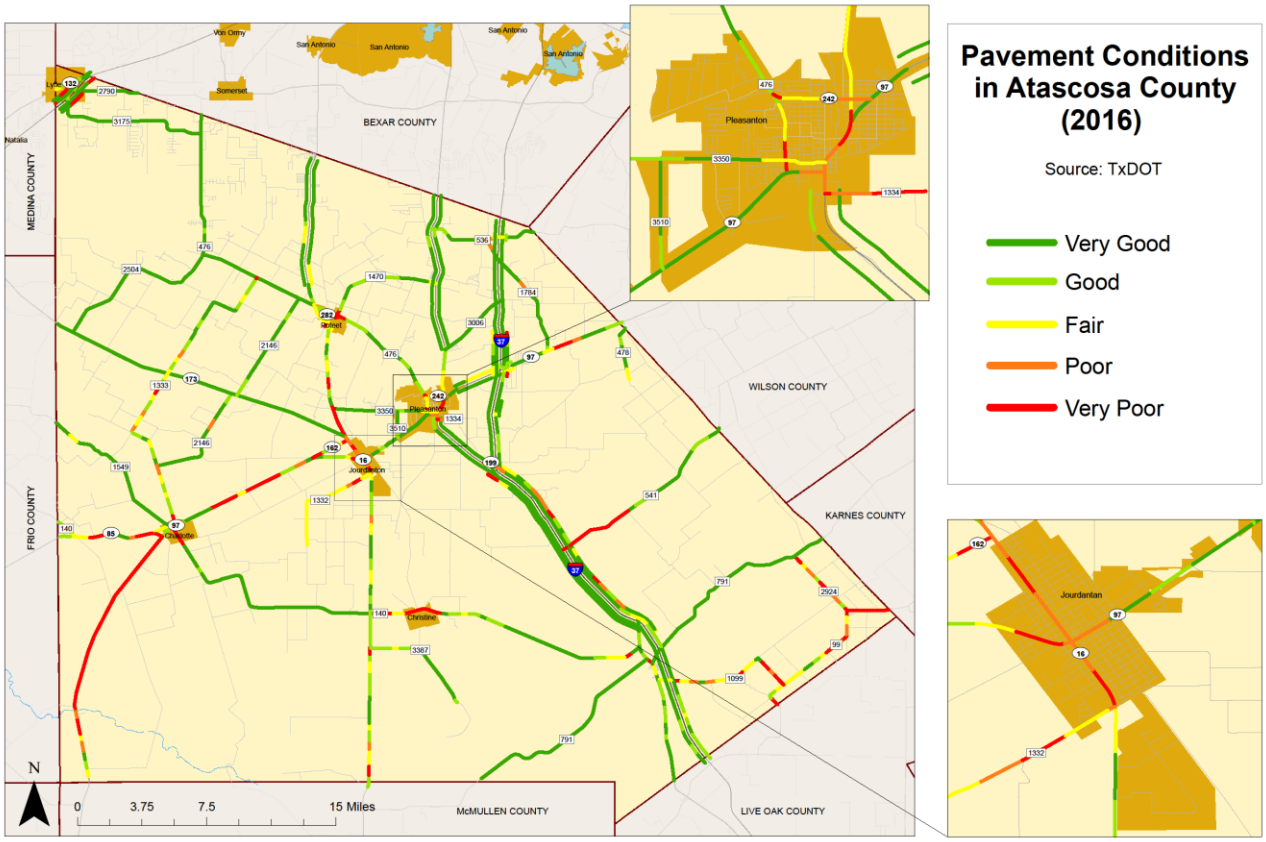


Figure 8. Pavement Conditions in Atascosa County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Atascosa County between 2010 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

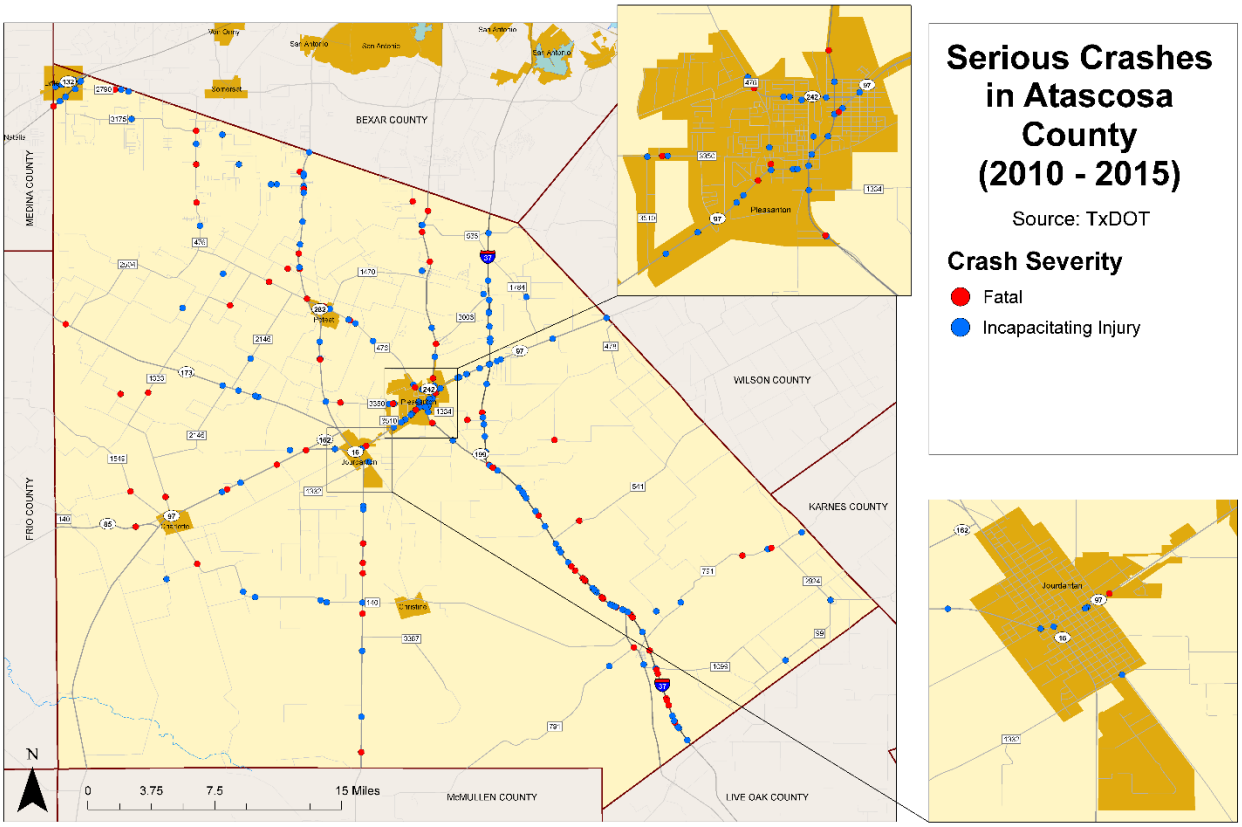


Figure 9. Serious Crashes in Atascosa County (2010–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Atascosa County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Atascosa County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Atascosa County mobility and connectivity exercise map.

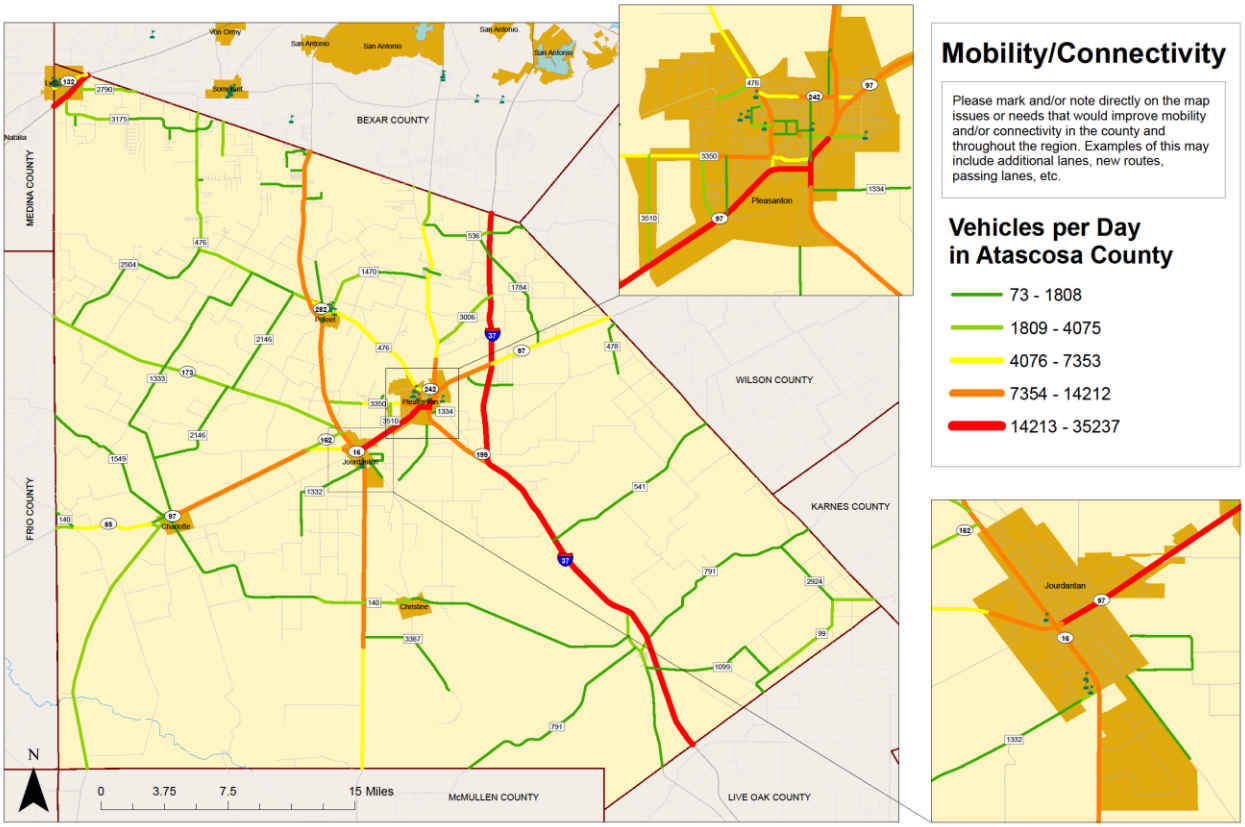


Figure 10. Atascosa County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Atascosa County maintenance and safety exercise map.

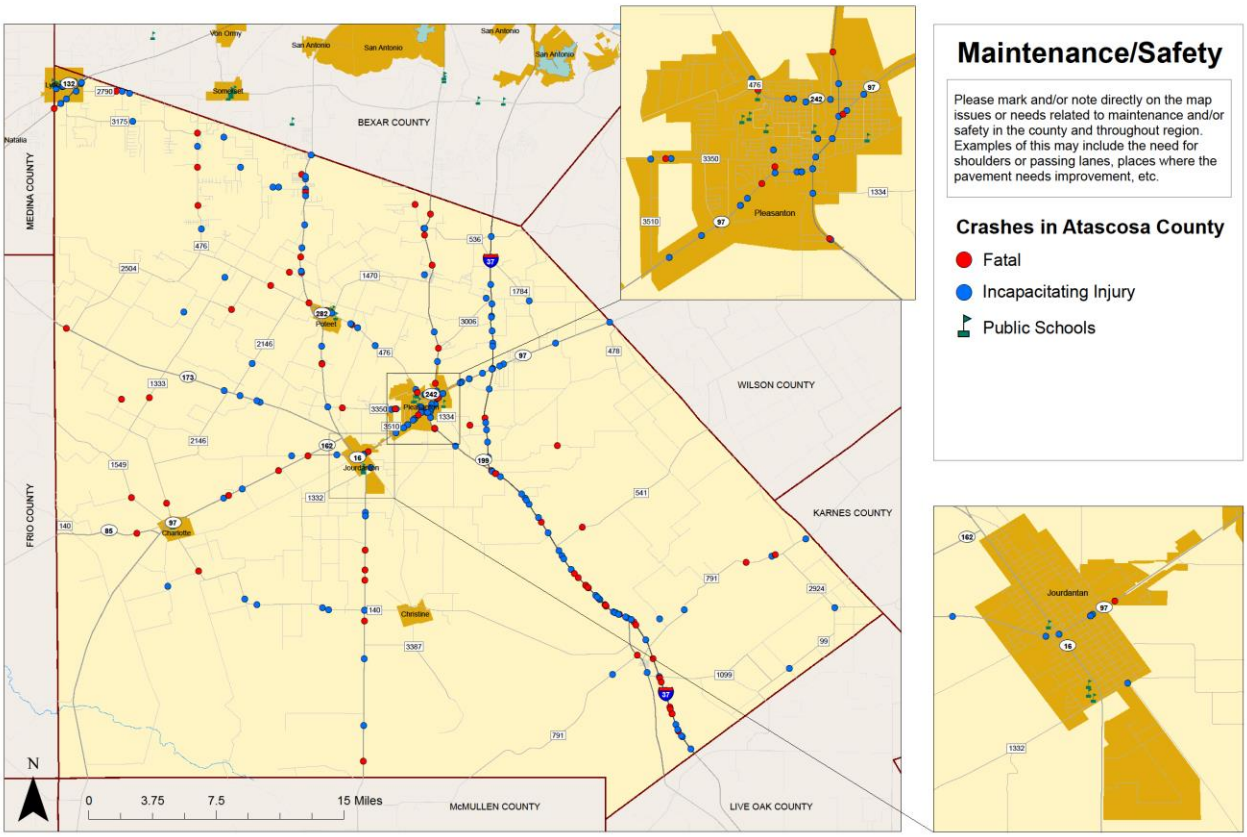


Figure 11. Atascosa County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Atascosa County bicycle, pedestrian, and transit exercise map.

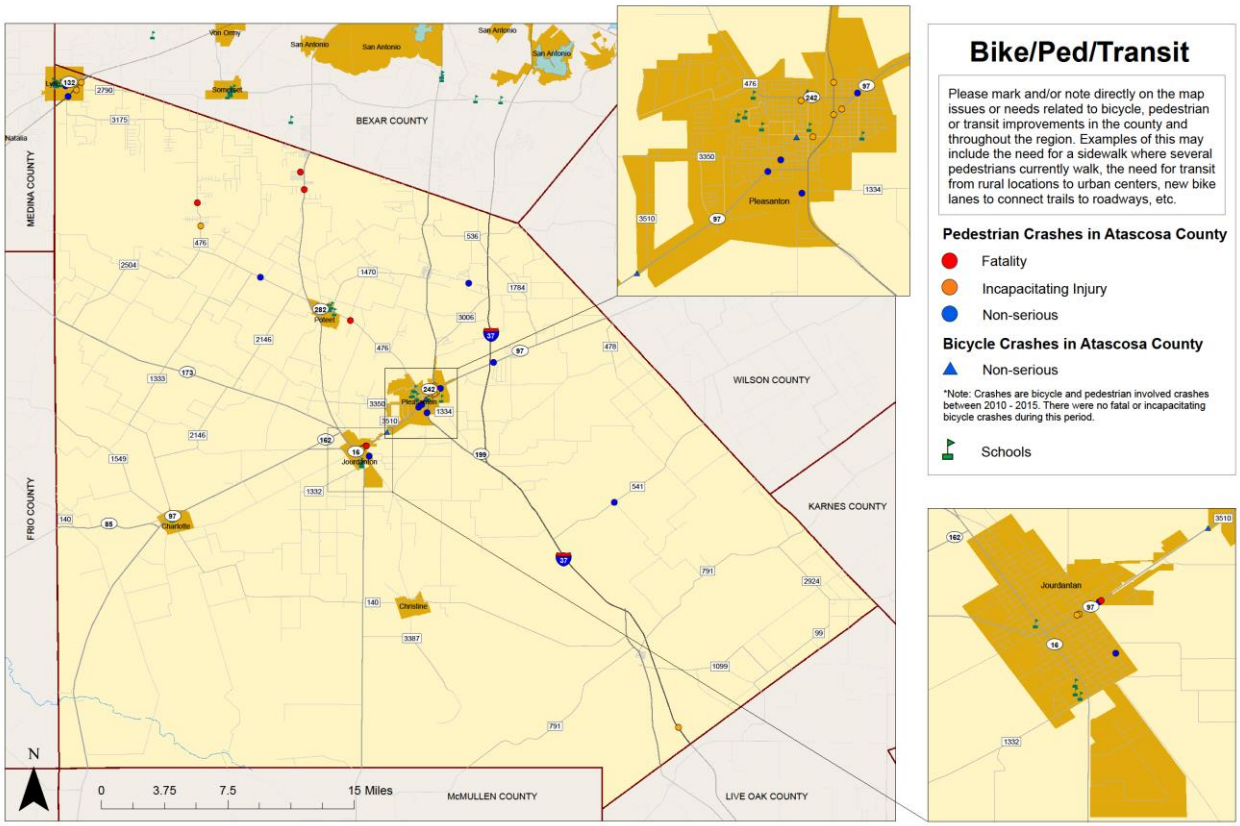
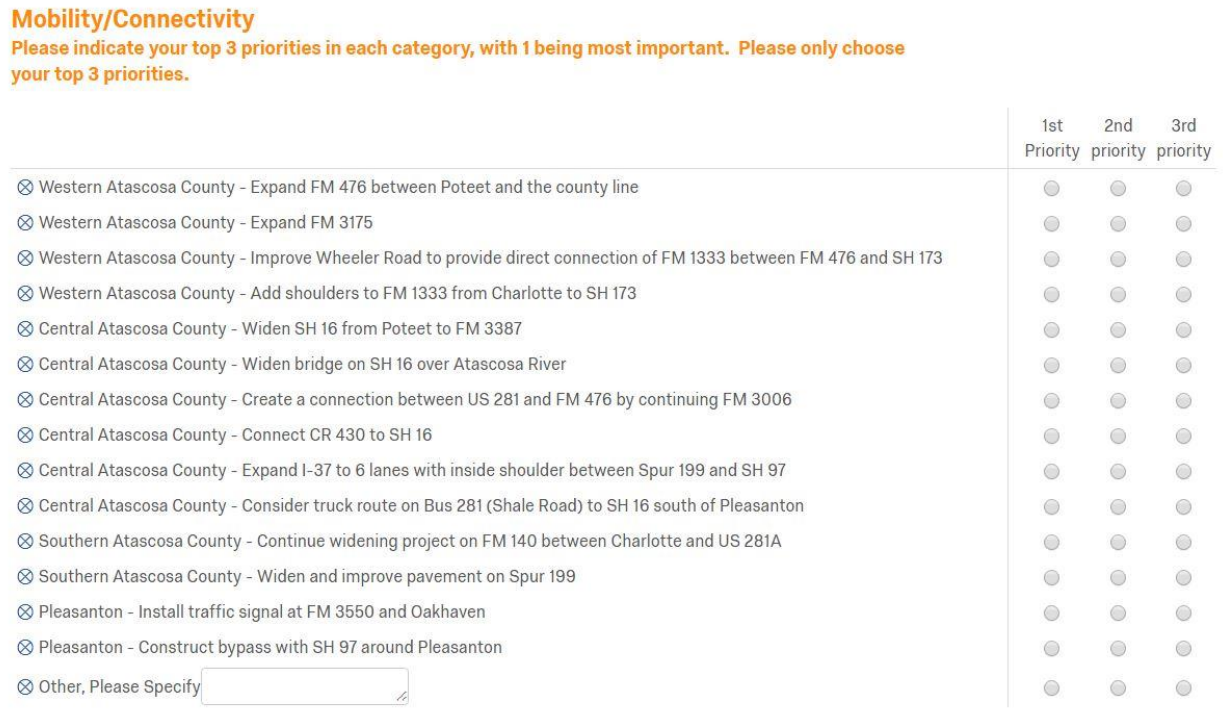


Figure 12. Atascosa County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Atascosa County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the

workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.

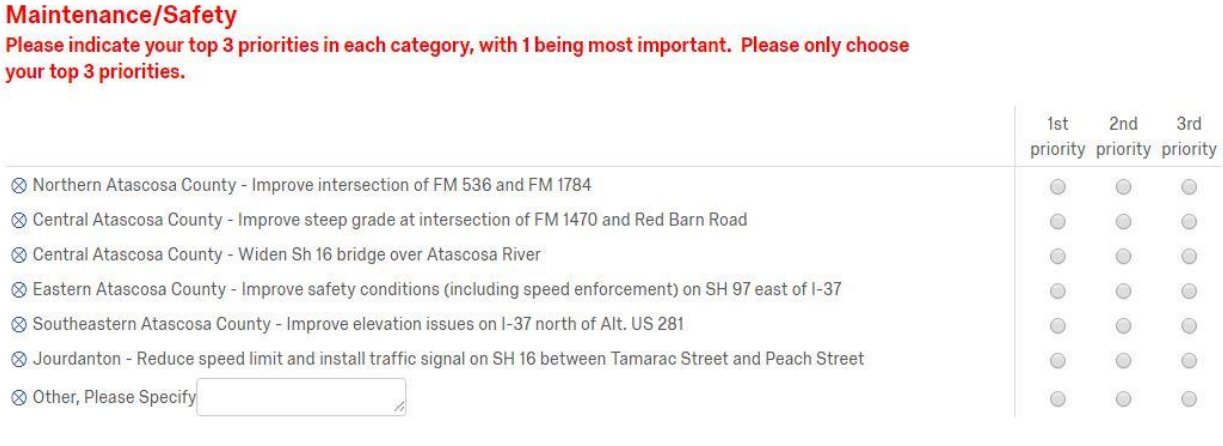


Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
⊗ Western Atascosa County - Expand FM 476 between Poteet and the county line			
⊗ Western Atascosa County - Expand FM 3175			
⊗ Western Atascosa County - Improve Wheeler Road to provide direct connection of FM 1333 between FM 476 and SH 173			
⊗ Western Atascosa County - Add shoulders to FM 1333 from Charlotte to SH 173			
⊗ Central Atascosa County - Widen SH 16 from Poteet to FM 3387			
⊗ Central Atascosa County - Widen bridge on SH 16 over Atascosa River			
⊗ Central Atascosa County - Create a connection between US 281 and FM 476 by continuing FM 3006			
⊗ Central Atascosa County - Connect CR 430 to SH 16			
⊗ Central Atascosa County - Expand I-37 to 6 lanes with inside shoulder between Spur 199 and SH 97			
⊗ Central Atascosa County - Consider truck route on Bus 281 (Shale Road) to SH 16 south of Pleasanton			
⊗ Southern Atascosa County - Continue widening project on FM 140 between Charlotte and US 281A			
⊗ Southern Atascosa County - Widen and improve pavement on Spur 199			
⊗ Pleasanton - Install traffic signal at FM 3550 and Oakhaven			
⊗ Pleasanton - Construct bypass with SH 97 around Pleasanton			
⊗ Other, Please Specify			

Figure 13. Mobility and Connectivity Section of Atascosa County Transportation Needs Prioritization Survey.



Maintenance/Safety

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
⊗ Northern Atascosa County - Improve intersection of FM 536 and FM 1784			
⊗ Central Atascosa County - Improve steep grade at intersection of FM 1470 and Red Barn Road			
⊗ Central Atascosa County - Widen Sh 16 bridge over Atascosa River			
⊗ Eastern Atascosa County - Improve safety conditions (including speed enforcement) on SH 97 east of I-37			
⊗ Southeastern Atascosa County - Improve elevation issues on I-37 north of Alt. US 281			
⊗ Jourdanton - Reduce speed limit and install traffic signal on SH 16 between Tamarac Street and Peach Street			
⊗ Other, Please Specify			

Figure 14. Maintenance and Safety Section of Atascosa County Transportation Needs Prioritization Survey.

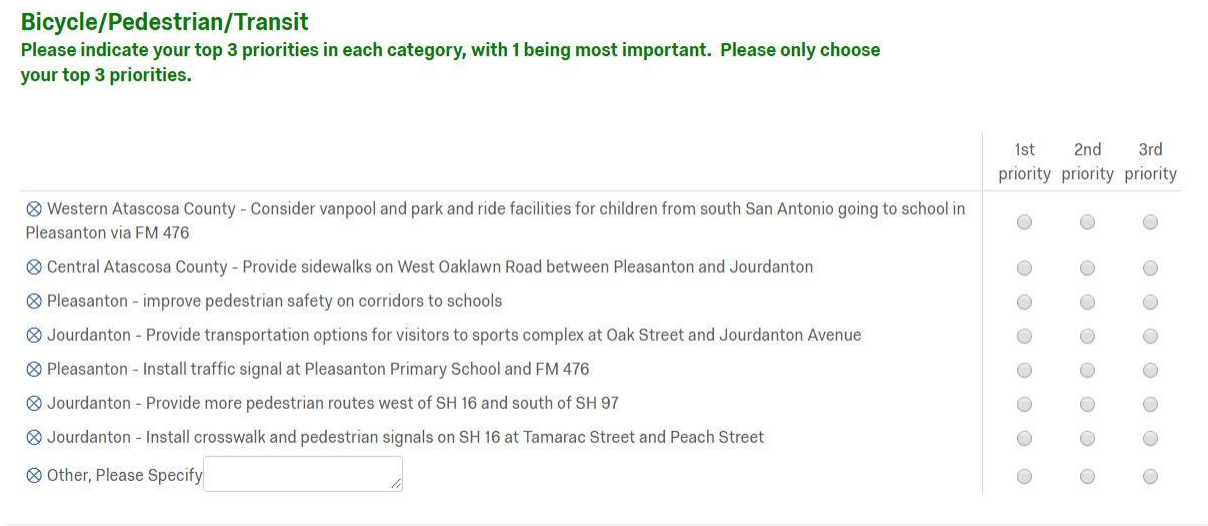


Figure 15. Bicycle, Pedestrian, and Transit Section of Atascosa County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Four people completed the survey for Atascosa County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Central Atascosa County—Widen bridge on SH 16 over Atascosa River	6	2
2	Central Atascosa County—Consider truck route on Business 281 (Shale Road) to SH 16 south of Pleasanton	5	1
3	Central Atascosa County—Create a connection between US 281 and FM 476 by continuing FM 3006	3	1
4	Central Atascosa County—Connect CR 430 to SH 16	3	0
5	Central Atascosa County—Widen SH 16 from Poteet to FM 3387	2	0
6	Pleasanton—Construct bypass with SH 97 around Pleasanton	2	0
7	Western Atascosa County—Expand FM 476 between Poteet and the county line	1	0
8	Central Atascosa County—Expand I-37 to 6 lanes with inside shoulder between Spur 199 and SH 97	1	0
9	Southern Atascosa County—Continue widening project on FM 140 between Charlotte and US 281A	1	0
10	Western Atascosa County—Improve Wheeler Road to provide direct connection of FM 1333 between FM 476 and SH 173	0	0
11	Western Atascosa County—Expand FM 3175	0	0
12	Western Atascosa County—Add shoulders to FM 1333 from Charlotte to SH 173	0	0
13	Pleasanton—Install traffic signal at FM 3550 and Oakhaven	0	0
14	Southern Atascosa County—Widen and improve pavement on Spur 199	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Central Atascosa County—Widen SH 16 bridge over Atascosa River	9	3
2	Jourdanton—Reduce speed limit and install traffic signal on SH 16 between Tamarac Street and Peach Street	5	0
3	Eastern Atascosa County—Improve safety conditions (including speed enforcement) on SH 97 east of I-37	4	0
4	Southeastern Atascosa County—Improve elevation issues on I-37 north of Alt. US 281	3	1
5	Northern Atascosa County—Improve intersection of FM 536 and FM 1784	3	0
6	Central Atascosa County—Improve steep grade at intersection of FM 1470 and Red Barn Road	0	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Central Atascosa County—Provide sidewalks on West Oaklawn Road between Pleasanton and Jourdanton	10	3
2	Pleasanton—Improve pedestrian safety on corridors to schools	6	1
3	Jourdanton—Provide more pedestrian routes west of SH 16 and south of SH 97	3	0
4	Jourdanton—Install crosswalk and pedestrian signals on SH 16 at Tamarac Street and Peach Street	3	0
5	Pleasanton—Install traffic signal at Pleasanton Primary School and FM 476	2	0
6	Western Atascosa County—Consider vanpool and park-and-ride facilities for children from south San Antonio going to school in Pleasanton via FM 476	0	0
7	Jourdanton—Provide transportation options for visitors to sports complex at Oak Street and Jourdanton Avenue	0	0

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Central Atascosa County—Widen bridge on SH 16 over Atascosa River	TxDOT	Programmed 2017
2	Central Atascosa County—Consider truck route on Business 281 (Shale Road) to SH 16 south of Pleasanton	County	New route
3	Central Atascosa County—Create a connection between US 281 and FM 476 by continuing FM 3006	County	New route
4	Central Atascosa County—Connect CR 430 to SH 16	County	New route
5	Central Atascosa County—Widen SH 16 from Poteet to FM 3387	TxDOT	Interim Super 2/ review ROW/long-term 4-lane divided
6	Pleasanton—Construct bypass with SH 97 around Pleasanton	County	New route
7	Western Atascosa County—Expand FM 476 between Poteet and the county line	TxDOT	Not at this time/ continue to monitor
8	Central Atascosa County—Expand I-37 to 6 lanes with inside shoulder between Spur 199 and SH 97	TxDOT	Freeway improvement—long term
9	Southern Atascosa County—Continue widening project on FM 140 between Charlotte and US 281A	TxDOT	Tier 2 energy sector
10	Western Atascosa County—Improve Wheeler Road to provide direct connection of FM 1333 between FM 476 and SH 173	County	New route
11	Western Atascosa County—Expand FM 3175	TxDOT	Not at this time/ continue to monitor
12	Western Atascosa County—Add shoulders to FM 1333 from Charlotte to SH 173	TxDOT	Possible maintenance project
13	Pleasanton—Install traffic signal at FM 3550 and Oakhaven	TxDOT	Talking with school
14	Southern Atascosa County—Widen and improve pavement on Spur 199	TxDOT	Not at this time

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Central Atascosa County—Widen SH 16 bridge over Atascosa River	TxDOT	Dean Word has a project on this section of roadway. Bridge rail needed to be upgraded, so barrier was placed, and this made bridge narrower. Are having complaints.
2	Jourdanton—Reduce speed limit and install traffic signal on SH 16 between Tamarac Street and Peach Street	TxDOT	This is being monitored
3	Eastern Atascosa County—Improve safety conditions (including speed enforcement) on SH 97 east of I-37	TxDOT	Ongoing project
4	Southeastern Atascosa County—Improve elevation issues on I-37 north of Alt. US 281	TxDOT	Completed
5	Northern Atascosa County—Improve intersection of FM 536 and FM 1784	TxDOT	Ongoing project
6	Central Atascosa County—Improve steep grade at intersection of FM 1470 and Red Barn Road	TxDOT	This is being monitored

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Central Atascosa County—Provide sidewalks on West Oaklawn Road between Pleasanton and Jourdanton	County	Recommend development of Pedestrian Plan
2	Pleasanton—Improve pedestrian safety on corridors to schools	School/City Partnership	Encourage Safe Routes to School Plan
3	Jourdanton—Provide more pedestrian routes west of SH 16 and south of SH 97		Recommend development of Pedestrian Plan
4	Jourdanton—Install crosswalk and pedestrian signals on SH 16 at Tamarac Street and Peach Street	State/City/ School	Encourage Safe Routes to School Plan
5	Pleasanton—Install traffic signal at Pleasanton Primary School and FM 476	State/City/ School	Encourage Safe Routes to School Plan
6	Western Atascosa County—Consider vanpool and park-and-ride facilities for children from south San Antonio going to school in Pleasanton via FM 476	State/City/ School/ART	Recommend inclusion in the Regional Transportation Coordination Plan
7	Jourdanton—Provide transportation options for visitors to sports complex at Oak Street and Jourdanton Avenue	ART/City	Recommend inclusion in the Regional Transportation Coordination Plan

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Atascosa County Projects

Table 7 provides the top three projects from Atascosa County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Atascosa County.

Project Description	Weighted Technical Score
Widen bridge on SH 16 at Atascosa River	170
Build new roadway from Business 281 (Shale Road) to SH 16 South of Pleasanton	−70
Extend FM 3006 to create a connection between US 281 and FM 476	−100

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Atascosa County's highest ranked project (widen the bridge on SH 16 at Atascosa River) received the second highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Atascosa County Judge

Dear Judge Robert Hurley,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Atascosa County, and we would appreciate your participation. The date of the workshop is:

Date: December 8, 2015
Time: 1:00 PM to 3:00 PM
Location: Jourdanton Library and Community Center, Jourdanton

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Bandera County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Bandera County workshop was organized by TxDOT with the help of Bandera County Judge Richard Evans. TxDOT sent a letter (shown in the Appendix) to Judge Evans requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Monday, November 9, 2015, from 1:30 PM to 4:30 PM at the Silver Sage Community Center in Bandera. Twenty-nine people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Bandera County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Bandera County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Bandera County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Bandera County both now and in the future. The following is a summary of the data presented at the Bandera County workshop.

2.1. Bandera County Demographic Data

Figure 1 provides the historic and projected population growth for Bandera County between 1960 and 2040.

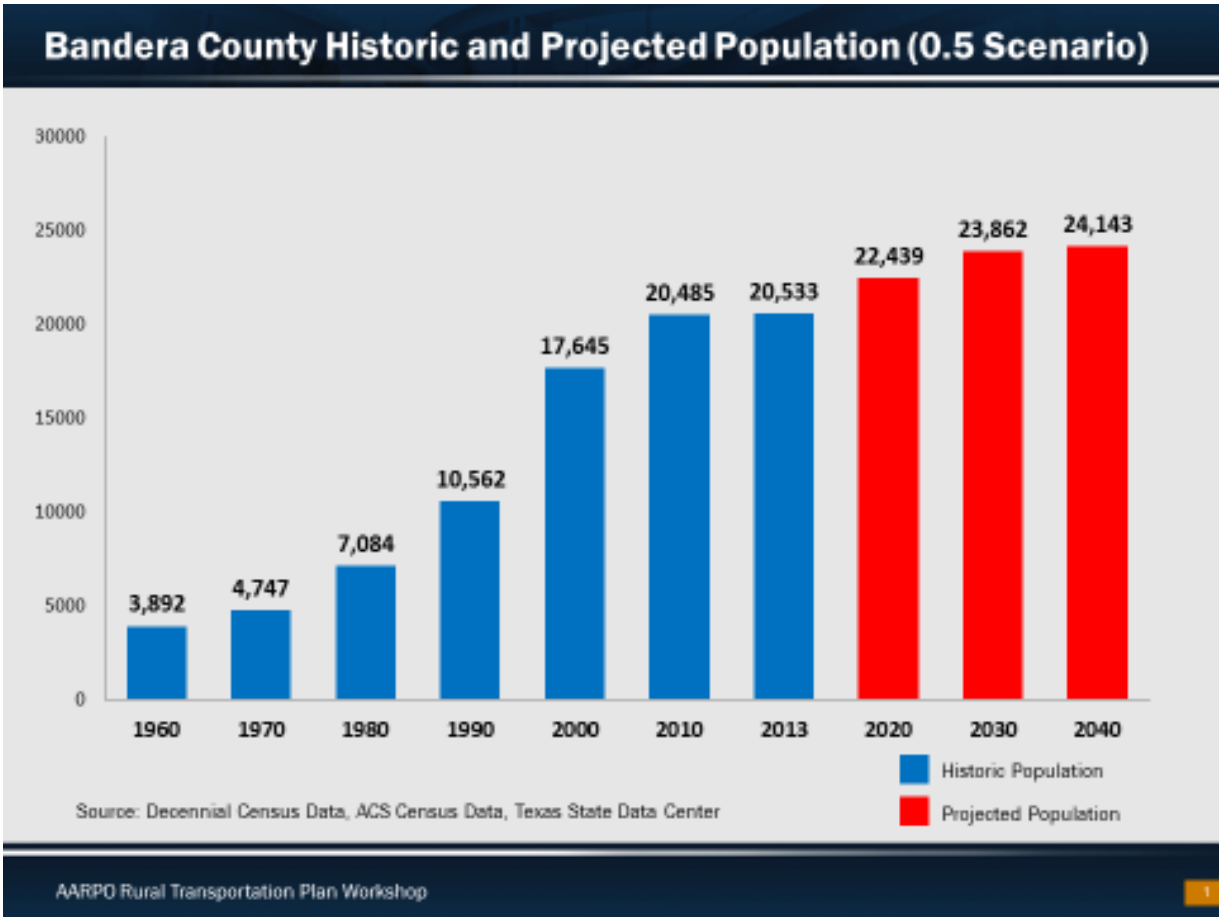

Figure 1. Bandera County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Bandera County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

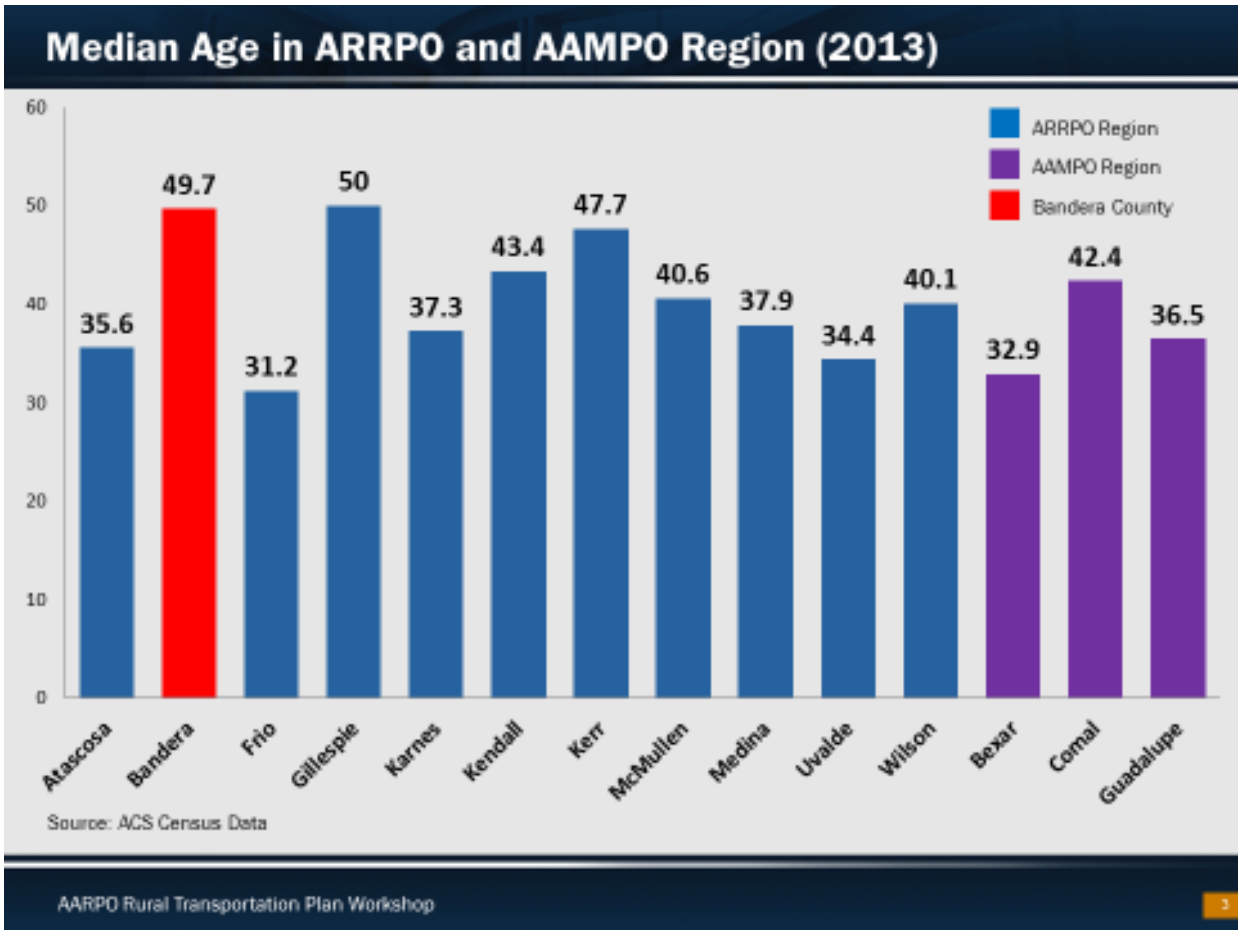

Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Bandera County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

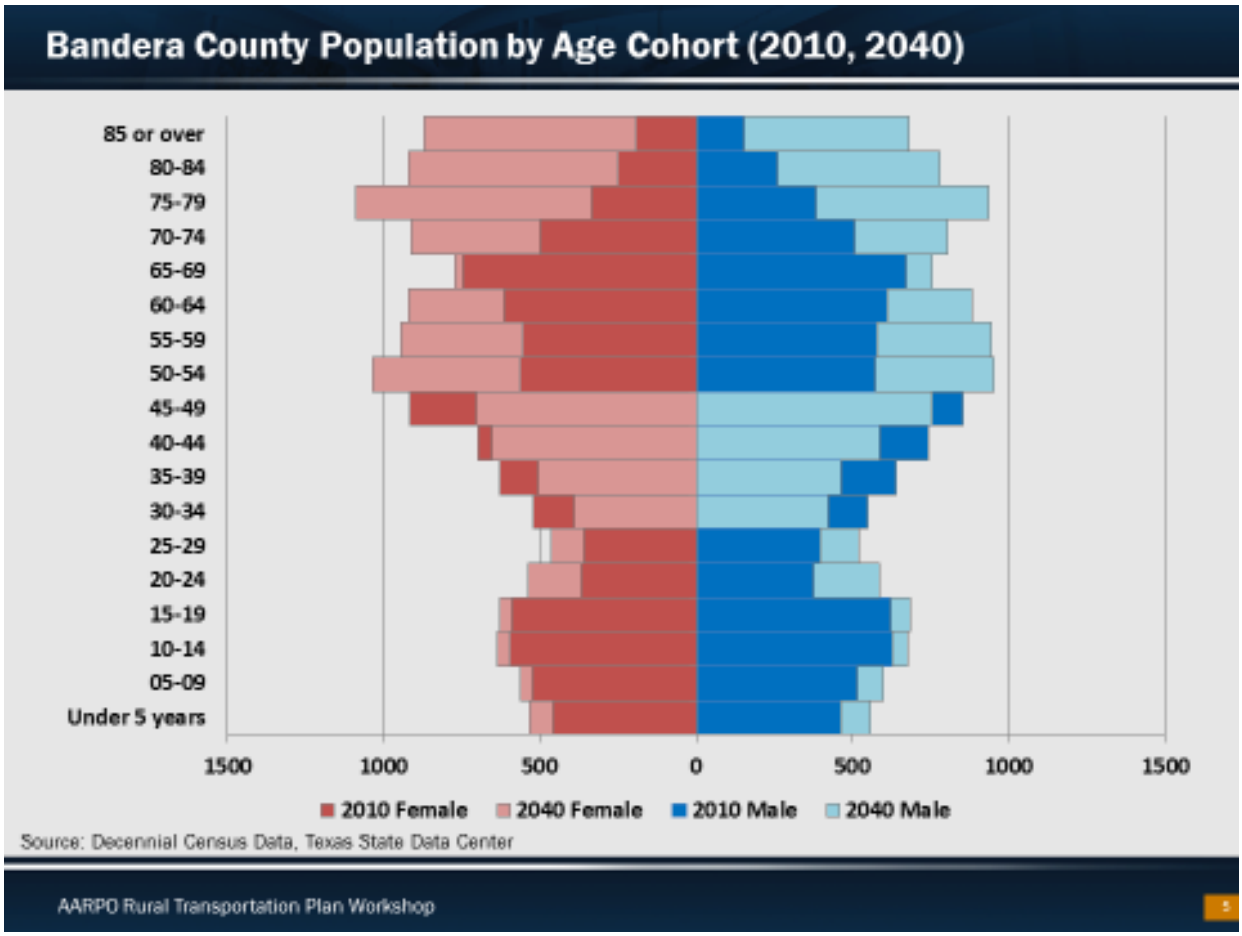

Figure 3. Bandera County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Bandera County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Bandera County.

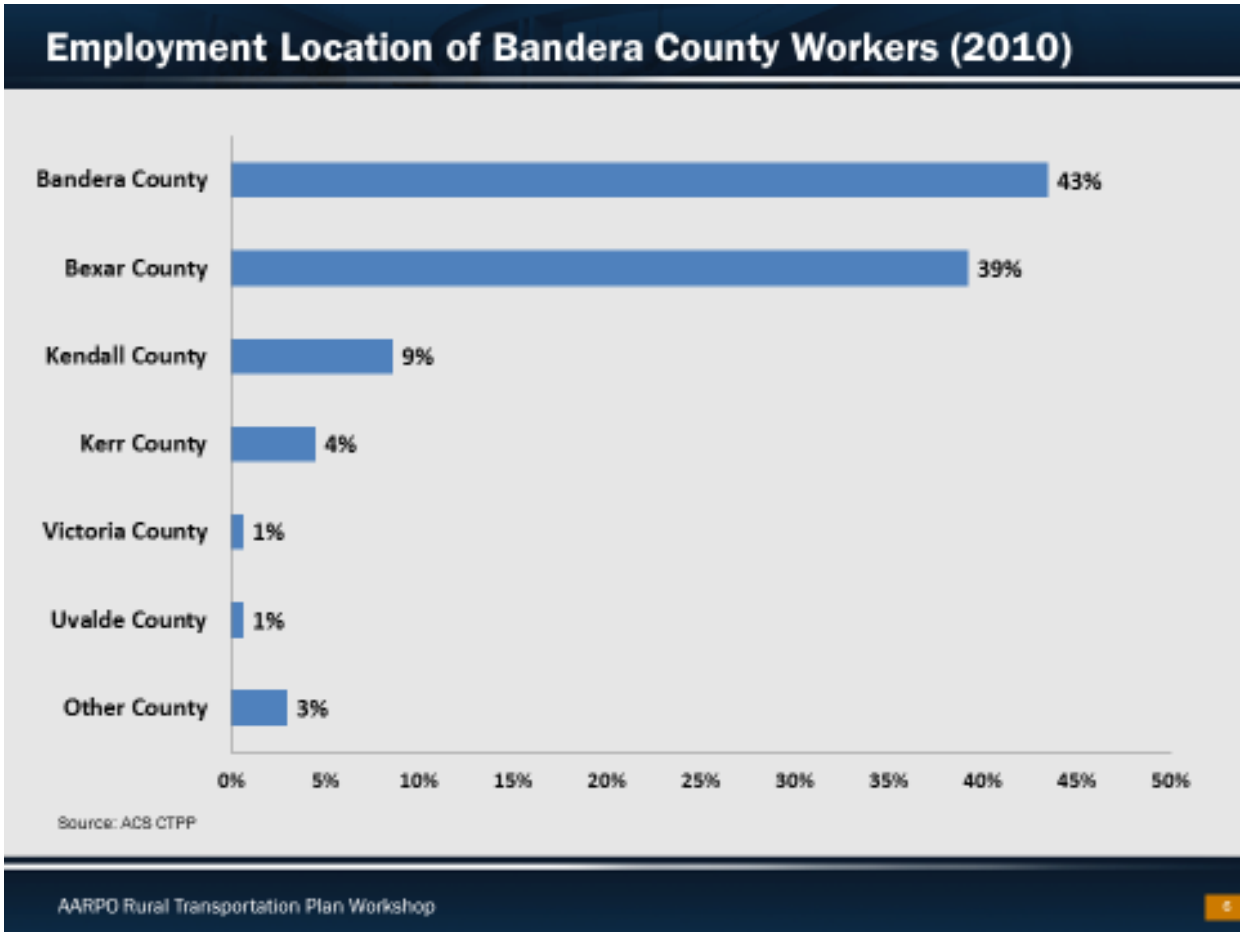

Figure 4. Employment Location of Bandera County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Bandera County.

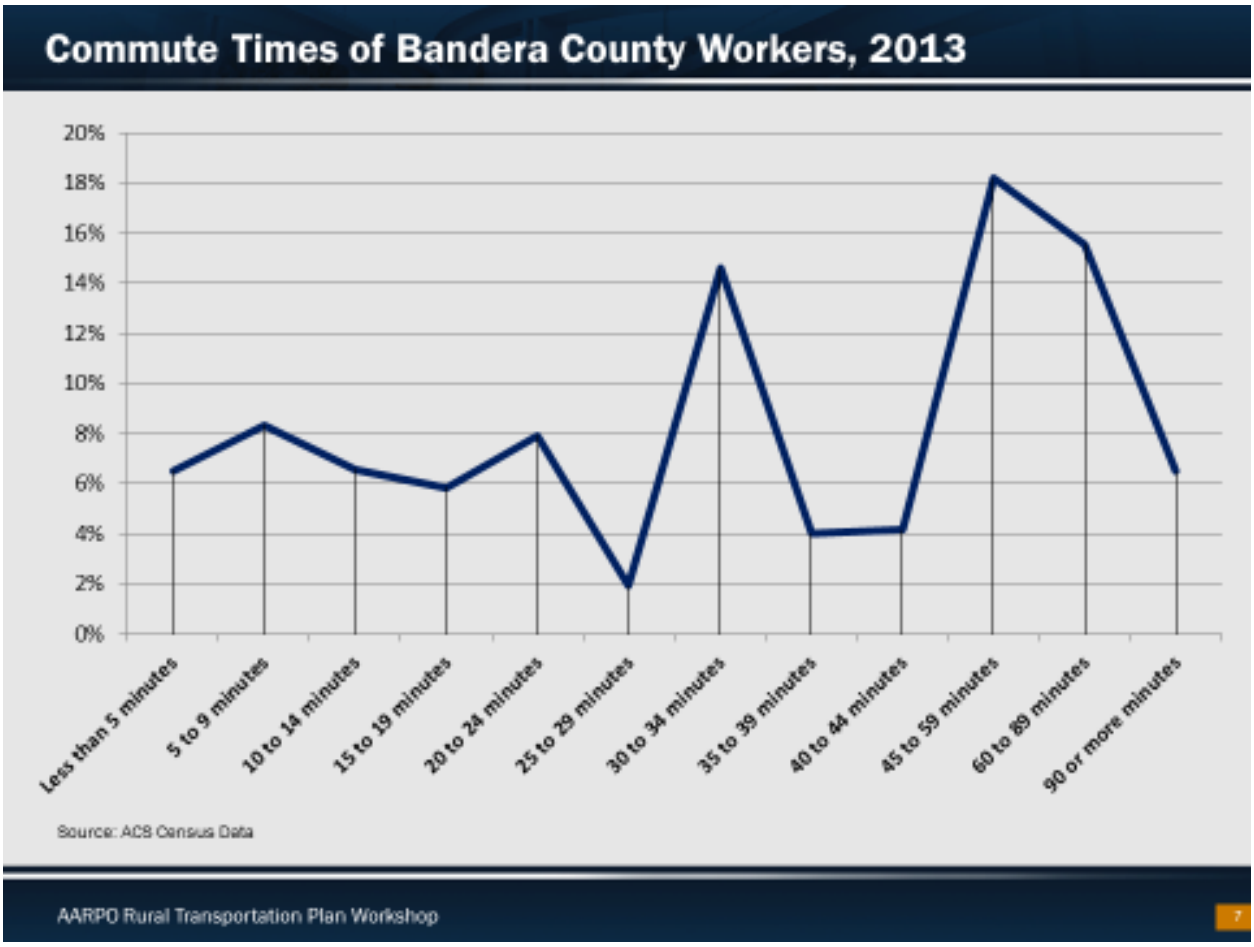

Figure 5. Commute Times of Bandera County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Bandera County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

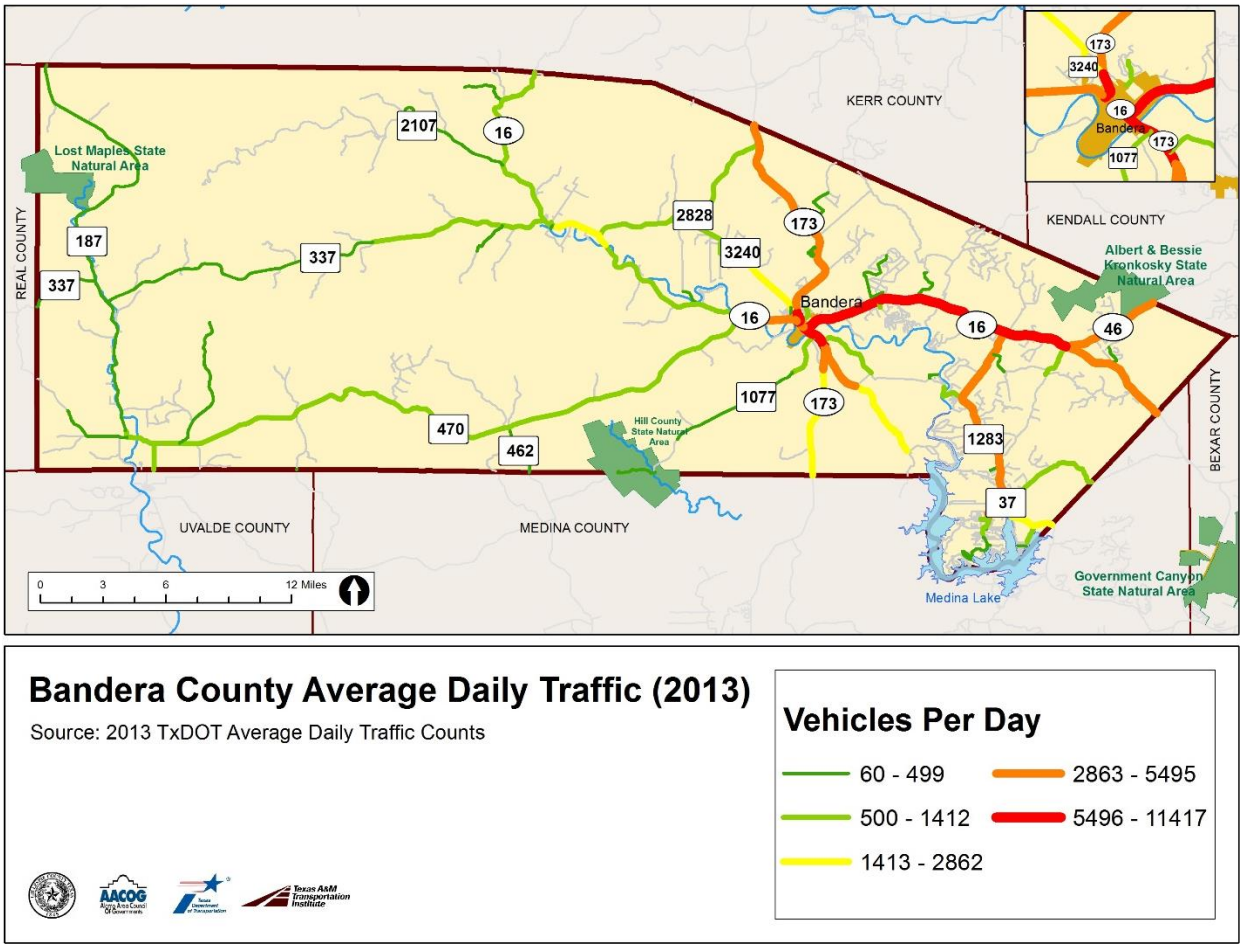

Figure 6. Average Daily Traffic in Bandera County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Bandera County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

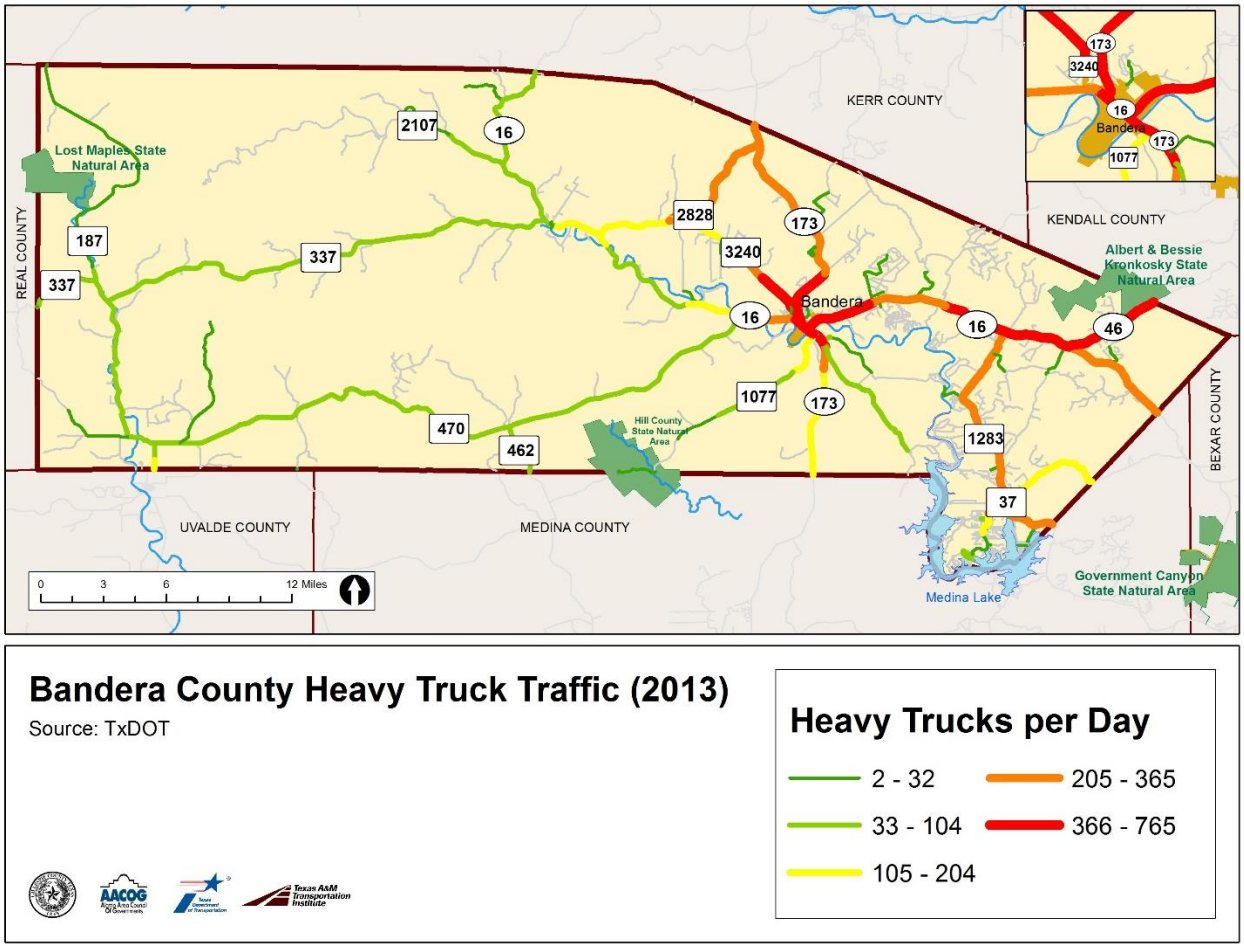

Figure 7. Heavy Truck Traffic in Bandera County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Bandera County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

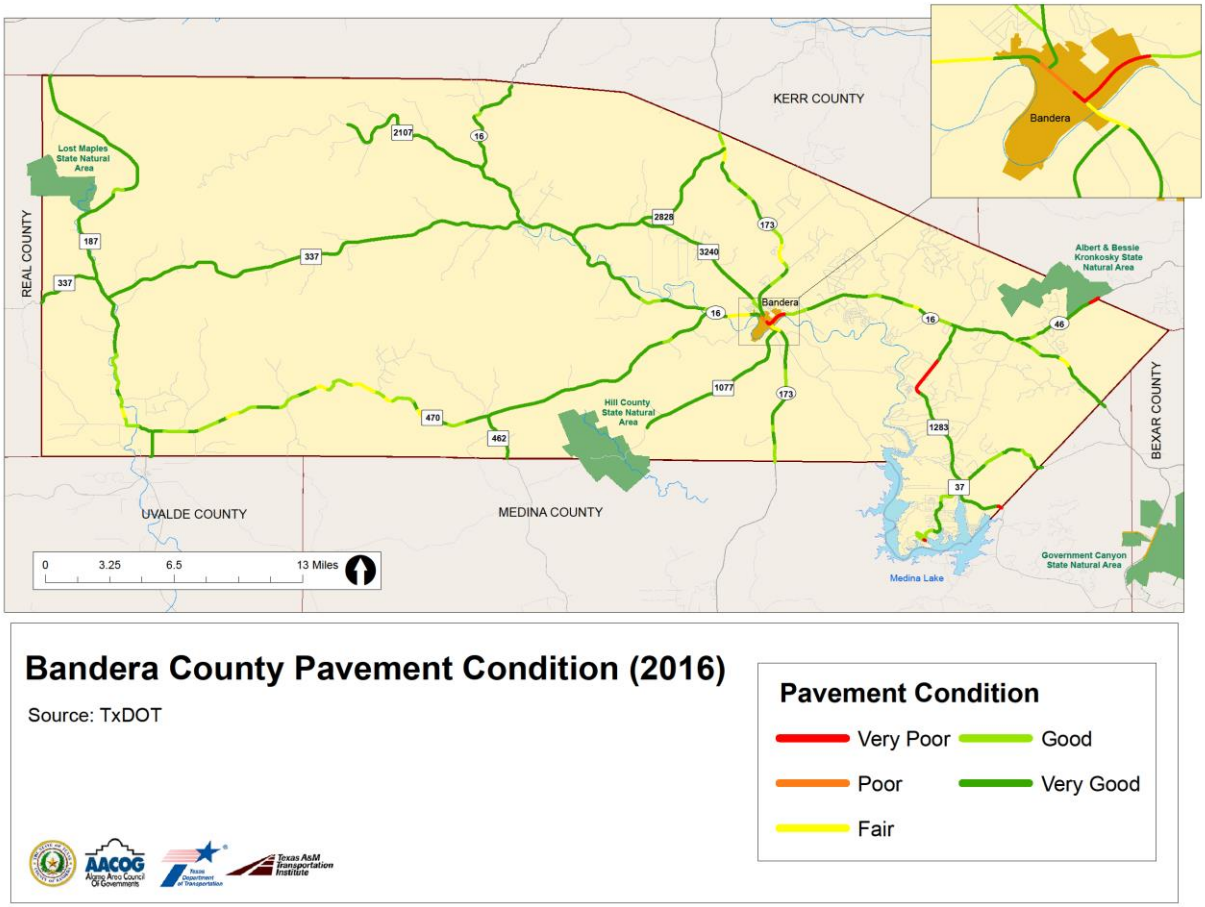

Figure 8. Pavement Conditions in Bandera County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Bandera County between 2013 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

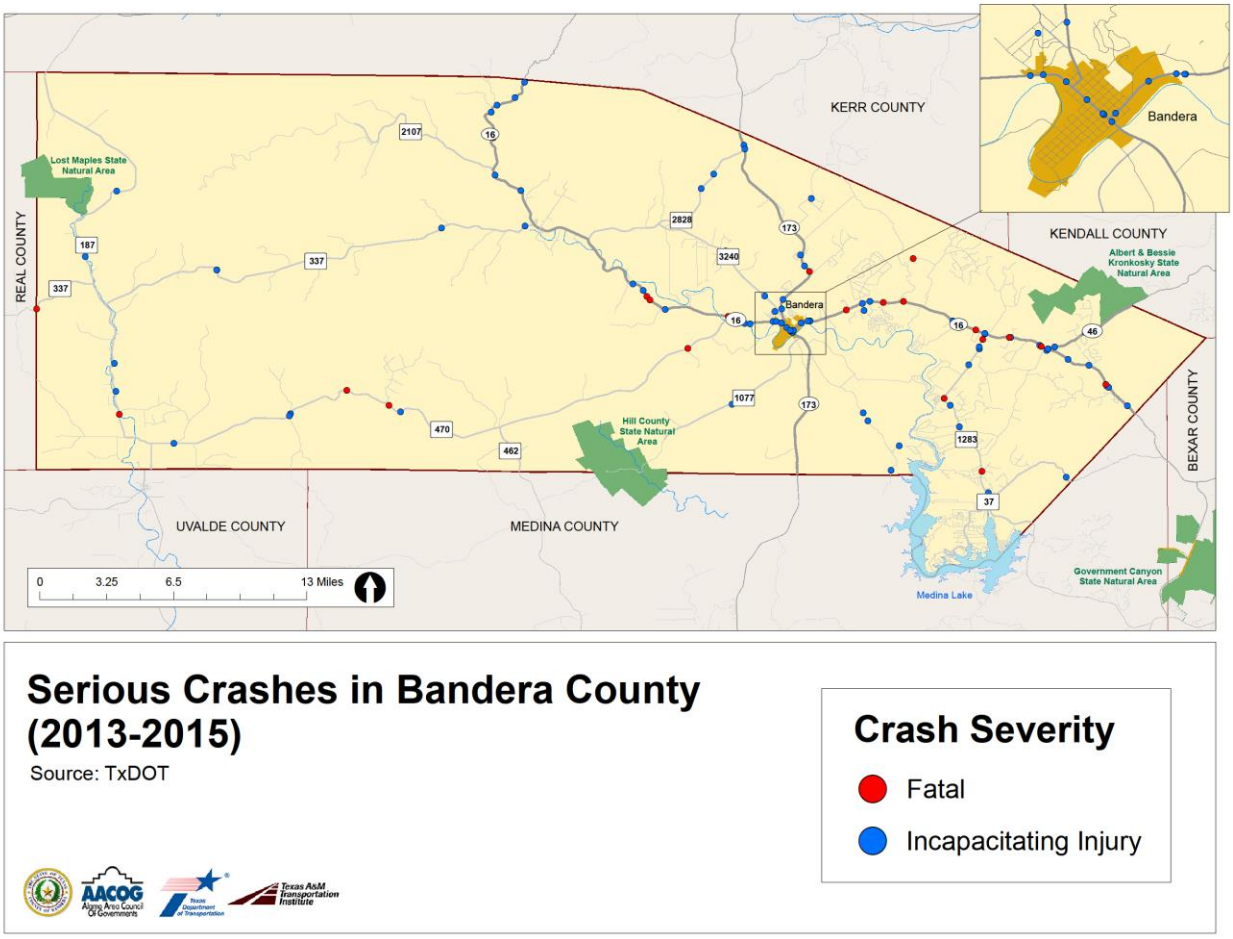

Figure 9. Serious Crashes in Bandera County (2013–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Bandera County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Bandera County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Bandera County mobility and connectivity exercise map.

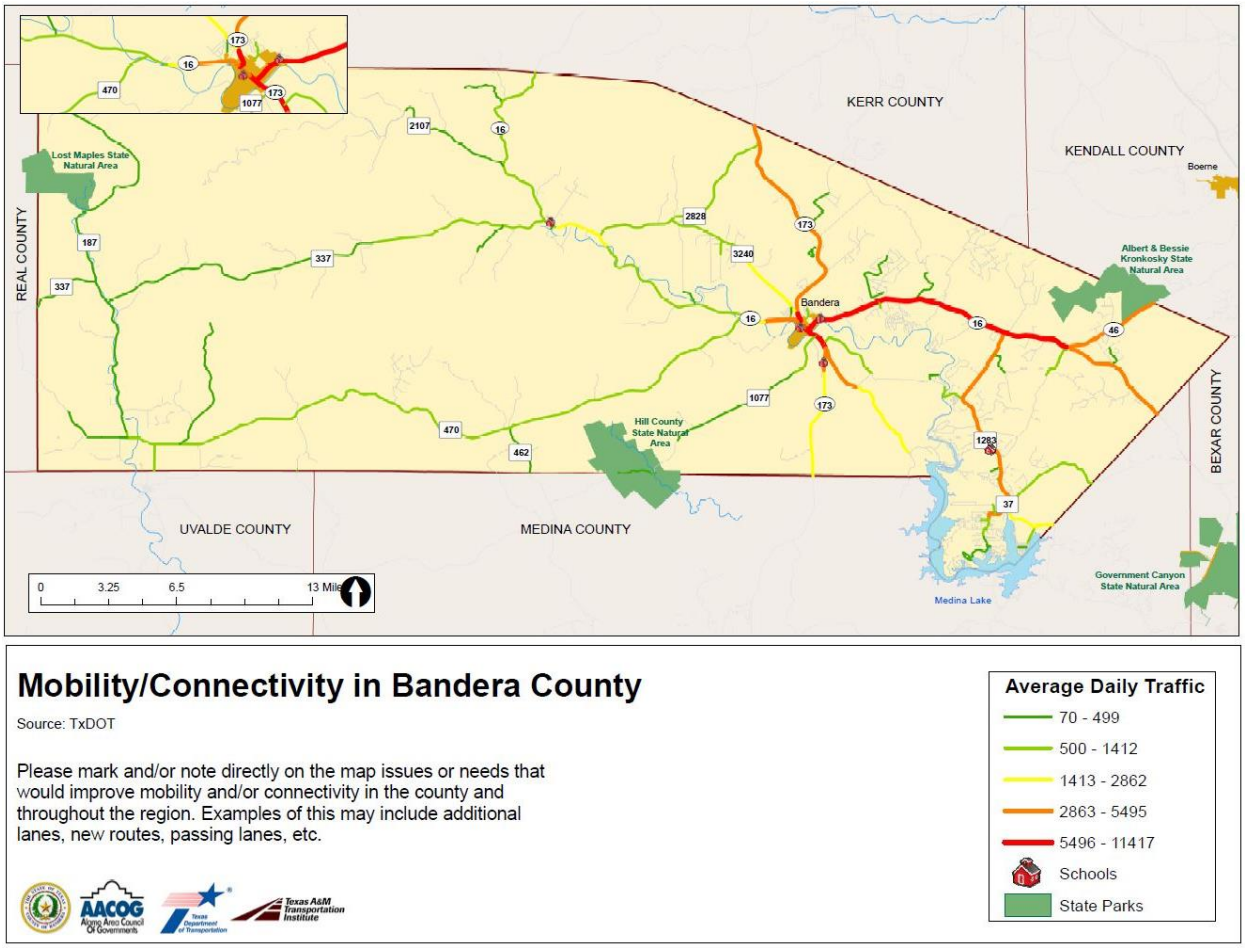

Figure 10. Bandera County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Bandera County maintenance and safety exercise map.

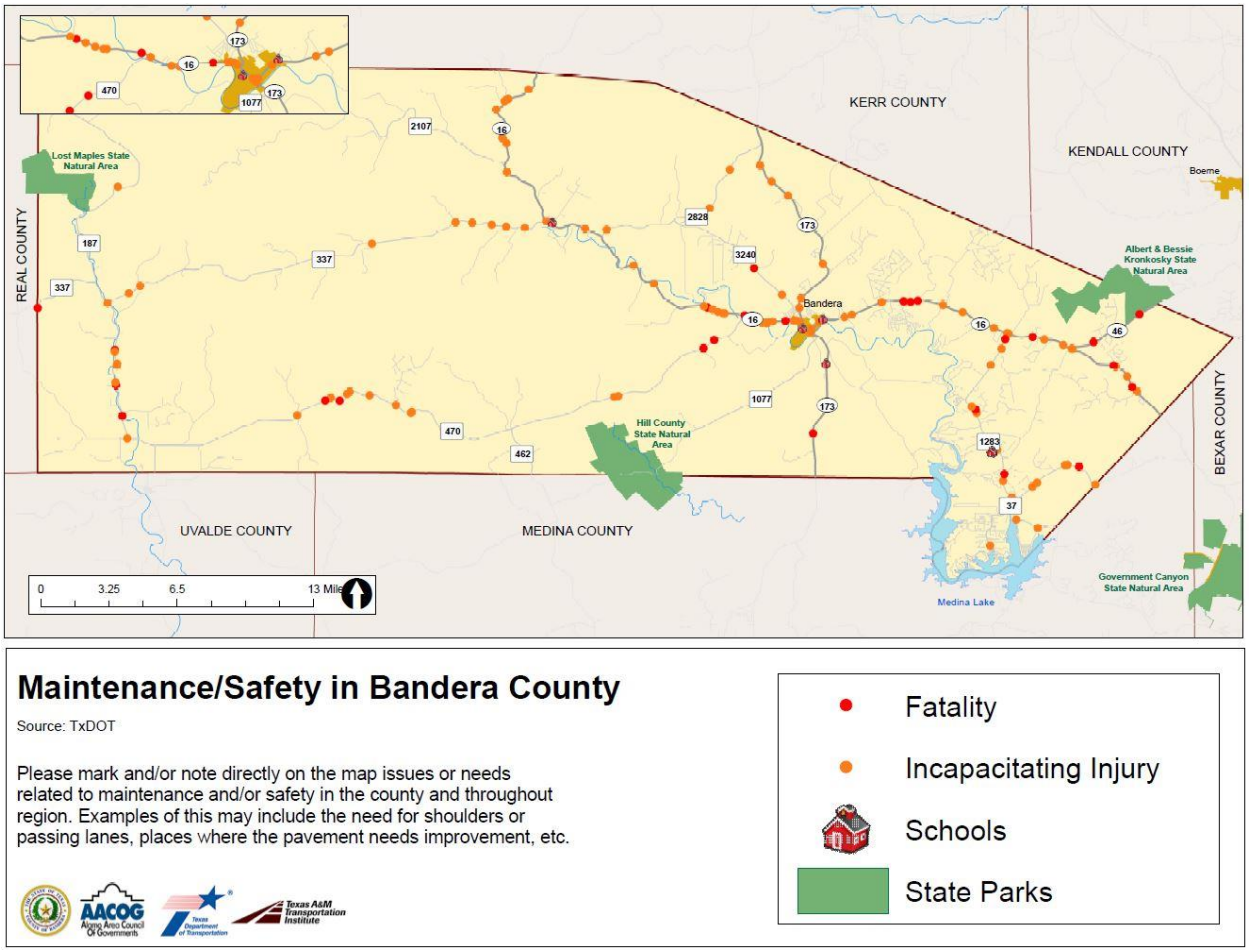

Figure 11. Bandera County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Bandera County bicycle, pedestrian, and transit exercise map.

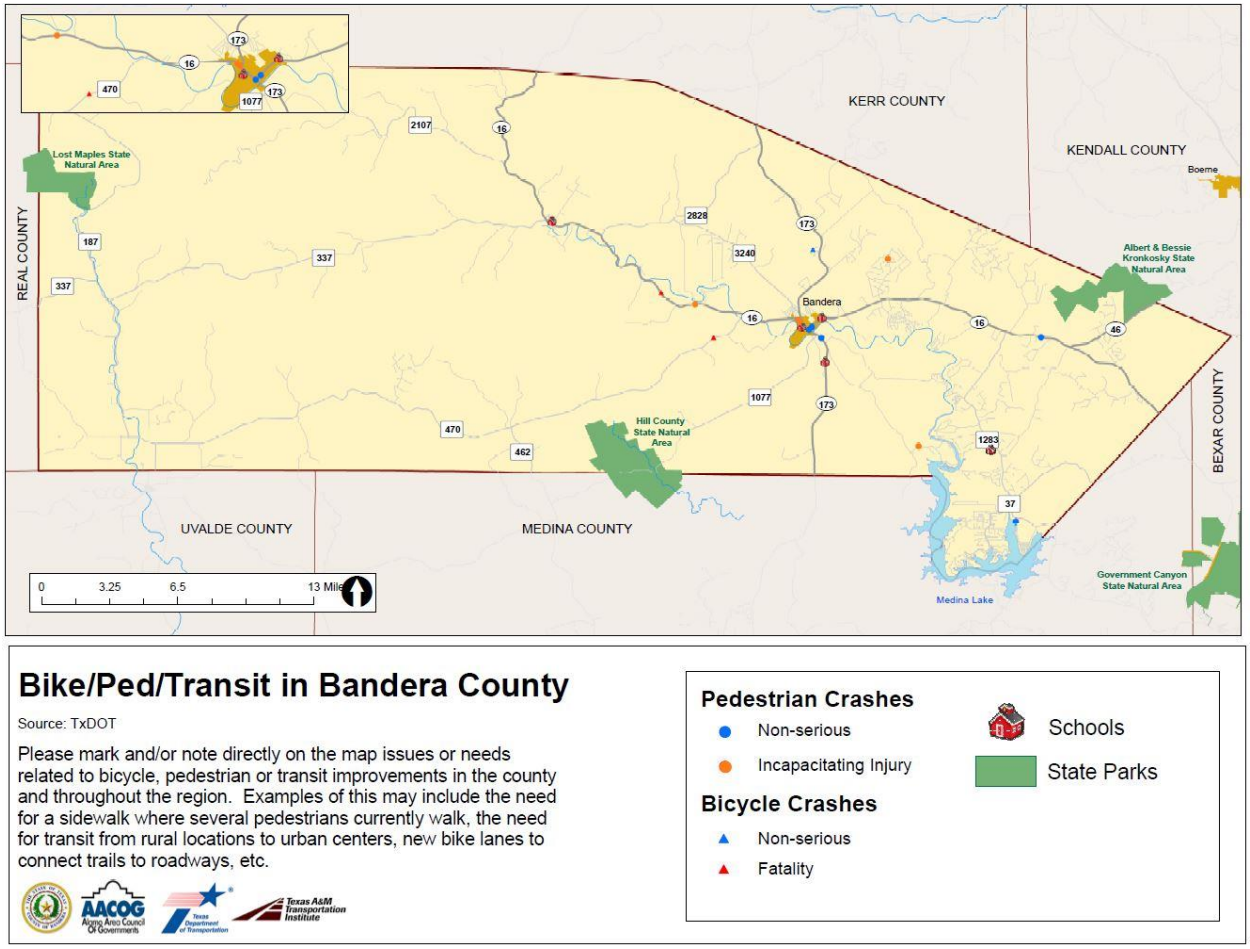

Figure 12. Bandera County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Bandera County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was

distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.

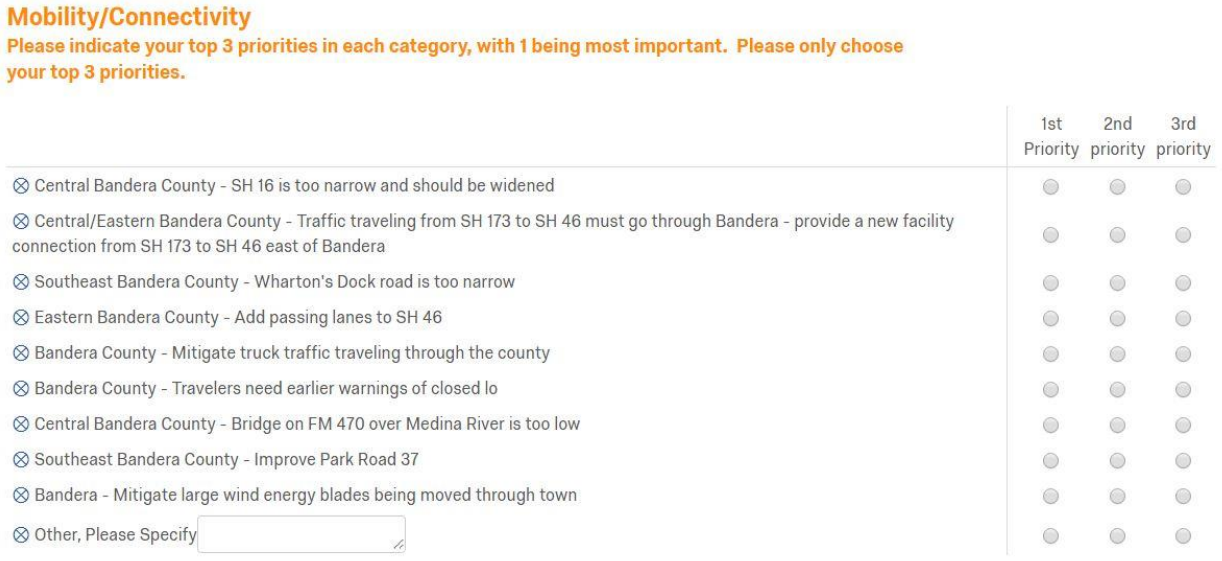

Figure 13. Mobility and Connectivity Section of Bandera County Transportation Needs Prioritization Survey.

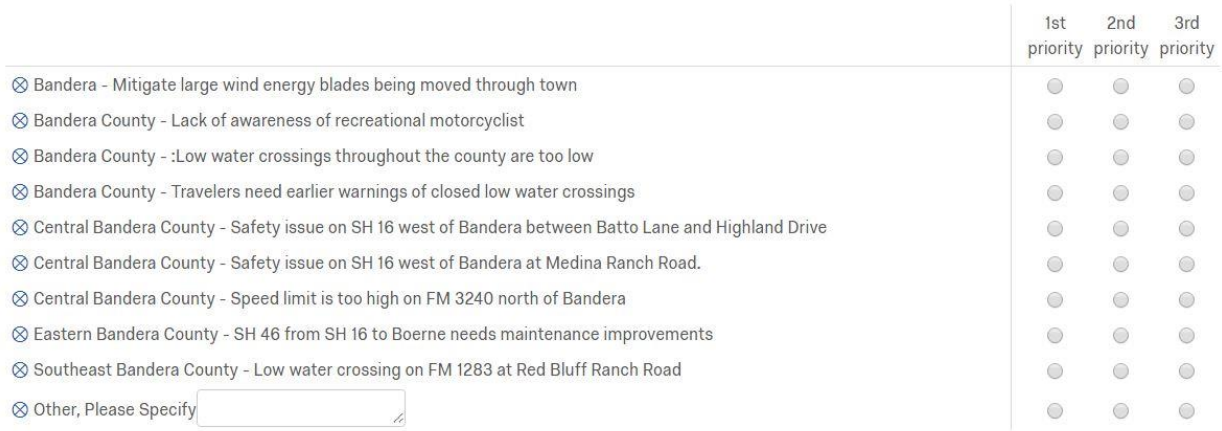

Figure 14. Maintenance and Safety Section of Bandera County Transportation Needs Prioritization Survey.

Bicycle/Pedestrian/Transit

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
⊗ Bandera County - Need for more rural transit service	○	○	○
⊗ Bandera County - Connectivity problems with rural transit service	○	○	○
⊗ Bandera County - Need to easily connect state natural areas with bike-friendly facilities	○	○	○
⊗ Western Bandera County - FM 470 - between Bandera and FM 187 is too narrow	○	○	○
⊗ Western Bandera County - FM 187 between FM 4701 and Lost Maples Natural area is too narrow	○	○	○
⊗ Western Bandera County - FM 337 between Medina and Vanderpool is too narrow	○	○	○
⊗ North Central Bandera County - FM 2107 - Add shoulders	○	○	○
⊗ Central Bandera County - FM 2828 between SH 16 and SH 173 is too narrow	○	○	○
⊗ Central Bandera County - Bad visibility on SH 16 between Medina and Bandera	○	○	○
⊗ Central Bandera County - SH 16 is too narrow	○	○	○
⊗ Central Bandera County - FM 337 add shoulders	○	○	○
⊗ Central Bandera County - Need for sidewalks	○	○	○
⊗ Central Bandera County - Build bike route around Medina that touches northern and southern county lines	○	○	○
⊗ Eastern Bandera County - Build bike route around eastern tip of the county bordered by Median Lake, Bandera through Albert and Bessie Kronosky State Natural Area	○	○	○
⊗ Medina - Need sidewalks in Medina	○	○	○
⊗ Bandera - Need sidewalks in neighborhoods around schools	○	○	○
⊗ Other, Please Specify	○	○	○

Figure 15. Bicycle, Pedestrian, and Transit Section of Bandera County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Eight people completed the survey for Bandera County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Central/Eastern Bandera County—Traffic traveling from SH 173 to SH 46 must go through Bandera; provide a new facility connection from SH 173 to SH 46 east of Bandera	10	3
2	Central Bandera County—SH 16 is too narrow and should be widened	8	2
3	Bandera—Mitigate large wind energy blades being moved through town	7	1
4	Southeast Bandera County—Wharton's Dock road is too narrow	7	1
5	Eastern Bandera County—Add passing lanes to SH 46	7	0
6	Bandera County—Mitigate truck traffic traveling through the county	3	1
7	Central Bandera County—Bridge on FM 470 over Medina River is too low	2	0
8	Southeast Bandera County—Improve Park Road 37	2	0
9	Other—Place a bridge at English Crossing	2	0
10	Bandera County—Travelers need earlier warnings of closed low water crossings	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Eastern Bandera County—SH 46 from SH 16 to Boerne needs maintenance improvements	15	3
2	Bandera—Mitigate large wind energy blades being moved through town	7	2
3	Bandera County—Low water crossings throughout the county are too low	7	1
4	Southeast Bandera County—Low water crossing on FM 1283 at Red Bluff Ranch Road	4	1
5	Bandera County—Travelers need earlier warnings of closed low water crossings	4	0
6	Bandera County—Lack of awareness of recreational motorcyclists	2	0
7	Central Bandera County—Safety issue on SH 16 west of Bandera between Batto Lane and Highland Drive	2	0
8	Central Bandera County—Safety issue on SH 16 west of Bandera at Medina Ranch Road	1	0
9	Central Bandera County—Speed limit is too high on FM 3240 north of Bandera	0	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Bandera—Need sidewalks in neighborhoods around schools	8	2
2	Bandera County—Need for more rural transit service	5	1
3	Western Bandera County—FM 337 between Medina and Vanderpool is too narrow	5	1
4	Central Bandera County—SH 16 is too narrow	5	1
5	Central Bandera County—Need for sidewalks	4	0
6	North Central Bandera County, FM 2107—Add shoulders	3	1
7	Medina—Need sidewalks in Medina	3	1
8	Bandera County—Need to easily connect state natural areas with bike-friendly facilities	2	0
9	Bandera County—Connectivity problems with rural transit service	2	0
10	Western Bandera County—FM 470 between Bandera and FM 187 is too narrow	2	0
11	Western Bandera County—FM 187 between FM 4701 and Lost Maples Natural Area is too narrow	2	0
12	Central Bandera County—Bad visibility on SH 16 between Medina and Bandera	1	0
13	Central Bandera County—FM 2828 between SH 16 and SH 173 is too narrow	0	0
14	Central Bandera County, FM 337—Add shoulders	0	0
15	Central Bandera County—Build bike route around Medina that touches northern and southern county lines	0	0
16	Eastern Bandera County—Build bike route around eastern tip of the county bordered by Median Lake, Bandera through Albert and Bessie Kronosky State Natural Area	0	0

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Central/Eastern Bandera County—Traffic traveling from SH 173 to SH 46 must go through Bandera; provide a new facility connection from SH 173 to SH 46 east of Bandera	County/TxDOT	New location
2	Central Bandera County—SH 16 is too narrow and should be widened	TxDOT	Proposing phased project
3	Bandera—Mitigate large wind energy blades being moved through town	TxDOT	Worked with TXDOT's oversize overweight permitting to identify alternate route
4	Southeast Bandera County—Wharton's Dock road is too narrow	County	
5	Eastern Bandera County—Add passing lanes to SH 46	TxDOT	Topographical challenges
6	Bandera County—Mitigate truck traffic traveling through the county	TxDOT	Worked with TXDOT's oversize overweight permitting to identify alternate route
7	Central Bandera County—Bridge on FM 470 over Medina River is too low	TxDOT	Continue to monitor
8	Southeast Bandera County—Improve Park Road 37	TxDOT	Some work proposed
9	Other—Place a bridge at English Crossing	County	This is regularly inspected through the National Bridge Inventory Inspection process
10	Bandera County—Travelers need earlier warnings of closed low water crossings	TxDOT/ Bandera	Working on sign placement and locations

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Eastern Bandera County—SH 46 from SH 16 to Boerne needs maintenance improvements	TxDOT	Monitoring
2	Bandera—Mitigate large wind energy blades being moved through town	TxDOT	Worked with TXDOT's oversize overweight permitting to identify alternate route
3	Bandera County—Low water crossings throughout the county are too low	Bandera County	Continue to monitor
4	Southeast Bandera County—Low water crossing on FM 1283 at Red Bluff Ranch Road	TxDOT	
5	Bandera County—Travelers need earlier warnings of closed low water crossings	TxDOT/Bandera	Working on sign placement and locations
6	Bandera County—Lack of awareness of recreational motorcyclists	Local/TxDOT	Recommend looking at Safety Grant Funding—Education Program
7	Central Bandera County—Safety issue on SH 16 west of Bandera between Batto Lane and Highland Drive	TxDOT	Ongoing project
8	Central Bandera County—Safety issue on SH 16 west of Bandera at Medina Ranch Road	TxDOT	Ongoing project
9	Central Bandera County—Speed limit is too high on FM 3240 north of Bandera	TxDOT	Will schedule a speed study

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Bandera—Need sidewalks in neighborhoods around schools	County/City/TxDOT	Recommend development of Pedestrian Plan
2	Bandera County—Need for more rural transit service	ART/County/City	Recommend inclusion in the Regional Transportation Coordination Plan
3	Western Bandera County—FM 337 between Medina and Vanderpool is too narrow	TxDOT	Included in the district's Rural Bike Master Plan
4	Central Bandera County—SH 16 is too narrow	TxDOT	Included in the district's Rural Bike Master Plan
5	Central Bandera County—Need for sidewalks	County/City/TxDOT	Recommend development of Pedestrian Plan
6	North Central Bandera County, FM 2107—Add shoulders	TxDOT	Included in the district's Rural Bike Master Plan
7	Medina—Need sidewalks in Medina	TxDOT/City	Recommend development of Pedestrian Plan
8	Bandera County—Need to easily connect state natural areas with bike-friendly facilities	County	Included in the district's Rural Bike Master Plan
9	Bandera County—Connectivity problems with rural transit service	ART/County/City	Recommend inclusion in the Regional Transportation Coordination Plan
10	Western Bandera County—FM 470 between Bandera and FM 187 is too narrow	TxDOT	Included in the district's Rural Bike Master Plan
11	Western Bandera County—FM 187 between FM 4701 and Lost Maples Natural Area is too narrow	TxDOT	Included in the district's Rural Bike Master Plan

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs (Continued).

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
12	Central Bandera County—Bad visibility on SH 16 between Medina and Bandera	TxDOT	Included in the district's Rural Bike Master Plan
13	Central Bandera County—FM 2828 between SH 16 and SH 173 is too narrow	TxDOT	Included in the district's Rural Bike Master Plan
14	Central Bandera County, FM 337—Add shoulders	TxDOT	Included in the district's Rural Bike Master Plan
15	Central Bandera County—Build bike route around Medina that touches northern and southern county lines	TxDOT/County/City	Recommend development of Pedestrian and Bicycle Plan
16	Eastern Bandera County—Build bike route around eastern tip of the county bordered by Median Lake, Bandera through Albert and Bessie Kronosky State Natural Area	TxDOT/County/City	Recommend development of Pedestrian and Bicycle Plan

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Bandera County Projects

Table 7 provides the top three projects from Bandera County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Bandera County.

Project Description	Weighted Technical Score
Widen SH 16 to 5 lanes (TWLTL) from Old San Antonio Road to Robindale East	170
Widen SH 16 to 5 lanes (TWLTL) from Bear Springs to E SH 46	170
Widen SH 16 to 5 lanes (TWLTL) from 0.25 mile west of River Ranch Drive to East Pipe Creek Road	110

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Bandera County's two highest ranked projects (widen SH 16 to 5 lanes between Old San Antonio Road and Robindale East and between Bear Springs and E SH 46) received the second highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Bandera County Judge

Dear Judge Richard Evans,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Bandera County, and we would appreciate your participation. The date of the workshop is:

Date: November 9, 2015
Time: 1:30 PM to 4:30 PM
Location: Silver Sage Community Center, Bandera

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Frio County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Frio County workshop was organized by TxDOT with the help of Frio County Judge Arnulfo Luna. TxDOT sent a letter (shown in the Appendix) to Judge Luna requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Thursday, January 21, 2016, from 9:00 AM to 11:00 AM at the Frio Community Room in Pearsall. Five people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Frio County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Frio County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Frio County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Frio County both now and in the future. The following is a summary of the data presented at the Frio County workshop.

2.1. Frio County Demographic Data

Figure 1 provides the historic and projected population growth for Frio County between 1960 and 2040.

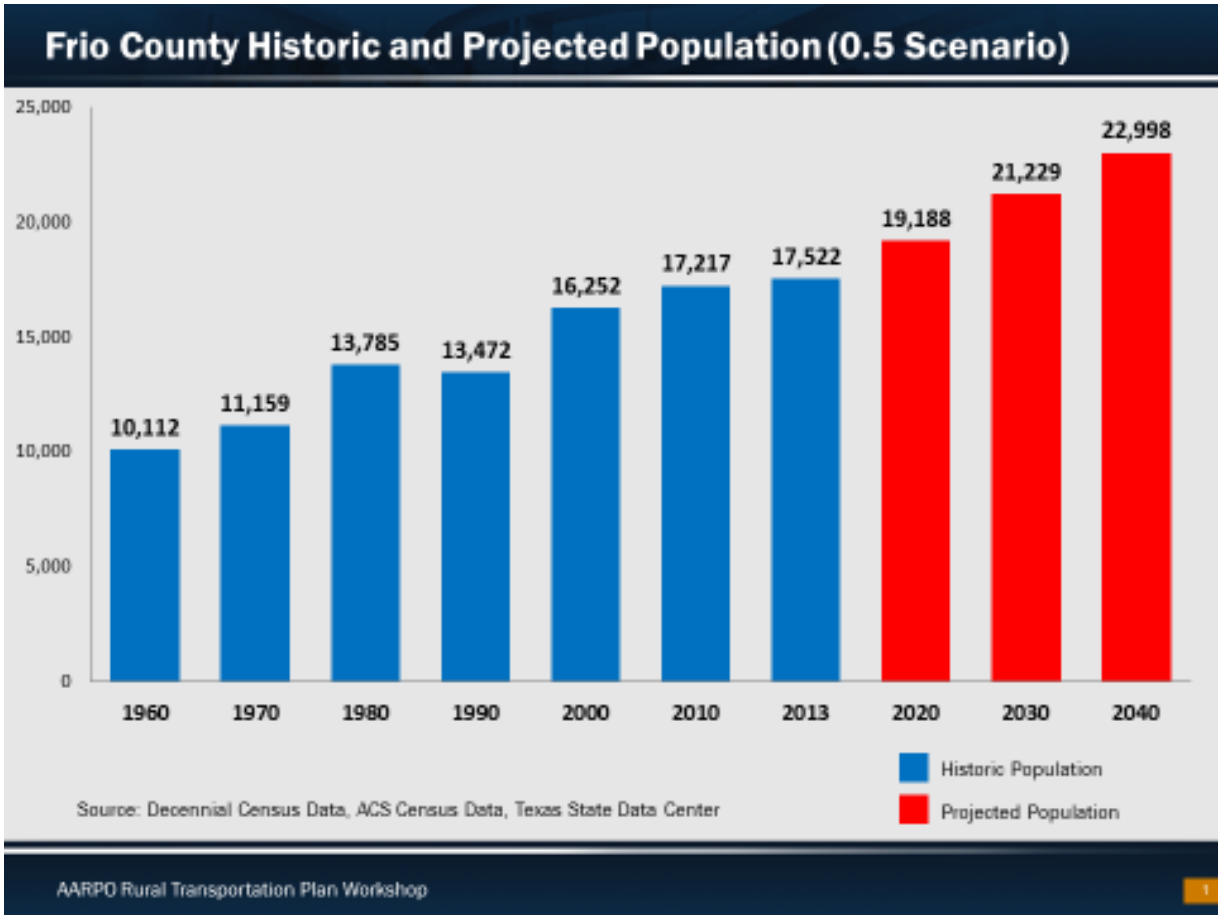


Figure 1. Frio County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Frio County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

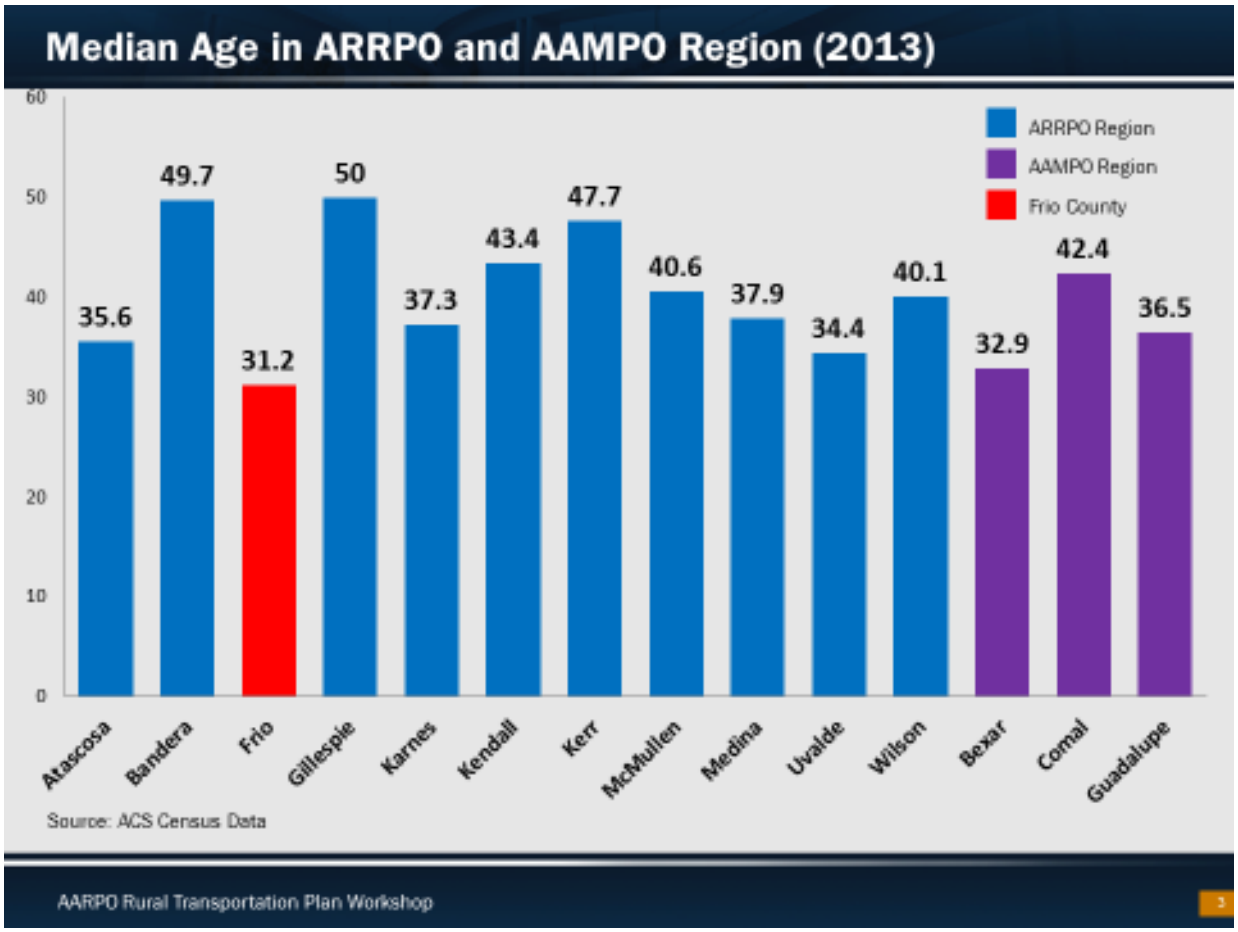


Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Frio County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

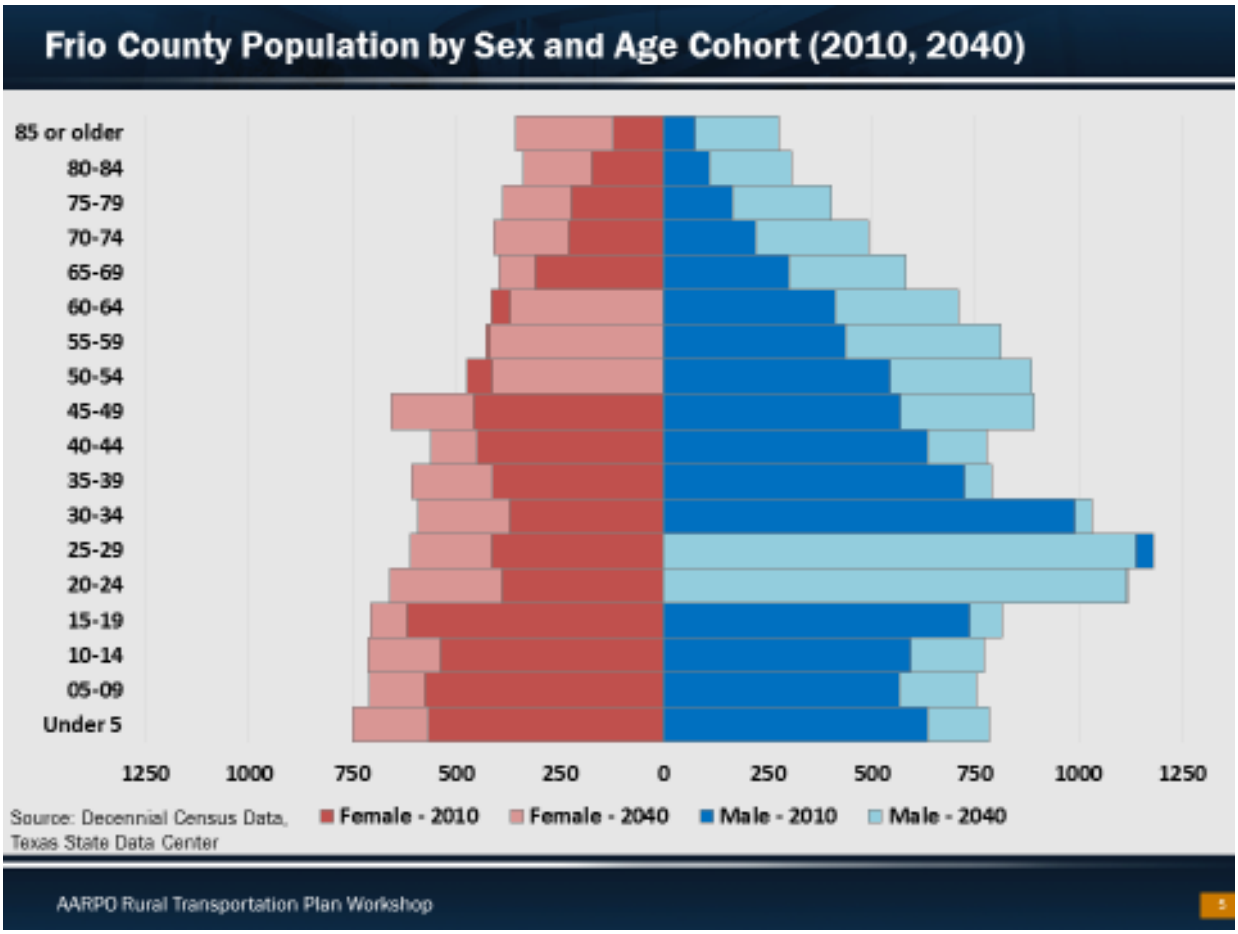


Figure 3. Frio County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Frio County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Frio County.

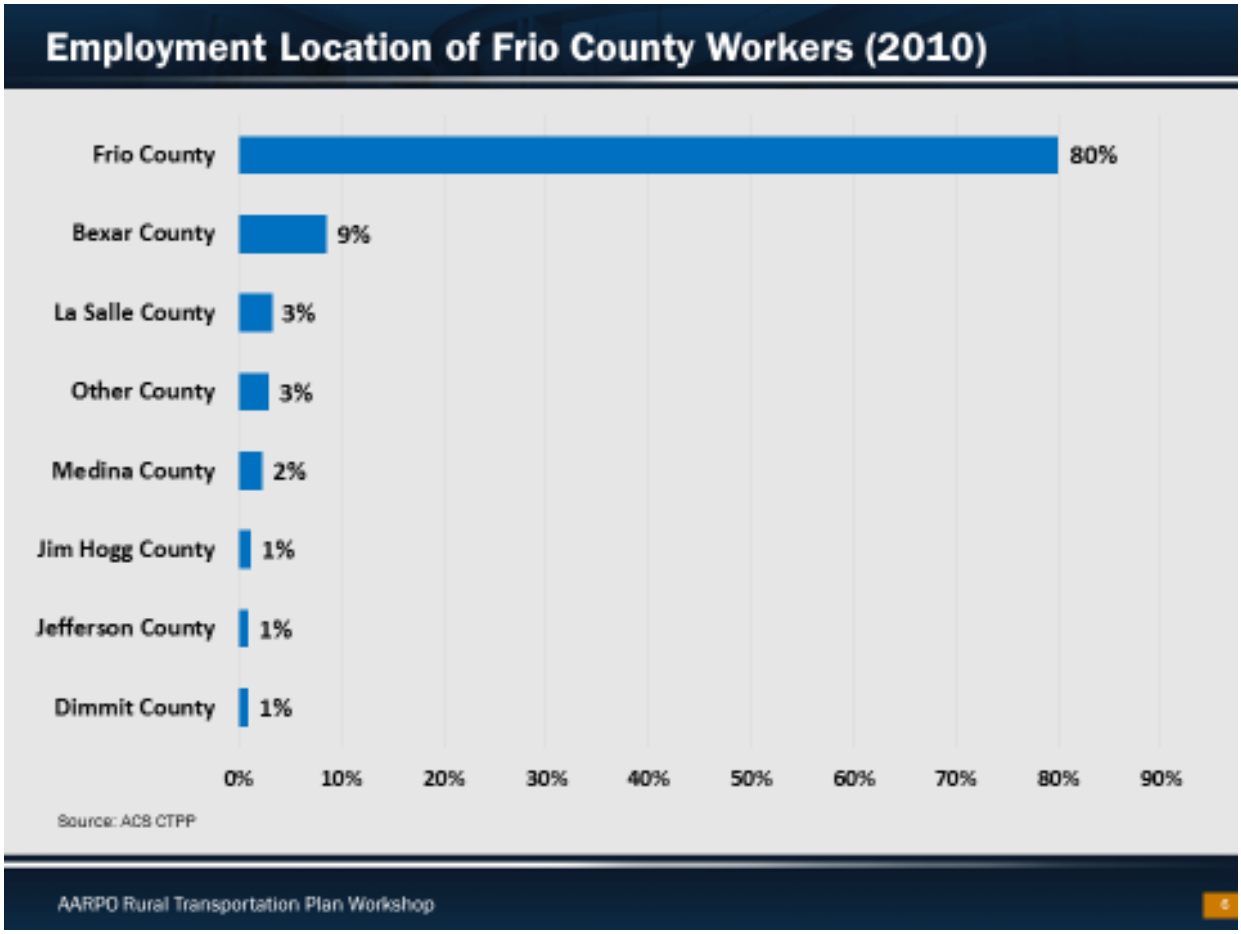


Figure 4. Employment Location of Frio County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Frio County.

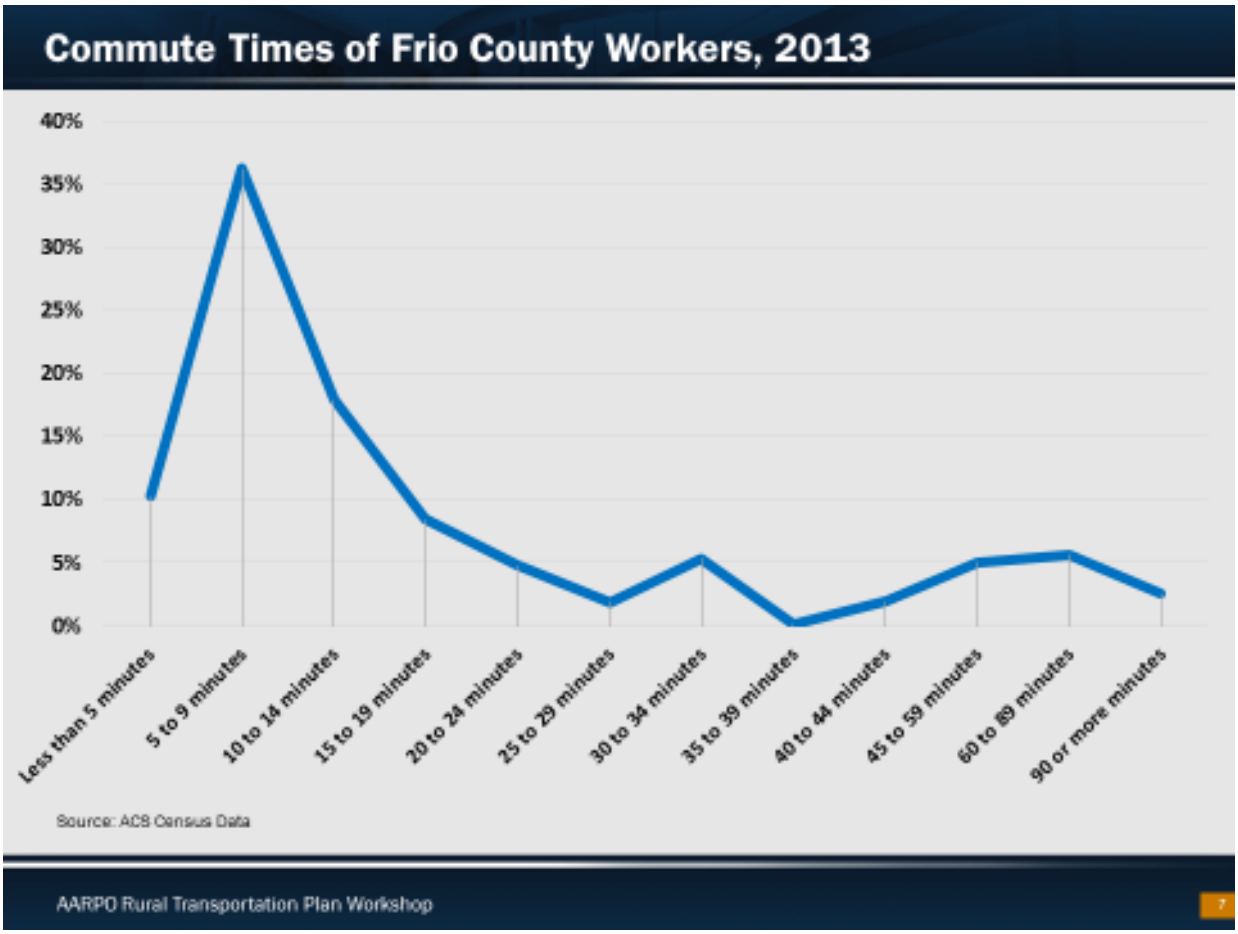


Figure 5. Commute Times of Frio County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Frio County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

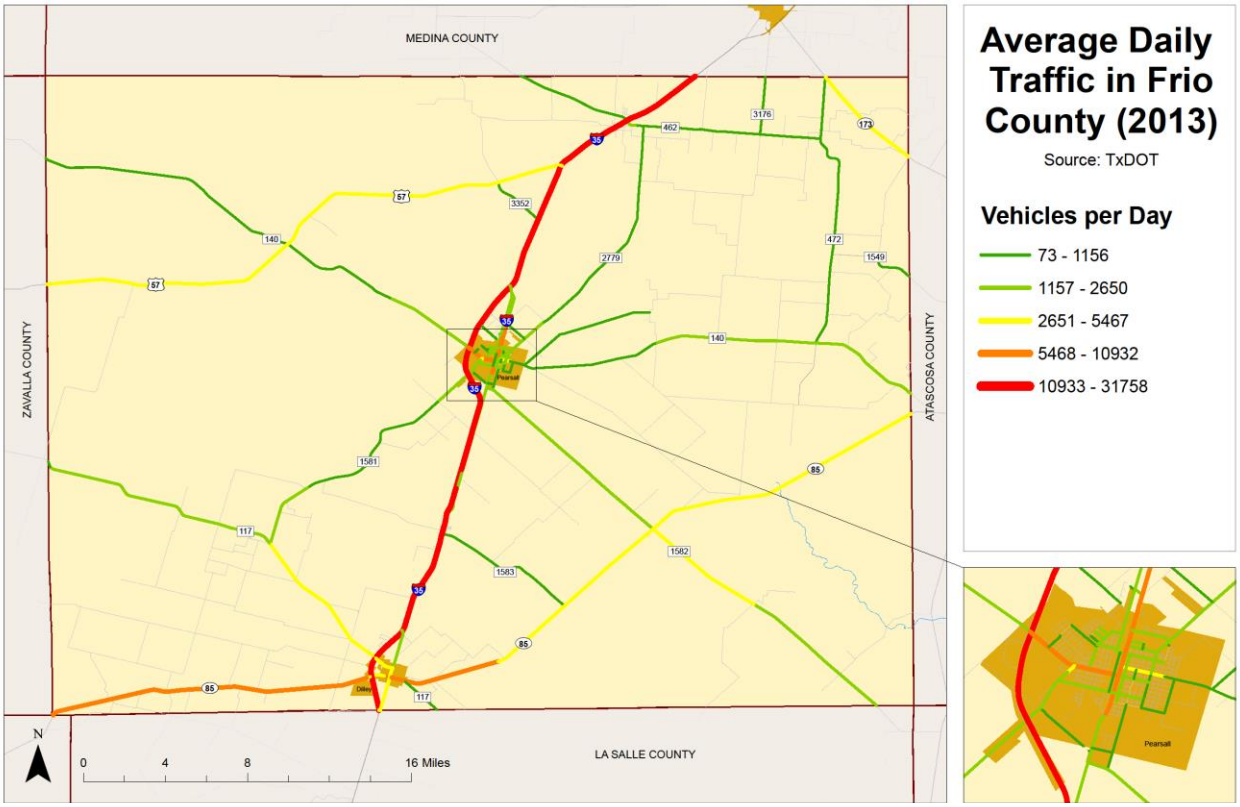


Figure 6. Average Daily Traffic in Frio County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Frio County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

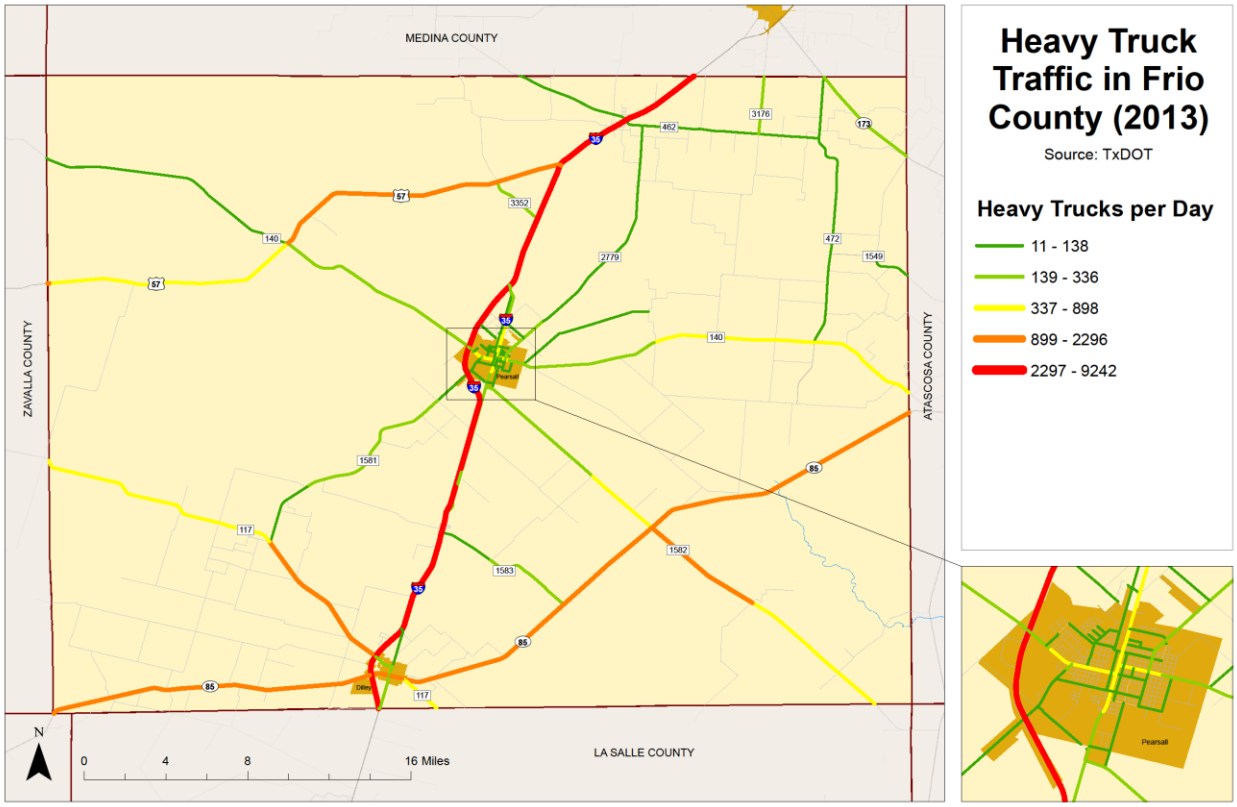


Figure 7. Heavy Truck Traffic in Frio County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Frio County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

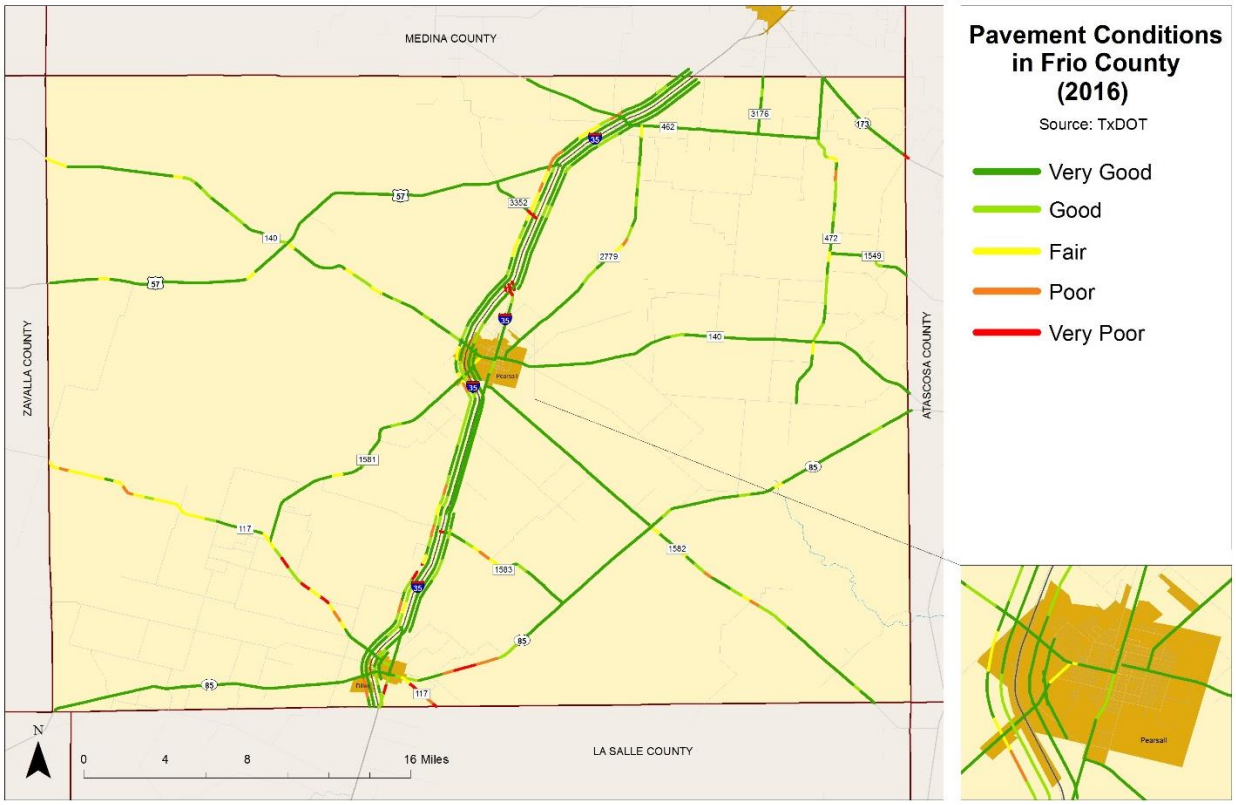


Figure 8. Pavement Conditions in Frio County (2016) (Source: TxDOT).

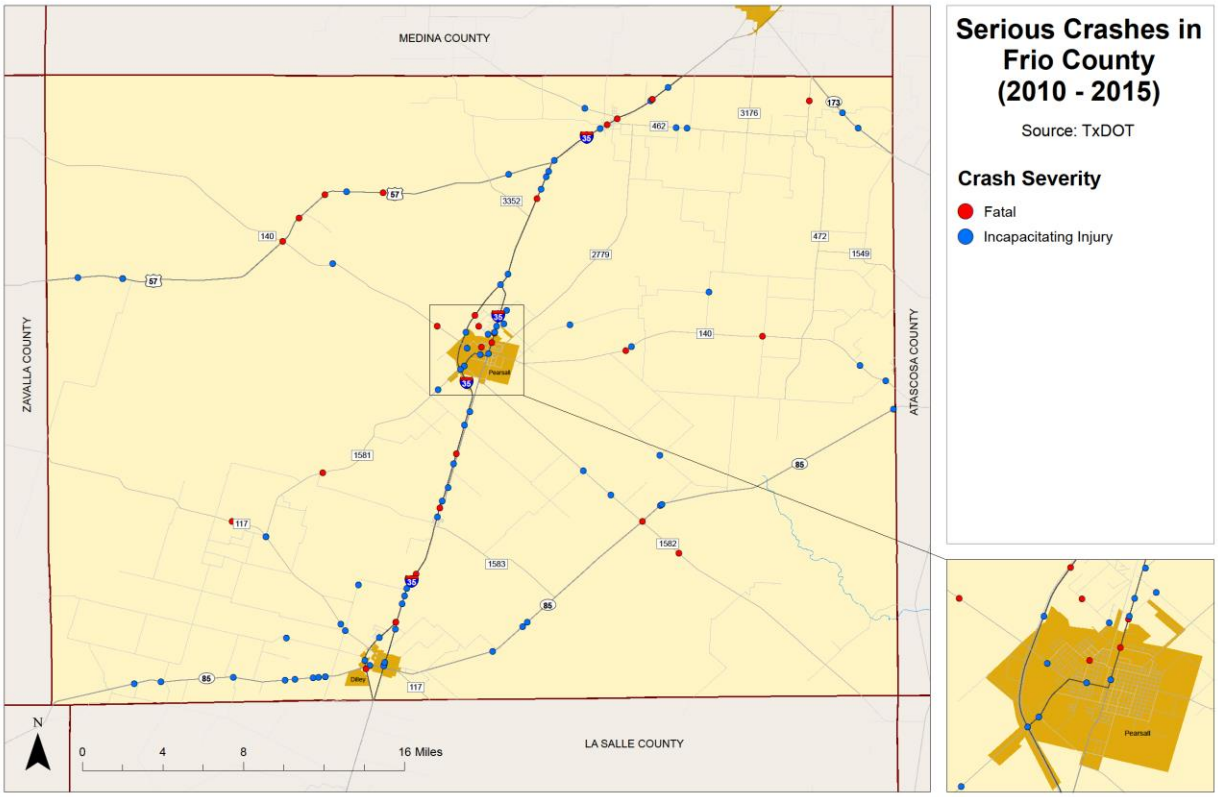


Figure 9. Serious Crashes in Frio County (2010–2015) (Source: TxDOT).

Figure 9 shows serious crashes in Frio County between 2010 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

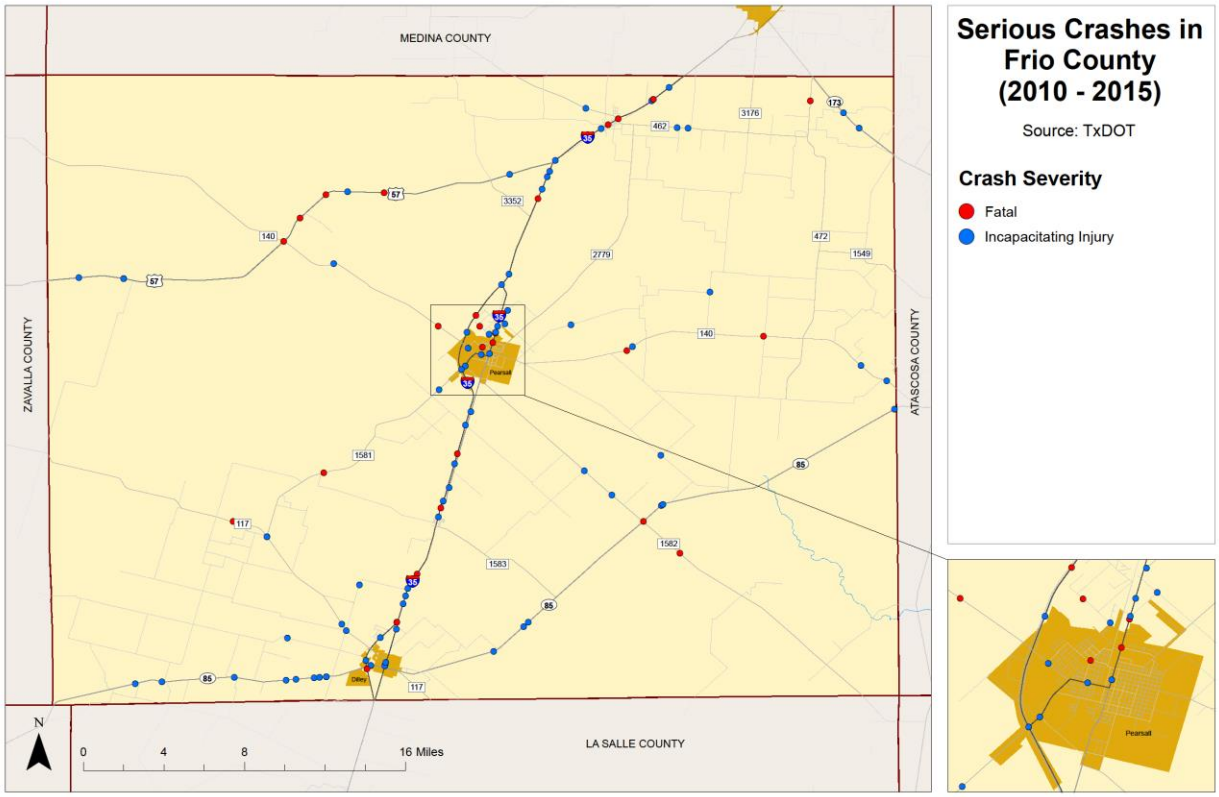


Figure 9. Serious Crashes in Frio County (2010–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Frio County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Frio County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Frio County mobility and connectivity exercise map.

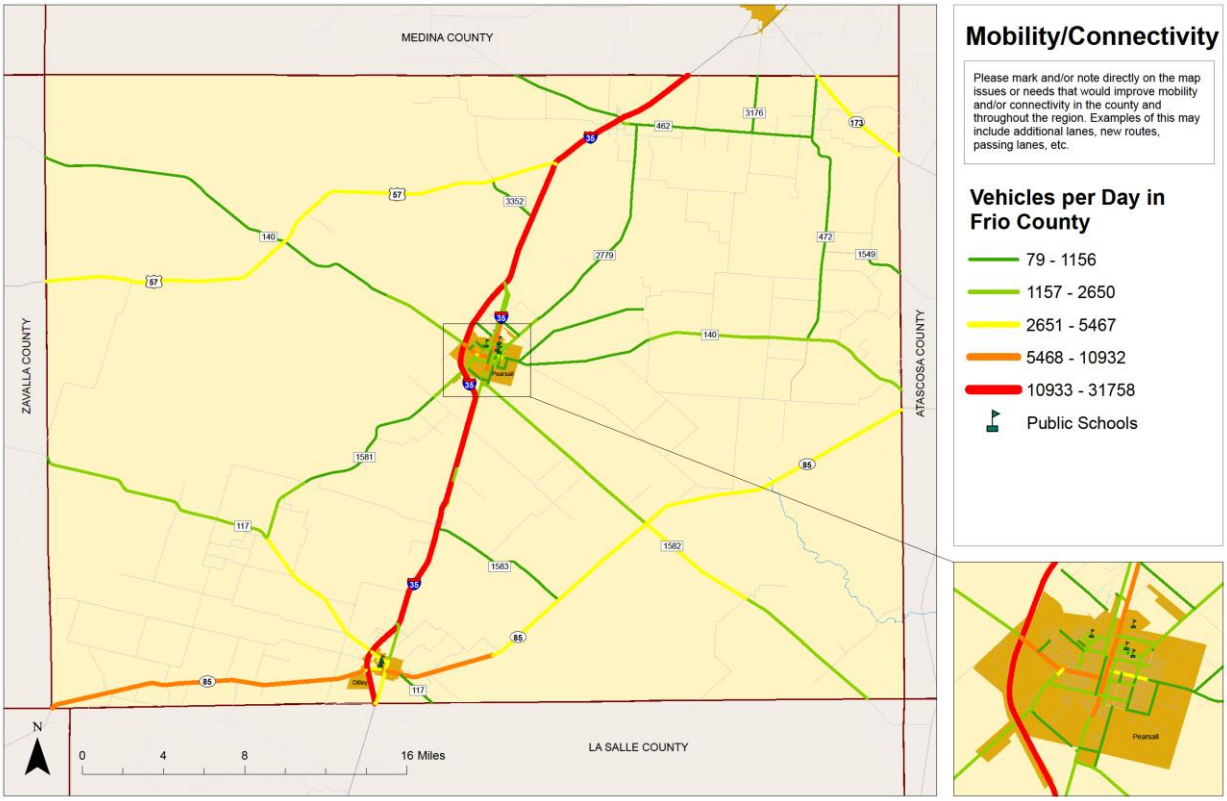


Figure 10. Frio County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Frio County maintenance and safety exercise map.

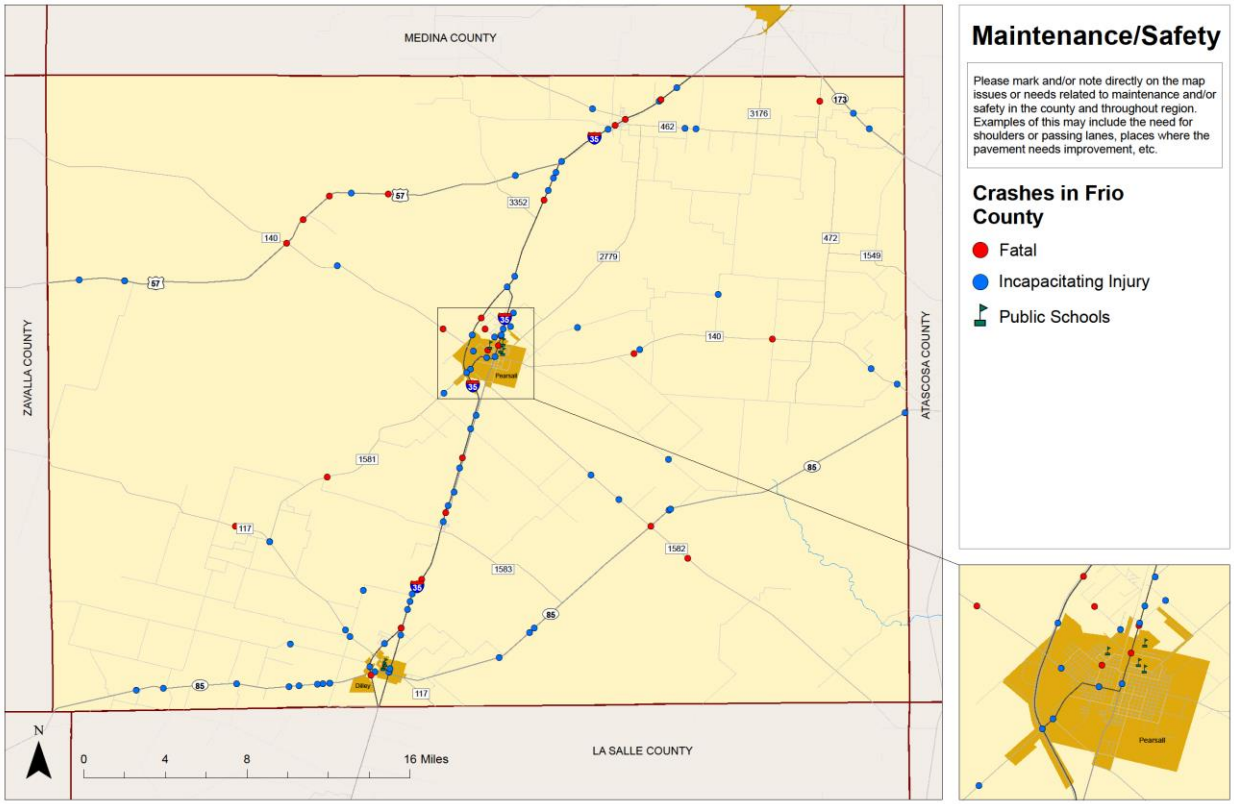


Figure 11. Frio County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Frio County bicycle, pedestrian, and transit exercise map.

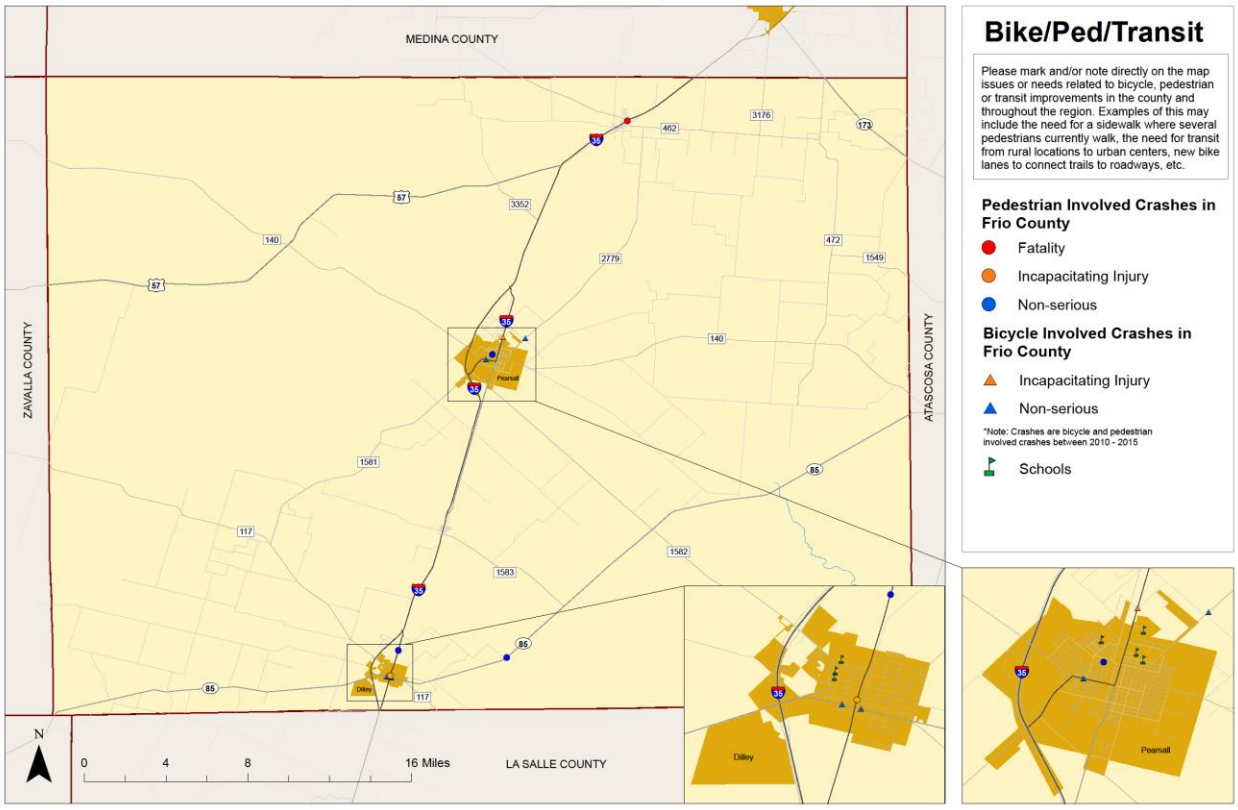
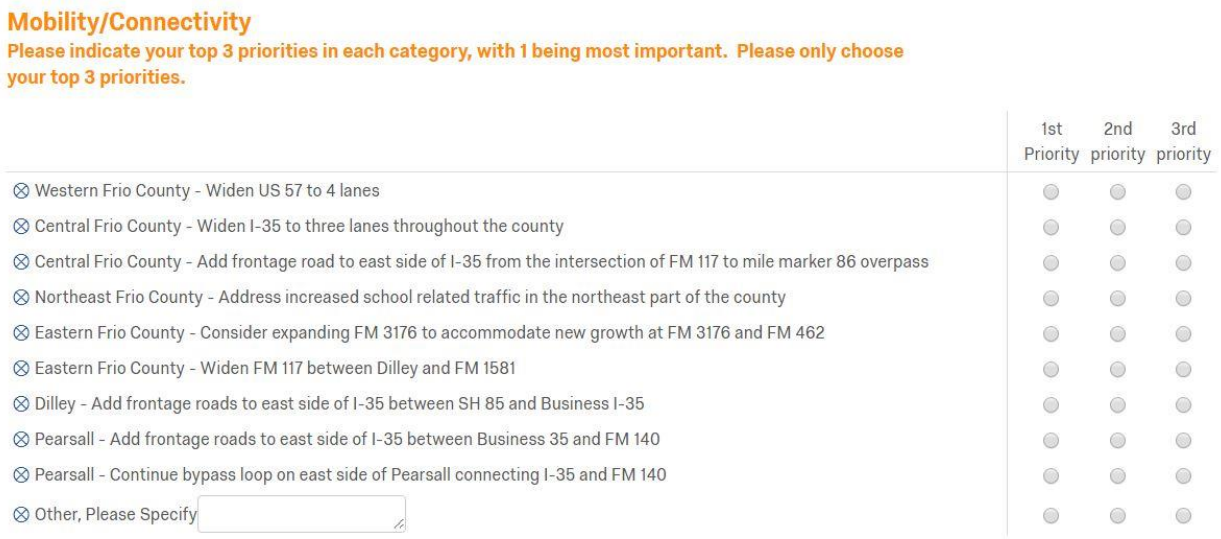


Figure 12. Frio County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Frio County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the

workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.

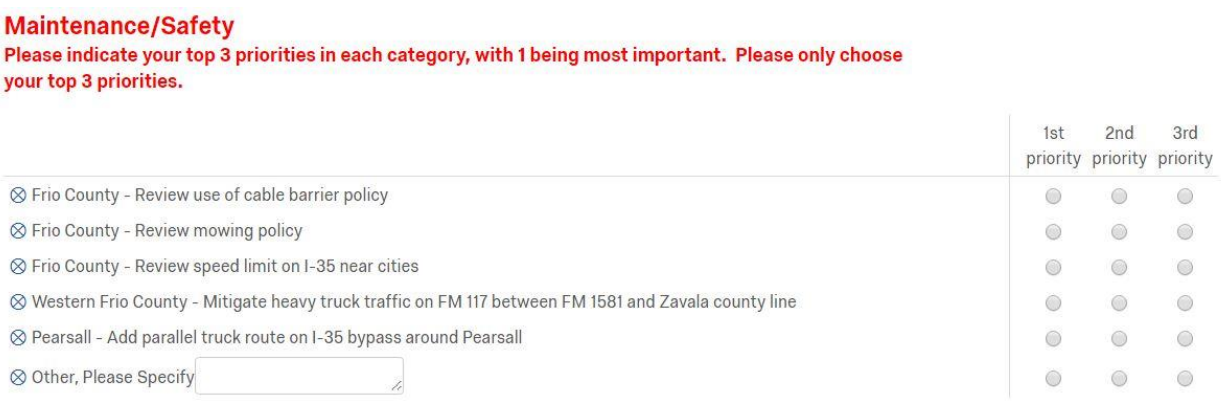


Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
Western Frio County - Widen US 57 to 4 lanes			
Central Frio County - Widen I-35 to three lanes throughout the county			
Central Frio County - Add frontage road to east side of I-35 from the intersection of FM 117 to mile marker 86 overpass			
Northeast Frio County - Address increased school related traffic in the northeast part of the county			
Eastern Frio County - Consider expanding FM 3176 to accommodate new growth at FM 3176 and FM 462			
Eastern Frio County - Widen FM 117 between Dilley and FM 1581			
Dilley - Add frontage roads to east side of I-35 between SH 85 and Business I-35			
Pearsall - Add frontage roads to east side of I-35 between Business 35 and FM 140			
Pearsall - Continue bypass loop on east side of Pearsall connecting I-35 and FM 140			
Other, Please Specify			

Figure 13. Mobility and Connectivity Section of Frio County Transportation Needs Prioritization Survey.



Maintenance/Safety

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
Frio County - Review use of cable barrier policy			
Frio County - Review mowing policy			
Frio County - Review speed limit on I-35 near cities			
Western Frio County - Mitigate heavy truck traffic on FM 117 between FM 1581 and Zavala county line			
Pearsall - Add parallel truck route on I-35 bypass around Pearsall			
Other, Please Specify			

Figure 14. Maintenance and Safety Section of Frio County Transportation Needs Prioritization Survey.

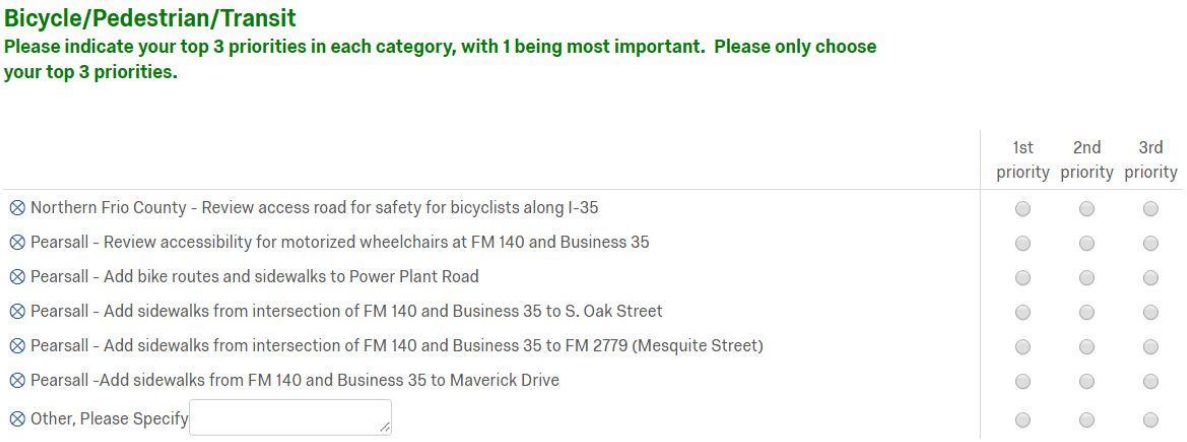


Figure 15. Bicycle, Pedestrian, and Transit Section of Frio County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Three people completed the survey for Frio County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Pearsall—Continue bypass loop on east side of Pearsall connecting I-35 and FM 140	9	3
2	Dilley—Add frontage roads to east side of I-35 between SH 85 and Business I-35	2	0
3	Northeast Frio County—Address increased school-related traffic in the northeast part of the county	2	0
4	Central Frio County—Widen I-35 to 3 lanes throughout the county	2	0
5	Western Frio County—Widen US 57 to 4 lanes	1	0
6	Eastern Frio County—Widen FM 117 between Dilley and FM 1581	1	0
7	Eastern Frio County—Consider expanding FM 3176 to accommodate new growth at FM 3176 and FM 462	1	0
8	Pearsall—Add frontage roads to east side of I-35 between Business 35 and FM 140	0	0
9	Central Frio County—Add frontage road to east side of I-35 from the intersection of FM 117 to Mile Marker 86 overpass	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Pearsall—Add parallel truck route on I-35 bypass around Pearsall	9	3
2	Frio County—Review mowing policy	4	0
3	Frio County—Review use of cable barrier policy	3	0
4	Frio County—Review speed limit on I-35 near cities	1	0
5	Western Frio County—Mitigate heavy truck traffic on FM 117 between FM 1581 and Zavala County Line	1	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Pearsall—Review accessibility for motorized wheelchairs at FM 140 and Business 35	9	3
2	Pearsall—Add sidewalks from FM 140 and Business 35 to Maverick Drive	5	0
3	Pearsall—Add sidewalks from intersection of FM 140 and Business 35 to FM 2779 (Mesquite Street)	2	0
4	Pearsall—Add bike routes and sidewalks to Power Plant Road	1	0
5	Northern Frio County—Review access road for safety for bicyclists along I-35	1	0
6	Pearsall—Add sidewalks from intersection of FM 140 and Business 35 to S. Oak Street	0	0

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Pearsall—Continue bypass loop on east side of Pearsall connecting I-35 and FM 140	TxDOT/City/ County	Not at this time
2	Dilley—Add frontage roads to east side of I-35 between SH 85 and Business I-35	TxDOT/City/ County	With adequate business development to offset funding, this would be an economic boost to the area
3	Northeast Frio County—Address increased school-related traffic in the northeast part of the county	TxDOT/Frio County/ISD	Maybe additional signage or dedicated locations to stop or gather children—maybe the development of a park-and-pool lot
4	Central Frio County—Widen I-35 to 3 lanes throughout the county	TxDOT	Statewide initiative to improve connectivity along the I-35 corridor
5	Western Frio County—Widen US 57 to 4 lanes	TxDOT	Continue to monitor traffic volumes and speeds
6	Eastern Frio County—Widen FM 117 between Dilley and FM 1581	TxDOT/City/ County	This area would benefit from a rehab—widening and passing lanes
7	Eastern Frio County—Consider expanding FM 3176 to accommodate new growth at FM 3176 and FM 462	TxDOT/City/ County	Widen due to increased usage through energy activity as a route from SH 173
8	Pearsall—Add frontage roads to east side of I-35 between Business 35 and FM 140	TxDOT/City/ County/ Developer	With full or matched funding, might be a good idea to implement one-way frontage roads in Frio County
9	Central Frio County—Add frontage road to east side of I-35 from the intersection of FM 117 to Mile Marker 86 overpass	TxDOT/City/ County/ Developer	With full or matched funding, might be a good idea to implement one-way frontage roads in Frio County

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Pearsall—Add parallel truck route on I-35 bypass around Pearsall	City/County	Would require a future feasibility study
2	Frio County—Review mowing policy	TxDOT	Review mowing cycles—some communities contract to increase the number of state mowing cycles
3	Frio County—Review use of cable barrier policy	TxDOT	Overall, the addition of the barrier wire has proven to be very positive; will monitor the area for changes
4	Frio County—Review speed limit on I-35 near cities	City/County	Locals can request a speed study
5	Western Frio County—Mitigate heavy truck traffic on FM 117 between FM 1581 and Zavala County Line	TxDOT	Monitor truck traffic

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Pearsall—Review accessibility for motorized wheelchairs at FM 140 and Business 35	TxDOT/City/ County	Recommend Pedestrian Plan
2	Pearsall—Add sidewalks from FM 140 and Business 35 to Maverick Drive	TxDOT/City/ County	Recommend Pedestrian Plan
3	Pearsall—Add sidewalks from intersection of FM 140 and Business 35 to FM 2779 (Mesquite Street)	TxDOT/City/ County	Recommend Pedestrian Plan
4	Pearsall—Add bike routes and sidewalks to Power Plant Road	County/City	Recommend Pedestrian Plan
5	Northern Frio County—Review access road for safety for bicyclists along I-35	TxDOT	Including in Bike Master Plan
6	Pearsall—Add sidewalks from intersection of FM 140 and Business 35 to S. Oak Street	TxDOT/City/ County	Recommend Pedestrian Plan

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Frio County Projects

Table 7 provides the top three projects from Frio County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Frio County.

Project Description	Weighted Technical Score
Widen I-35 to three lanes throughout the county	160
Add new I-35 frontage road from east side of I-35 at SH 85 and Business 35 (Dilley)	−40
Continue bypass loop on east side of Pearsall connecting I-35 and FM 140	−60

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Frio County's highest ranked project (widen I-35 to three lanes throughout the county) received the third highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Frio County Judge

Dear Judge Arnulfo Luna,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Frio County, and we would appreciate your participation. The date of the workshop is:

Date: January 21, 2016
Time: 9:00 AM to 11:00 AM
Location: Frio Community Room, Pearsall

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Gillespie County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Gillespie County workshop was organized by TxDOT with the help of Gillespie County Judge Mark Stroeher. TxDOT sent a letter (shown in the Appendix) to Judge Stroeher requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Wednesday, October 21, 2015, from 9:30 AM to 12:00 PM at the Hill Country University Center in Fredericksburg. Forty people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Gillespie County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Gillespie County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Gillespie County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Gillespie County both now and in the future. The following is a summary of the data presented at the Gillespie County workshop.

2.1. Gillespie County Demographic Data

Figure 1 provides the historic and projected population growth for Gillespie County between 1960 and 2040.

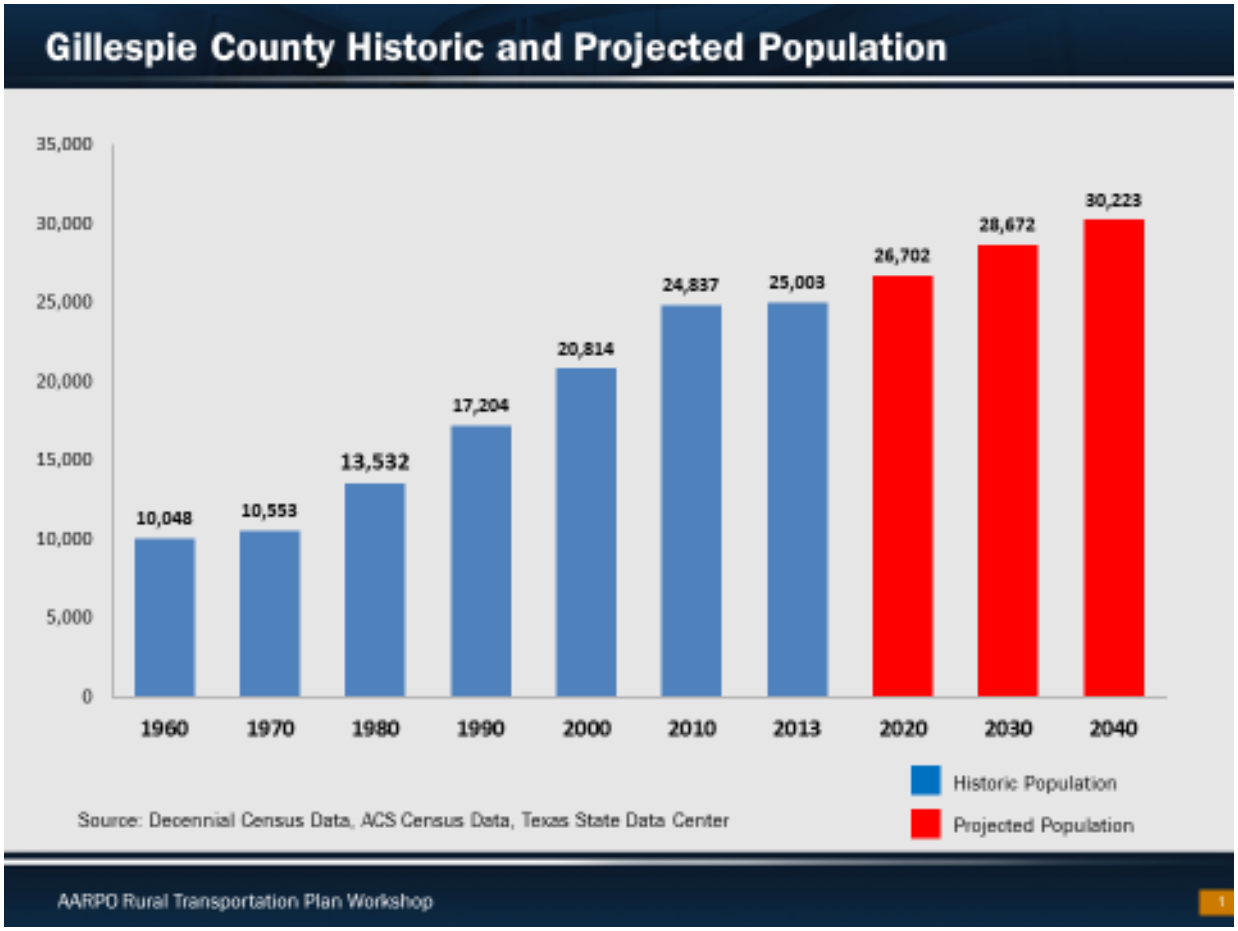

Figure 1. Gillespie County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Gillespie County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

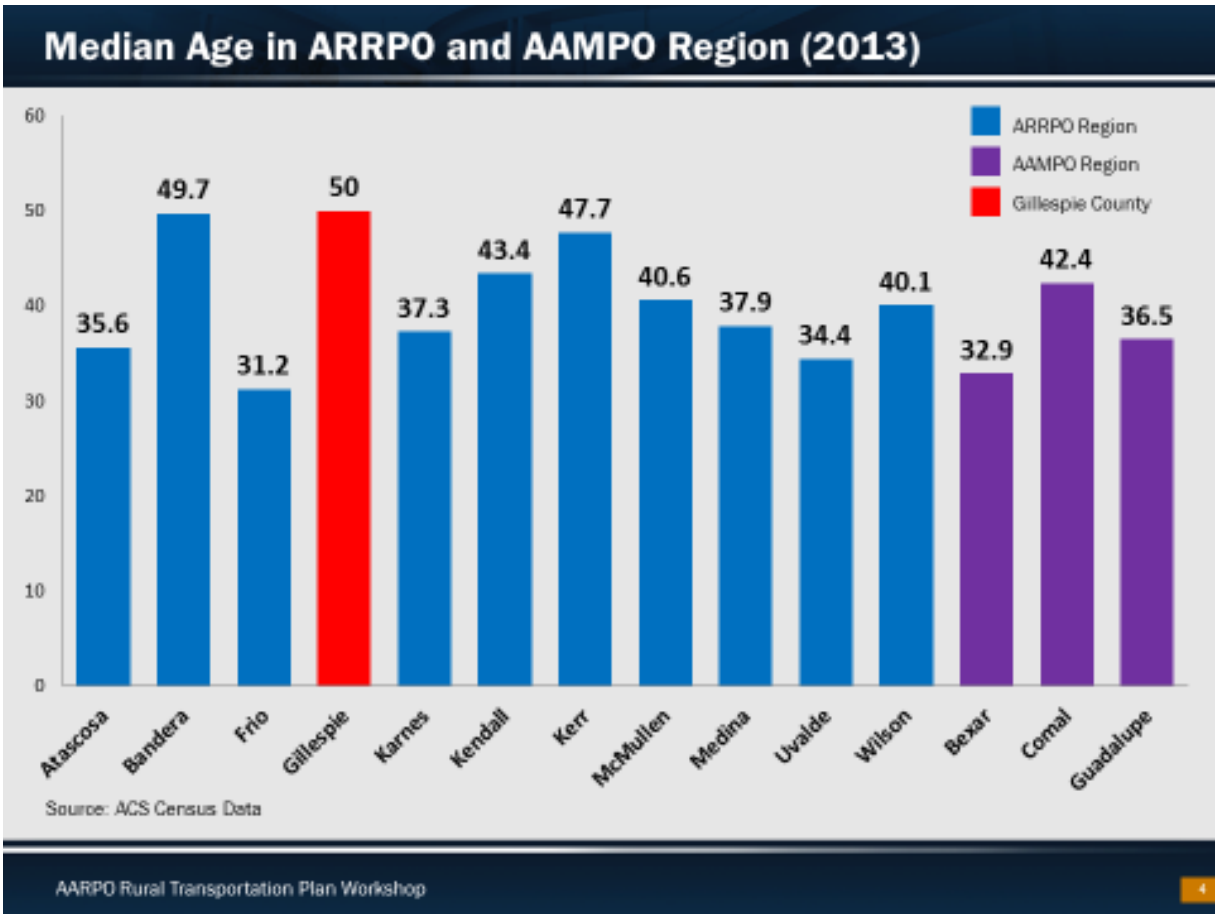

Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the population of Gillespie County residents broken down by age cohort. The bar chart shows both the 2000 population (shown in gray) and 2010 population (shown in blue) for each age cohort.

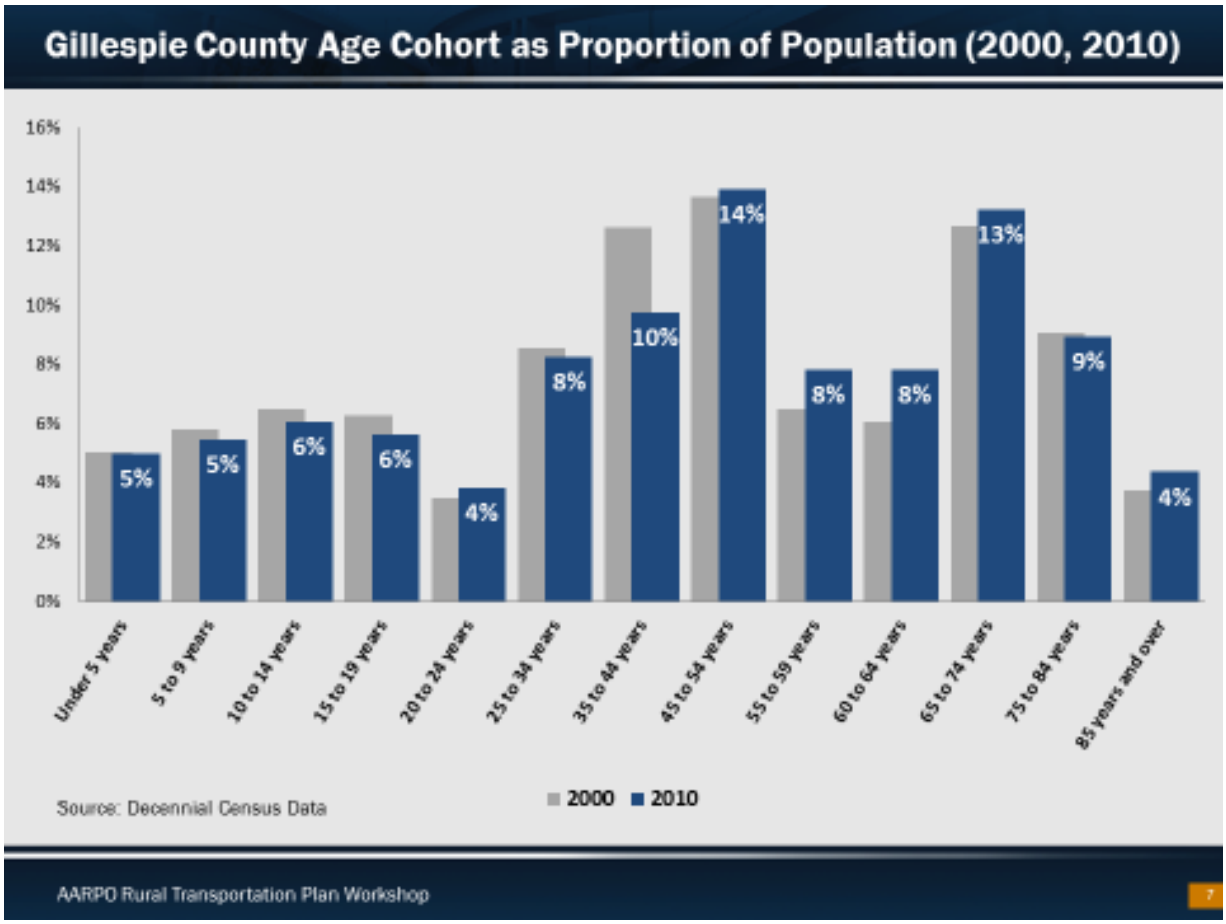

Figure 3. Gillespie County Age Cohort as Proportion of Population (2000, 2010) (Source: U.S. Census).

2.2. Gillespie County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Gillespie County.

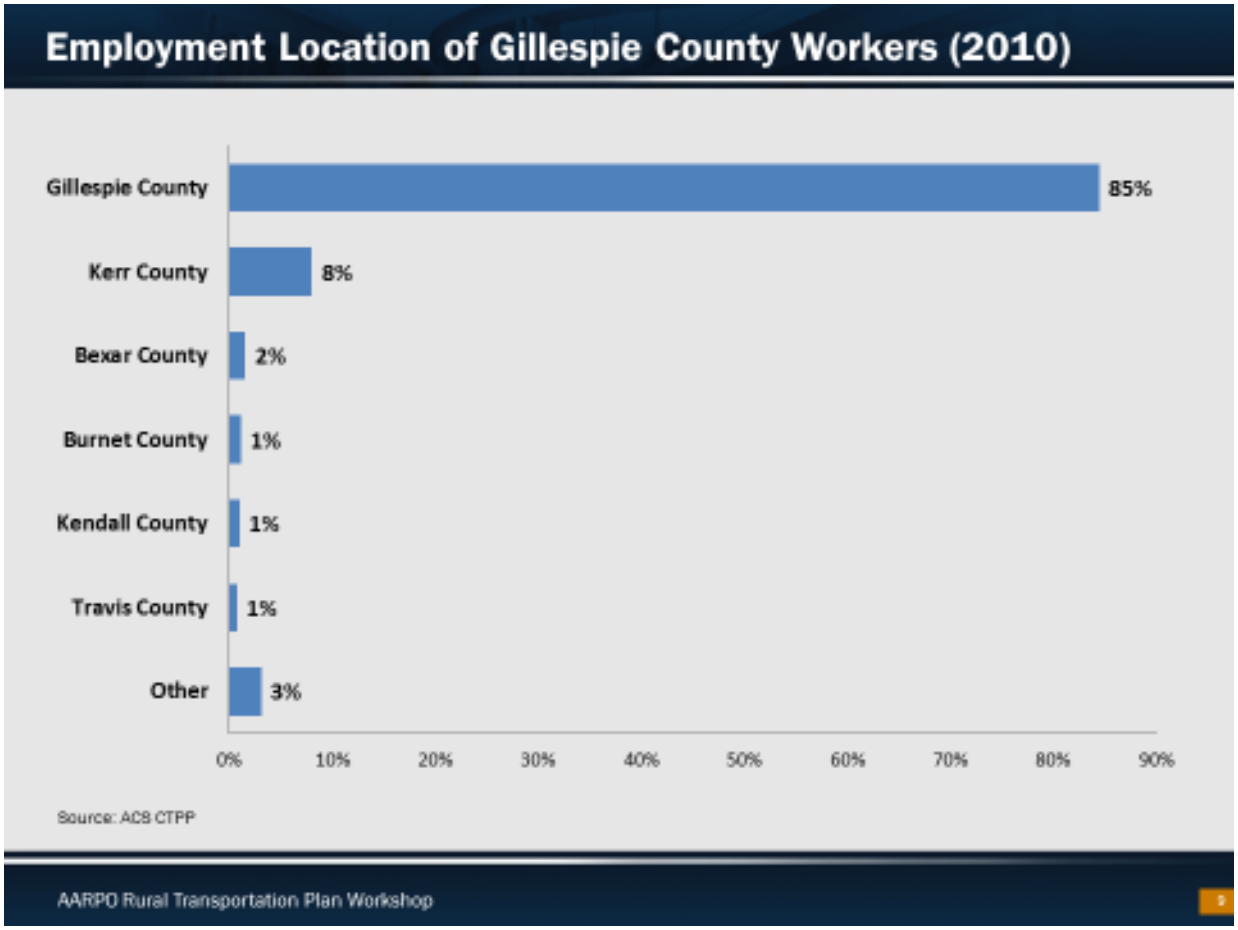

Figure 4. Employment Location of Gillespie County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Gillespie County.

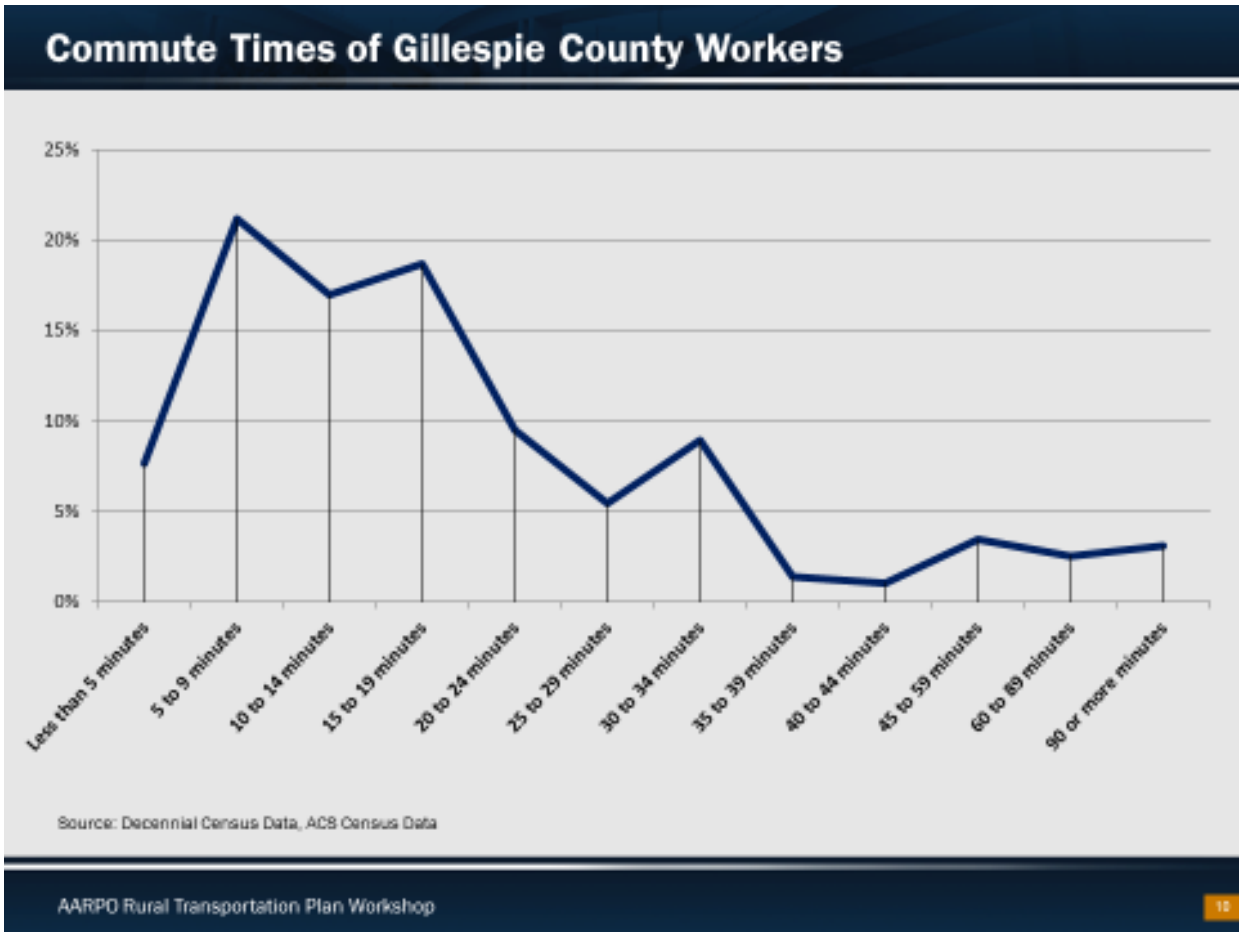

Figure 5. Commute Times of Gillespie County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Gillespie County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

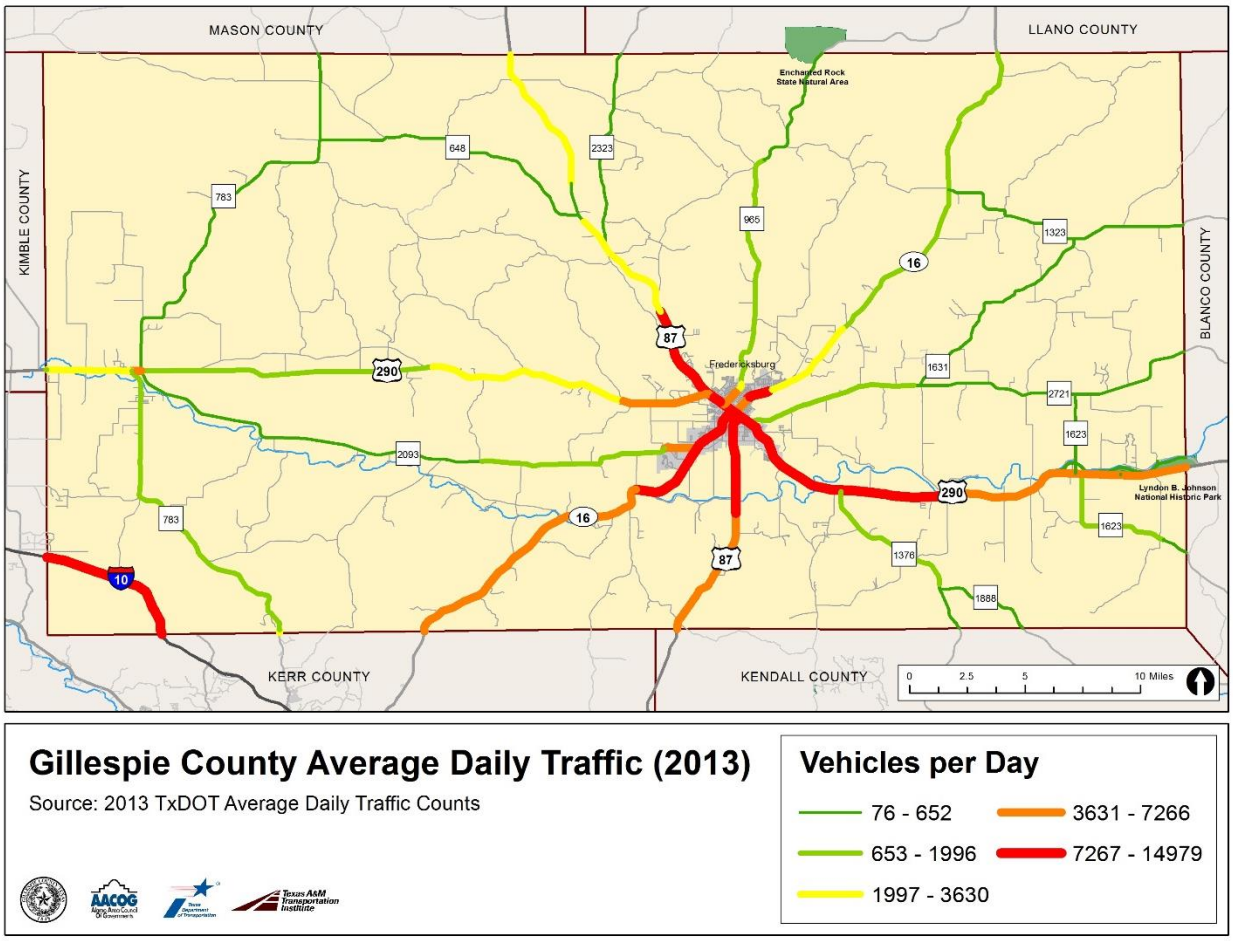

Figure 6. Average Daily Traffic in Gillespie County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Gillespie County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

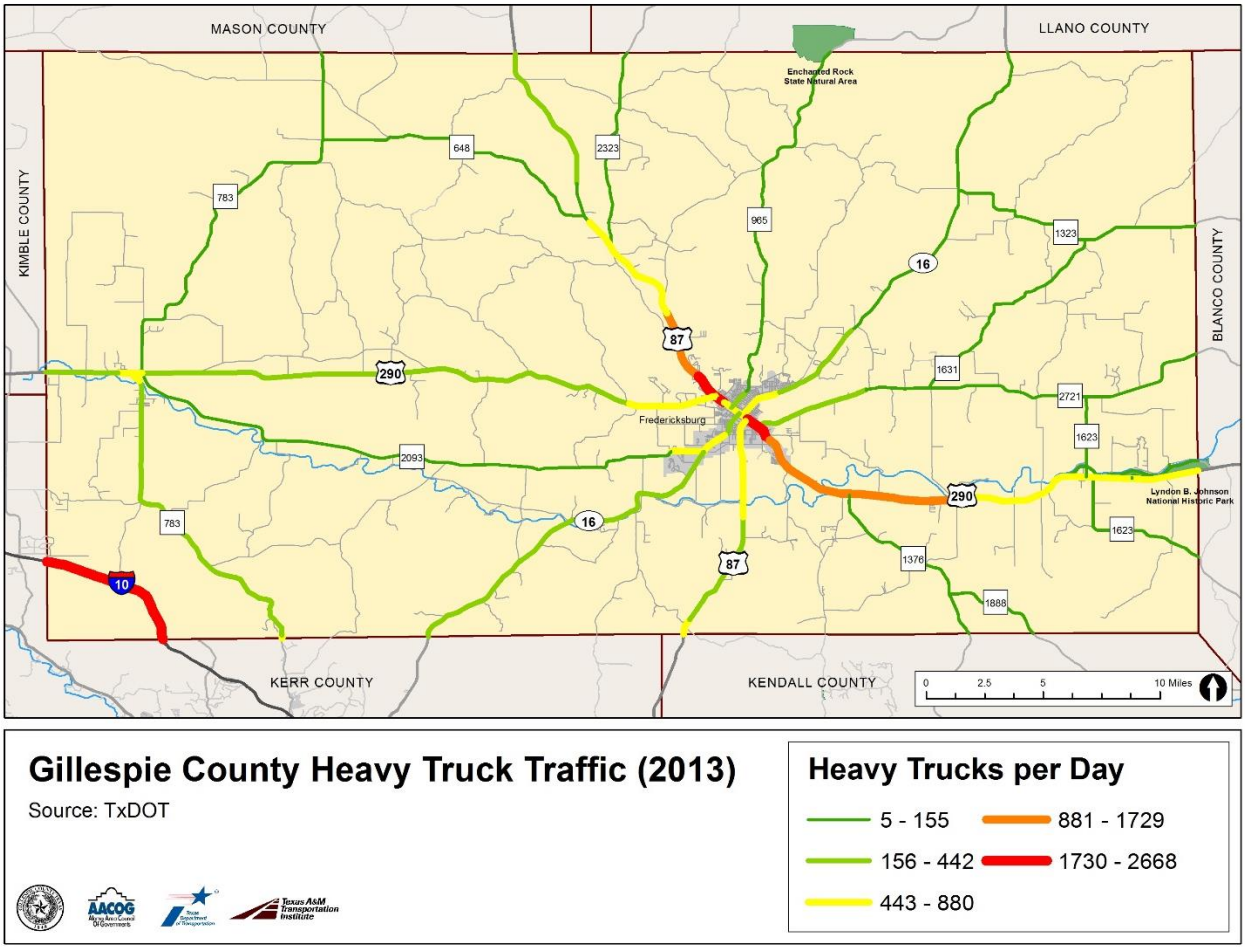

Figure 7. Heavy Truck Traffic in Gillespie County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Gillespie County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

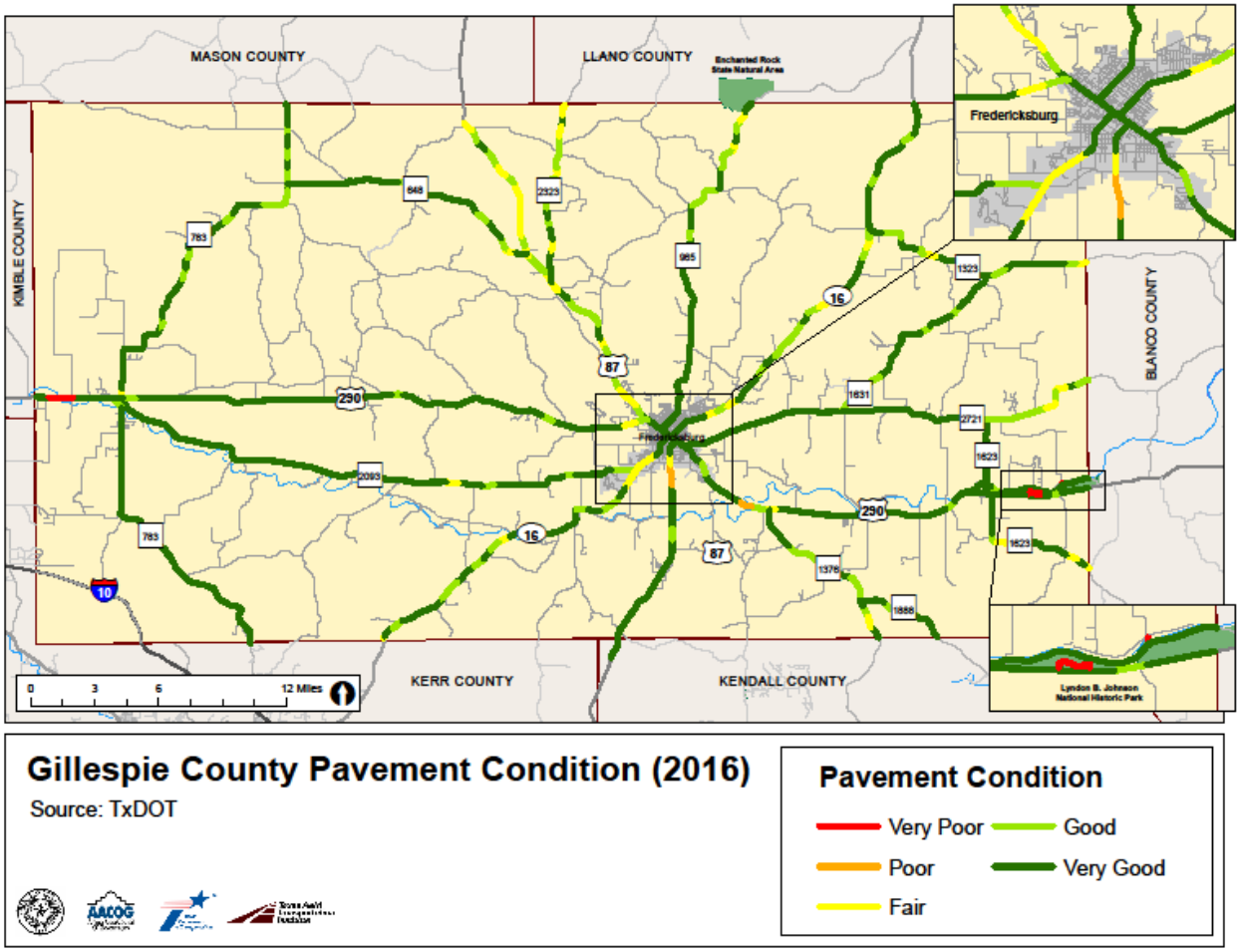

Figure 8. Pavement Conditions in Gillespie County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Gillespie County between 2013 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

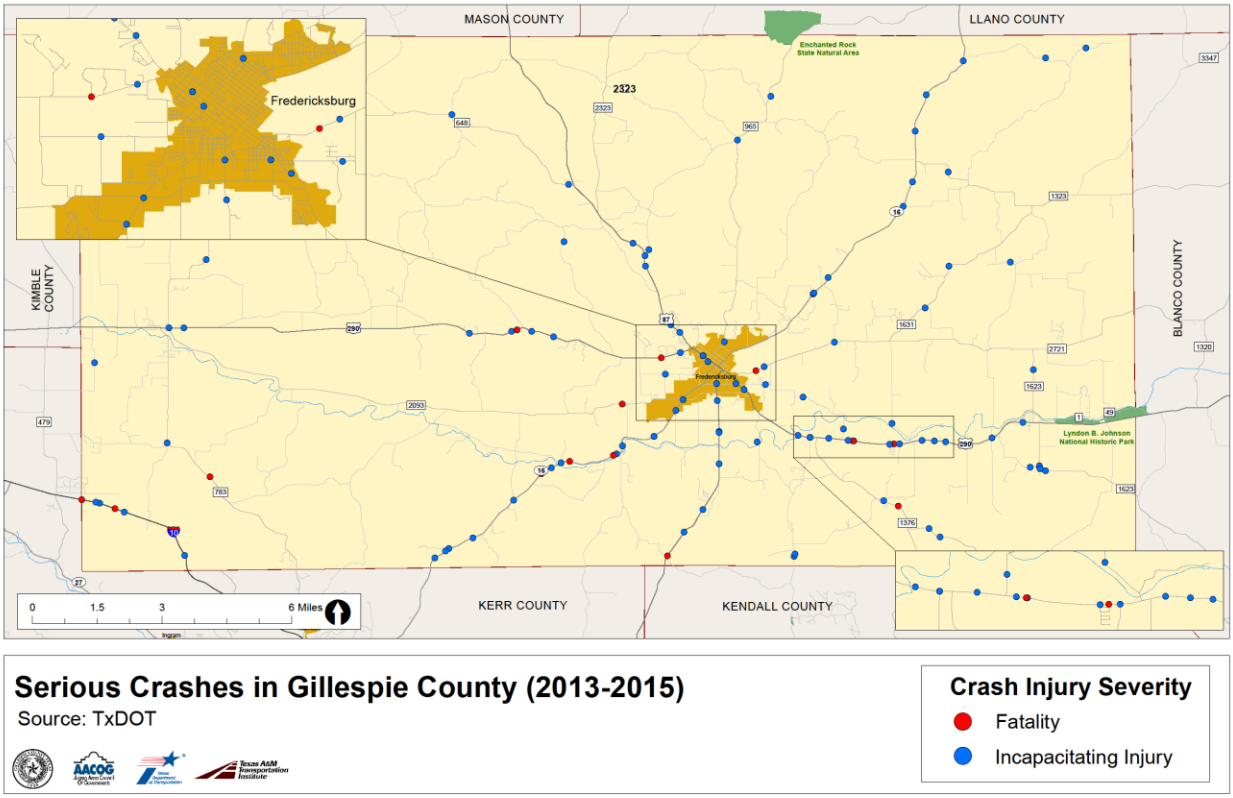

Figure 9. Serious Crashes in Gillespie County (2013–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Gillespie County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise and Survey

Gillespie County workshop attendees participated in an exercise to identify transportation needs and issues. Participants were presented with three enlarged maps of Gillespie County and were instructed to mark and/or note directly on the map issues or needs related to the following transportation areas:

- Mobility and connectivity needs (e.g., the need for shoulders or passing lanes, places where the pavement needs improvement, etc.).
- Safety and maintenance needs (e.g., the need for additional lanes, new routes, passing lanes, etc.).
- Bicycle, pedestrian, and transit needs (e.g., the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc.).

After the workshop was completed, staff compiled all of the needs and issues that Gillespie County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas. Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the workshops for each of the three transportation areas. The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Twenty-three people completed the survey for Gillespie County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide the transportation needs identified by workshop attendees for each of the three transportation areas along with the results of the survey. Each table provides the rank, a description of the

identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Fredericksburg—Need alternate route around Fredericksburg with ability to turn off relief route	43	13
2	Fredericksburg—Too much traffic through town	21	1
3	US 290 between Fredericksburg and Johnson City—Traffic too fast	16	3
4	US 290 between Fredericksburg to Johnson City—Difficult to turn	15	1
5	Fredericksburg and Gillespie County—Lots of through, long-distance, east/west traffic through Fredericksburg and Gillespie County	10	1
6	Harper, intersection of RR 783 & US 290—Traffic needs further regulation	7	2
7	RR 965 at Enchanted Rock—Difficult to turn	7	1
8	SH 16 N from Fredericksburg to Llano—Difficult to pass	6	0
9	Fredericksburg, Main Street, from Elk Street to Cherry (Golden Triangle)—Difficult to turn	3	1
10	SH 16 S to Kerr County Line—Difficult to make turns	3	0
11	Fredericksburg, US 290 (East Main)—Difficult to turn	2	0
12	Harper, US 290 W on west side of town—Traffic is too fast leaving town on the west side	2	0
13	Other—Signal malfunctions are not corrected in a timely manner	1	0
14	Fredericksburg, Friendship Lane from US 290 to SH 16—Road is too narrow	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Northwest of Fredericksburg, intersection of US 290 W & US 87 N—Awkward intersection	27	7
2	RR 965 at Enchanted Rock National Park—Difficult to turn into park	16	2
3	Fredericksburg, US 290 (Main Street) from Baron's Creek Bridge East to Goenmann Ln.	15	3
4	US 290 E between Fredericksburg and Hye—Difficult to turn	15	3
5	Fredericksburg, intersection of Ellebracht & SH 16 N—Center turn lane needed	11	1
6	Fredericksburg, US 87 N—Road surface is rough	6	0
7	Harper—Sight distance is an issue and truck traffic is too fast through town	5	1
8	Fredericksburg, SH 16 S, from Milam to Lady Bird Park—Difficult to turn	4	1
9	Harper—Harper has a 4-lane highway (US 290) running through it, producing too much traffic	4	1
10	Gillespie County—Major discussions: signal connectivity and timing	4	0
11	US 87 N from Fredericksburg to 4-lane section near Llano River bridge	3	0
12	Harper, intersection of RR 783 and US 290—Speed limit is currently too high (40 & 45 through town), with cars parked parallel with the white line, which is very dangerous	3	1
13	FM 2093 (location not specified)—Road narrow, turning difficult	3	1
14	Gillespie County—Major discussions: turn lane bay lengths on Main are limited	3	0
15	Other—Highway 16 intersections with Main Street need right-turn-only lanes	3	1
16	Harper, RR 783 S on east side of school—Speed limit too high alongside school	2	0
17	US 290 (location not specified)—Difficult to turn	2	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey (Continued).

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
18	SH 16 (location not specified)—Difficult to turn	2	0
19	Gillespie County—Poor conditions for cycling: lots of debris on shoulders and sides of roadways forces cyclists dangerously close to center of road	1	0
20	Gillespie County—Poor conditions for cycling: rumble strips on raised dots and white lines and in shoulders forces cyclists out in main roadways	1	0
21	Harper, intersection of RR 783 & US 290—Difficult for students to cross	0	0
22	Harper, near school—Traffic too fast near school	0	0
23	Harper—Traffic is too fast going through town	0	0
24	RR 965 (location not specified)—Road narrow, turning difficult	0	0
25	US 87 (location not specified)—Difficult to turn	0	0
26	Gillespie County—Major discussions: bikers through Main Street is tough	0	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Fredericksburg, Milam Street—Unsafe walking conditions for children walking north and south at high school and hospital	24	8
2	Fredericksburg, Friendship Lane—State road unsafe for pedestrians	13	0
3	Gillespie County—Need for planners to understand where cyclists ride in Gillespie County	7	1
4	SH 1631 from Fredericksburg to RR 2721—Route to park not safe for cyclists	6	2
5	Gillespie County, around Fredericksburg, Adventure Cycling Route, FM 2093 from SH 16 S, continuing south on White Oak Road to Kerr County Line—Road too narrow for cyclists	6	2
6	Gillespie County—Need for more driver awareness of cyclists	6	0
7	RR 965—Unsafe for cyclists	5	1
8	Harper—Traffic flowing too fast or above speed limit	4	0
9	Gillespie County, around Fredericksburg, SH 16 S from Fredericksburg to Kerr County Line—Road too narrow for cyclists	5	1
10	RR 965 at Enchanted Rock—Unsafe for bicyclists to enter park entrance where shoulder is crowded	4	0
11	Gillespie County—Need for planners to be educated about recreational cycling	4	0
12	Gillespie County, around Fredericksburg, RR 965 from Cross Mountain Drive in Fredericksburg to Enchanted Rock—Road too narrow for cyclists	4	1
13	Gillespie County, around Fredericksburg, SH 16 S from Fredericksburg to Kerr County Line—Road too narrow for cyclists	5	1
14	Gillespie County, around Fredericksburg, RR 1623 between US 290 and RR 2721—Road too narrow for cyclists	3	1
15	Gillespie County, south of Harper, RR 783 S between Klein Branch Road and White Oak Road—Road too narrow for cyclists	2	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey (Continued).

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
16	Gillespie County, north of Harper at US 290, RR 783 S to Jung Road—Road too narrow for cyclists	2	0
17	Gillespie County, around Fredericksburg, RR 1 from RR 1623 to Hye—Road too narrow for cyclists	2	0
18	Fredericksburg, Cross Mountain between Avenue D and Milam—Road too narrow for cyclists	1	0
19	Gillespie County, around Fredericksburg, River Road to US 87 S to Meusebach Creek Road to River Bend Ranch Road—Road too narrow for cyclists	1	0
20	US 290 from Fredericksburg to LBJ Park—Road too narrow for cyclists	0	0
21	Gillespie County, around Fredericksburg, US 290 W between US 87 N and Hayden Ranch Road—Road too narrow for cyclists	0	0
22	Gillespie County, around Fredericksburg, I-10 between Kerr County Line and Kimble County Line—Road too narrow for cyclists	0	0
23	Gillespie County, around Fredericksburg, Louden Road between US 290 and Pecan Creek Road—Road too narrow for cyclists	0	0
24	Gillespie County, around Fredericksburg, RR 648 between Doss and US 87 N—Road too narrow for cyclists	0	0
25	Gillespie County, around Fredericksburg, Lower Crab Apple from Ellebracht Drive to Hilmar Jung Road—Road too narrow for cyclists	0	0
26	Gillespie County, around Fredericksburg, SH 1631 from Fredericksburg to FM 1333—Road too narrow for cyclists	0	0
27	Gillespie County, around Fredericksburg, RR 1323 from RR 1631 to Willow City Loop to SH 16—Road too narrow for cyclists	0	0
28	Gillespie County, around Fredericksburg, RR 2721 from RR 1631 to RR 1320—Road too narrow for cyclists	0	0

3.2. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Fredericksburg—Need alternate route around Fredericksburg with ability to turn off relief route	County/City	New route—work with TxDOT on feasibility study
2	Fredericksburg—Too much traffic through town	County/City	New route—work with TxDOT on feasibility study
3	US 290 between Fredericksburg and Johnson City—Traffic too fast	TxDOT	Locals should request a speed study
4	US 290 between Fredericksburg to Johnson City—Difficult to turn	TxDOT	Adding intersection improvements as funding is available
5	Fredericksburg and Gillespie County—Lots of through, long-distance, east/west traffic through Fredericksburg and Gillespie County	County/City	New route—work with TxDOT on feasibility study
6	Harper, intersection of RR 783 & US 290—Traffic needs further regulation	TxDOT/Law Enforcement	
7	RR 965 at Enchanted Rock—Difficult to turn	TxDOT	
8	SH 16 N from Fredericksburg to Llano—Difficult to pass	TxDOT	
9	Fredericksburg, Main Street, from Elk Street to Cherry (Golden Triangle)—Difficult to turn	TxDOT	
10	SH 16 S to Kerr County Line—Difficult to make turns	TxDOT	Upgrading to a Super 2, which will provide left turn lanes
11	Fredericksburg, US 290 (East Main)—Difficult to turn	TxDOT	Multiple projects proposed on 290
12	Harper, US 290 W on west side of town—Traffic is too fast leaving town on the west side	TxDOT	
13	Other—Signal malfunctions are not corrected in a timely manner		Not sure where this is an issue
14	Fredericksburg, Friendship Lane from US 290 to SH 16—Road is too narrow	City	
15	US 87 S between Fredericksburg to Whispering Oaks or county line	TxDOT	Project scheduled for summer 2017

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Northwest of Fredericksburg, intersection of US 290 W & US 87 N—Awkward intersection	TxDOT	
2	RR 965 at Enchanted Rock National Park—Difficult to turn into park	TxDOT	
3	Fredericksburg, US 290 (Main Street) from Baron's Creek Bridge East to Goenmann Ln	TxDOT	
4	US 290 E between Fredericksburg and Hye—Difficult to turn	TxDOT	
5	Fredericksburg, intersection of Ellebracht & SH 16 N—Center turn lane needed	TxDOT	
6	Fredericksburg, US 87 N—Road surface is rough	TxDOT	
7	Harper—Sight distance is an issue and truck traffic is too fast through town	TxDOT/Law Enforcement	
8	Fredericksburg, SH 16 S from Milam to Lady Bird Park—Difficult to turn	TxDOT	
9	Harper—Harper has a 4-lane highway (US 290) running through it, producing too much traffic	TxDOT	
10	Gillespie County—Major discussions: signal connectivity and timing	TxDOT/City	City should request a traffic signal study
11	US 87 N from Fredericksburg to 4-lane section near Llano River bridge	TxDOT	
12	Harper, intersection of RR 783 and US 290—Speed limit is currently too high (40 & 45 through town), with cars parked parallel with the white line, which is very dangerous	TxDOT	Locals should request a speed study
13	FM 2093 (location not specified)—Road narrow, turning difficult	TxDOT	
14	Gillespie County—Major discussions: turn lane bay lengths on Main are limited	TxDOT	
15	Other—Highway 16 intersections with Main Street need right-turn-only lanes	TxDOT	
16	Harper, RR 783 S on east side of school—Speed limit too high alongside school	TxDOT	Locals should request a speed study
17	US 290 (location not specified)—Difficult to turn	TxDOT	Adding intersection improvements as funding is available

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs (Continued).

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
18	SH 16 (location not specified)—Difficult to turn	TxDOT	
19	Gillespie County—Poor conditions for cycling: lots of debris on shoulders and sides of roadways forces cyclists dangerously close to center of road	TxDOT/County/City	Should review sweeping cycles
20	Gillespie County—Poor conditions for cycling: rumble strips on raised dots and white lines and in shoulders forces cyclists out in main roadways	TxDOT/County/City	Recommend reviewing placement of rumble strips when projects are developed
21	Harper, intersection of RR 783 & US 290—Difficult for students to cross	TxDOT/ISD	Develop a Safe Routes to School Plan
22	Harper, near school—Traffic too fast near school	TxDOT	Locals should request a speed study
23	Harper—Traffic is too fast going through town	TxDOT	Locals should request a speed study
24	RR 965 (location not specified)—Road narrow, turning difficult	TxDOT	
25	US 87 (location not specified)—Difficult to turn	TxDOT	Multiple projects along 87 scheduled in spring 2017
26	Gillespie County—Major discussions: bikers through Main Street is tough	TxDOT/City	Develop a Bicycle Master Plan

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Fredericksburg, Milam Street—Unsafe walking conditions for children walking north and south at high school and hospital	City	Develop a Safe Routes to School Plan
2	Fredericksburg, Friendship Lane—State road unsafe for pedestrians	City	Develop a Pedestrian Plan
3	Gillespie County—Need for planners to understand where cyclists ride in Gillespie County	TxDOT/City/County	Develop a Bicycle Master Plan
4	SH 1631 from Fredericksburg to RR 2721—Route to park not safe for cyclists	TxDOT/City/County	Develop a Bicycle Master Plan
5	Gillespie County, around Fredericksburg, Adventure Cycling Route, FM 2093 from SH 16 S, continuing south on White Oak Road to Kerr County Line—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
6	Gillespie County—Need for more driver awareness of cyclists	City/County/TxDOT	Education campaign
7	RR 965—Unsafe for cyclists	TxDOT	Look for opportunities to widen roadway
8	Harper—Traffic flowing too fast or above speed limit	TxDOT	Locals should request a speed study
9	RR 965 at Enchanted Rock—Unsafe for bicyclists to enter park entrance where shoulder is crowded	TxDOT	Look for opportunities to improve the intersection
10	Gillespie County—Need for planners to be educated about recreational cycling	City/County/TxDOT	Develop a Bicycle Master Plan
11	Gillespie County, around Fredericksburg, RR 965 from Cross Mountain Drive in Fredericksburg to Enchanted Rock—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
12	Gillespie County, around Fredericksburg, SH 16 S from Fredericksburg to Kerr County Line—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
13	Gillespie County, around Fredericksburg, RR 1623 between US 290 and RR 2721—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs (Continued).

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
14	Gillespie County, south of Harper, RR 783 S between Klein Branch Road and White Oak Road—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
15	Gillespie County, north of Harper at US 290, RR 783 S to Jung Road—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
16	Gillespie County, around Fredericksburg, RR 1 from RR 1623 to Hye—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
17	Fredericksburg, Cross Mountain between Avenue D and Milam—Road too narrow for cyclists	City	Look for opportunities to widen roadway
18	Gillespie County, around Fredericksburg River Road to US 87 S to Meusebach Creek Road to River Bend Ranch Road—Road too narrow for cyclists	City	Look for opportunities to widen roadway
19	US 290 from Fredericksburg to LBJ Park—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
20	Gillespie County, around Fredericksburg, US 290 W between US 87N and Hayden Ranch Road—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
21	Gillespie County, around Fredericksburg, I-10 between Kerr County Line and Kimble County Line—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
22	Gillespie County, around Fredericksburg, Louden Road between US 290 and Pecan Creek Road—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
23	Gillespie County, around Fredericksburg, RR 648 between Doss and US 87 N—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
24	Gillespie County, around Fredericksburg, Lower Crab Apple from Ellebracht Drive to Hilmar Jung Road—Road too narrow for cyclists	City	Look for opportunities to widen roadway
25	Gillespie County, around Fredericksburg, SH 1631 from Fredericksburg to FM 1333—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
26	Gillespie County, around Fredericksburg, RR 1323 from RR 1631 to Willow City Loop to SH 16—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway
27	Gillespie County, around Fredericksburg, RR 2721 from RR 1631 to RR 1320—Road too narrow for cyclists	TxDOT	Look for opportunities to widen roadway

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Gillespie County Projects

Table 7 provides the top three projects from Gillespie County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Gillespie County.

Project Description	Weighted Technical Score
Improve US 290 to five lanes from Johnson City to Fredericksburg	170
Improve SH 16 to Super 2 north of Fredericksburg to Llano	100
Add relief route around Fredericksburg (E US 290 to US 87 N)	−100

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Gillespie County's highest ranked project (improve US 290 to five lanes from Johnson City to Fredericksburg) received the second highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Gillespie County Judge

Dear Judge Mark Stroeher,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Gillespie County, and we would appreciate your participation. The date of the workshop is:

Date: October 21, 2015
Time: 9:30 AM to 12:00 PM
Location: Hill Country University Center, Fredericksburg

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Karnes County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Karnes County workshop was organized by TxDOT with the help of Karnes County Judge Walter Long. TxDOT sent a letter (shown in the Appendix) to Judge Long requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Tuesday, November 11, 2015, from 9:00 AM to 12:00 PM at the Karnes County Courthouse in Karnes City. Seven people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Karnes County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Karnes County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Karnes County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Karnes County both now and in the future. The following is a summary of the data presented at the Karnes County workshop.

2.1. Karnes County Demographic Data

Figure 1 provides the historic and projected population growth for Karnes County between 1960 and 2040.

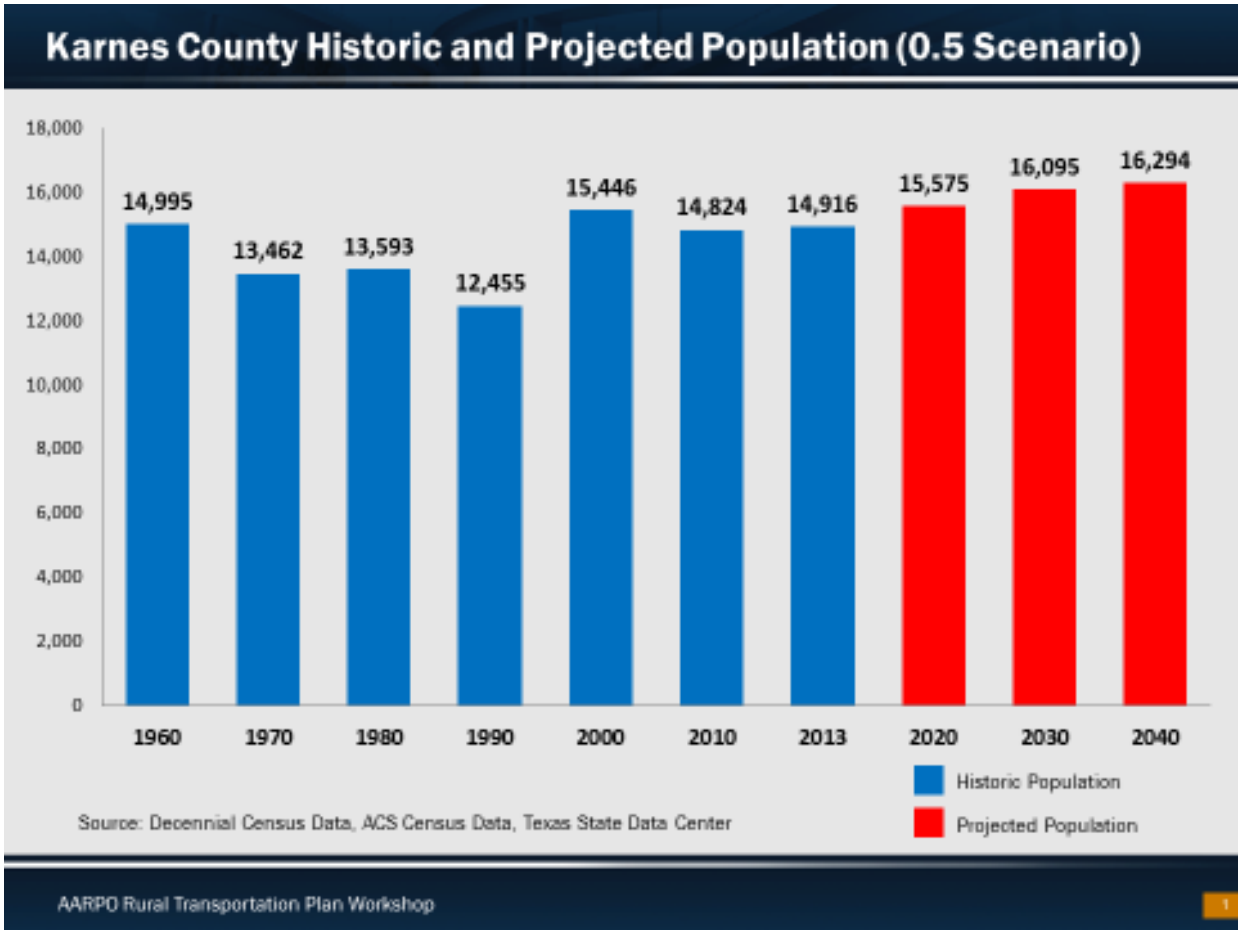


Figure 1. Karnes County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Karnes County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

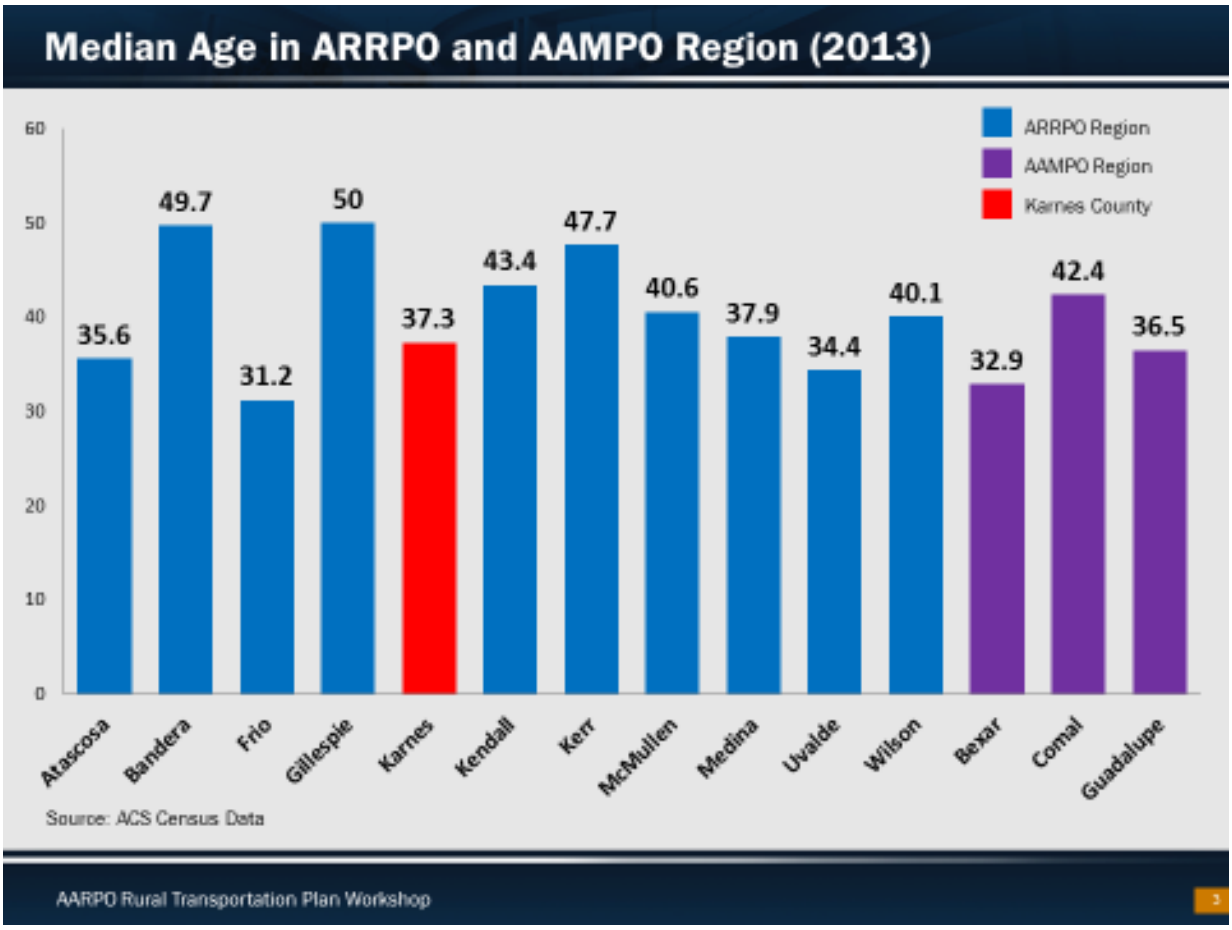


Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Karnes County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

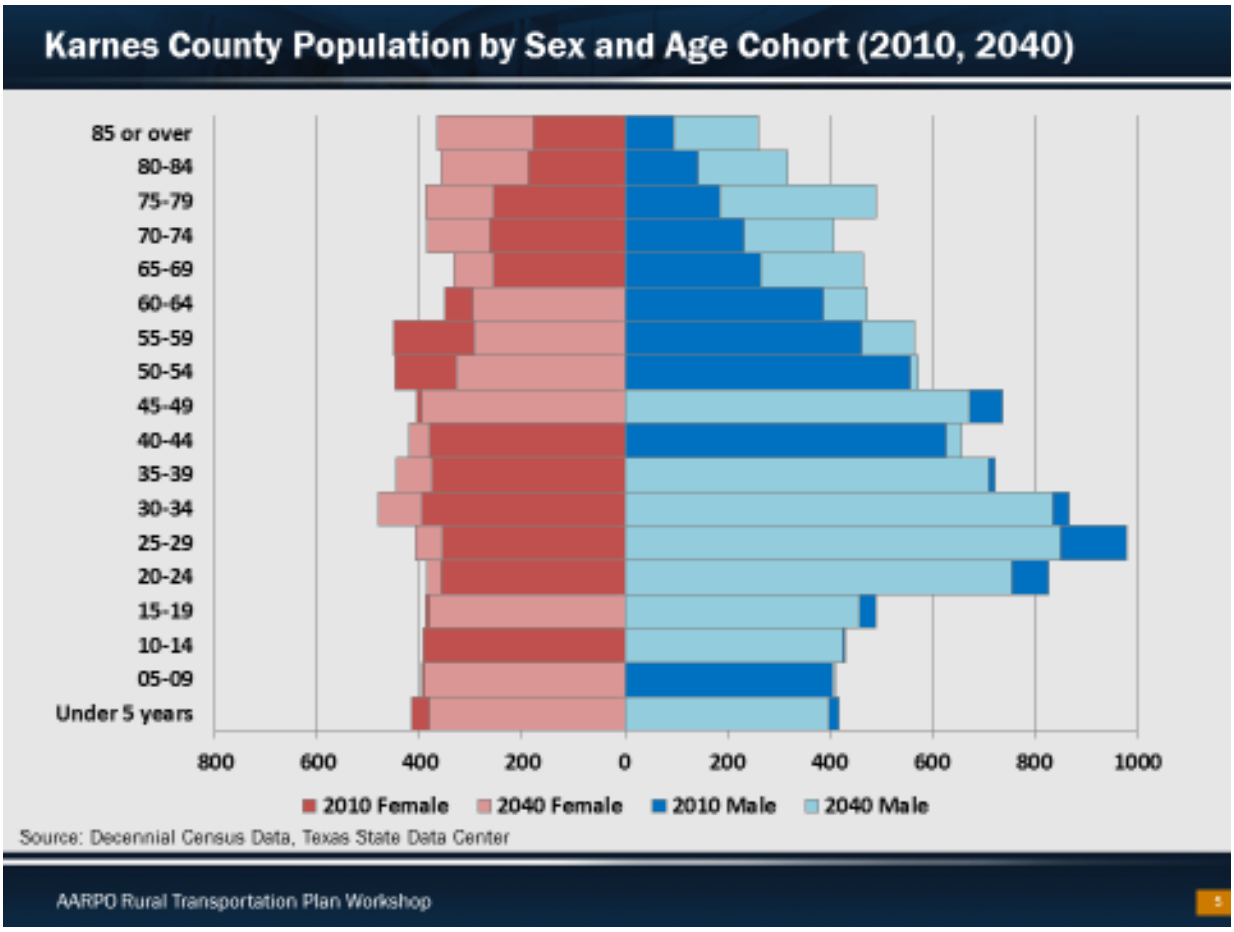


Figure 3. Karnes County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Karnes County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Karnes County.

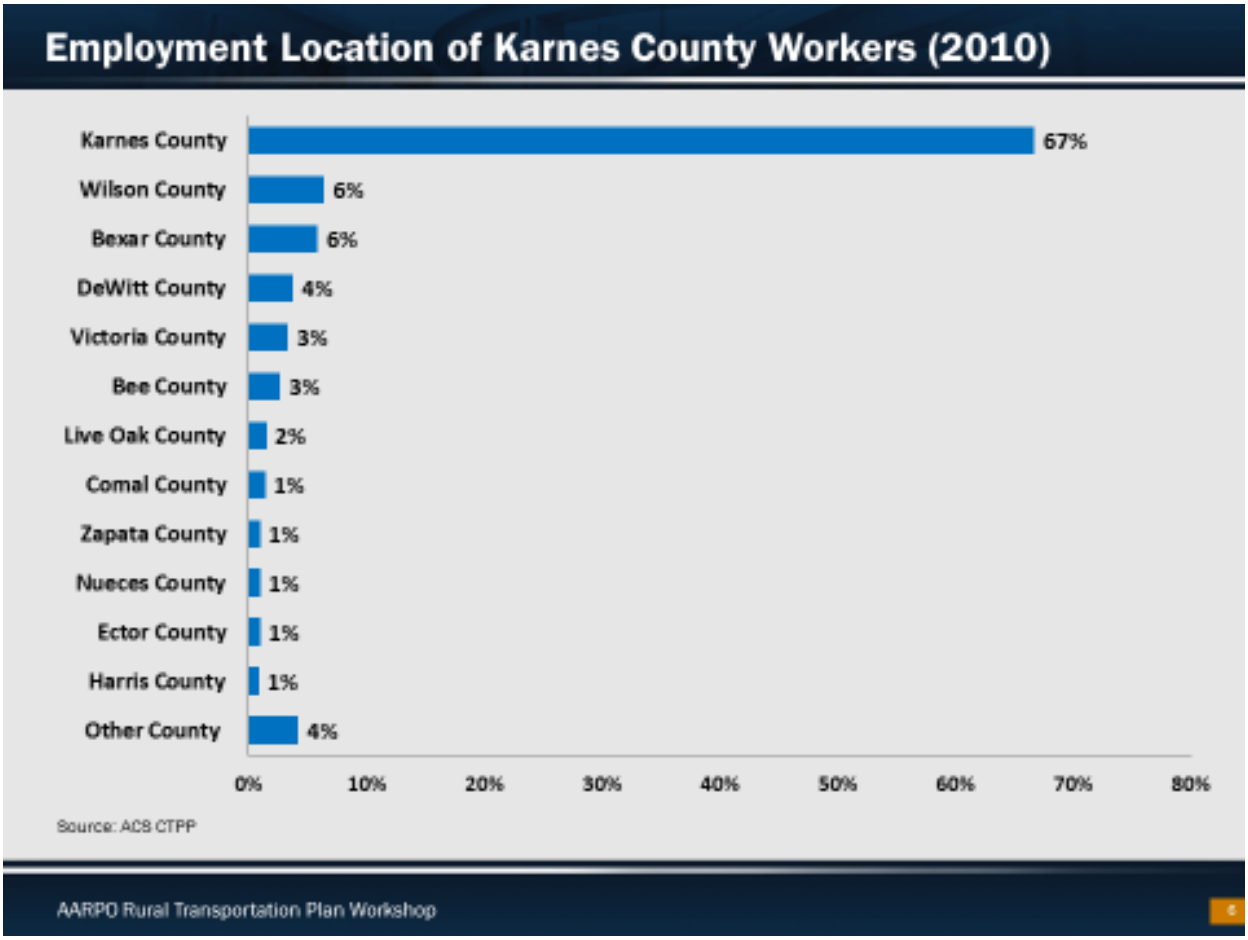


Figure 4. Employment Location of Karnes County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Karnes County.

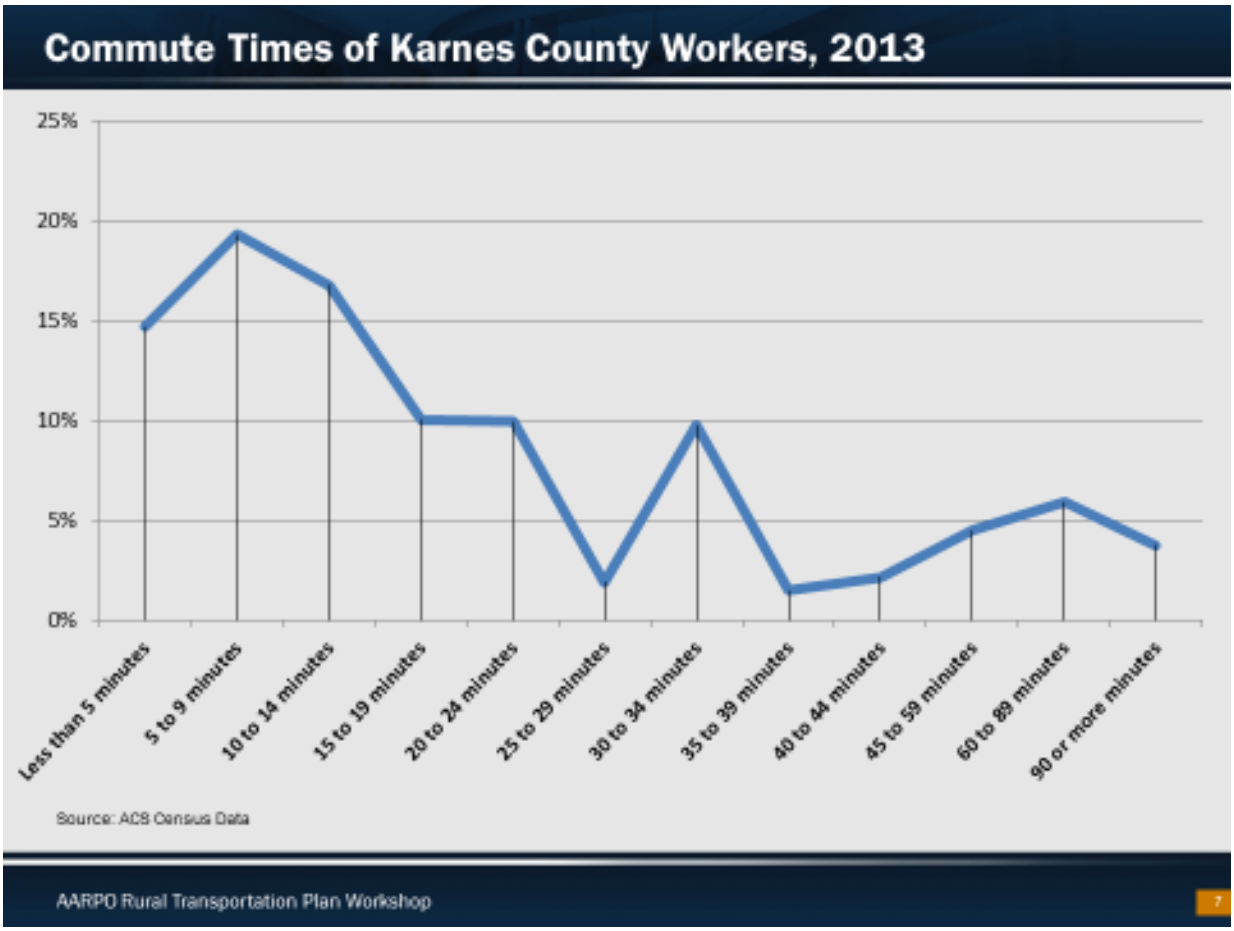


Figure 5. Commute Times of Karnes County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Karnes County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

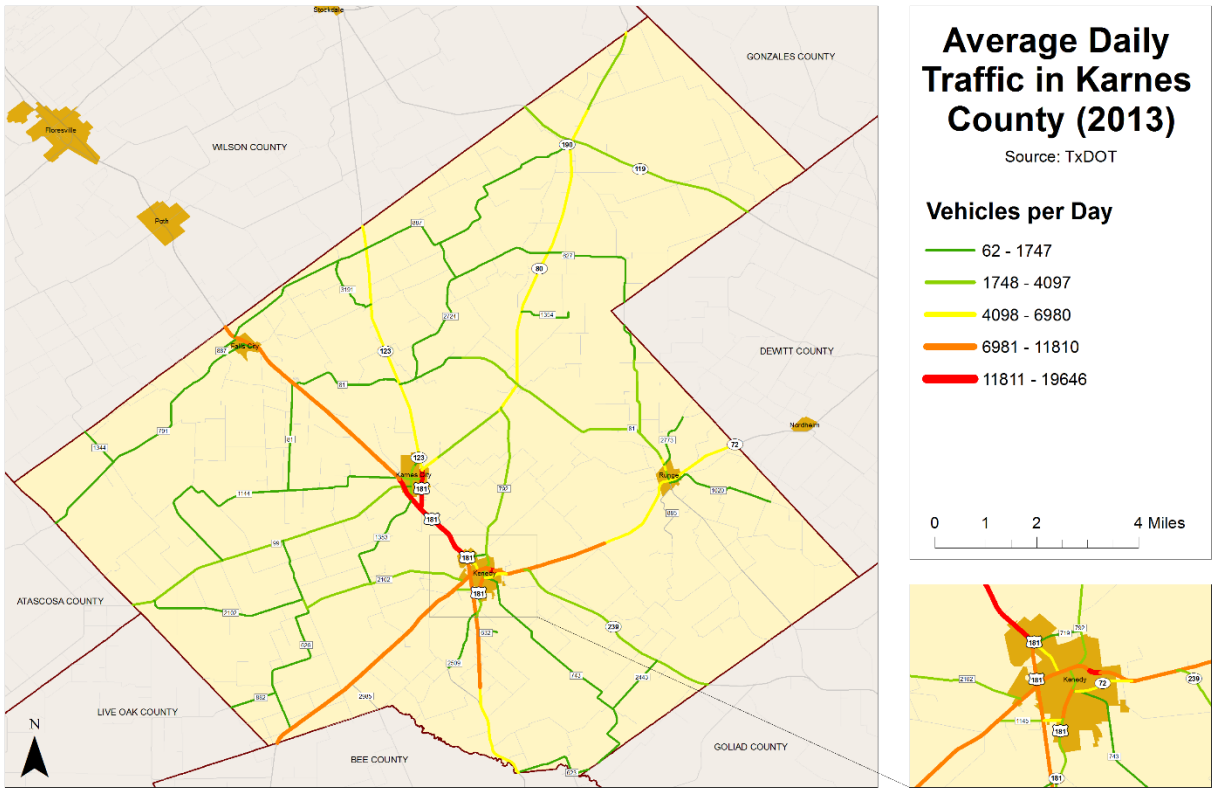


Figure 6. Average Daily Traffic in Karnes County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Karnes County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

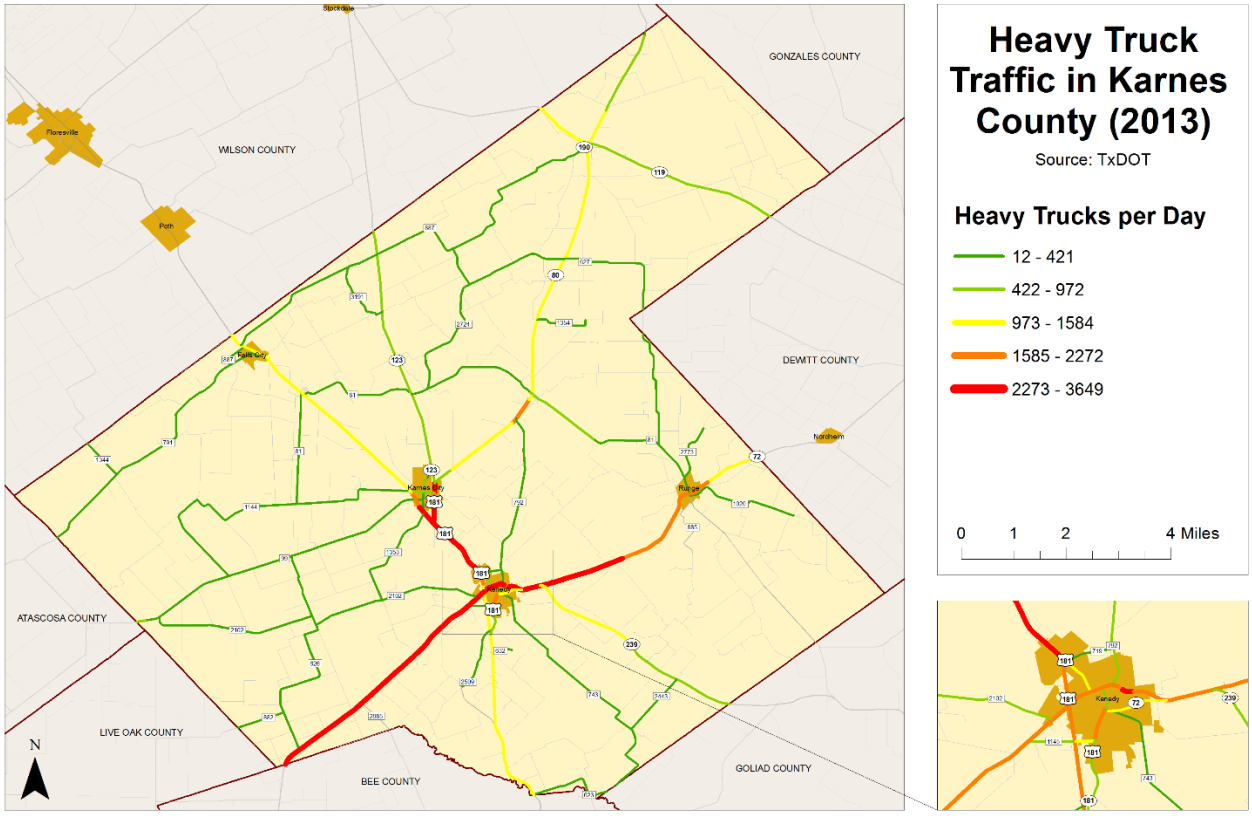


Figure 7. Heavy Truck Traffic in Karnes County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Karnes County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

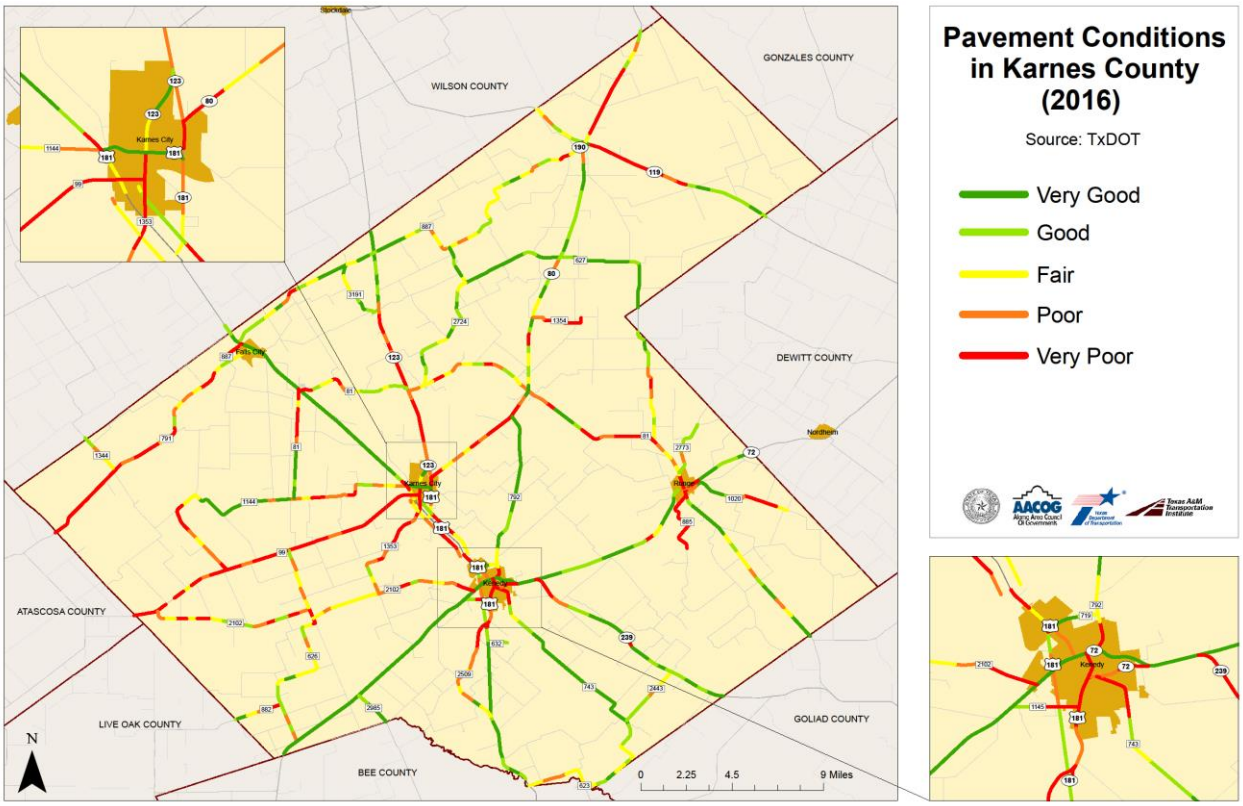


Figure 8. Pavement Conditions in Karnes County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Karnes County between 2010 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

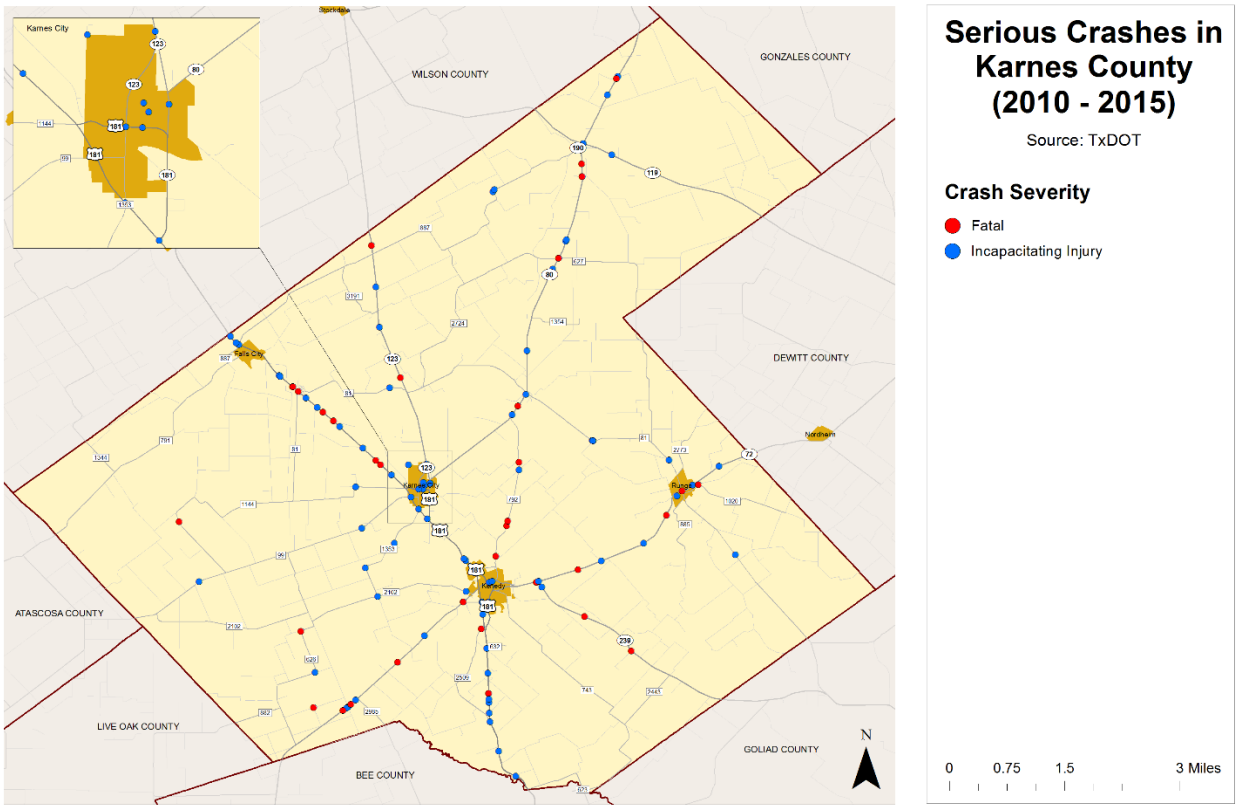


Figure 9. Serious Crashes in Karnes County (2010–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Karnes County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Karnes County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Karnes County mobility and connectivity exercise map.

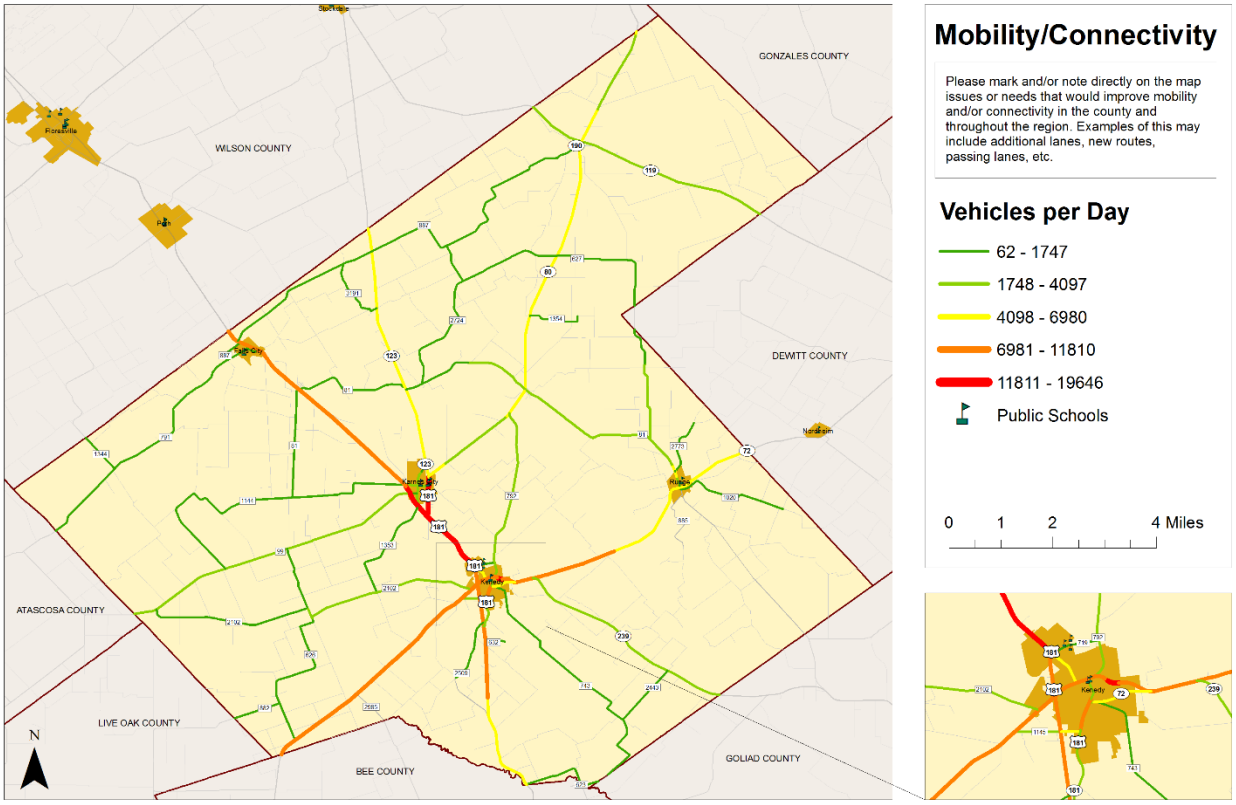


Figure 10. Karnes County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Karnes County maintenance and safety exercise map.

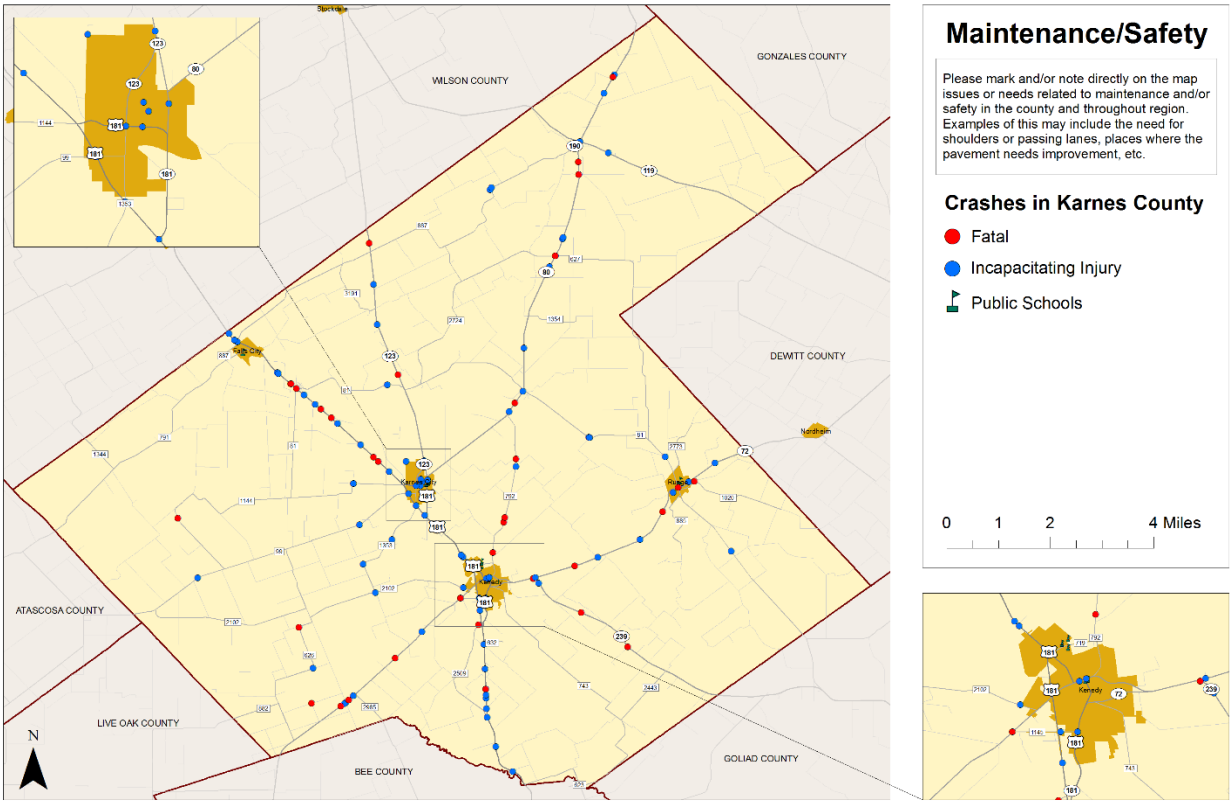


Figure 11. Karnes County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Karnes County bicycle, pedestrian, and transit exercise map.

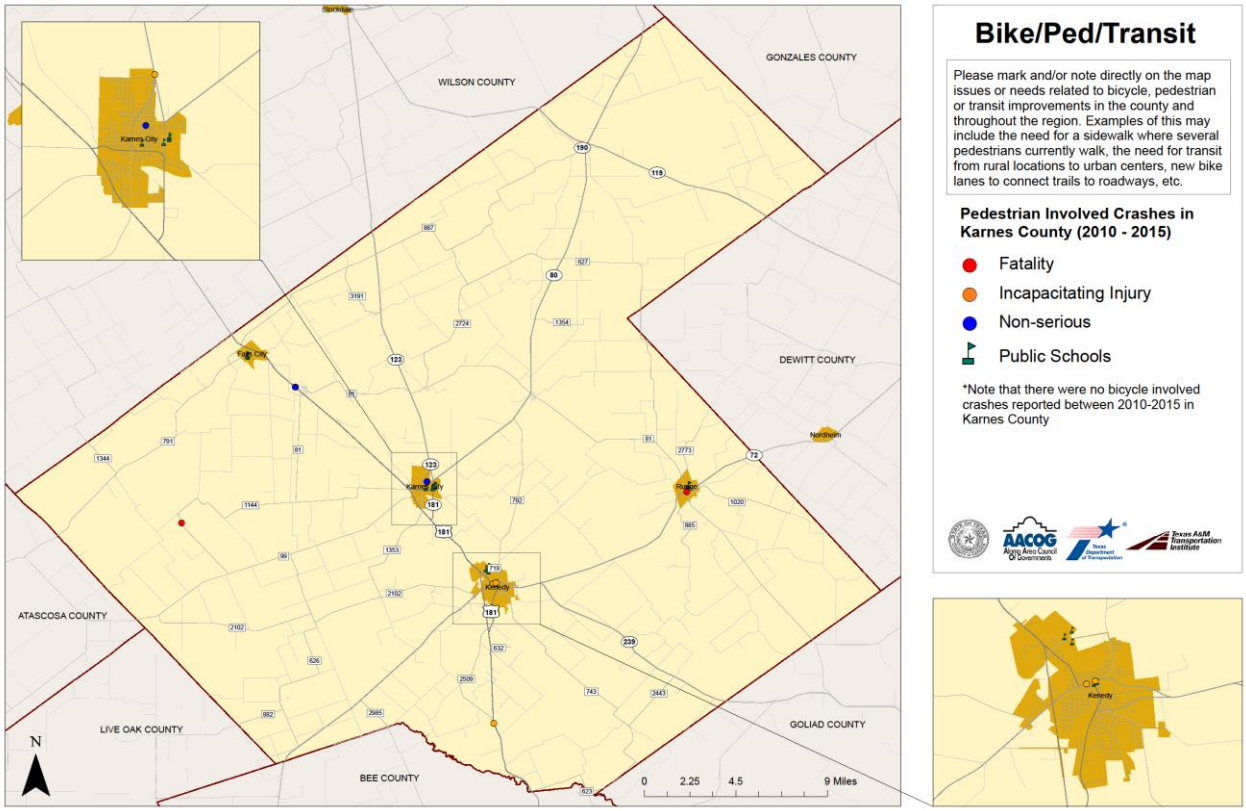
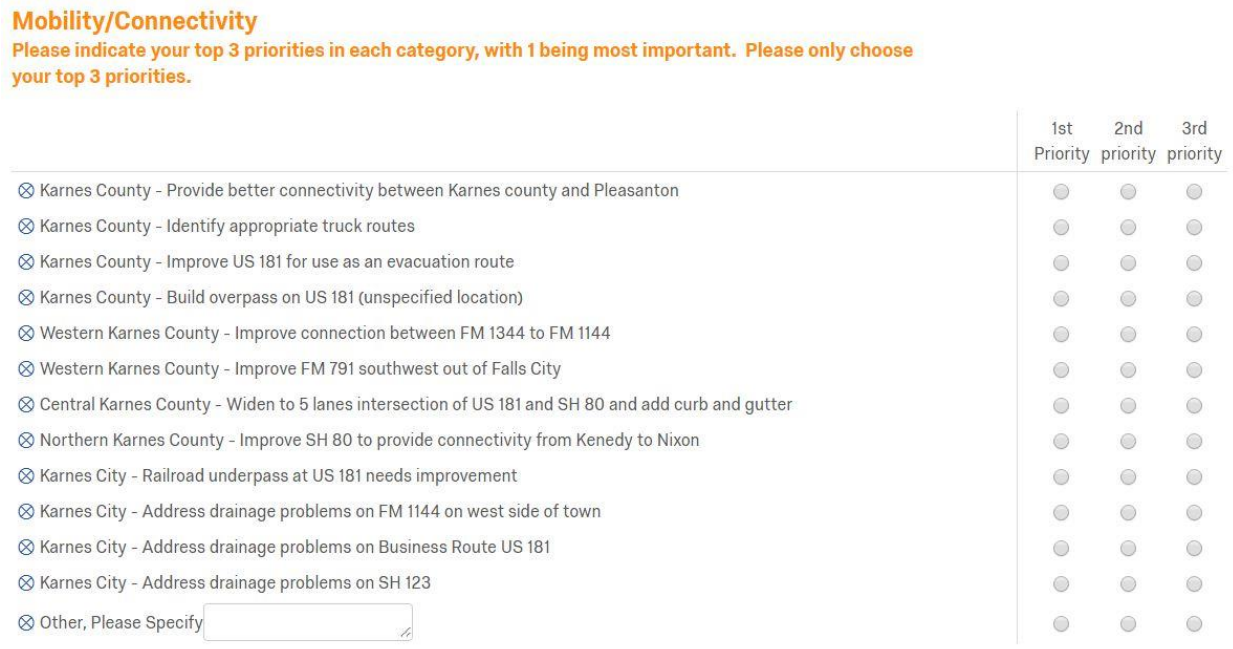


Figure 12. Karnes County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Karnes County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the

workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.

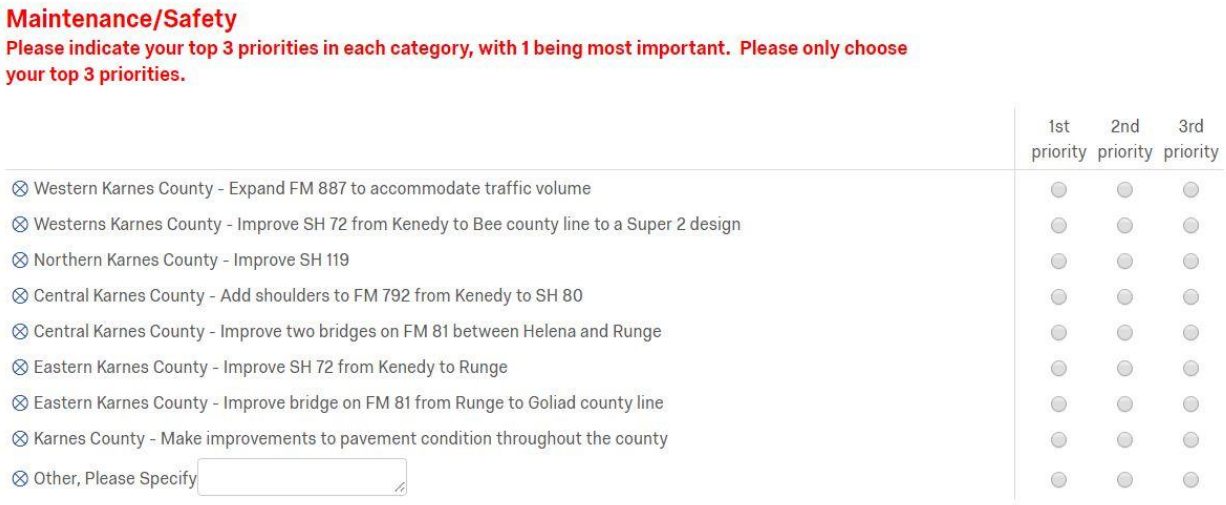


Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
Karnes County - Provide better connectivity between Karnes county and Pleasanton			
Karnes County - Identify appropriate truck routes			
Karnes County - Improve US 181 for use as an evacuation route			
Karnes County - Build overpass on US 181 (unspecified location)			
Western Karnes County - Improve connection between FM 1344 to FM 1144			
Western Karnes County - Improve FM 791 southwest out of Falls City			
Central Karnes County - Widen to 5 lanes intersection of US 181 and SH 80 and add curb and gutter			
Northern Karnes County - Improve SH 80 to provide connectivity from Kenedy to Nixon			
Karnes City - Railroad underpass at US 181 needs improvement			
Karnes City - Address drainage problems on FM 1144 on west side of town			
Karnes City - Address drainage problems on Business Route US 181			
Karnes City - Address drainage problems on SH 123			
Other, Please Specify			

Figure 13. Mobility and Connectivity Section of Karnes County Transportation Needs Prioritization Survey.



Maintenance/Safety

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
Western Karnes County - Expand FM 887 to accommodate traffic volume			
Westerns Karnes County - Improve SH 72 from Kenedy to Bee county line to a Super 2 design			
Northern Karnes County - Improve SH 119			
Central Karnes County - Add shoulders to FM 792 from Kenedy to SH 80			
Central Karnes County - Improve two bridges on FM 81 between Helena and Runge			
Eastern Karnes County - Improve SH 72 from Kenedy to Runge			
Eastern Karnes County - Improve bridge on FM 81 from Runge to Goliad county line			
Karnes County - Make improvements to pavement condition throughout the county			
Other, Please Specify			

Figure 14. Maintenance and Safety Section of Karnes County Transportation Needs Prioritization Survey.

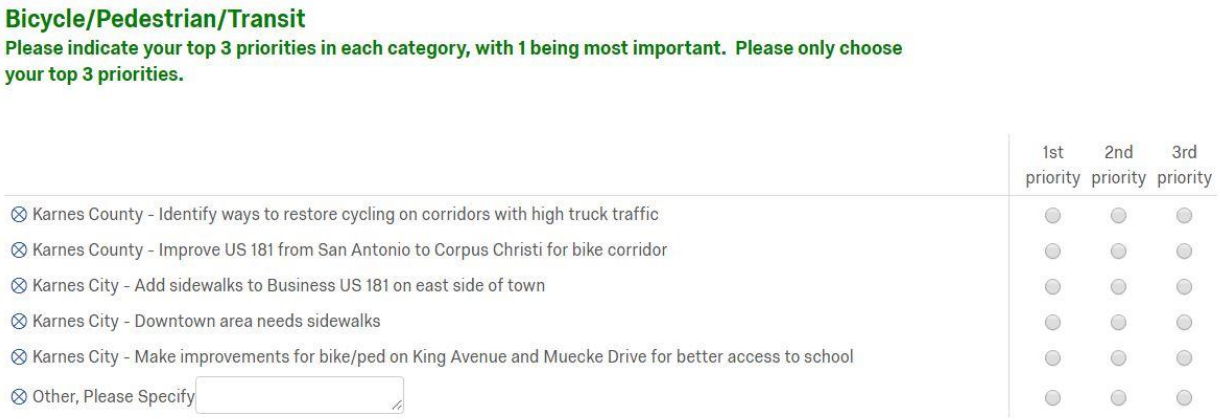


Figure 15. Bicycle, Pedestrian, and Transit Section of Karnes County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Six people completed the survey for Karnes County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Northern Karnes County—Improve SH 80 to provide connectivity from Kenedy to Nixon	6	2
2	Karnes City—Address drainage problems on SH 123	6	0
3	Karnes County—Improve US 181 for use as an evacuation route	5	1
4	Central Karnes County—Widen intersection of US 181 and SH 80 to 5 lanes and add curb and gutter	5	1
5	Karnes City—Address drainage problems on Business Route US 181	5	1
6	Karnes County—Identify appropriate truck routes	4	0
7	Western Karnes County—Improve FM 791 southwest out of Falls City	3	1
8	Karnes County—Provide better connectivity between Karnes County and Pleasanton	1	0
9	Karnes City—Address drainage problems on FM 1144 on west side of town	1	0
10	Western Karnes County—Improve connection between FM 1344 to FM 1144	0	0
11	Karnes City—Improve railroad underpass at US 181	0	0
12	Karnes County—Build overpass on US 181 (unspecified location)	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Karnes County—Make improvements to pavement condition throughout the county	18	6
2	Central Karnes County—Improve two bridges on FM 81 between Helena and Runge	3	0
3	Eastern Karnes County—Improve bridge on FM 81 from Runge to Goliad County Line	3	0
4	Central Karnes County—Add shoulders to FM 792 from Kenedy to SH 80	3	0
5	Westerns Karnes County—Improve SH 72 from Kenedy to Bee County Line to a Super 2 design	2	0
6	Eastern Karnes County—Improve SH 72 from Kenedy to Runge	2	0
7	Western Karnes County—Expand FM 887 to accommodate traffic volume	2	0
8	Northern Karnes County—Improve SH 119	1	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Karnes County—Improve US 181 from San Antonio to Corpus Christi for bike corridor	9	2
2	Karnes City—Make improvements for bicycles and pedestrians on King Avenue and Muecke Drive for better access to school	9	0
3	Karnes City—Add sidewalks to downtown area	7	2
4	Karnes City—Add sidewalks to Business US 181 on east side of town	5	1
5	Karnes County—Identify ways to restore cycling on corridors with high truck traffic	4	1

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Northern Karnes County—Improve SH 80 to provide connectivity from Kenedy to Nixon	TxDOT	Passing lanes under construction
2	Karnes City—Address drainage problems on SH 123	TxDOT	Rehab roadway and add passing lanes
3	Karnes County—Improve US 181 for use as an evacuation route	TxDOT	Ongoing rehab project
4	Central Karnes County—Widen intersection of US 181 and SH 80 to 5 lanes and add curb and gutter	TxDOT	Reconstructing intersection in 2017
5	Karnes City—Address drainage problems on Business Route US 181	TxDOT	
6	Karnes County—Identify appropriate truck routes	TxDOT/County	Truck route is established
7	Western Karnes County—Improve FM 791 southwest out of Falls City	TxDOT	
8	Karnes County—Provide better connectivity between Karnes County and Pleasanton	County	
9	Karnes City—Address drainage problems on FM 1144 on west side of town	TxDOT/County	
10	Western Karnes County—Improve connection between FM 1344 to FM 1144	County	
11	Karnes City—Improve railroad underpass at US 181	TxDOT	
12	Karnes County—Build overpass on US 181 (unspecified location)	TxDOT	

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Karnes County—Make improvements to pavement condition throughout the county	TxDOT/ County	Ongoing
2	Central Karnes County—Improve two bridges on FM 81 between Helena and Runge	TxDOT	
3	Eastern Karnes County—Improve bridge on FM 81 from Runge to Goliad County Line	TxDOT	4 bridges are scheduled for letting in 2018
4	Central Karnes County—Add shoulders to FM 792 from Kenedy to SH 80	TxDOT	
5	Westerns Karnes County—Improve SH 72 from Kenedy to Bee County Line to a Super 2 design	TxDOT	Complete
6	Eastern Karnes County—Improve SH 72 from Kenedy to Runge	TxDOT	Project to add passing lanes under development
7	Western Karnes County—Expand FM 887 to accommodate traffic volume	TxDOT	
8	Northern Karnes County—Improve SH 119	TxDOT	Project to widen and rehab is under development

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Karnes City—Make improvements for bike/ped on King Avenue and Muecke Drive for better access to school	City	Develop a pedestrian and bicycle plan
2	Karnes City—Add sidewalks to downtown area	City/TxDOT	Develop a pedestrian and bicycle plan
3	Karnes County—Improve US 181 from San Antonio to Corpus Christi for bike corridor	TxDOT	Develop a pedestrian and bicycle plan
4	Karnes City—Add sidewalks to Business US 181 on east side of town	TxDOT/City	As improvements are made; sidewalks should be included
5	Karnes County—Identify ways to restore cycling on corridors with high truck traffic	City	Develop a pedestrian and bicycle plan

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Karnes County Projects

Table 7 provides the top three projects from Karnes County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Karnes County.

Project Description	Weighted Technical Score
Improve US 181 for use as an evacuation route (Karnes City to the Bee/Karnes County Line)	170
Improve intersection at Business US 181 and SH 80	110
Create Super 2 design on SH 80 between SH 123 and Wilson County	30

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Karnes County's highest ranked project (improve US 181 for use as an evacuation route) received the second highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Karnes County Judge

Dear Judge Walter Long,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Karnes County, and we would appreciate your participation. The date of the workshop is:

Date: November 11, 2015
Time: 9:00 AM to 12:00 PM
Location: Karnes County Courthouse, Karnes City

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Kendall County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Kendall County workshop was organized by TxDOT with the help of Kendall County Judge Darrel Lux. TxDOT sent a letter (shown in the Appendix) to Judge Lux requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Thursday, January 21, 2016, from 3:00 PM to 5:00 PM at the Boerne Civic Center in Boerne. Forty-five people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Kendall County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Kendall County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Kendall County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Kendall County both now and in the future. The following is a summary of the data presented at the Kendall County workshop.

2.1. Kendall County Demographic Data

Figure 1 provides the historic and projected population growth for Kendall County between 1960 and 2040.

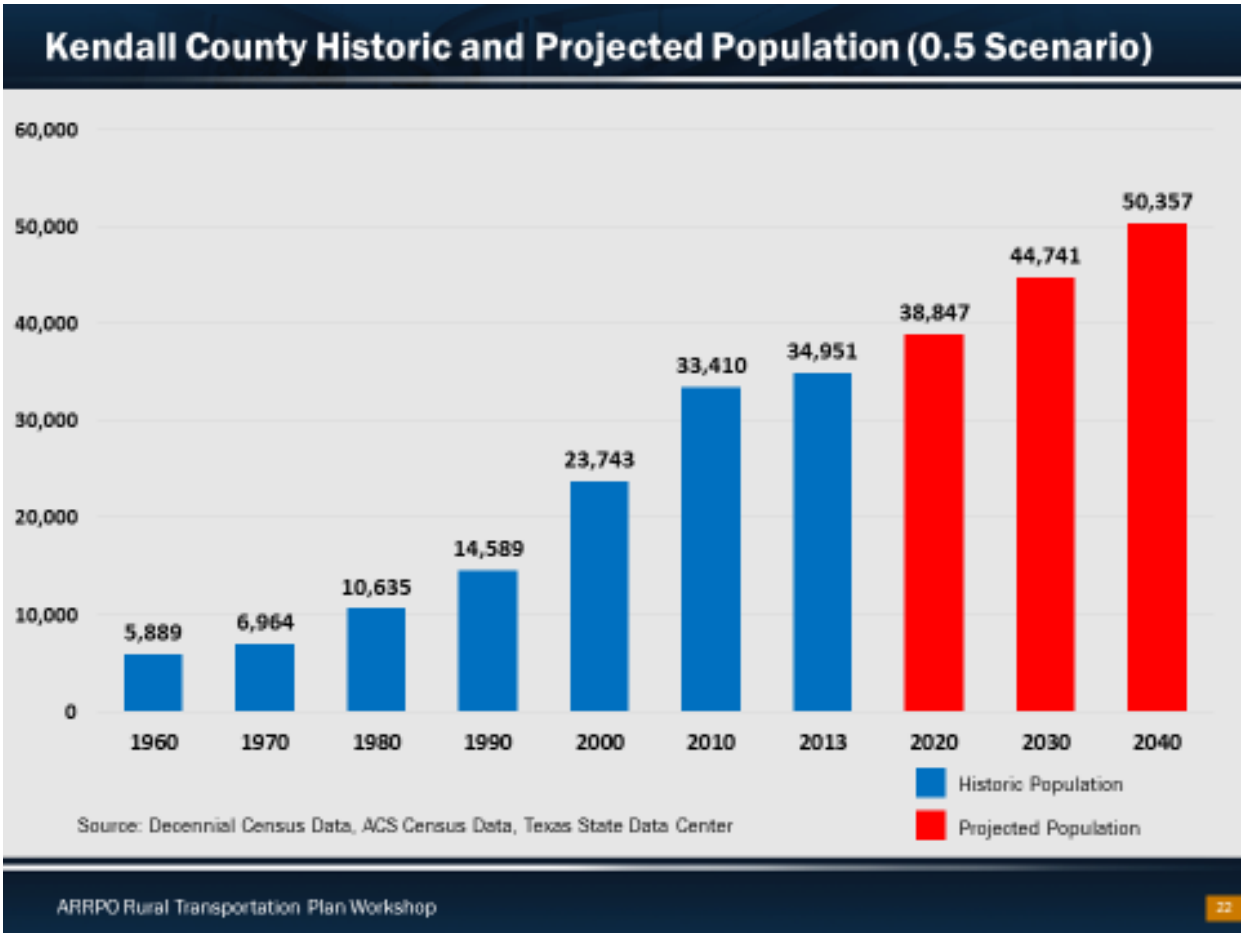


Figure 1. Kendall County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Kendall County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

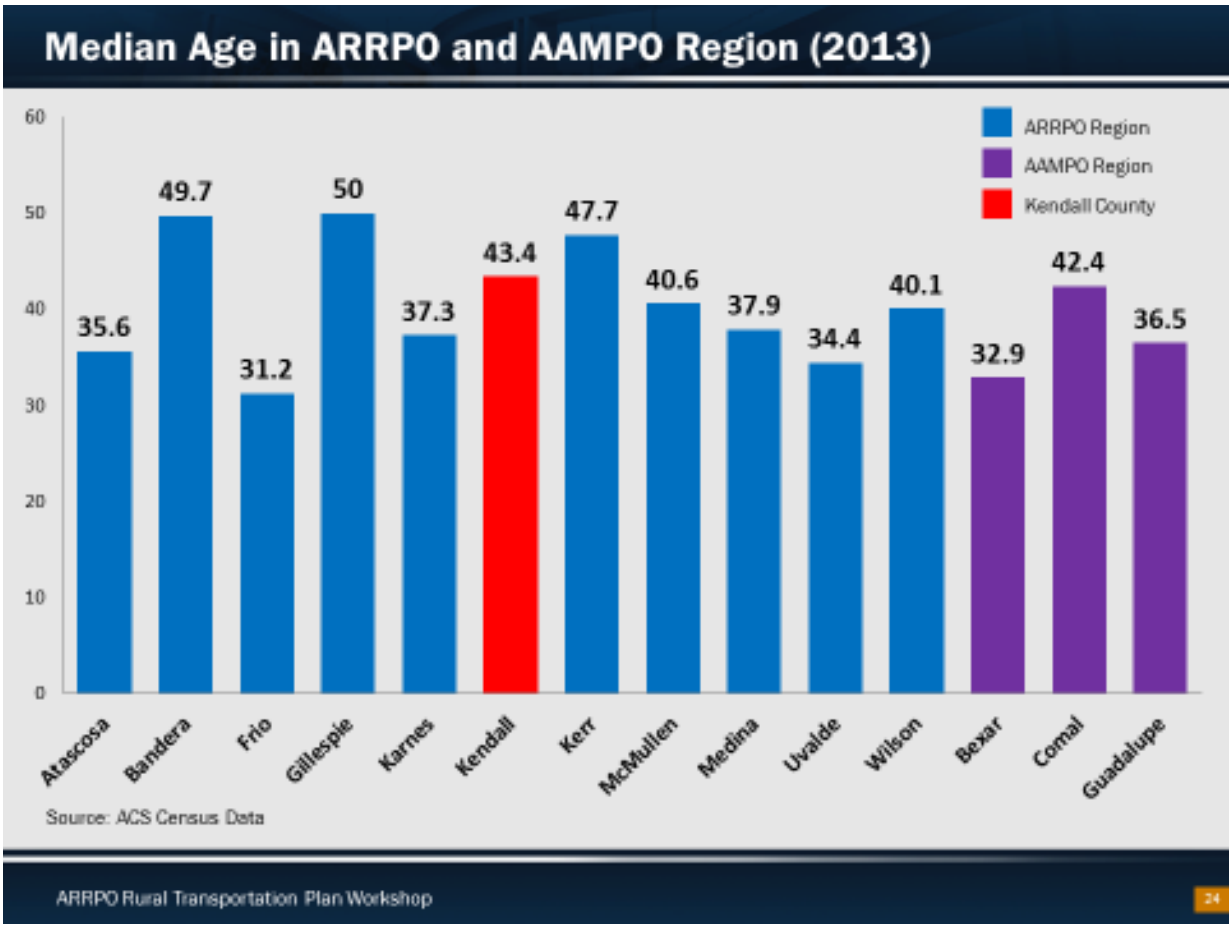


Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Kendall County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

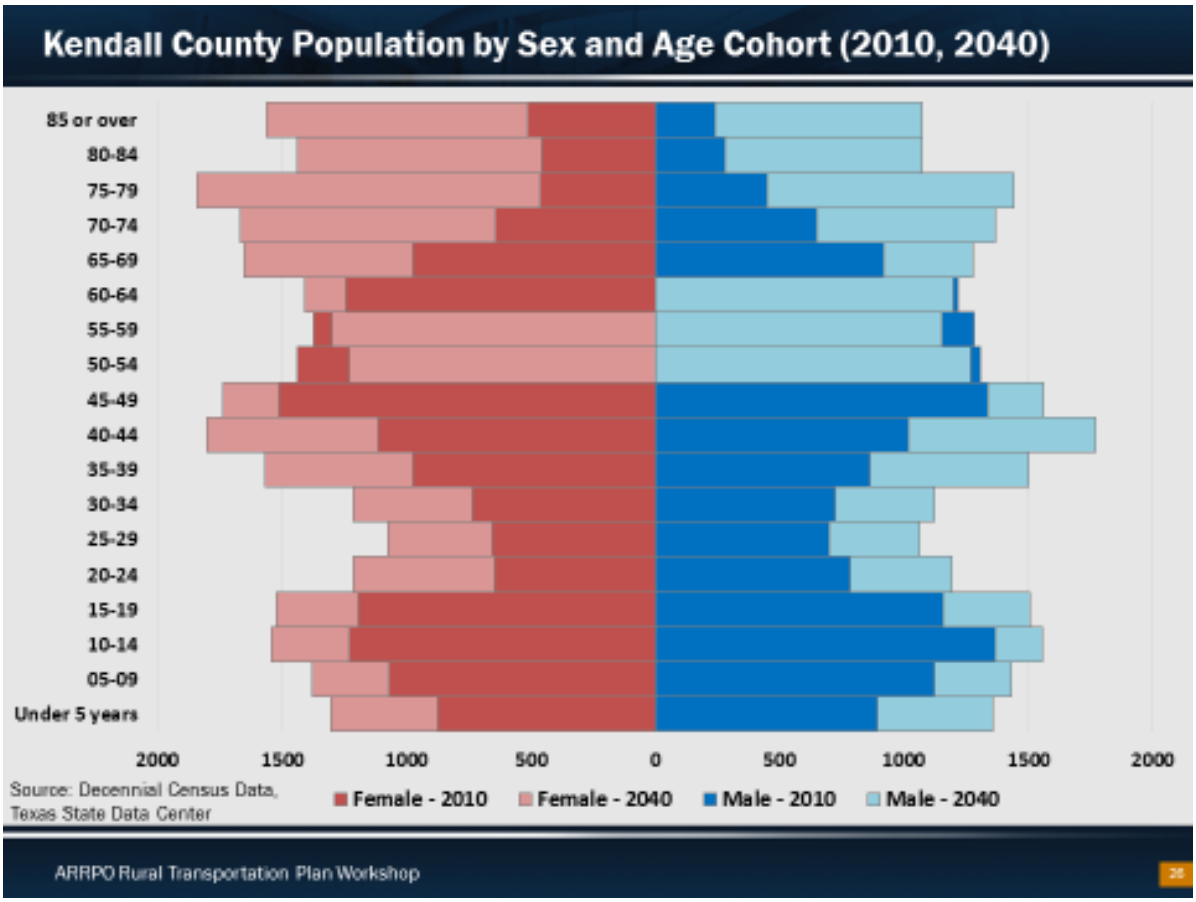


Figure 3. Kendall County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Kendall County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Kendall County.

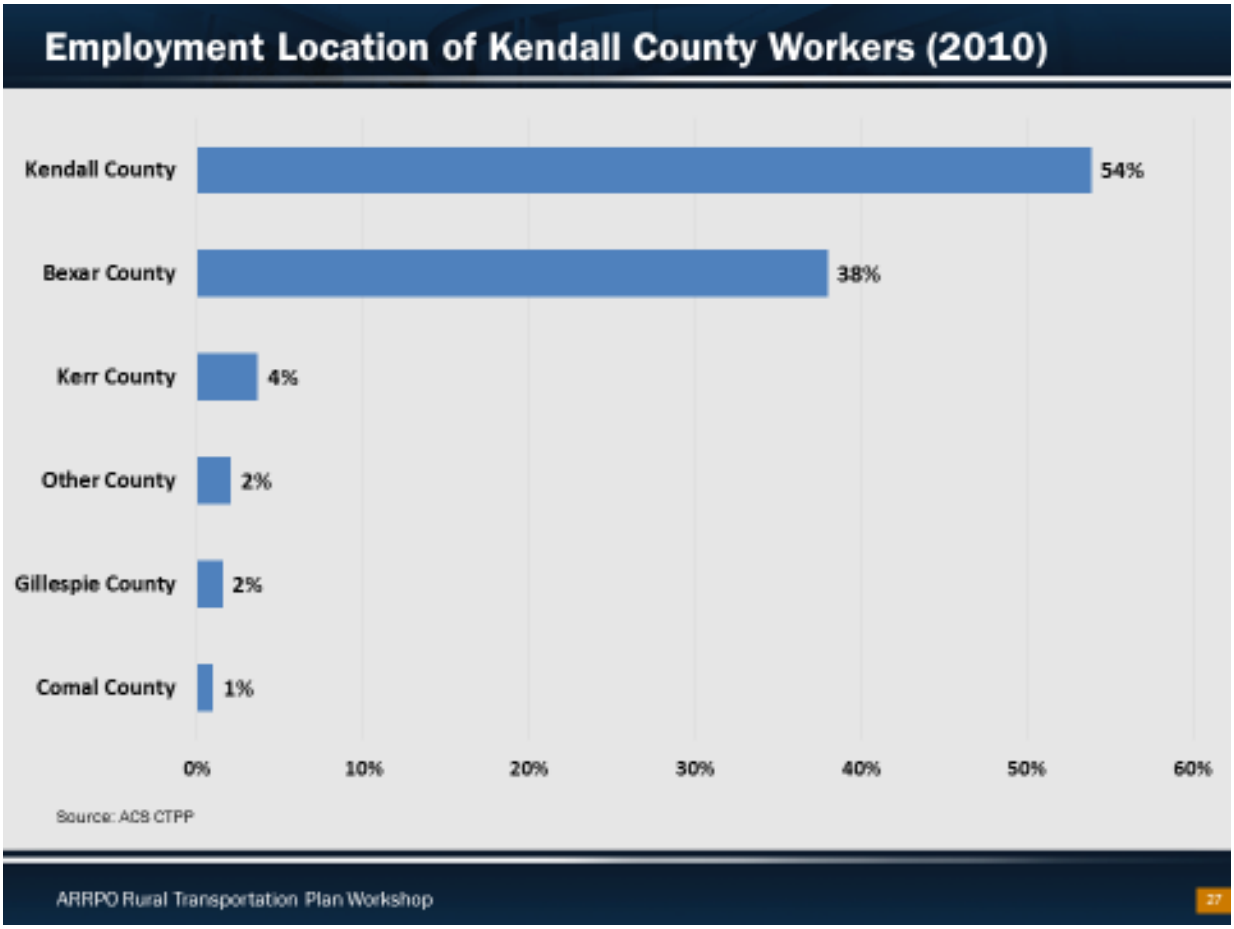


Figure 4. Employment Location of Kendall County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Kendall County.

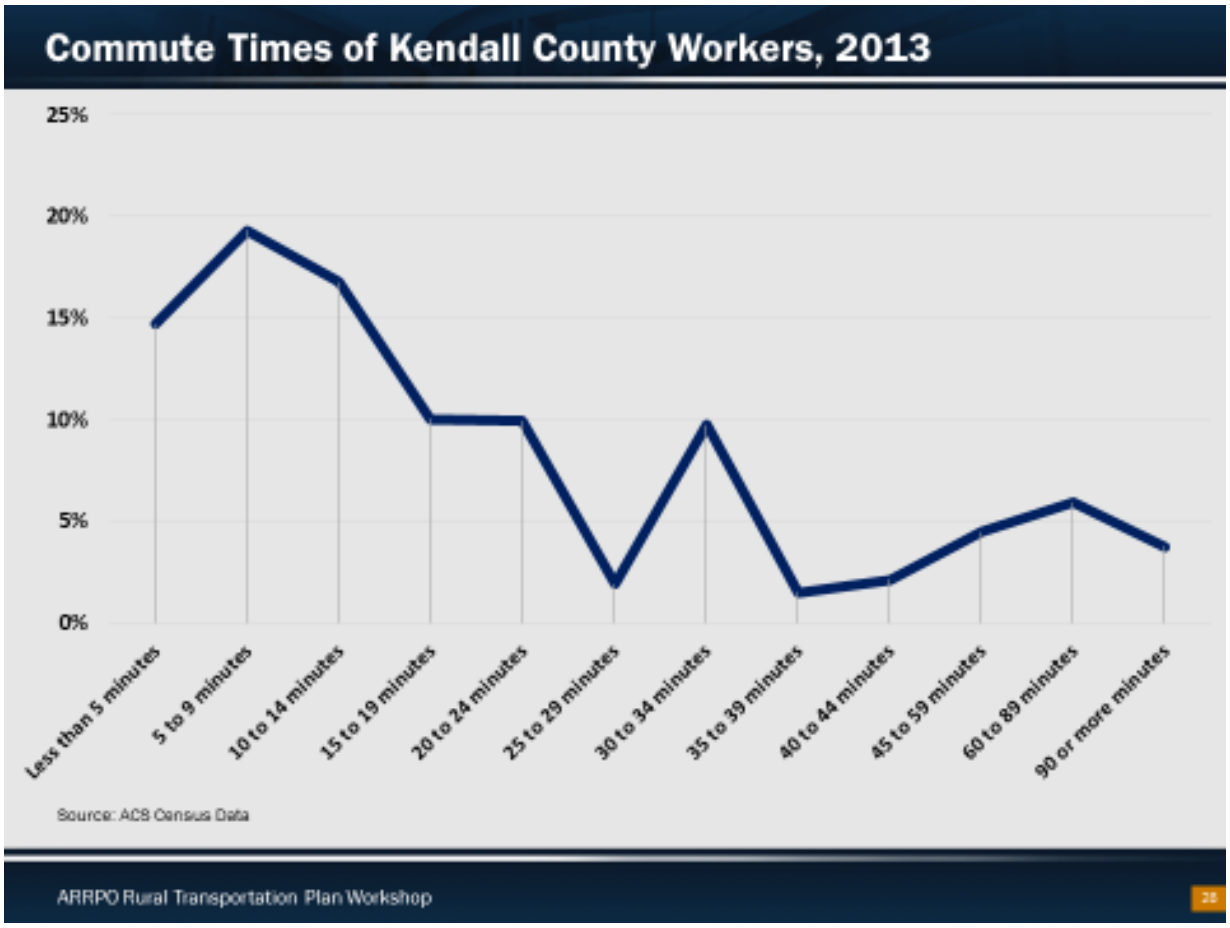


Figure 5. Commute Times of Kendall County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Kendall County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

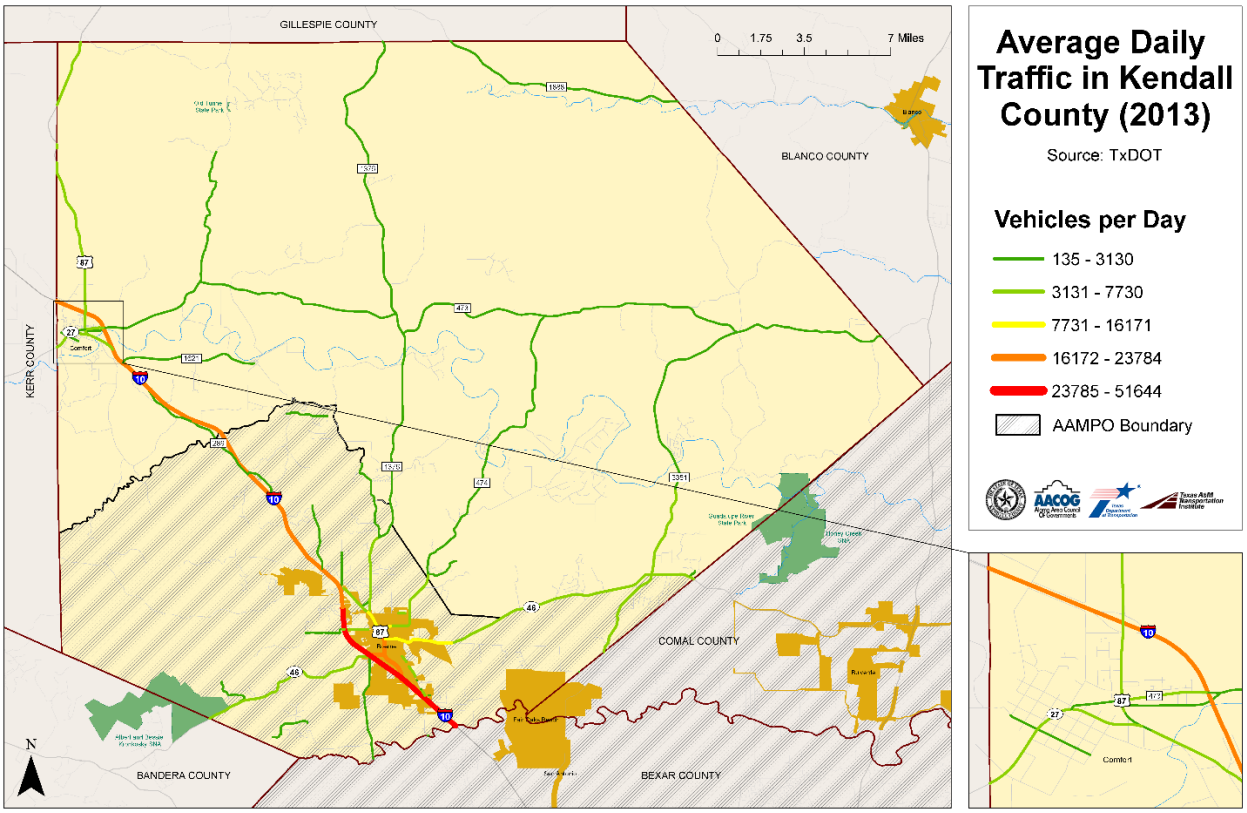


Figure 6. Average Daily Traffic in Kendall County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Kendall County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

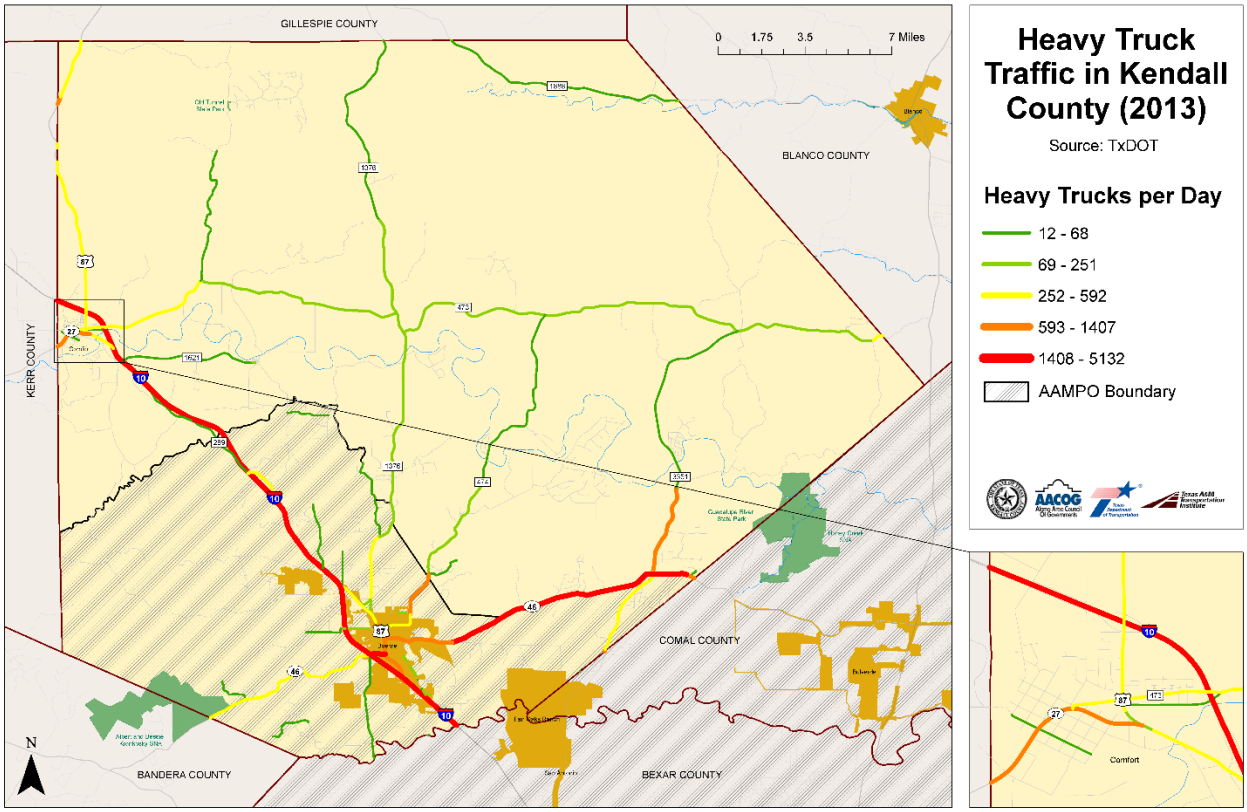


Figure 7. Heavy Truck Traffic in Kendall County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Kendall County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

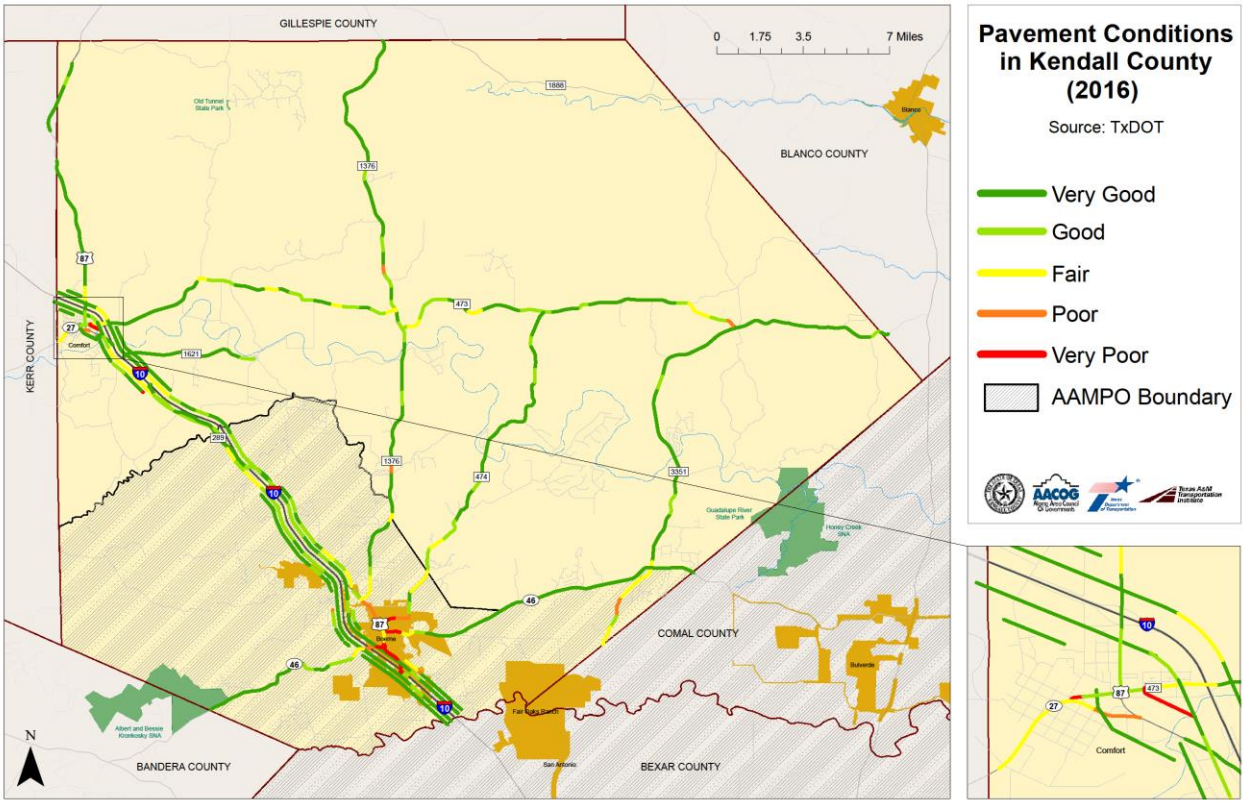


Figure 8. Pavement Conditions in Kendall County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Kendall County between 2010 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

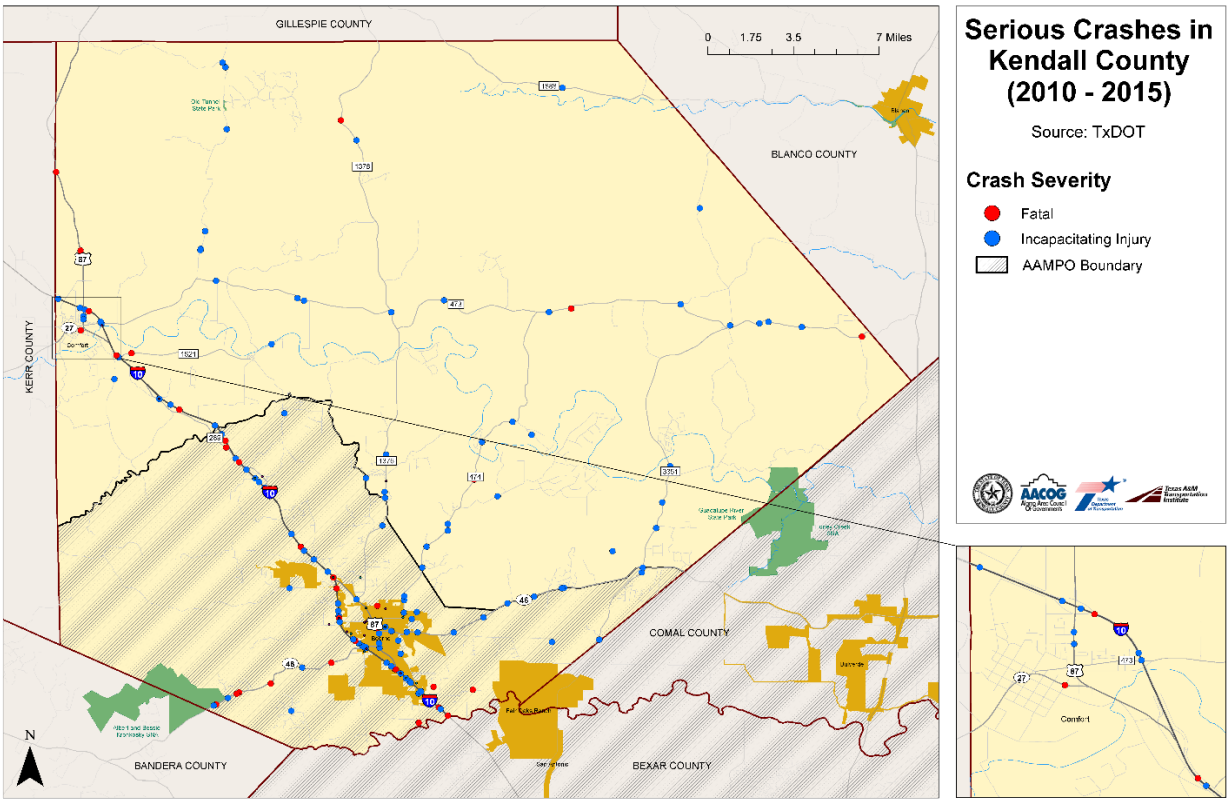


Figure 9. Serious Crashes in Kendall County (2010–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Kendall County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Kendall County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Kendall County mobility and connectivity exercise map.

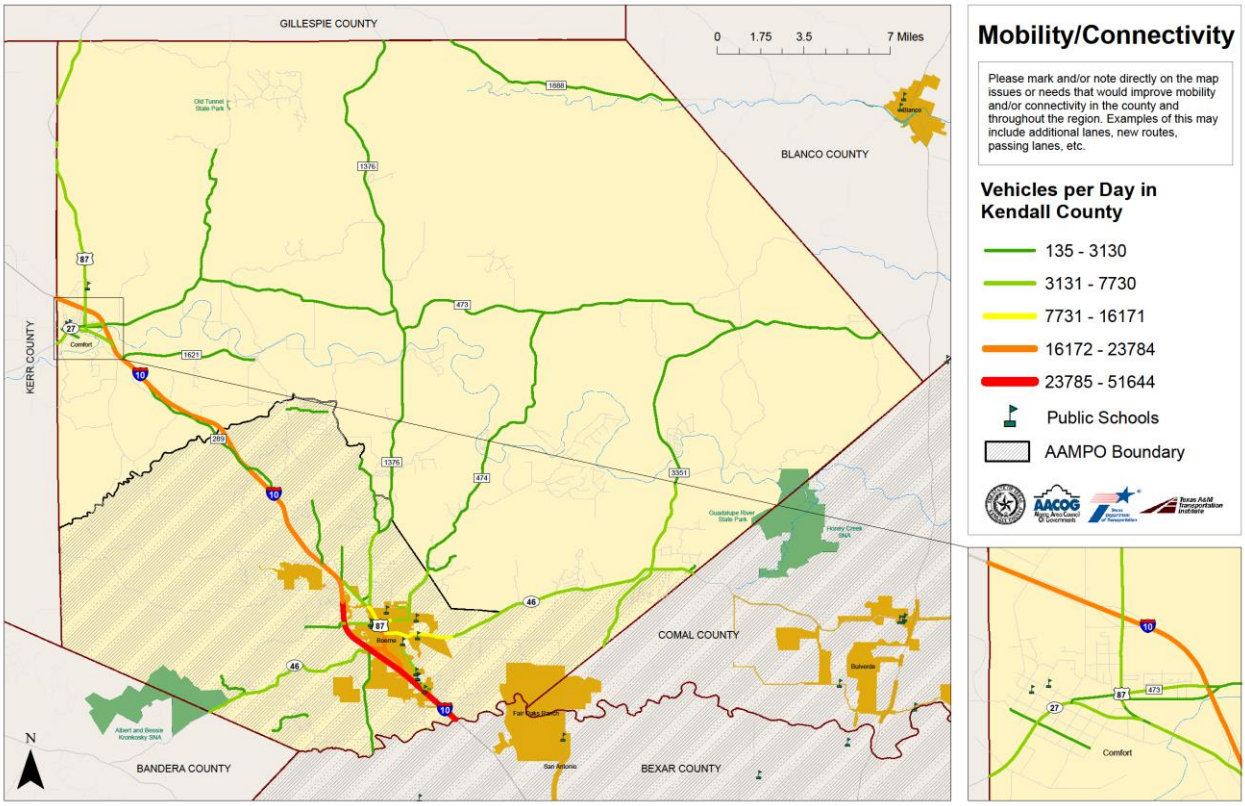


Figure 10. Kendall County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Kendall County maintenance and safety exercise map.

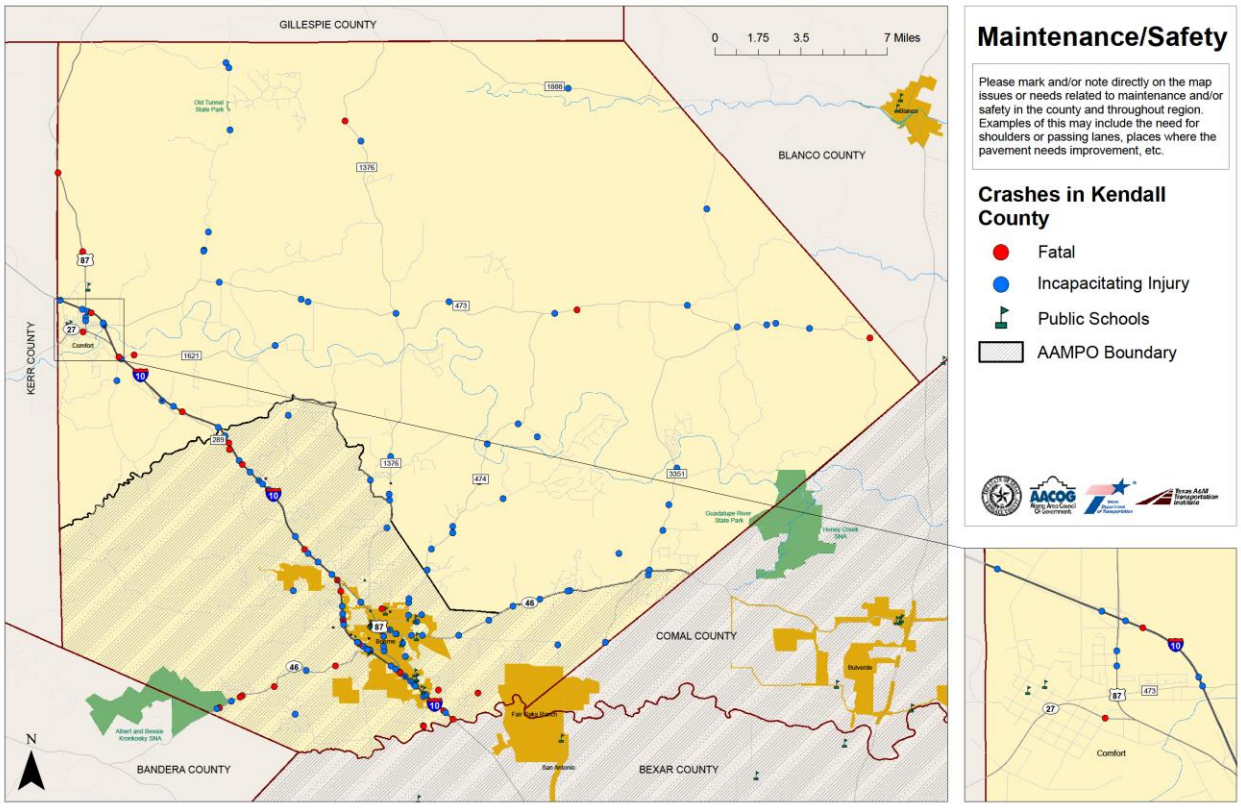


Figure 11. Kendall County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Kendall County bicycle, pedestrian, and transit exercise map.

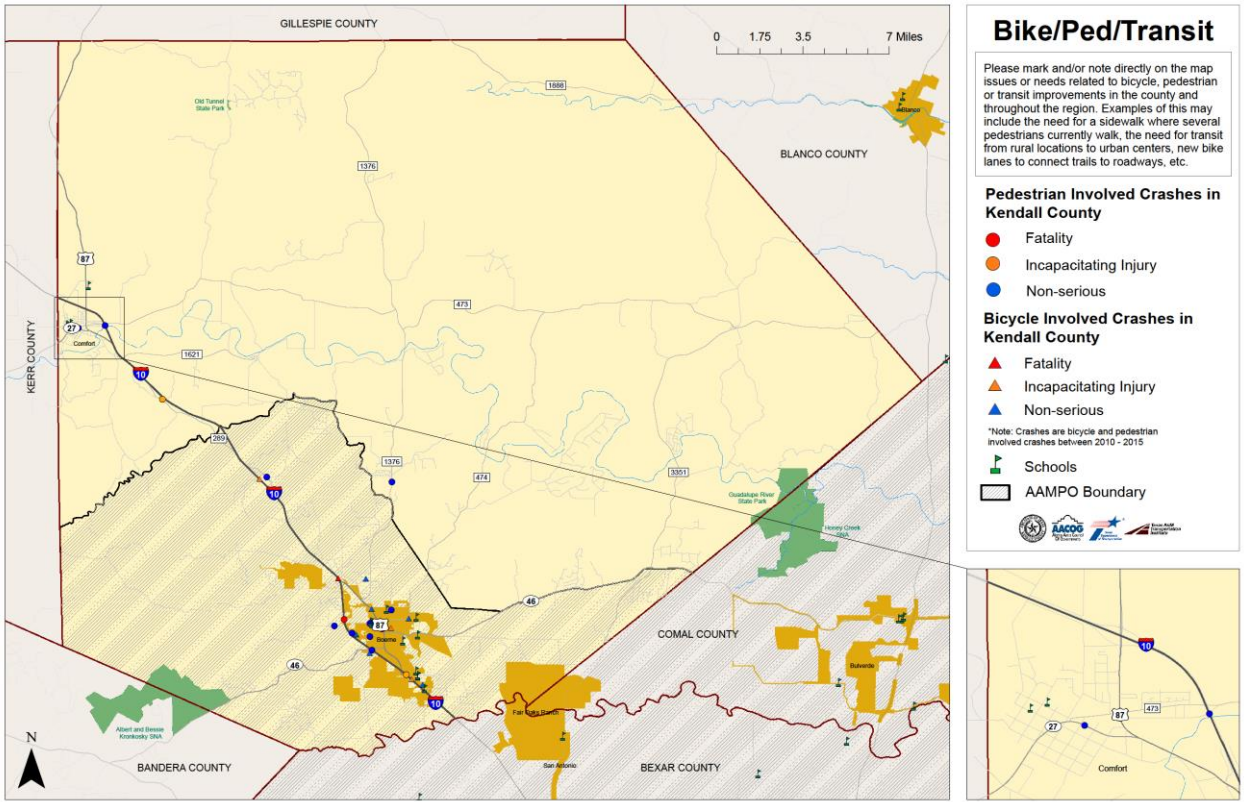
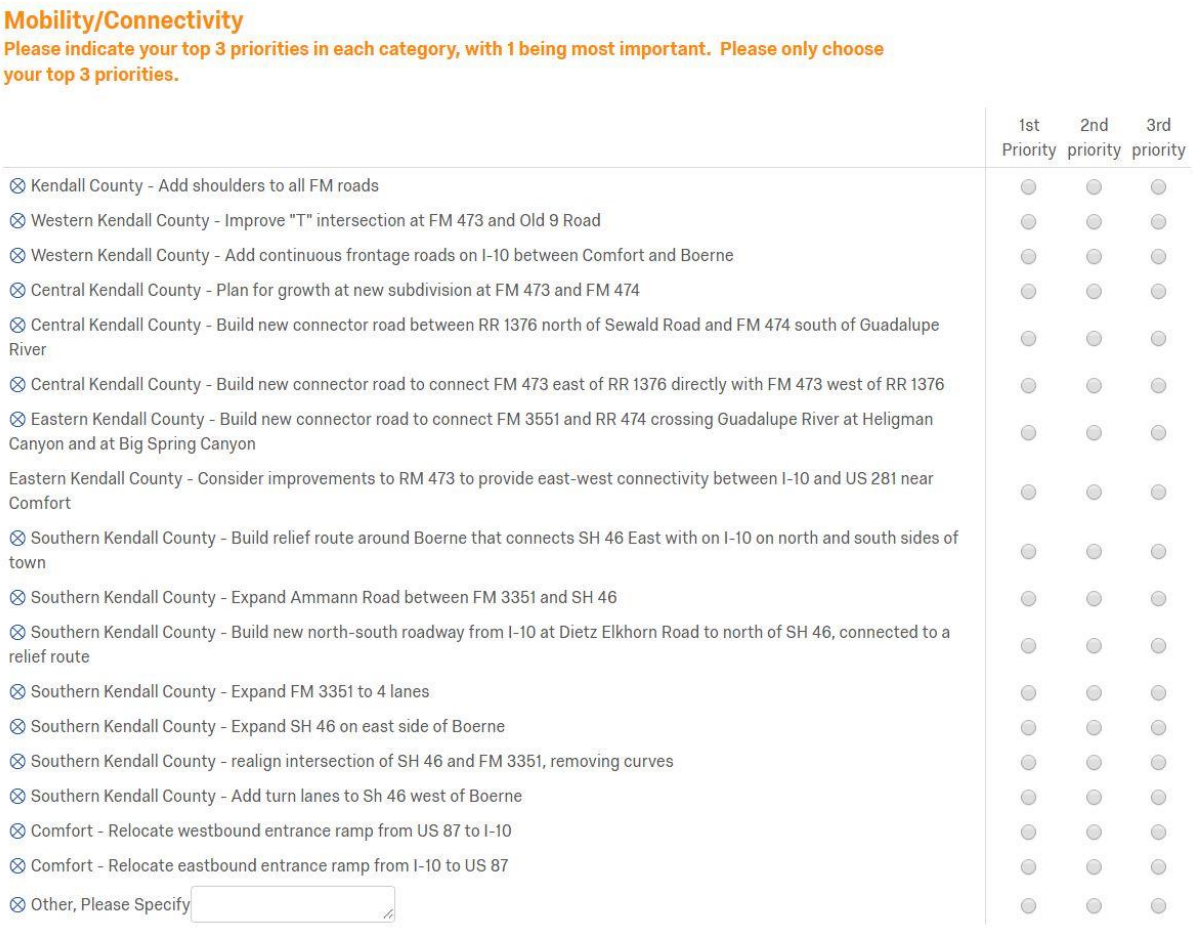


Figure 12. Kendall County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Kendall County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the

workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.



Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
Kendall County - Add shoulders to all FM roads			
Western Kendall County - Improve "T" intersection at FM 473 and Old 9 Road			
Western Kendall County - Add continuous frontage roads on I-10 between Comfort and Boerne			
Central Kendall County - Plan for growth at new subdivision at FM 473 and FM 474			
Central Kendall County - Build new connector road between RR 1376 north of Sewald Road and FM 474 south of Guadalupe River			
Central Kendall County - Build new connector road to connect FM 473 east of RR 1376 directly with FM 473 west of RR 1376			
Eastern Kendall County - Build new connector road to connect FM 3551 and RR 474 crossing Guadalupe River at Heligman Canyon and at Big Spring Canyon			
Eastern Kendall County - Consider improvements to RM 473 to provide east-west connectivity between I-10 and US 281 near Comfort			
Southern Kendall County - Build relief route around Boerne that connects SH 46 East with on I-10 on north and south sides of town			
Southern Kendall County - Expand Ammann Road between FM 3351 and SH 46			
Southern Kendall County - Build new north-south roadway from I-10 at Dietz Elkhorn Road to north of SH 46, connected to a relief route			
Southern Kendall County - Expand FM 3351 to 4 lanes			
Southern Kendall County - Expand SH 46 on east side of Boerne			
Southern Kendall County - realign intersection of SH 46 and FM 3351, removing curves			
Southern Kendall County - Add turn lanes to Sh 46 west of Boerne			
Comfort - Relocate westbound entrance ramp from US 87 to I-10			
Comfort - Relocate eastbound entrance ramp from I-10 to US 87			
Other, Please Specify			

Figure 13. Mobility and Connectivity Section of Kendall County Transportation Needs Prioritization Survey.

Figure 14. Maintenance and Safety Section of Kendall County Transportation Needs Prioritization Survey.

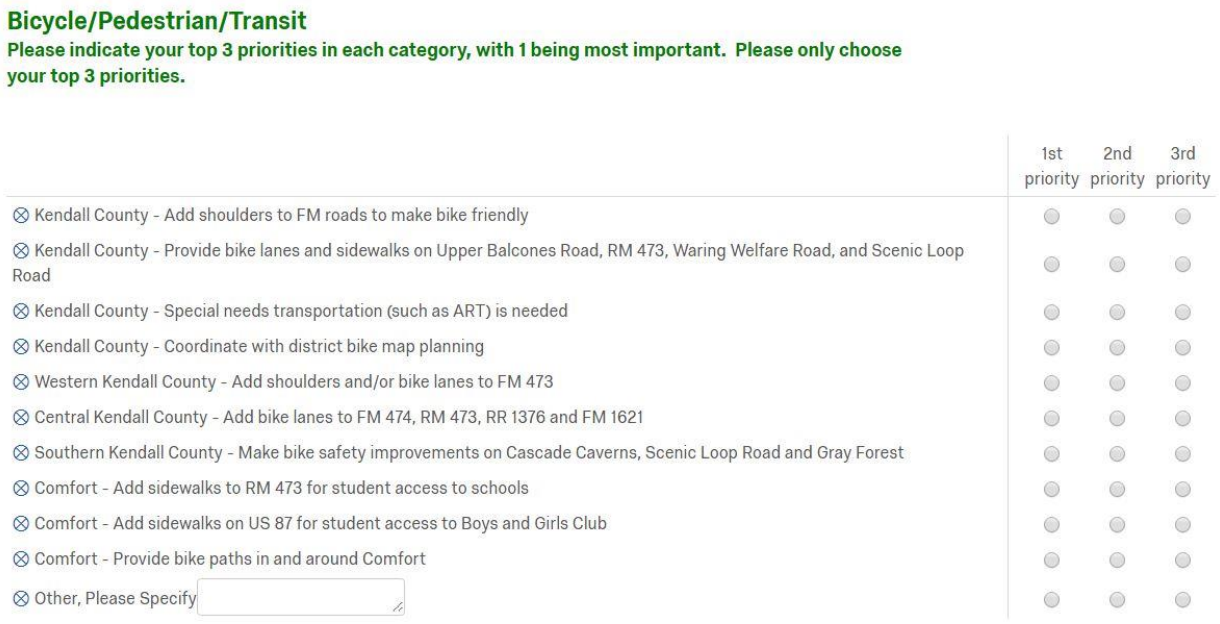


Figure 15. Bicycle, Pedestrian, and Transit Section of Kendall County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. A total of 137 people completed the survey for Kendall County. TTI researchers tabulated the results and ranked the needs for each county by

weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Southern Kendall County—Build relief route around Boerne that connects SH 46 East with I-10 on north and south sides of town	156	35
2	Southern Kendall County—Expand SH 46 on east side of Boerne	128	23
3	Comfort—Relocate eastbound entrance ramp from I-10 to US 87	76	14
4	Kendall County—Add shoulders to all FM roads	63	9
5	Comfort—Relocate westbound entrance ramp from US 87 to I-10	60	13
6	Southern Kendall County—Add turn lanes to SH 46 west of Boerne	56	7
7	Southern Kendall County—Build new north-south roadway from I-10 at Dietz Elkhorn Road to north of SH 46, connected to a relief route	49	4
8	Southern Kendall County—Expand FM 3351 to 4 lanes	49	9
9	Western Kendall County—Add continuous frontage roads on I-10 between Comfort and Boerne	31	3
10	Eastern Kendall County—Consider improvements to RM 473 to provide east-west connectivity between I-10 and US 281 near Comfort	26	3
11	Southern Kendall County—Expand Ammann Road between FM 3351 and SH 46	21	3
12	Central Kendall County—Plan for growth at new subdivision at FM 473 and FM 474	15	1
13	Eastern Kendall County—Build new connector road to connect FM 3551 and RR 474 crossing Guadalupe River at Heligman Canyon and at Big Spring Canyon	11	2
14	Southern Kendall County—Realign intersection of SH 46 and FM 3351, removing curves	10	0
15	Other, Please Specify—Upgrade interchange at IH 10/US 87	9	3

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey (Continued).

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
16	Western Kendall County—Improve "T" intersection at FM 473 and Old 9 Road	3	0
17	Other, Please Specify—Add turning lanes for residents at 446 Hwy 35 East	3	1
18	Other, Please Specify—Eliminate the crossover from McDonalds/Loves onto Hwy 87 and require all traffic to exit onto the IH 10 ramp to get back on to North/South IH 10 or westbound 87	3	1
19	Other, Please Specify—Better Kruetzberg road and corners	3	1
20	Other, Please Specify—Traffic signals around Love's Truck Stop in Comfort	3	1
21	Other, Please Specify—Stop light at 87 and I-10 intersection to better manage truck traffic and improve safety	3	1
22	Other, Please Specify—Build a north loop connecting Hwy 46 north and west crossing FM 474, over FM 1376 and onto IH 10	3	1
23	Other, Please Specify—Comfort, upgrade interchange at I-10/87	3	1
24	Other, Please Specify—Provide right turn loop accesses onto Scenic Loop Rd from frontage road and from Scenic Loop onto frontage going east	2	0
25	Other, Please Specify—Turning lanes on SH 46 east of Boerne	2	0
26	Other, Please Specify—Add full shoulders and turn lanes on FM 1376	2	0
27	Central Kendall County—Build new connector road to connect FM 473 east of RR 1376 directly with FM 473 west of RR 1376	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Comfort—Make safety improvements at intersection of I-10 and US 87	134	36
2	Kendall County—Add passing lanes to state roadways	104	18
3	Southern Kendall County—Forego planned SH 46 improvements and instead begin larger improvements from Boerne to FM 3351 on SH 46, and FM 3351 to US 281	102	22
4	Southern Kendall County—Add passing lanes and turn lanes to SH 46 West (south of Boerne near subdivisions	97	15
5	Kendall County—Add entrance and exit ramps to I-10	82	10
6	Comfort—Convert US 87 south of Karger Lane (at high school) to divided highway and add traffic controls	60	8
7	Southern Kendall County—Address low water crossing issue on FM 3351 at Fair Oak Ranch	54	10
8	Central Kendall County—Add shoulders to FM 474, RR 1376, and FM 1621	51	8
9	Central Kendall County—Improve FM 473 between US 281 and I-10	42	7
10	Central Kendall County—Add turn lanes and passing lanes to RR 1376 near subdivisions	26	4
11	Comfort—Redesign intersection of RM 473 and SH 27	23	0
12	Central Kendall County—Straighten curves on FM 474 north of Guadalupe River	16	1
13	Western Kendall County—Improve drainage on SH 27 at Kerr/Kendall County Line	8	0
14	Other, Please Specify—Add turning lane for residents at 446 Hwy 46 East	3	1
15	Other, Please Specify—Install traffic signals around Love's Truck Stop near I-10 & Hwy 87	3	1
16	Other, Please Specify—Add turning lanes on SH 46 East	1	0
17	Other, Please Specify—Connect FM 3351 to Kruetzberg	1	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Kendall County—Add shoulders to FM roads to make bike friendly	146	40
2	Comfort—Add sidewalks to RM 473 for student access to schools	107	20
3	Comfort—Add sidewalks on US 87 for student access to Boys and Girls Club	86	15
4	Southern Kendall County—Make bike safety improvements on Cascade Caverns, Scenic Loop Road, and Gray Forest	73	9
5	Kendall County—Coordinate with district bike map planning	72	11
6	Comfort—Provide bike paths in and around Comfort	69	10
7	Central Kendall County—Add bike lanes to FM 474, RM 473, RR 1376, and FM 1621	58	5
8	Kendall County—Provide bike lanes and sidewalks on Upper Balcones Road, RM 473, Waring Welfare Road, and Scenic Loop Road	47	6
9	Kendall County—Special needs transportation (such as ART) is needed	41	7
10	Western Kendall County—Add shoulders and/or bike lanes to FM 473	33	4
11	Other, Please Specify—Sidewalk on School Street across Cibolo Creek	3	1
12	Other, Please Specify—Mandate by law no bicycles on state highways	3	1

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Southern Kendall County—Build relief route around Boerne that connects SH 46 East with I-10 on north and south sides of town	TxDOT/MPO	Study in process
2	Southern Kendall County—Expand SH 46 on east side of Boerne	TxDOT/MPO	Plans under development
3	Comfort—Relocate eastbound entrance ramp from I-10 to US 87	TxDOT	Plans under development—signal study complete
4	Kendall County—Add shoulders to all FM roads	TxDOT	Continue to look for opportunities
5	Comfort—Relocate westbound entrance ramp from US 87 to I-10	TxDOT	Plans under development—signal study complete
6	Southern Kendall County—Add turn lanes to SH 46 west of Boerne	TxDOT/MPO	Monitoring development and specific location needs
7	Southern Kendall County—Build new north-south roadway from I-10 at Dietz Elkhorn Road to north of SH 46, connected to a relief route	TxDOT/MPO/ Local	New route
8	Southern Kendall County—Expand FM 3351 to 4 lanes	TxDOT/MPO	
9	Western Kendall County—Add continuous frontage roads on I-10 between Comfort and Boerne	TxDOT/Locals	Look for partnership opportunities
10	Eastern Kendall County—Consider improvements to RM 473 to provide east-west connectivity between I-10 and US 281 near Comfort	TxDOT	
11	Southern Kendall County—Expand Ammann Road between FM 3351 and SH 46	TxDOT	Plans under development
12	Central Kendall County—Plan for growth at new subdivision at FM 473 and FM 474	Developer/ TxDOT	
13	Eastern Kendall County—Build new connector road to connect FM 3551 and RR 474 crossing Guadalupe River at Heligman Canyon and at Big Spring Canyon	TxDOT/Locals	New route
14	Southern Kendall County—Realign intersection of SH 46 and FM 3351, removing curves	TxDOT	Not a priority—continue to monitor
15	Central Kendall County—Build new connector road between RR 1376 north of Sewald Road and FM 474 south of Guadalupe River	TxDOT/Kendall County	New route

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs (Continued).

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
16	Western Kendall County—Improve "T" intersection at FM 473 and Old 9 Road	TxDOT/Kendall County	Evaluate safety and determine solution
17	Other, Please Specify—Add turning lanes for residents at 446 Hwy 35 East	TxDOT	Need additional information
18	Other, Please Specify—Eliminate the crossover from McDonalds/Loves onto Hwy 87 and require all traffic to exit onto the IH 10 ramp to get back on to North/South IH 10 or westbound 87	TxDOT	Not a suitable solution
19	Other, Please Specify—Better Kruetzberg road and corners	Kendall County	
20	Other, Please Specify—Upgrade interchange at IH 10/US 87	TxDOT	Plans under development
21	Other, Please Specify—Traffic signals around Love's Truck Stop in Comfort	Warrant study complete	Need funding
22	Other, Please Specify—Upgrade interchange IH 10/ Hwy 87	TxDOT	Plans under development
23	Other, Please Specify—Stop light at 87 and I-10 intersection to better manage truck traffic and improve safety	Warrant study complete	Need funding
24	Other, Please Specify—Upgrade interchange at IH 10 & Hwy 87	TxDOT	Plans under development
25	Other, Please Specify—Build a north loop connecting Hwy 46 north and west crossing FM 474, over FM 1376 and onto IH 10	TxDOT/Locals	New route
26	Other, Please Specify—Comfort, upgrade interchange at I-10/87	TxDOT	Plans under development
27	Other, Please Specify—Provide right turn loop accesses onto Scenic Loop Rd from frontage road and from Scenic Loop onto frontage going east	TxDOT	Project ongoing
28	Other, Please Specify—Turning Lanes on SH 46 east of Boerne	TxDOT	Super 2 lets this summer
29	Other, Please Specify—Add full shoulders and turn lanes on FM 1376	TxDOT	Monitor for safety
30	Central Kendall County—Build new connector road to connect FM 473 east of RR 1376 directly with FM 473 west of RR 1376	TxDOT/Kendall County	New route

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Comfort—Make safety improvements at intersection of I-10 and US 87	TxDOT	
2	Kendall County—Add passing lanes to state roadways	TxDOT	SH 46 Super 2
3	Southern Kendall County—Forego planned SH 46 improvements and instead begin larger improvements from Boerne to FM 3351 on SH 46, and FM 3351 to US 281	TxDOT	
4	Southern Kendall County—Add passing lanes and turn lanes to SH 46 West (south of Boerne near subdivisions	TxDOT	Continue to look for opportunities with development
5	Kendall County—Add entrance and exit ramps to I-10	TxDOT	
6	Comfort—Convert US 87 south of Karger Lane (at high school) to divided highway and add traffic controls	TxDOT	
7	Southern Kendall County—Address low water crossing issue on FM 3351 at Fair Oak Ranch	TxDOT	Continue to monitor
8	Central Kendall County—Add shoulders to FM 474, RR 1376, and FM 1621	TxDOT	
9	Central Kendall County—Improve FM 473 between US 281 and I-10	TxDOT	
10	Central Kendall County—Add turn lanes and passing lanes to RR 1376 near subdivisions	TxDOT/ Developers	Continue to look for opportunities with development
11	Comfort—Redesign intersection of RM 473 and SH 27	TxDOT	
12	Central Kendall County—Straighten curves on FM 474 north of Guadalupe River	TxDOT	
13	Western Kendall County—Improve drainage on SH 27 at Kerr/Kendall County Line	TxDOT	
14	Other, Please Specify—Add turning lane for residents at 446 Hwy 46 East	TxDOT	
15	Other, Please Specify—Install traffic signals around Love's Truck Stop near I-10 & Hwy 87	TxDOT	
16	Other, Please Specify—Add turning lanes on SH 46 East	TxDOT	Super 2 project lets this summer
17	Other, Please Specify—Connect FM 3351 to Kruetzberg	TxDOT/ Kendall County	New route

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Kendall County—Add shoulders to FM roads to make bike friendly	TxDOT	Continue to look for opportunities
2	Comfort—Add sidewalks to RM 473 for student access to schools	TxDOT/ Kendall County	Recommend development of a Safe Route to School Plan
3	Comfort—Add sidewalks on US 87 for student access to Boys and Girls Club	TxDOT/ Kendall County	Recommend development of a Safe Route to School Plan
4	Southern Kendall County—Make bike safety improvements on Cascade Caverns, Scenic Loop Road, and Gray Forest	TxDOT/ MPO?	Will be included in the district's Rural Bicycle Master Plan
5	Kendall County—Coordinate with district bike map planning	TxDOT	Under development
6	Comfort—Provide bike paths in and around Comfort	TxDOT	Will be included in the district's Rural Bicycle Master Plan
7	Central Kendall County—Add bike lanes to FM 474, RM 473, RR 1376, and FM 1621	TxDOT	Will be included in the district's Rural Bicycle Master Plan
8	Kendall County—Provide bike lanes and sidewalks on Upper Balcones Road, RM 473, Waring Welfare Road, and Scenic Loop Road	TxDOT	Will be included in the district's Rural Bicycle Master Plan
9	Kendall County—Special needs transportation (such as ART) is needed	AACOG/ART	Encourage local participation in Regional Transportation Coordination Plan
10	Western Kendall County—Add shoulders and/or bike lanes to FM 473	TxDOT	Will be included in the district's Rural Bicycle Master Plan
11	Other, Please Specify—Sidewalk on School Street across Cibolo Creek	Local	Recommend development of a Safe Route to School Plan or a Pedestrian Plan for the area
12	Other, Please Specify—Mandate by law no bicycles on state highways	State Legislature	

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Kendall County Projects

Table 7 provides the top three projects from Kendall County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Kendall County.

Project Description	Weighted Technical Score
Reconstruct, signalize, and extend frontage roads and relocate ramps on I-10 at US 87 N	250
Add passing lanes on SH 46 between SH 16 and West Boerne limits and between US 281 and East Boerne limits	170
Construct eastbound and westbound entrance ramps on I-10 at SH 289	110

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Kendall County's highest ranked project (reconstruct, signalize and extend frontage roads and relocate ramps on I-10 at US 87 N) received the highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Kendall County Judge

Dear Judge Darrel Lux,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Kendall County, and we would appreciate your participation. The date of the workshop is:

Date: January 21, 2016
Time: 3:00 PM to 5:00 PM
Location: Boerne Civic Center, Boerne

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Kerr County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Kerr County workshop was organized by TxDOT with the help of Kerr County Judge Tom Pollard. TxDOT sent a letter (shown in the Appendix) to Judge Pollard requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Tuesday, December 1, 2015, from 10:00 AM to 12:00 PM at the Hill Country Youth Event Center in Kerrville. Twenty-nine people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Kerr County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Kerr County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Kerr County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Kerr County both now and in the future. The following is a summary of the data presented at the Kerr County workshop.

2.1. Kerr County Demographic Data

Figure 1 provides the historic and projected population growth for Kerr County between 1960 and 2040.

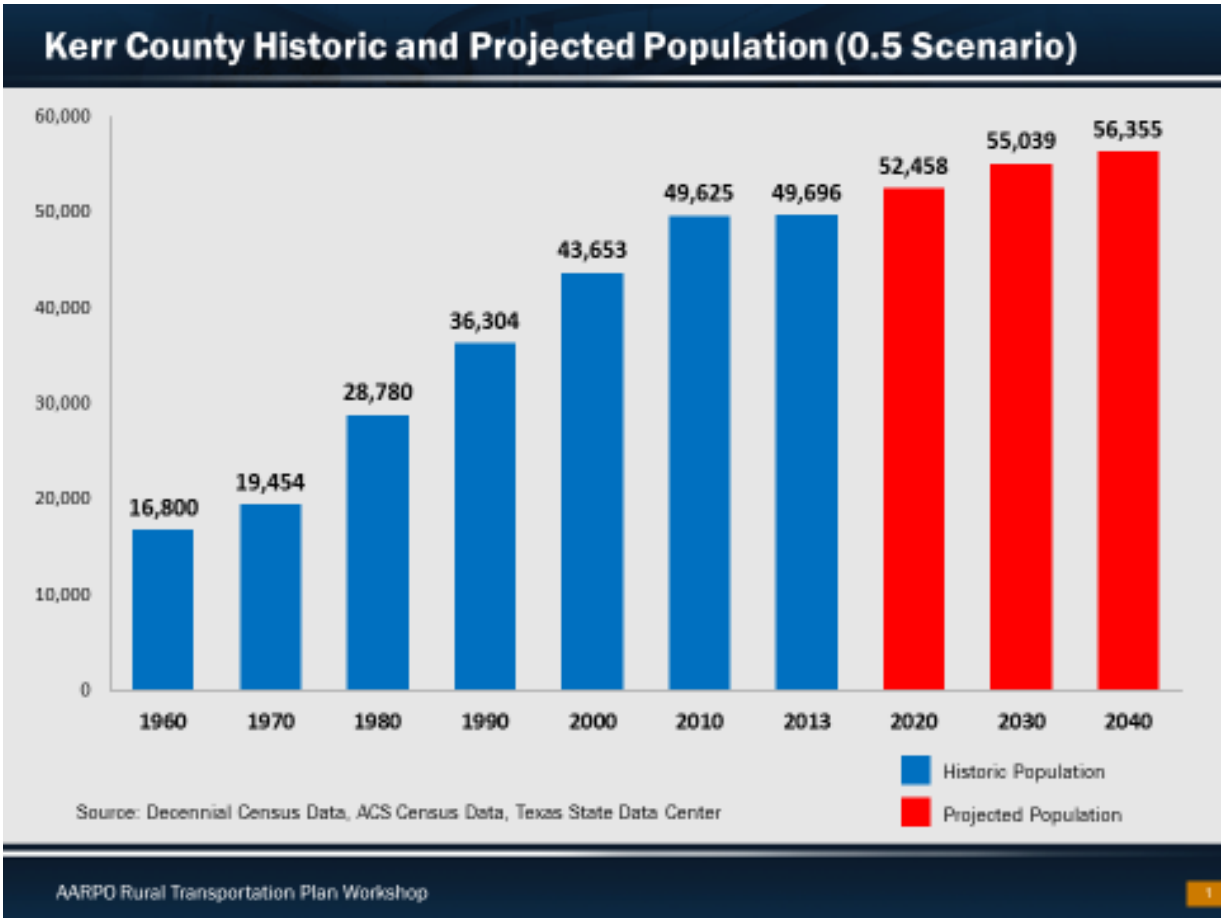


Figure 1. Kerr County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Kerr County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

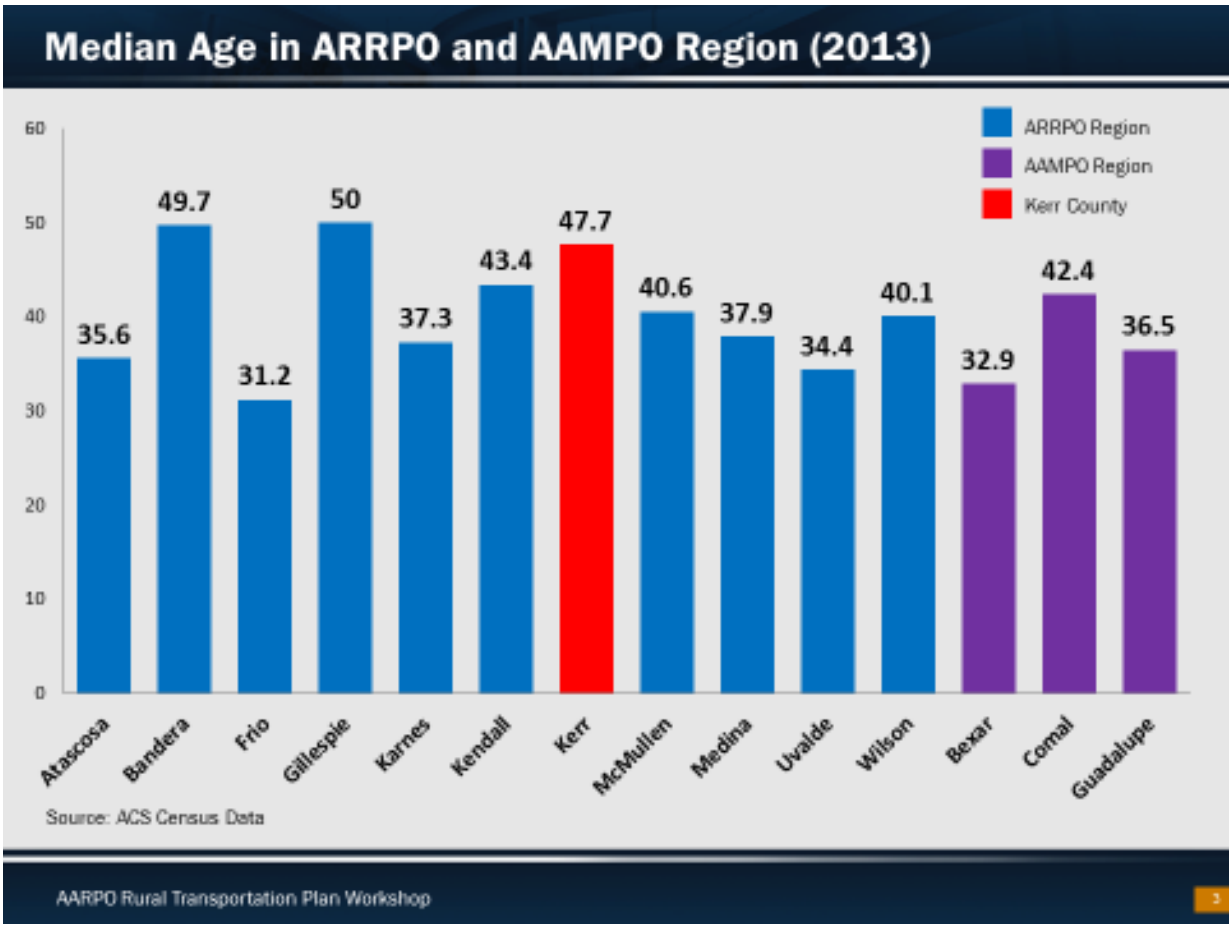


Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Kerr County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

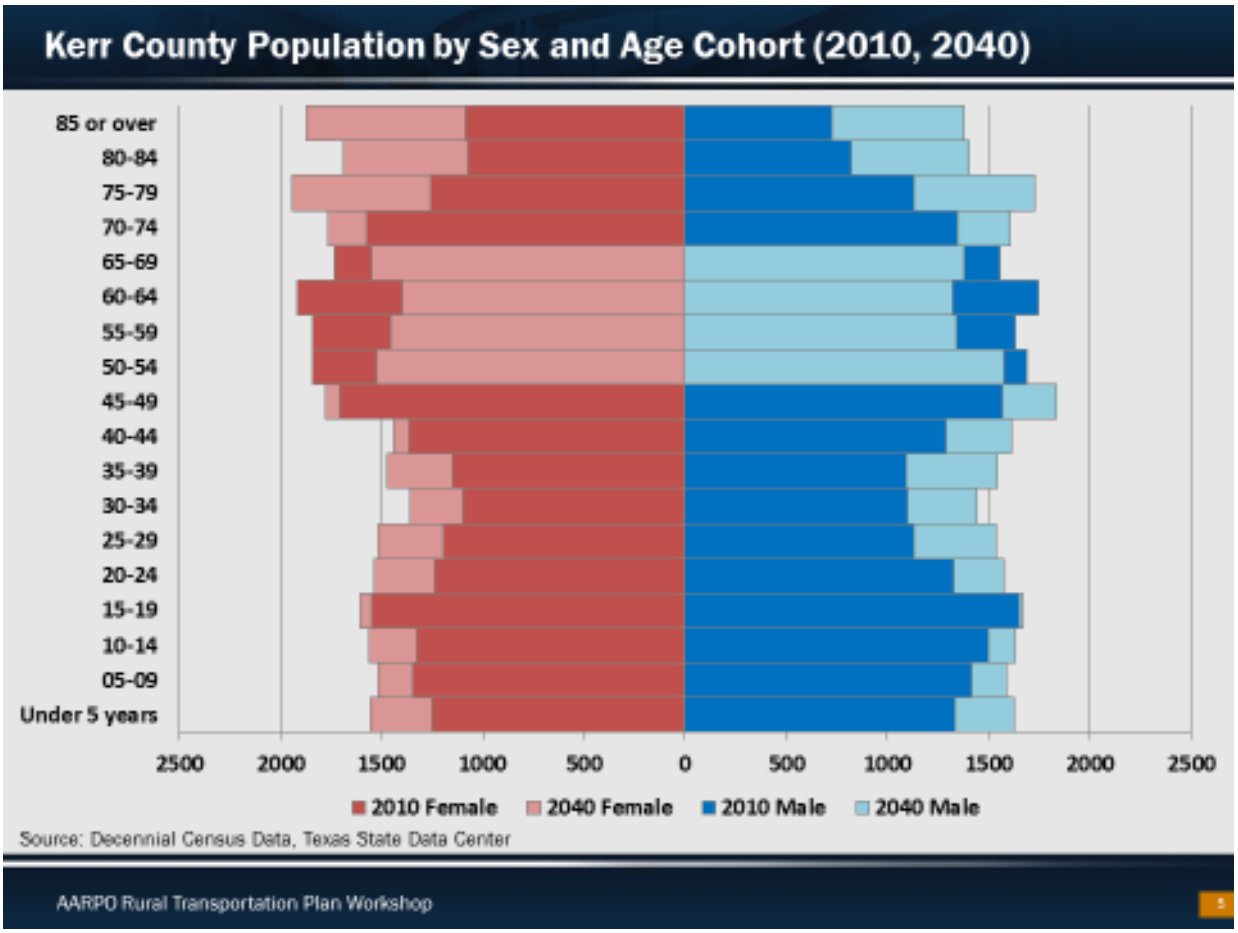


Figure 3. Kerr County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Kerr County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Kerr County.

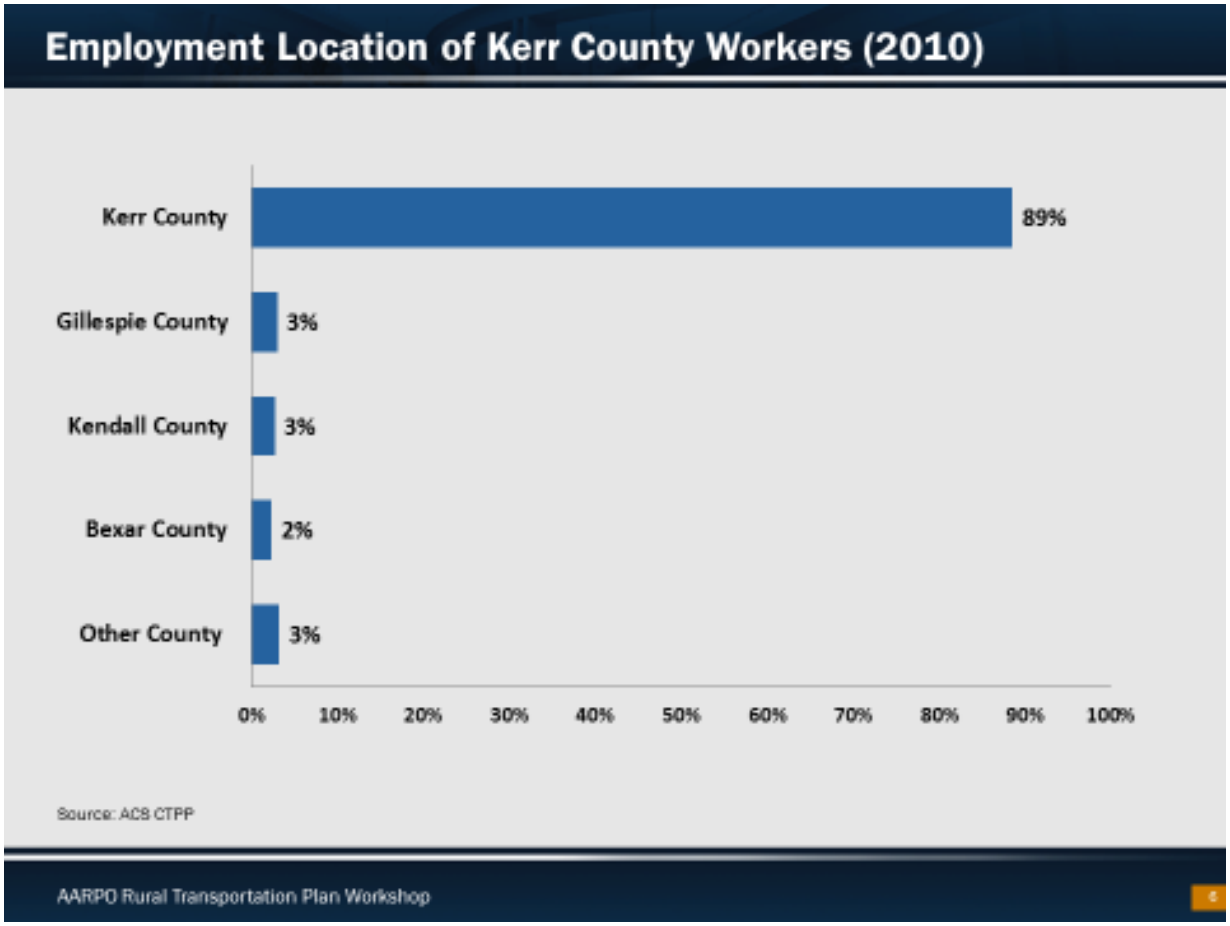


Figure 4. Employment Location of Kerr County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Kerr County.

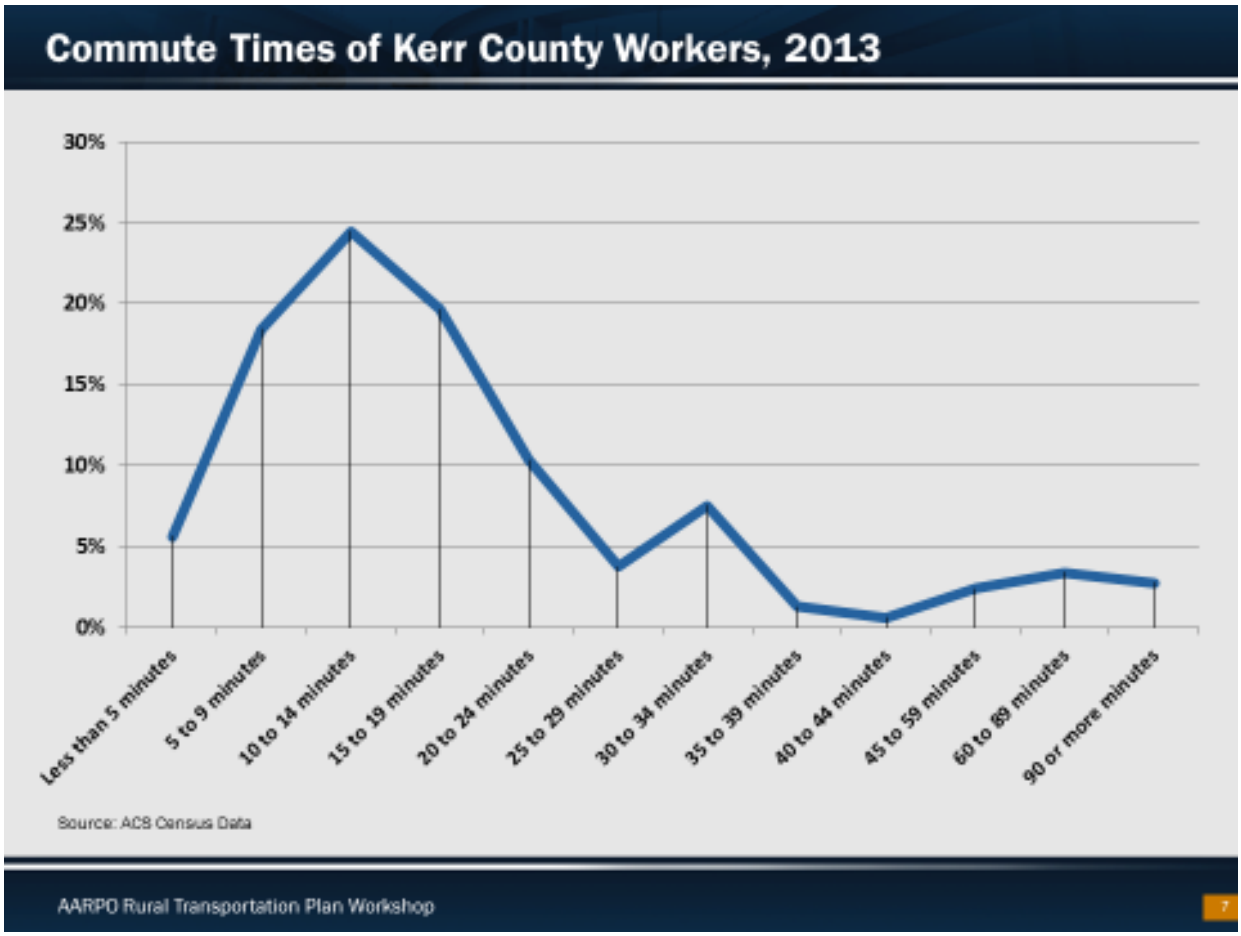


Figure 5. Commute Times of Kerr County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Kerr County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

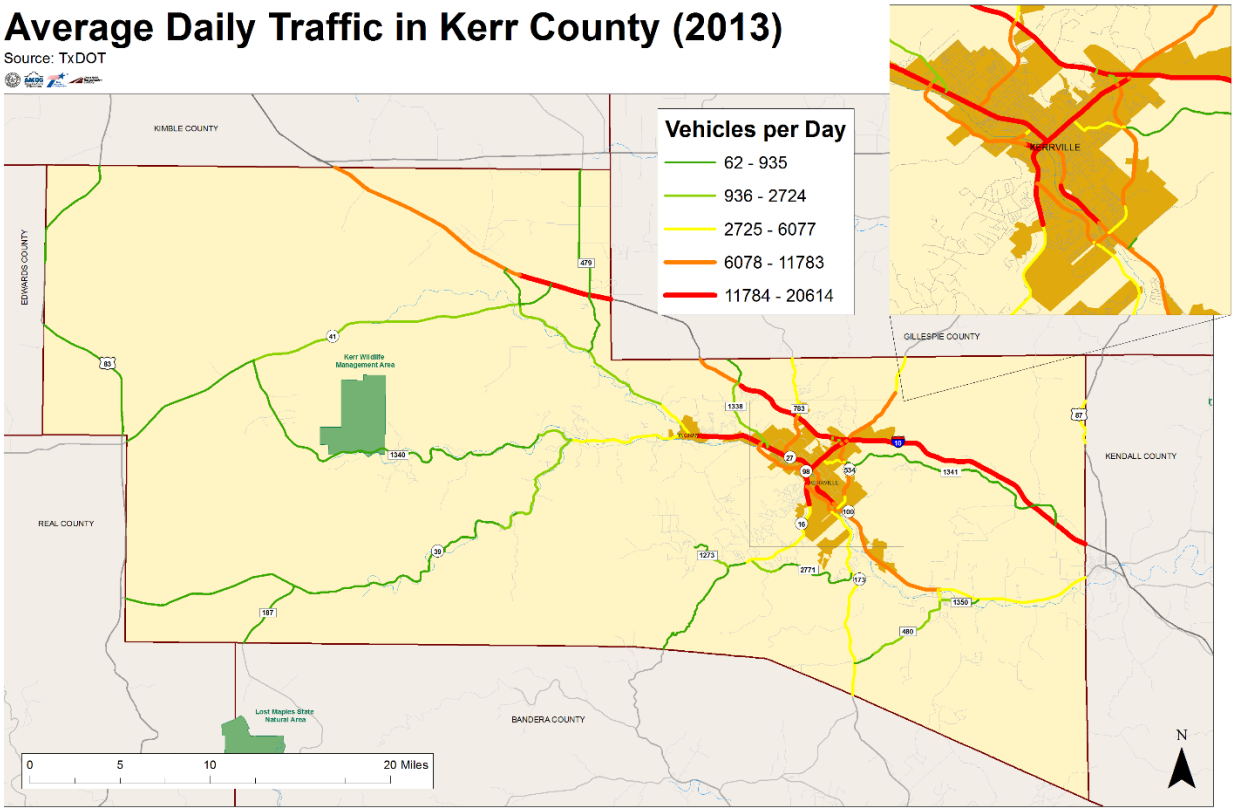


Figure 6. Average Daily Traffic in Kerr County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Kerr County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

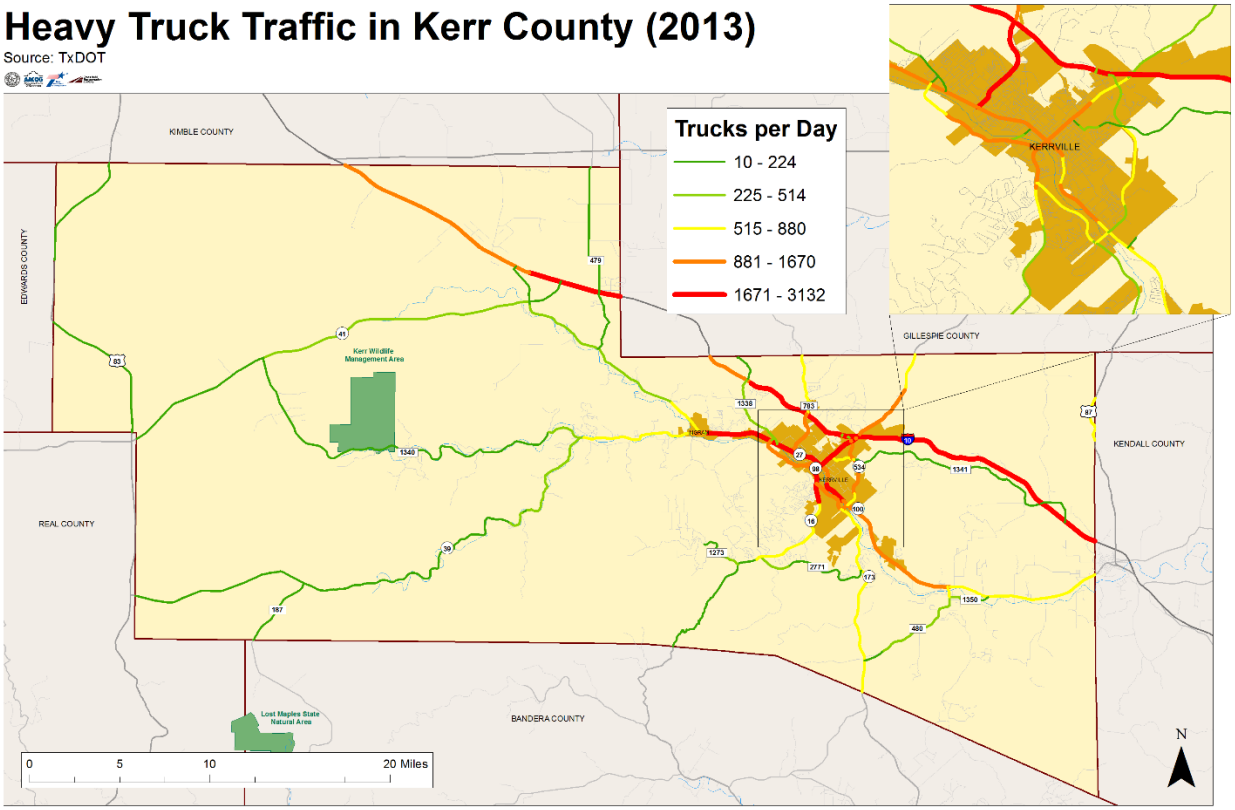


Figure 7. Heavy Truck Traffic in Kerr County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Kerr County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

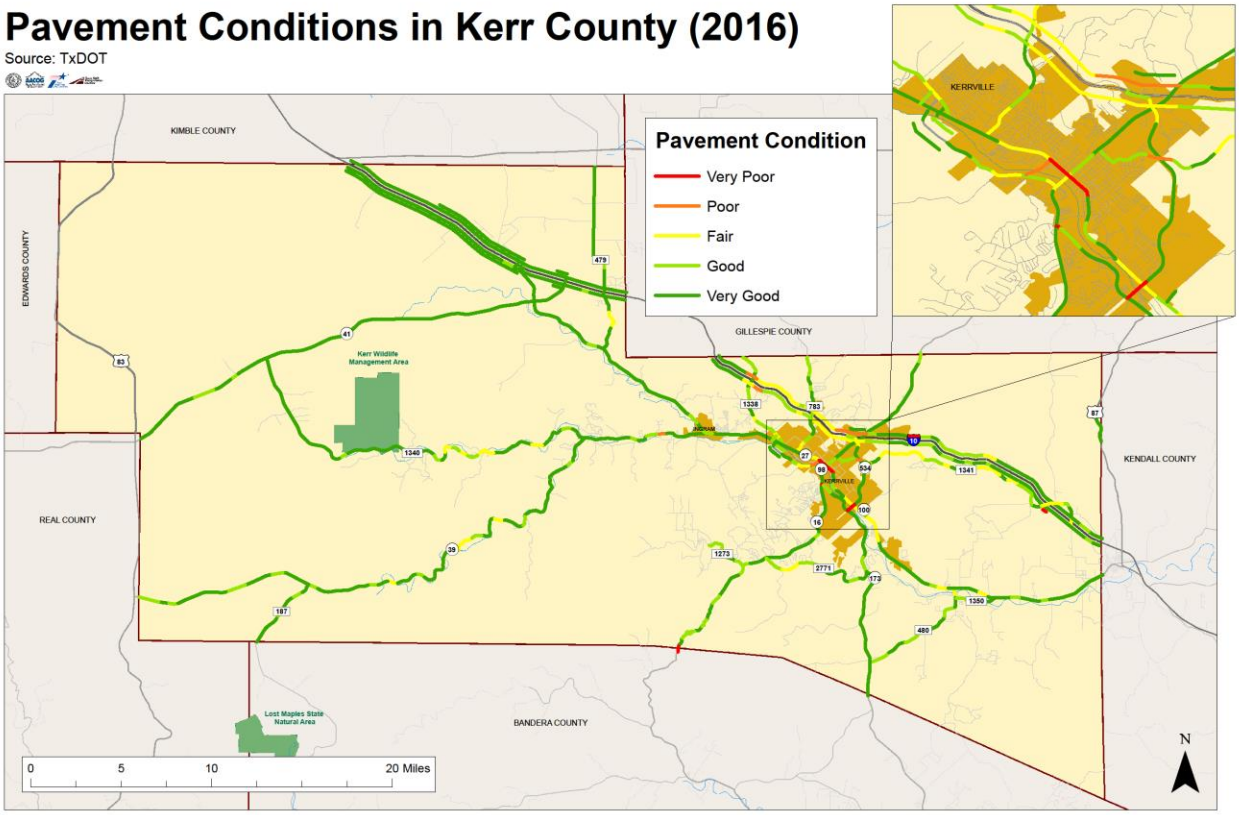


Figure 8. Pavement Conditions in Kerr County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Kerr County between 2010 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

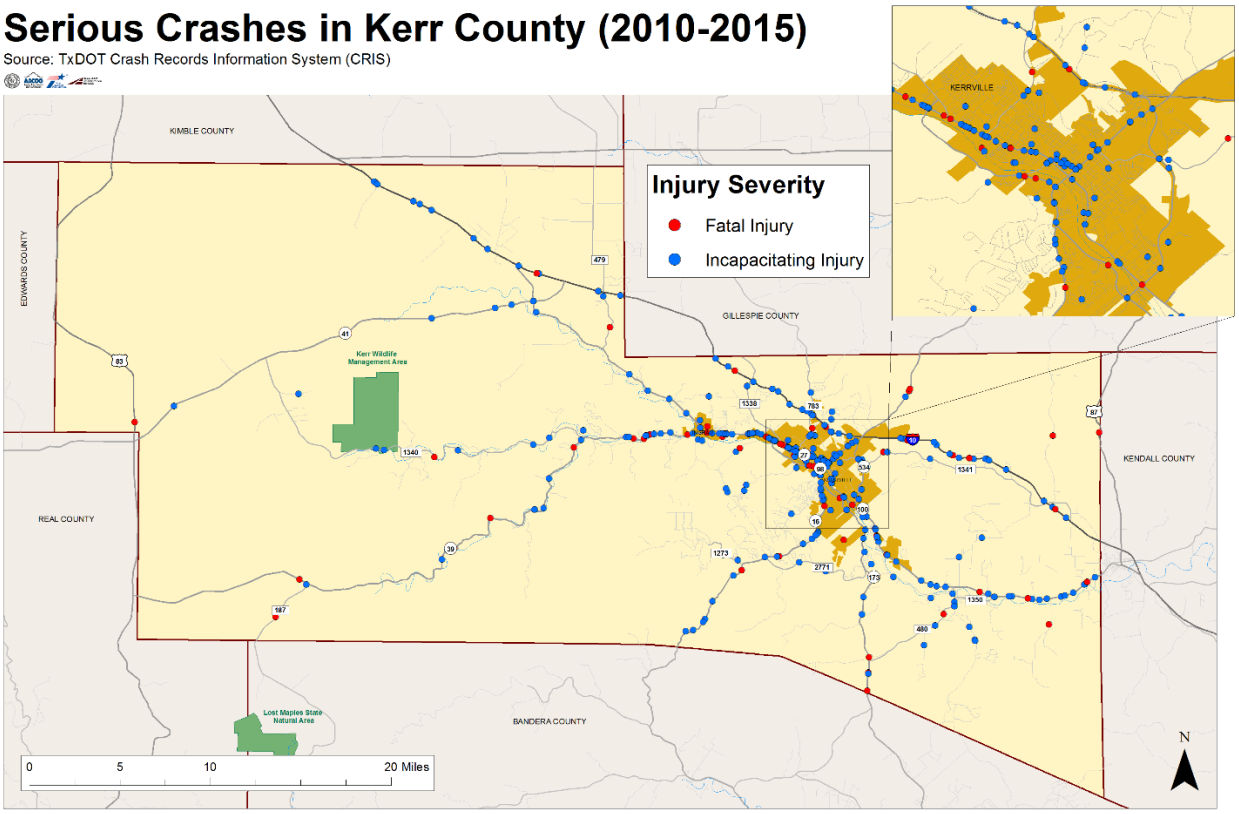


Figure 9. Serious Crashes in Kerr County (2010–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Kerr County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Kerr County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Kerr County mobility and connectivity exercise map.

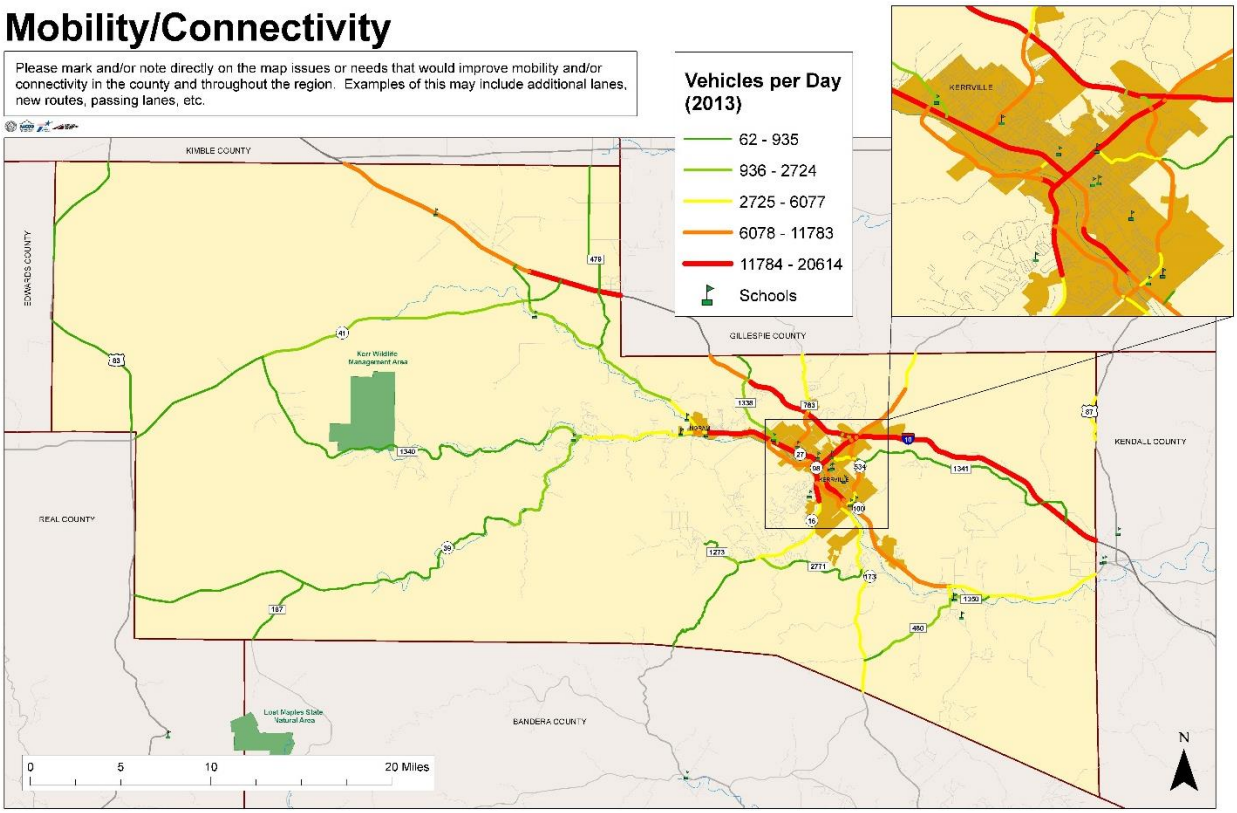


Figure 10. Kerr County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Kerr County maintenance and safety exercise map.

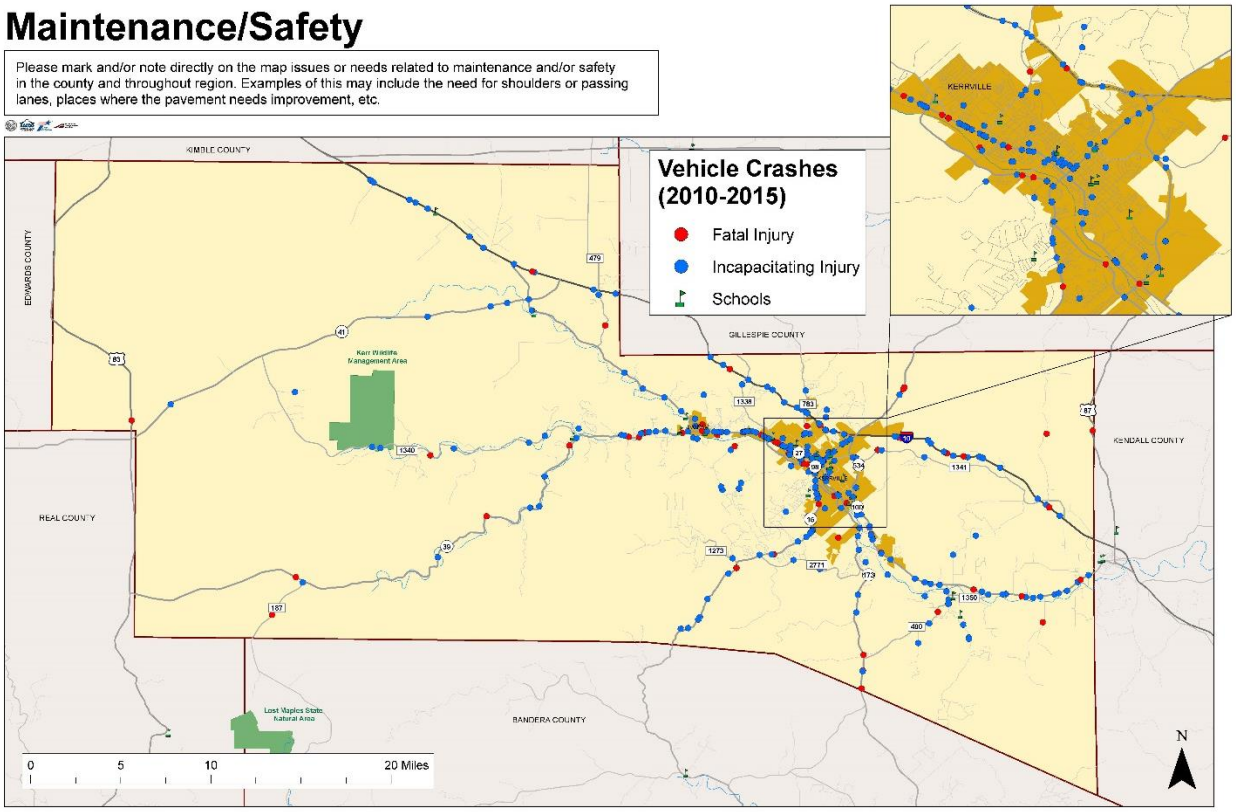


Figure 11. Kerr County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Kerr County bicycle, pedestrian, and transit exercise map.

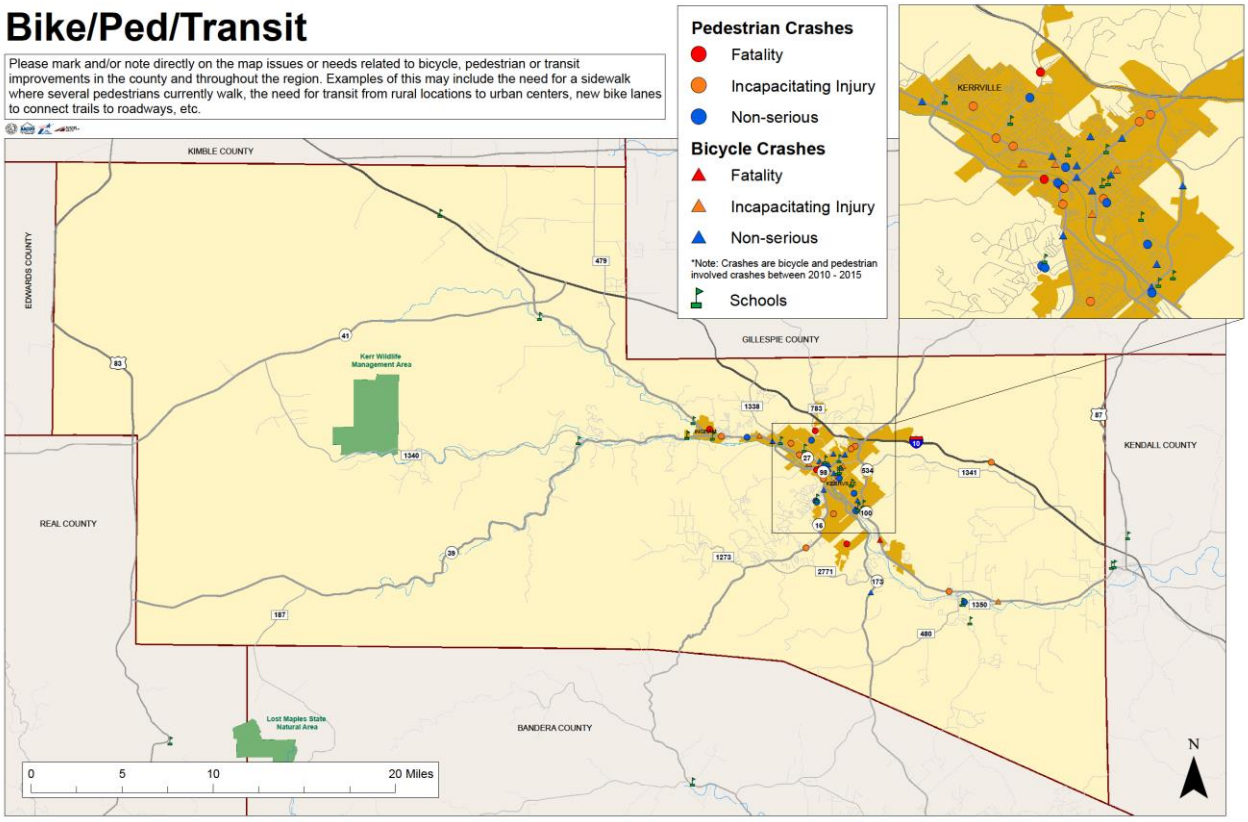
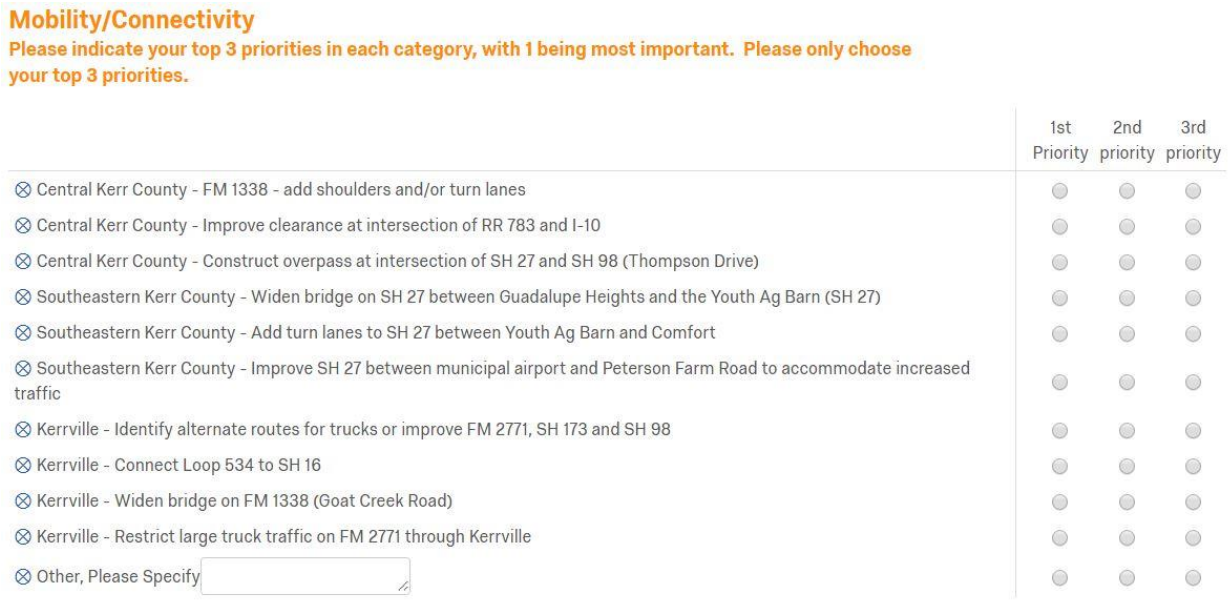


Figure 12. Kerr County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Kerr County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the

workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.

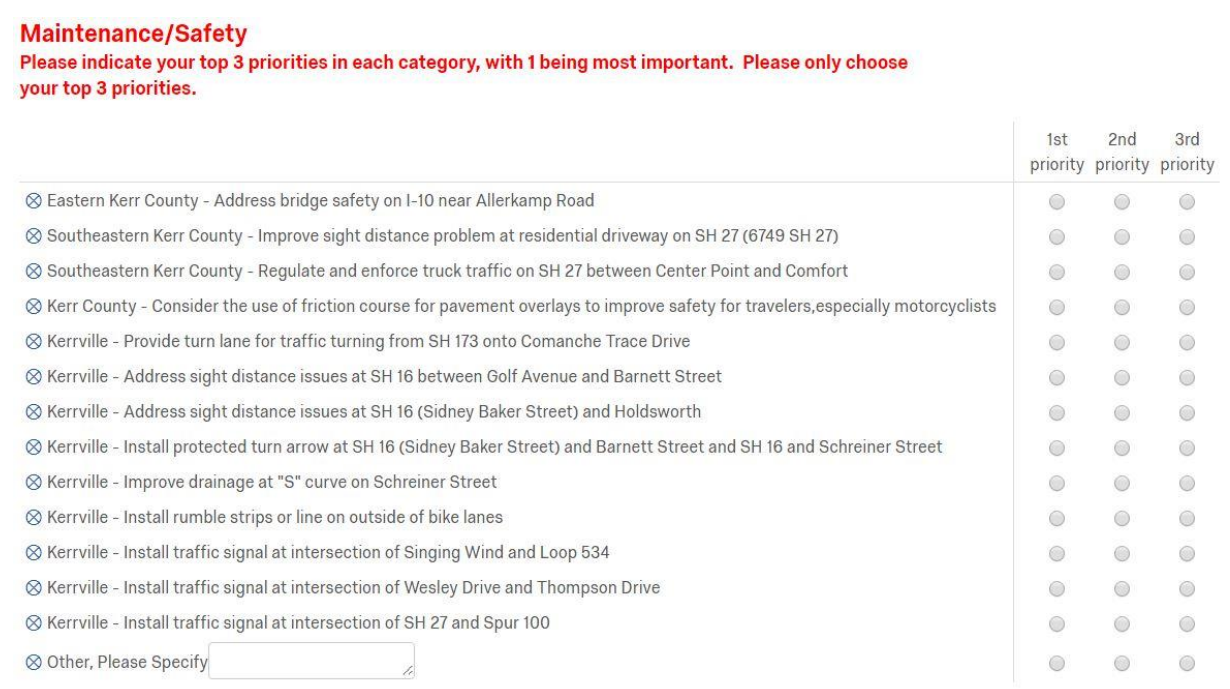


Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
⊗ Central Kerr County - FM 1338 - add shoulders and/or turn lanes			
⊗ Central Kerr County - Improve clearance at intersection of RR 783 and I-10			
⊗ Central Kerr County - Construct overpass at intersection of SH 27 and SH 98 (Thompson Drive)			
⊗ Southeastern Kerr County - Widen bridge on SH 27 between Guadalupe Heights and the Youth Ag Barn (SH 27)			
⊗ Southeastern Kerr County - Add turn lanes to SH 27 between Youth Ag Barn and Comfort			
⊗ Southeastern Kerr County - Improve SH 27 between municipal airport and Peterson Farm Road to accommodate increased traffic			
⊗ Kerrville - Identify alternate routes for trucks or improve FM 2771, SH 173 and SH 98			
⊗ Kerrville - Connect Loop 534 to SH 16			
⊗ Kerrville - Widen bridge on FM 1338 (Goat Creek Road)			
⊗ Kerrville - Restrict large truck traffic on FM 2771 through Kerrville			
⊗ Other, Please Specify			

Figure 13. Mobility and Connectivity Section of Kerr County Transportation Needs Prioritization Survey.

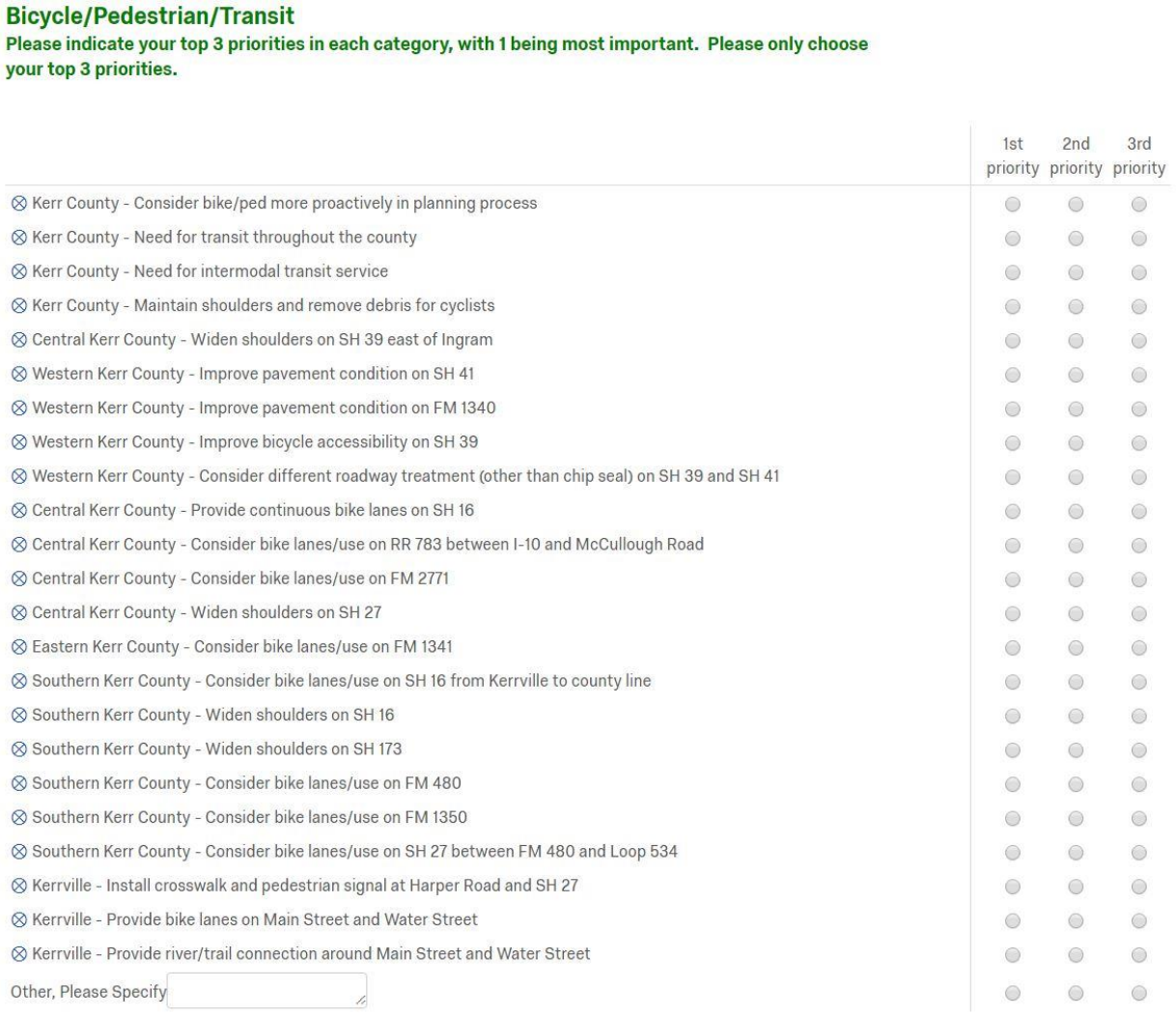


Maintenance/Safety

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
⊗ Eastern Kerr County - Address bridge safety on I-10 near Allerkamp Road			
⊗ Southeastern Kerr County - Improve sight distance problem at residential driveway on SH 27 (6749 SH 27)			
⊗ Southeastern Kerr County - Regulate and enforce truck traffic on SH 27 between Center Point and Comfort			
⊗ Kerr County - Consider the use of friction course for pavement overlays to improve safety for travelers,especially motorcyclists			
⊗ Kerrville - Provide turn lane for traffic turning from SH 173 onto Comanche Trace Drive			
⊗ Kerrville - Address sight distance issues at SH 16 between Golf Avenue and Barnett Street			
⊗ Kerrville - Address sight distance issues at SH 16 (Sidney Baker Street) and Holdsworth			
⊗ Kerrville - Install protected turn arrow at SH 16 (Sidney Baker Street) and Barnett Street and SH 16 and Schreiner Street			
⊗ Kerrville - Improve drainage at "S" curve on Schreiner Street			
⊗ Kerrville - Install rumble strips or line on outside of bike lanes			
⊗ Kerrville - Install traffic signal at intersection of Singing Wind and Loop 534			
⊗ Kerrville - Install traffic signal at intersection of Wesley Drive and Thompson Drive			
⊗ Kerrville - Install traffic signal at intersection of SH 27 and Spur 100			
⊗ Other, Please Specify			

Figure 14. Maintenance and Safety Section of Kerr County Transportation Needs Prioritization Survey.



Bicycle/Pedestrian/Transit

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
Kerr County - Consider bike/ped more proactively in planning process			
Kerr County - Need for transit throughout the county			
Kerr County - Need for intermodal transit service			
Kerr County - Maintain shoulders and remove debris for cyclists			
Central Kerr County - Widen shoulders on SH 39 east of Ingram			
Western Kerr County - Improve pavement condition on SH 41			
Western Kerr County - Improve pavement condition on FM 1340			
Western Kerr County - Improve bicycle accessibility on SH 39			
Western Kerr County - Consider different roadway treatment (other than chip seal) on SH 39 and SH 41			
Central Kerr County - Provide continuous bike lanes on SH 16			
Central Kerr County - Consider bike lanes/use on RR 783 between I-10 and McCullough Road			
Central Kerr County - Consider bike lanes/use on FM 2771			
Central Kerr County - Widen shoulders on SH 27			
Eastern Kerr County - Consider bike lanes/use on FM 1341			
Southern Kerr County - Consider bike lanes/use on SH 16 from Kerrville to county line			
Southern Kerr County - Widen shoulders on SH 16			
Southern Kerr County - Widen shoulders on SH 173			
Southern Kerr County - Consider bike lanes/use on FM 480			
Southern Kerr County - Consider bike lanes/use on FM 1350			
Southern Kerr County - Consider bike lanes/use on SH 27 between FM 480 and Loop 534			
Kerrville - Install crosswalk and pedestrian signal at Harper Road and SH 27			
Kerrville - Provide bike lanes on Main Street and Water Street			
Kerrville - Provide river/trail connection around Main Street and Water Street			
Other, Please Specify			

Figure 15. Bicycle, Pedestrian, and Transit Section of Kerr County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Nine people completed the survey for Kerr County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Southeastern Kerr County—Widen bridge on SH 27 between Guadalupe Heights and the Youth Ag Barn (SH 27)	8	2
2	Kerrville—Connect Loop 534 to SH 16	7	0
3	Southeastern Kerr County—Add turn lanes to SH 27 between Youth Ag Barn and Comfort	7	1
4	Central Kerr County—Construct overpass at intersection of SH 27 and SH 98 (Thompson Drive)	6	1
5	Southeastern Kerr County—Improve SH 27 between municipal airport and Peterson Farm Road to accommodate increased traffic	4	1
6	Central Kerr County—Improve clearance at intersection of RR 783 and I-10	3	1
7	Other, Please Specify—The traffic light situation in Kerrville has only become worse since the last meeting. Lights are NOT functioning properly, contrary to what Mr. Coward stated and told me he would look in to. Most all lights on Hwy 16 in Kerrville are malfunctioning in one way or another, which is causing major congestion, especially at the Hwy 16 South location in front of HEB. Please have someone at least monitor the lights—not just look at them for a minute and not really “see” the real problem. I guarantee that if they do, they will discover that what they perceive as no problem will come to light as a real problem.	3	1
8	Other, Please Specify—Permeable friction course pavement overlay for Highway 39 from Hunt Store to, say, the crossing at Camp Mystic. Good for water quality for South Guadalupe, reduces overspray during rain events, mitigates noise, good for motorcycles and bikes also, especially with curves.	3	1
9	Other, Please Specify—Connect Harper Rd & Sidney Baker with IH10 Access Rd	3	1
10	Kerrville—Widen bridge on FM 1338 (Goat Creek Road)	2	0
11	Other, Please Specify—Access roads along I-10 between RR 783 and SH 16	2	0
12	Central Kerr County, FM 1338—Add shoulders and/or turn lanes	1	0
13	Kerrville—Identify alternate routes for trucks or improve FM 2771, SH 173, and SH 98	1	0
14	Other, Please Specify—Widen and improve FM 1341 from 534 to entrance of gun club	1	0
15	Kerrville—Restrict large truck traffic on FM 2771 through Kerrville	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Kerrville—Install traffic signal at intersection of SH 27 and Spur 100	10	1
2	Kerrville—Provide turn lane for traffic turning from SH 173 onto Comanche Trace Drive	6	2
3	Kerr County—Consider the use of friction course for pavement overlays to improve safety for travelers, especially motorcyclists	5	1
4	Kerrville—Install traffic signal at intersection of Singing Wind and Loop 534	5	0
5	Kerrville—Address sight distance issues at SH 16 (Sidney Baker Street) and Holdsworth	4	1
6	Kerrville—Install rumble strips or line on outside of bike lanes	3	0
7	Kerrville—Install traffic signal at intersection of Wesley Drive and Thompson Drive	3	1
8	Other, Please Specify—I believe we have enough traffic lights in Kerrville. Fix them to where they work properly.	3	1
9	Other, Please Specify—Dangerous intersection: Add a right turn lane for northbound traffic turning off SH 16 onto Scenic Valley Rd. and add a center turn lane for southbound traffic turning left onto Scenic Valley Rd.	3	1
10	Southeastern Kerr County—Improve sight distance problem at residential driveway on SH 27 (6749 SH 27)	2	0
11	Kerrville—Install protected turn arrow at SH 16 (Sidney Baker Street) and Barnett Street and SH 16 and Schreiner Street	2	0
12	Southeastern Kerr County—Regulate and enforce truck traffic on SH 27 between Center Point and Comfort	2	0
13	Kerrville—Address sight distance issues at SH 16 between Golf Avenue and Barnett Street	0	0
14	Kerrville—Improve drainage at “S” curve on Schreiner Street	0	0
15	Eastern Kerr County—Address bridge safety on I-10 near Allerkamp Road	0	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Kerrville—Provide bike lanes on Main Street and Water Street	5	1
2	Central Kerr County—Widen shoulders on SH 39 east of Ingram	4	1
3	Southern Kerr County—Widen shoulders on SH 16	4	1
4	Kerrville—Install crosswalk and pedestrian signal at Harper Road and SH 27	4	1
5	Kerr County—Consider bike/ped more proactively in planning process	3	1
6	Kerr County—Maintain shoulders and remove debris for cyclists	3	1
7	Western Kerr County—Improve pavement condition on FM 1340	3	1
8	Western Kerr County—Improve pavement condition on SH 41	2	0
9	Western Kerr County—Improve bicycle accessibility on SH 39	2	0
10	Western Kerr County—Consider different roadway treatment (other than chip seal) on SH 39 and SH 41	1	0
11	Central Kerr County—Provide continuous bike lanes on SH 16	1	0
12	Kerrville—Provide river/trail connection around Main Street and Water Street	1	0
13	Central Kerr County—Consider bike lanes/use on RR 783 between I-10 and McCullough Road	0	0
14	Central Kerr County—Consider bike lanes/use on FM 2771	0	0
15	Eastern Kerr County—Consider bike lanes/use on FM 1341	0	0
16	Southern Kerr County—Consider bike lanes/use on SH 16 from Kerrville to county line	0	0
17	Southern Kerr County—Consider bike lanes/use on FM 480	0	0
18	Southern Kerr County—Consider bike lanes/use on FM 1350	0	0
19	Southern Kerr County—Consider bike lanes/use on SH 27 between FM 480 and Loop 534	0	0
20	Kerr County—Need for intermodal transit service	0	0
21	Kerr County—Need for transit throughout the county	0	0

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Southeastern Kerr County—Widen bridge on SH 27 between Guadalupe Heights and the Youth Ag Barn (SH 27)	TxDOT	Not currently on plan
2	Kerrville—Connect Loop 534 to SH 16	TxDOT	Not currently on plan
3	Southeastern Kerr County—Add turn lanes to SH 27 between Youth Ag Barn and Comfort	TxDOT	Plans on shelf
4	Central Kerr County—Construct overpass at intersection of SH 27 and SH 98 (Thompson Drive)	TxDOT	Not currently on plan
5	Southeastern Kerr County—Improve SH 27 between municipal airport and Peterson Farm Road to accommodate increased traffic	TxDOT	Plans on shelf
6	Central Kerr County—Improve clearance at intersection of RR 783 and I-10	TxDOT	Plans done—let 9-16
7	Other, Please Specify—The traffic light situation in Kerrville has only become worse since the last meeting. Lights are NOT functioning properly, contrary to what Mr. Coward stated and told me he would look in to. Most all lights on Hwy 16 in Kerrville are malfunctioning in one way or another, which is causing major congestion, especially at the Hwy 16 South location in front of HEB. Please have someone at least monitor the lights—not just look at them for a minute and not really “see” the real problem. I guarantee that if they do, they will discover that what they perceive as no problem will come to light as a real problem.	TxDOT/TRF	Will work with traffic engineers to address
8	Other, Please Specify—Permeable friction course pavement overlay for Highway 39 from Hunt Store to, say, the crossing at Camp Mystic. Good for water quality for South Guadalupe, reduces overspray during rain events, mitigates noise, good for motorcycles and bikes also, especially with curves.	TxDOT	ADT will not justify
9	Other, Please Specify—Connect Harper Rd & Sidney Baker with IH10 Access Rd	City of Kerrville	
10	Kerrville—Widen bridge on FM 1338 (Goat Creek Road)	TxDOT	Some minor widening at KOA
11	Other, Please Specify—Access roads along I-10 between RR 783 and SH 16	City of Kerrville	
12	Central Kerr County, FM 1338—Add shoulders and/or turn lanes	TxDOT	Will look at safety call
13	Kerrville—Identify alternate routes for trucks or improve FM 2771, SH 173, and SH 98		
14	Other, Please Specify—Widen and improve FM 1341 from 534 to entrance of gun club	TxDOT	
15	Kerrville—Restrict large truck traffic on FM 2771 through Kerrville		

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Kerrville—Install traffic signal at intersection of SH 27 and Spur 100	TxDOT	Will look at warrant study
2	Kerrville—Provide turn lane for traffic turning from SH 173 onto Comanche Trace Drive	TxDOT	Will look at safety call
3	Kerr County—Consider the use of friction course for pavement overlays to improve safety for travelers, especially motorcyclists		
4	Kerrville—Install traffic signal at intersection of Singing Wind and Loop 534	TxDOT	Signal warranted—waiting for funding
5	Kerrville—Address sight distance issues at SH 16 (Sidney Baker Street) and Holdsworth	TxDOT/City of Kerrville	
6	Kerrville—Install rumble strips or line on outside of bike lanes	TxDOT	Done in priority order
7	Kerrville—Install traffic signal at intersection of Wesley Drive and Thompson Drive	TxDOT	Too close to Cully Drive signal; work with city to explore changing Wesley to one way
8	Other, Please Specify—I believe we have enough traffic lights in Kerrville. Fix them to where they work properly.	TxDOT	Will work with TRF
9	Other, Please Specify—Dangerous intersection: Add a right turn lane for northbound traffic turning off SH 16 onto Scenic Valley Rd. and add a center turn lane for southbound traffic turning left onto Scenic Valley Rd.	TxDOT	Doing with current project
10	Southeastern Kerr County—Improve sight distance problem at residential driveway on SH 27 (6749 SH 27)	TxDOT/ County	Could not locate
11	Kerrville—Install protected turn arrow at SH 16 (Sidney Baker Street) and Barnett Street and SH 16 and Schreiner Street	TxDOT/TRF	Have looked at before; will require split phase and will impact progression on SH 16
12	Southeastern Kerr County—Regulate and enforce truck traffic on SH 27 between Center Point and Comfort	DPS	
13	Kerrville—Address sight distance issues at SH 16 between Golf Avenue and Barnett Street	TxDOT	Not currently on plan
14	Kerrville—Improve drainage at “S” curve on Schreiner Street	City of Kerrville	
15	Eastern Kerr County—Address bridge safety on I-10 near Allerkamp Road	TxDOT Maintenance	Level up done

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Kerr County—Need for transit throughout the county	AACOG/ ART	Encourage local involvement in the Regional Transportation Coordination Plan
2	Southern Kerr County—Widen shoulders on SH 173	TxDOT	Has 10-ft shoulders
3	Central Kerr County—Widen shoulders on SH 27	TxDOT	
4	Kerrville—Provide bike lanes on Main Street and Water Street	TxDOT	Included in Rural Bike Master Plan
5	Kerr County—Need for intermodal transit service	AACOG/ ART	Encourage local involvement in the Regional Transportation Coordination Plan
6	Central Kerr County—Widen shoulders on SH 39 east of Ingram	TxDOT	Included in Rural Bike Master Plan
7	Southern Kerr County—Widen shoulders on SH 16	TxDOT	Just added 3-ft shoulders
8	Kerrville—Install crosswalk and pedestrian signal at Harper Road and SH 27	TxDOT	Will review
9	Kerr County—Consider bike/ped more proactively in planning process	TxDOT	Considered in all projects
10	Kerr County—Maintain shoulders and remove debris for cyclists	TxDOT	Discuss sweeping contracts
11	Western Kerr County—Improve pavement condition on FM 1340	TxDOT	Pavement scores very good
12	Western Kerr County—Improve pavement condition on SH 41	TxDOT	Pavement scores very good
13	Western Kerr County—Improve bicycle accessibility on SH 39	TxDOT	Including in Rural Master Bike Plan
14	Western Kerr County—Consider different roadway treatment (other than chip seal) on SH 39 and SH 41	TxDOT	ADT will not justify
15	Central Kerr County—Provide continuous bike lanes on SH 16	TxDOT	Including in Rural Master Bike Plan
16	Kerrville—Provide river/trail connection around Main Street and Water Street	City of Kerrville	Recommend development of a bike plan
17	Central Kerr County—Consider bike lanes/use on RR 783 between I-10 and McCullough Road	TxDOT	Including in Rural Master Bike Plan

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs (Continued).

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
18	Central Kerr County—Consider bike lanes/use on FM 2771	TxDOT	Including in Rural Master Bike Plan
19	Eastern Kerr County—Consider bike lanes/use on FM 1341	TxDOT	Including in Rural Master Bike Plan
20	Southern Kerr County—Consider bike lanes/use on SH 16 from Kerrville to county line	TxDOT	Including in Rural Master Bike Plan
21	Southern Kerr County—Consider bike lanes/use on FM 480	TxDOT	Including in Rural Master Bike Plan
22	Southern Kerr County—Consider bike lanes/use on FM 1350	TxDOT	Including in Rural Master Bike Plan
23	Southern Kerr County—Consider bike lanes/use on SH 27 between FM 480 and Loop 534	TxDOT	Including in Rural Master Bike Plan

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Kerr County Projects

Table 7 provides the top three projects from Kerr County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Kerr County.

Project Description	Weighted Technical Score
Add turn lanes on SH 27 between Youth Ag Barn and Comfort and widen bridge	130
Construct overpass at intersection of SH 27 and SH 98 (Thompson Drive)	40
Connect Loop 534 to SH 16	−60

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Kerr County's highest ranked project (add turn lanes on SH 27 between Youth Ag Barn and Comfort and widen bridge) received the fourth highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Kerr County Judge

Dear Judge Tom Pollard,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Kerr County, and we would appreciate your participation. The date of the workshop is:

Date: December 1, 2015
Time: 10:00 AM to 12:00 PM
Location: Hill Country Youth Event Center, Kerrville

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

McMullen County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The McMullen County workshop was organized by TxDOT with the help of McMullen County Judge James Teal. TxDOT sent a letter (shown in the Appendix) to Judge Teal requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Monday, November 16, 2015, from 5:30 PM to 7:30 PM at the McMullen County Courthouse in Tilden. Nine people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in McMullen County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in McMullen County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for McMullen County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in McMullen County both now and in the future. The following is a summary of the data presented at the McMullen County workshop.

2.1. McMullen County Demographic Data

Figure 1 provides the historic and projected population growth for McMullen County between 1960 and 2040.

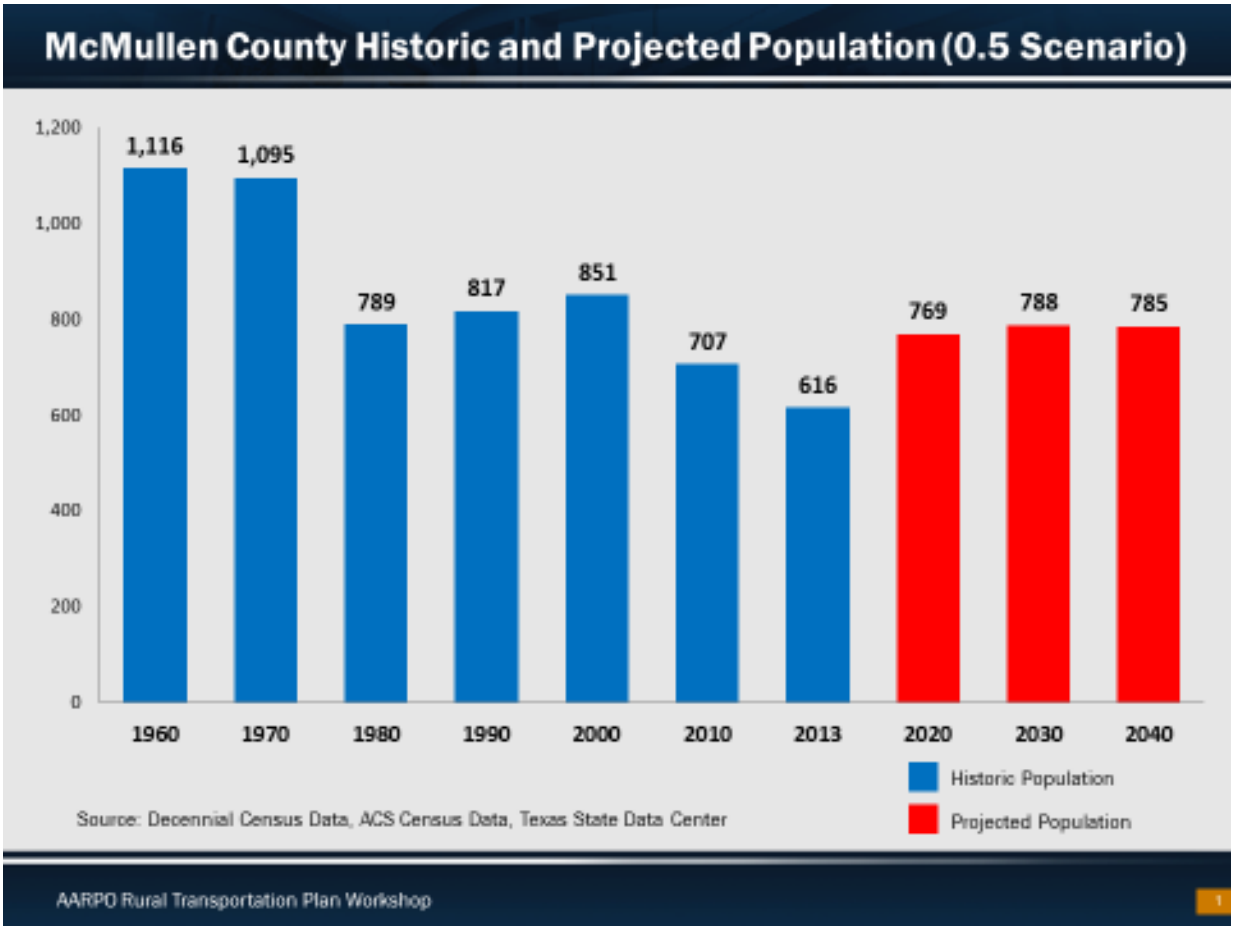

Figure 1. McMullen County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in McMullen County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

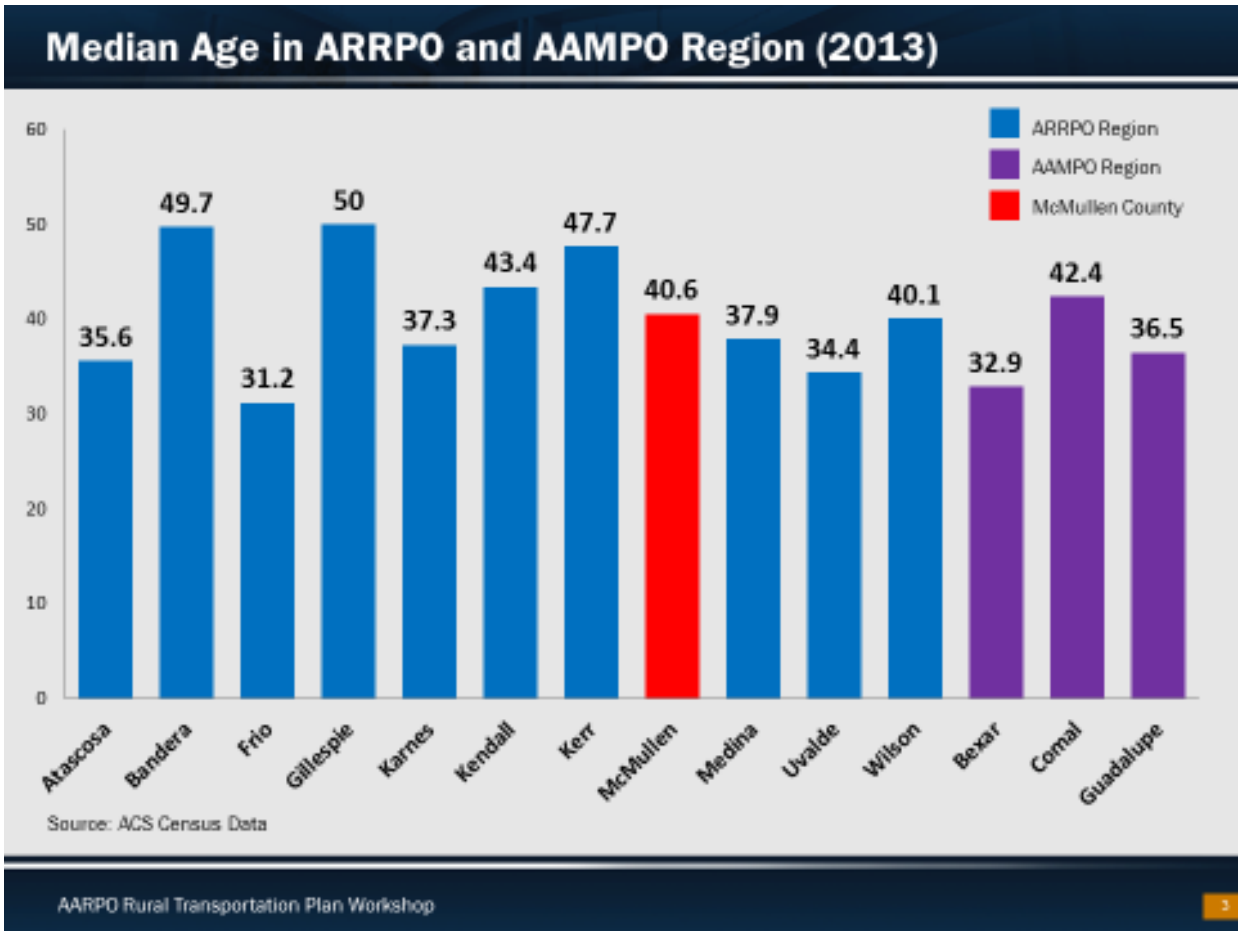

Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of McMullen County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

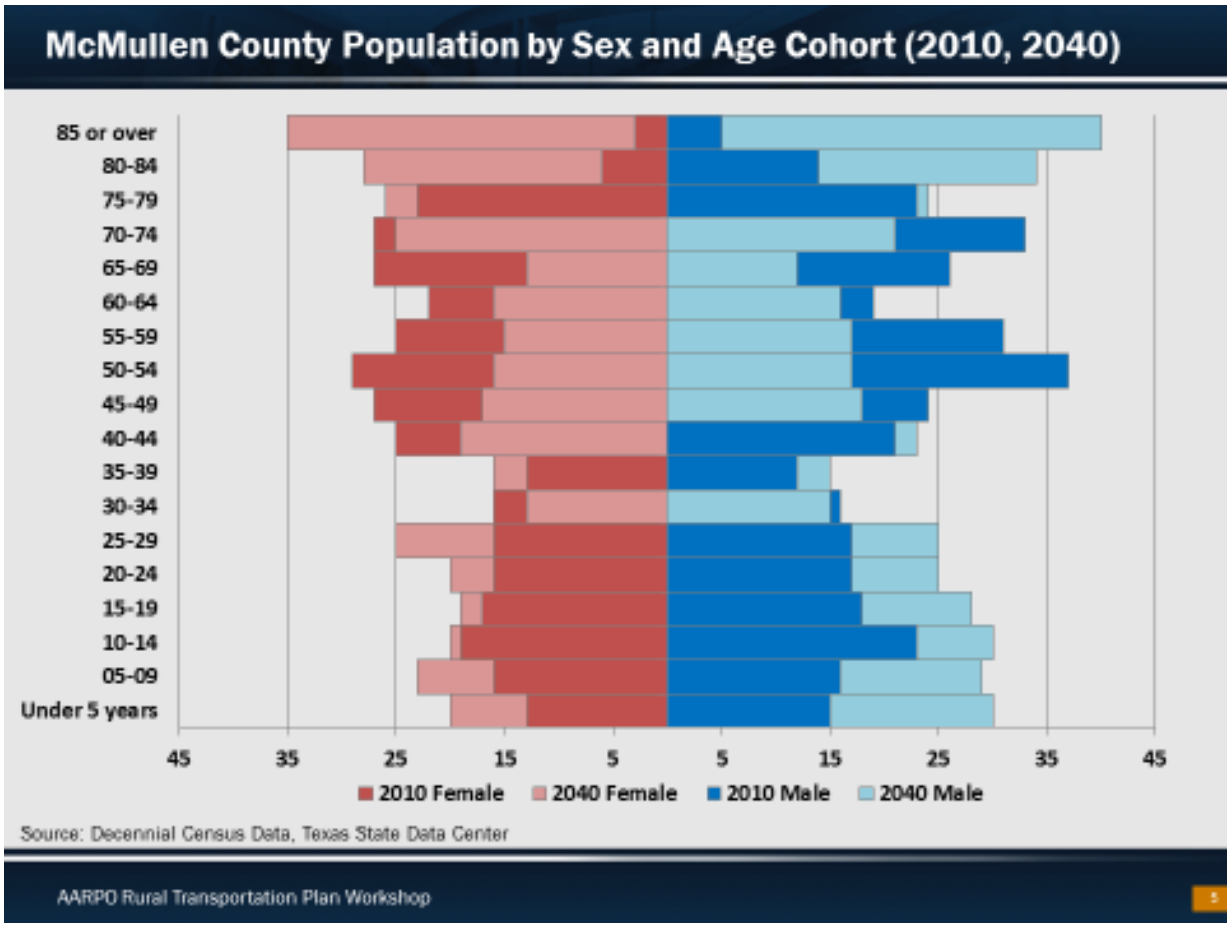

Figure 3. McMullen County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. McMullen County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in McMullen County.

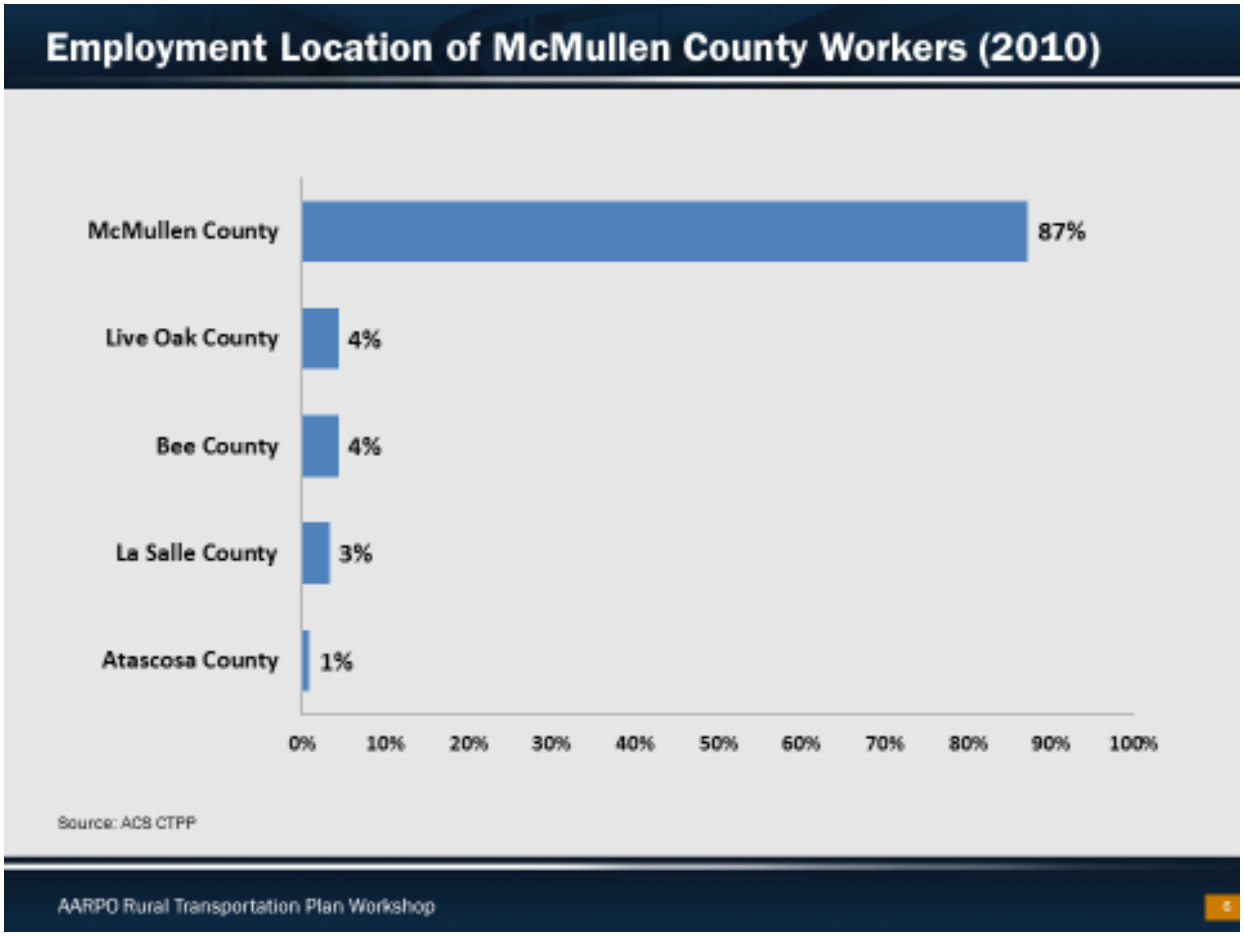

Figure 4. Employment Location of McMullen County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in McMullen County.

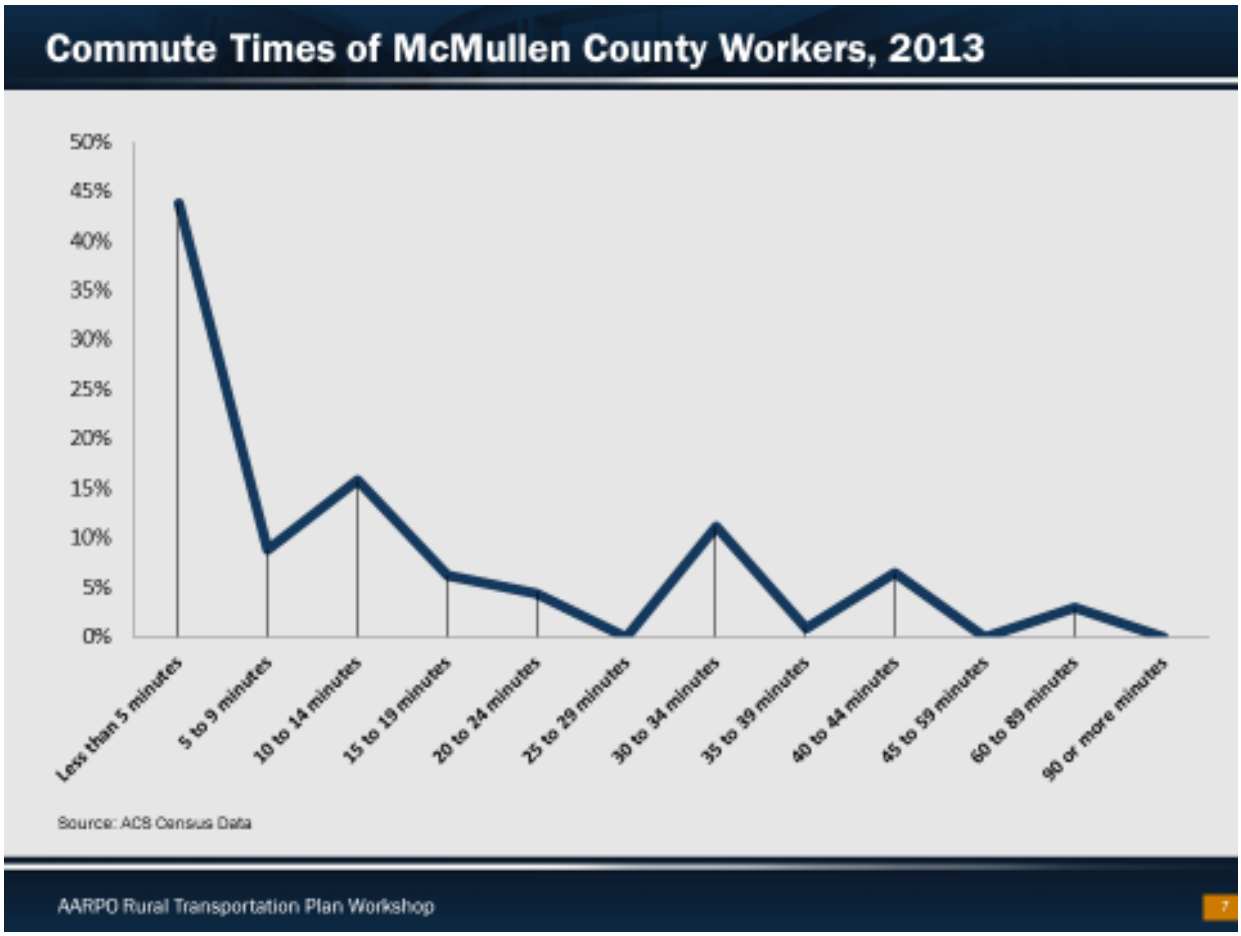

Figure 5. Commute Times of McMullen County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in McMullen County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

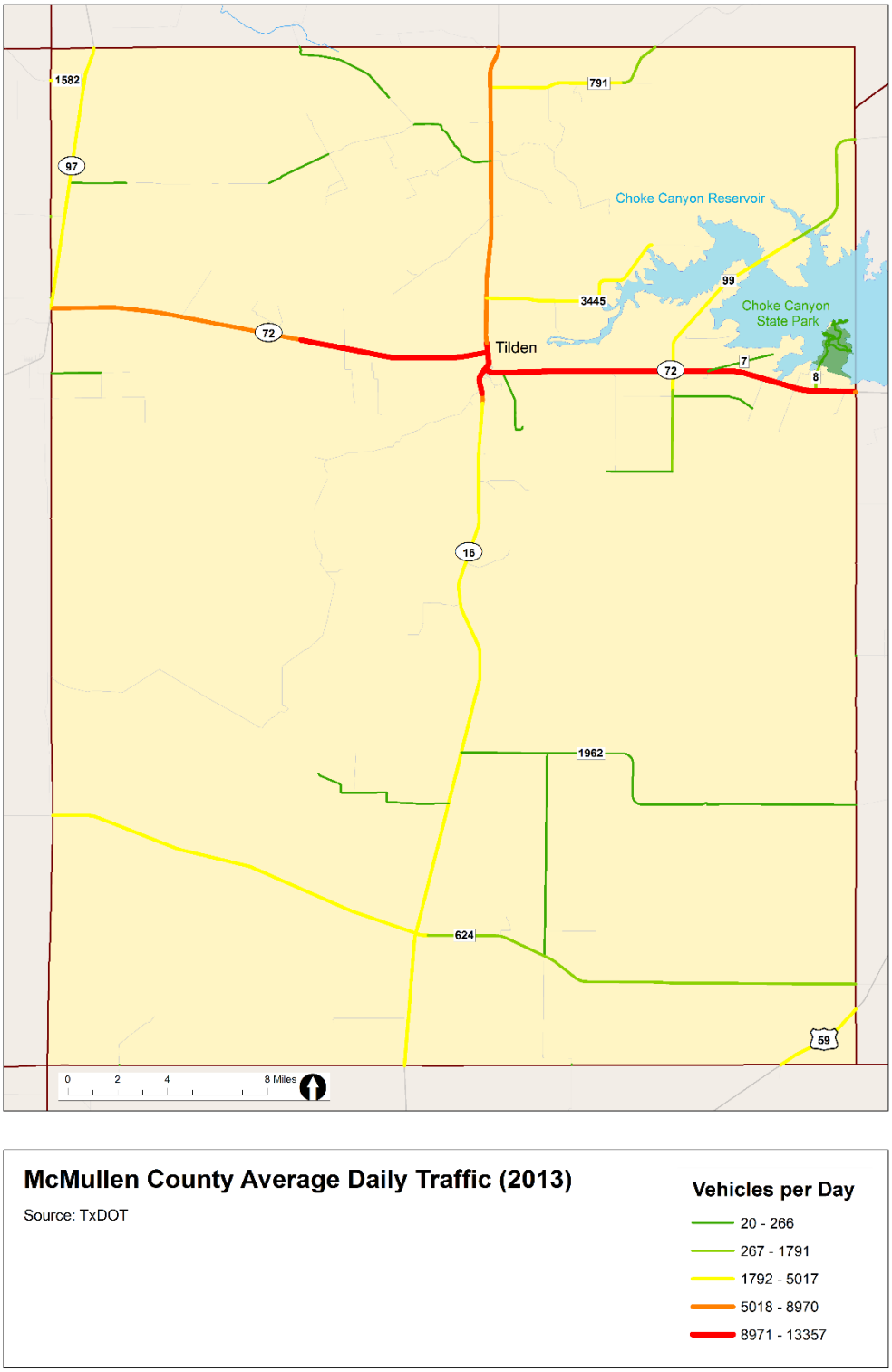

Figure 6. Average Daily Traffic in McMullen County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in McMullen County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

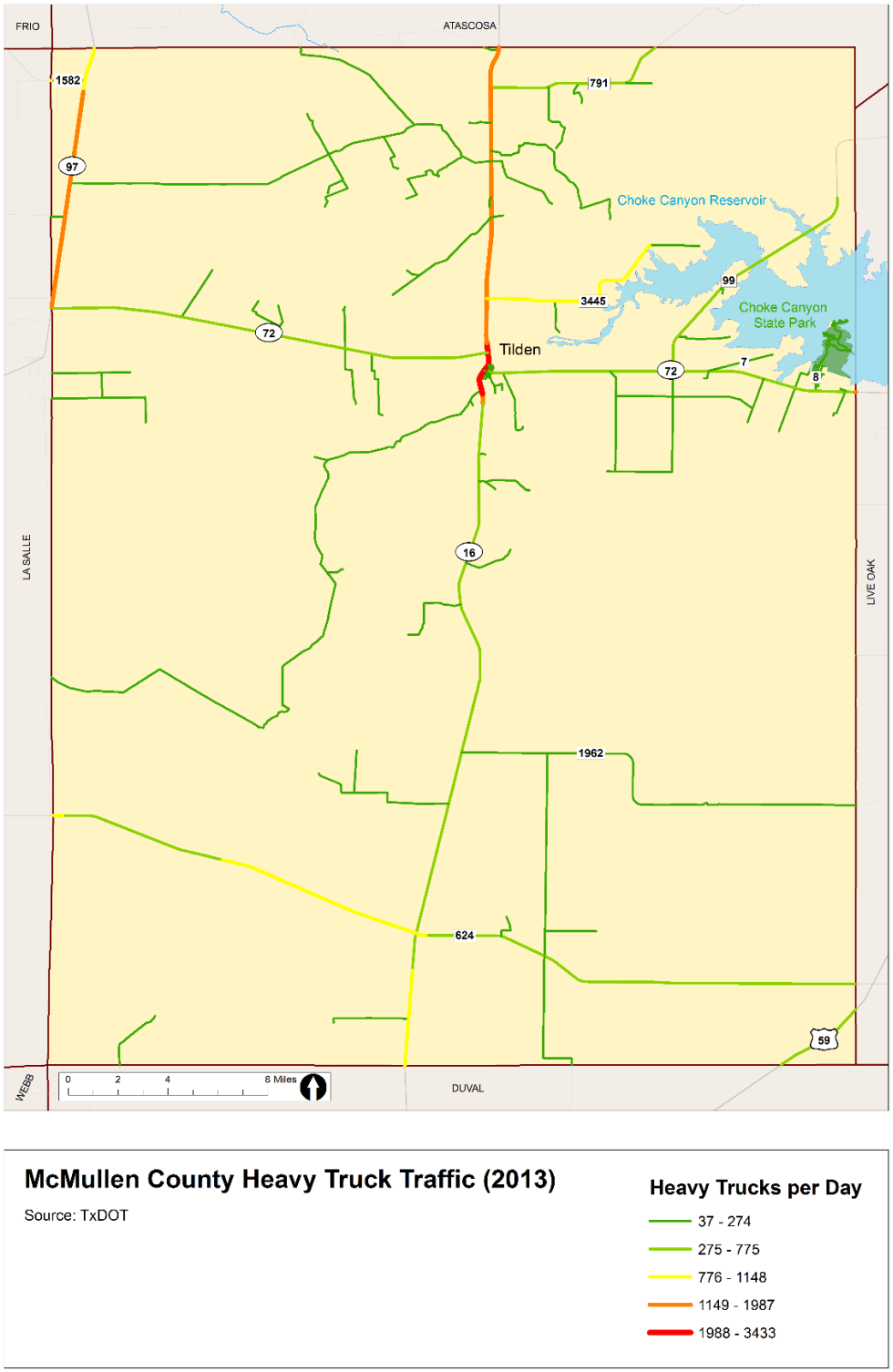

Figure 7. Heavy Truck Traffic in McMullen County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in McMullen County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

Figure 8. Pavement Conditions in McMullen County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in McMullen County between 2010 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

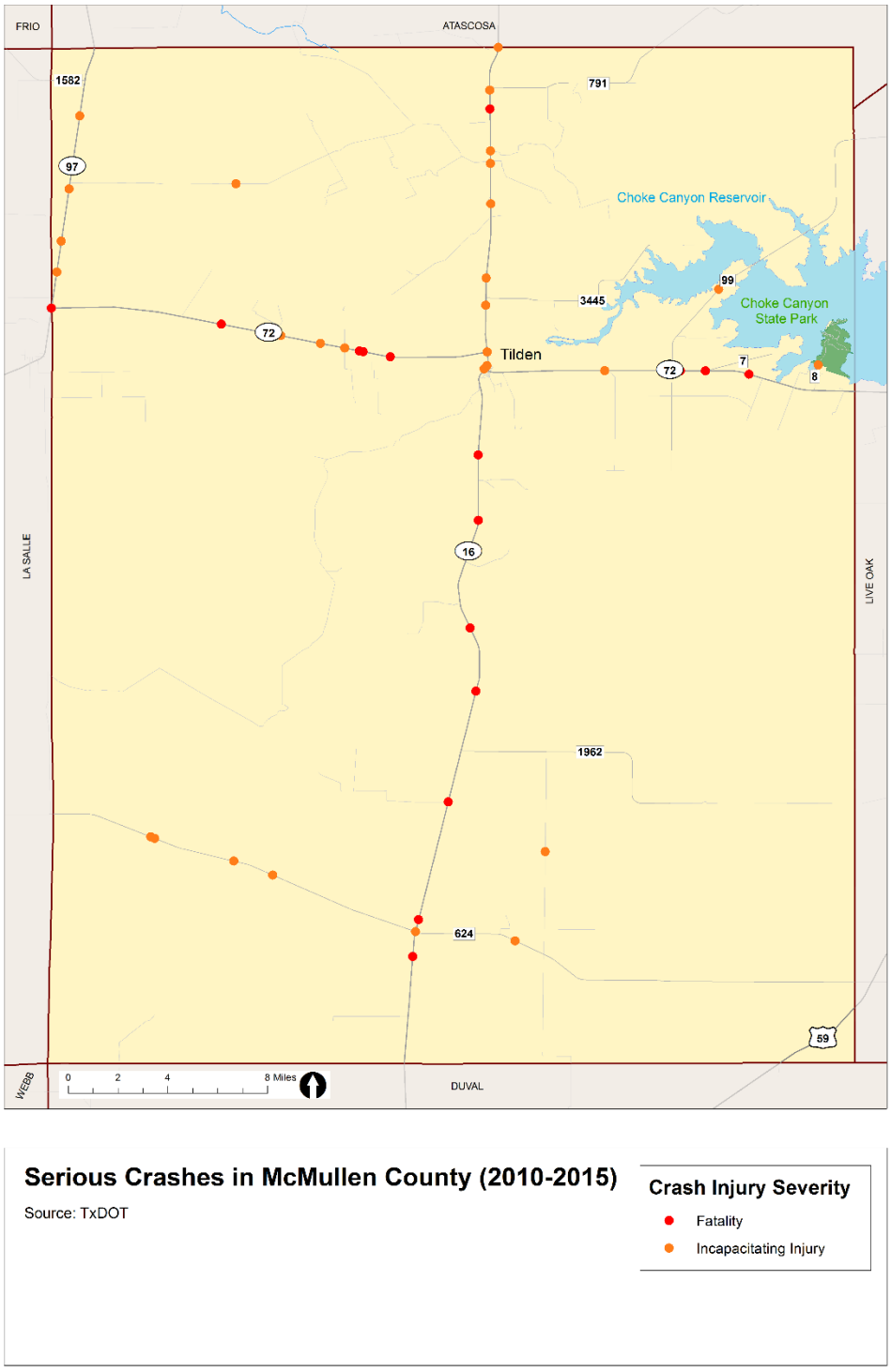

Figure 9. Serious Crashes in McMullen County (2010–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in McMullen County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

McMullen County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the McMullen County mobility and connectivity exercise map.

Figure 10. McMullen County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the McMullen County maintenance and safety exercise map.

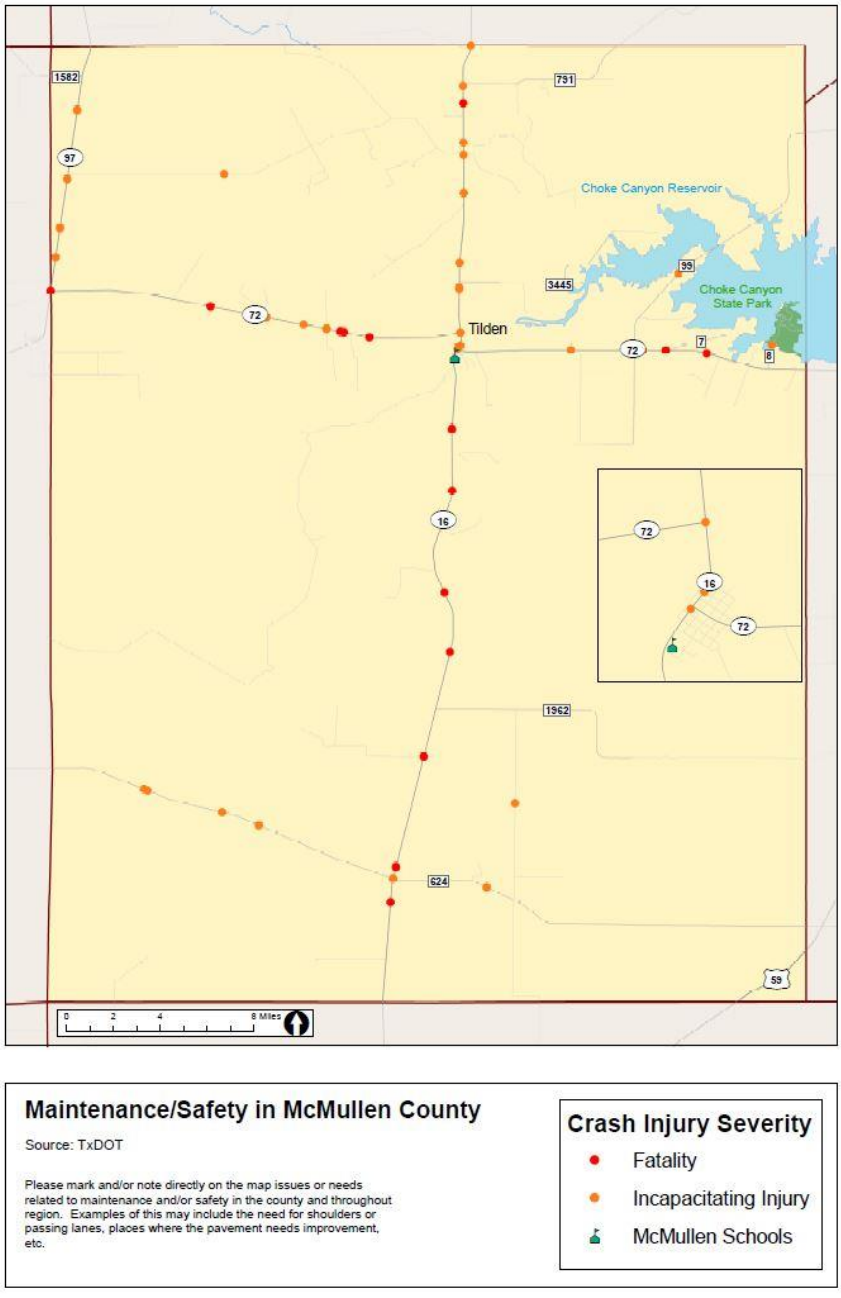

Figure 11. McMullen County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban

centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the McMullen County bicycle, pedestrian, and transit exercise map.

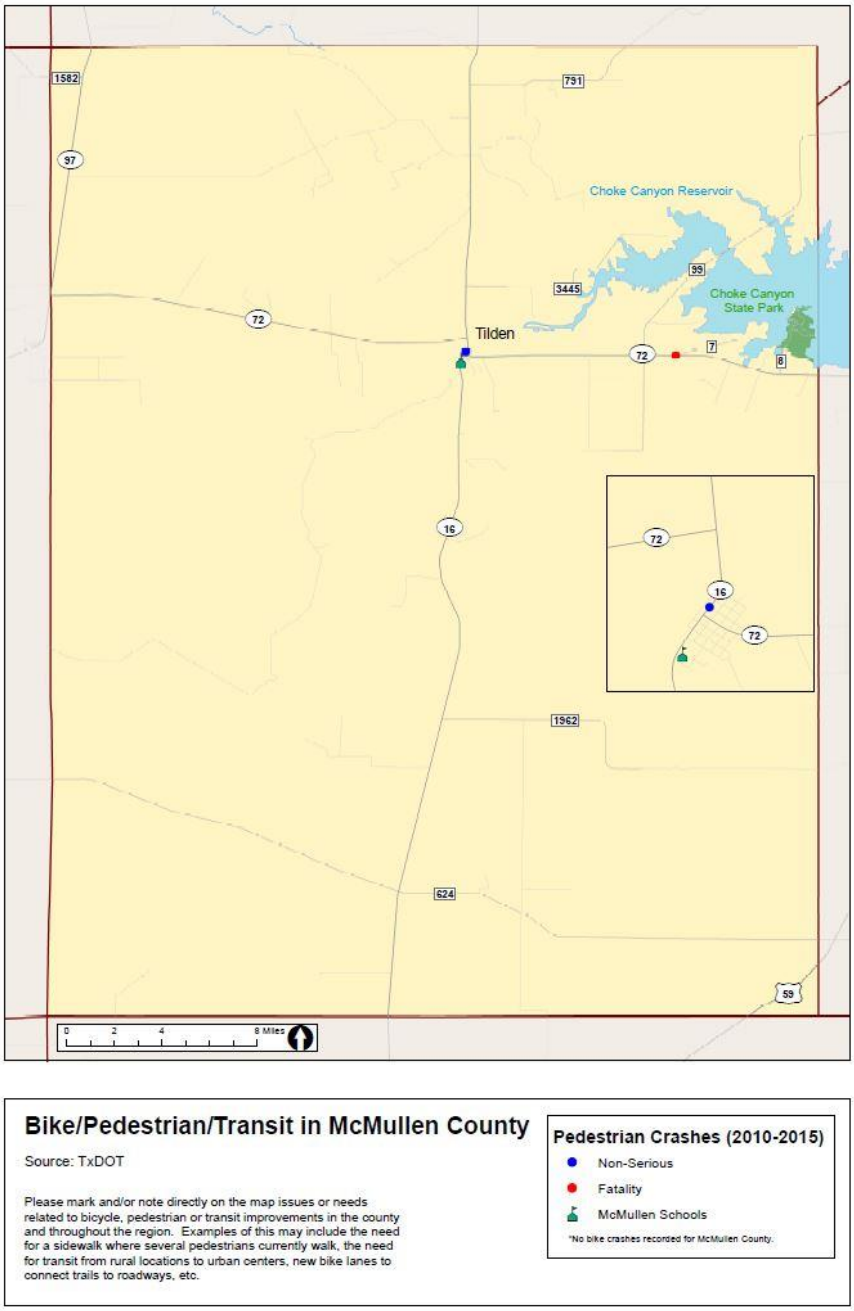

Figure 12. McMullen County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that McMullen County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.

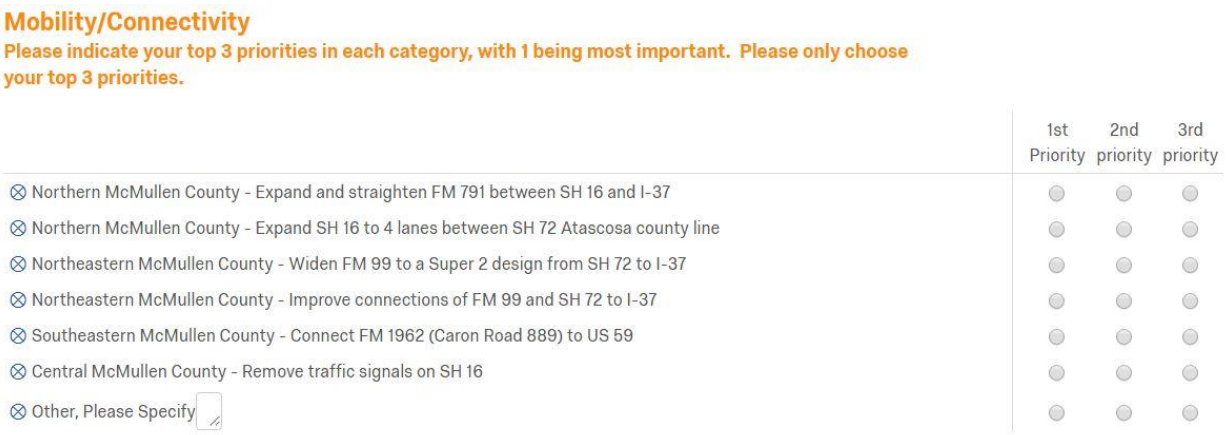

Figure 13. Mobility and Connectivity Section of McMullen County Transportation Needs Prioritization Survey.

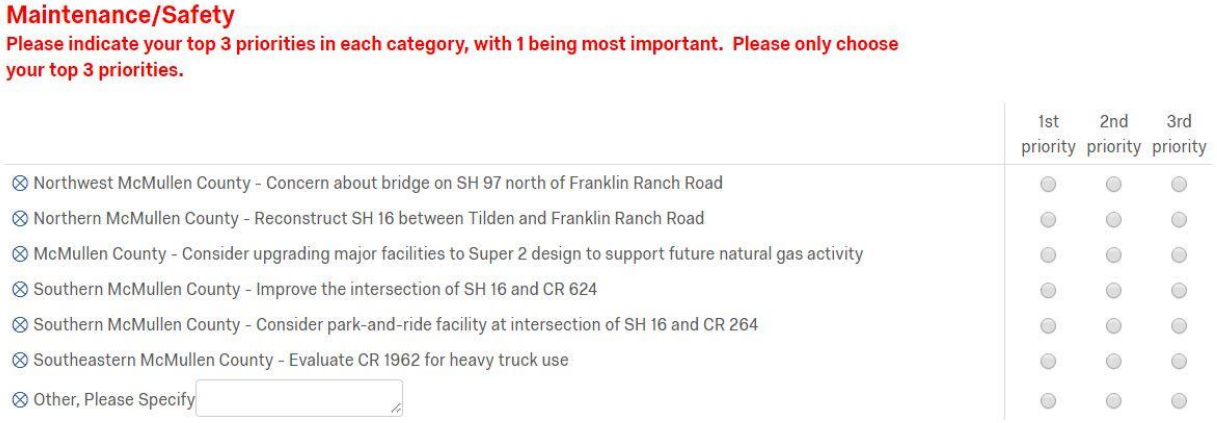

Figure 14. Maintenance and Safety Section of McMullen County Transportation Needs Prioritization Survey.

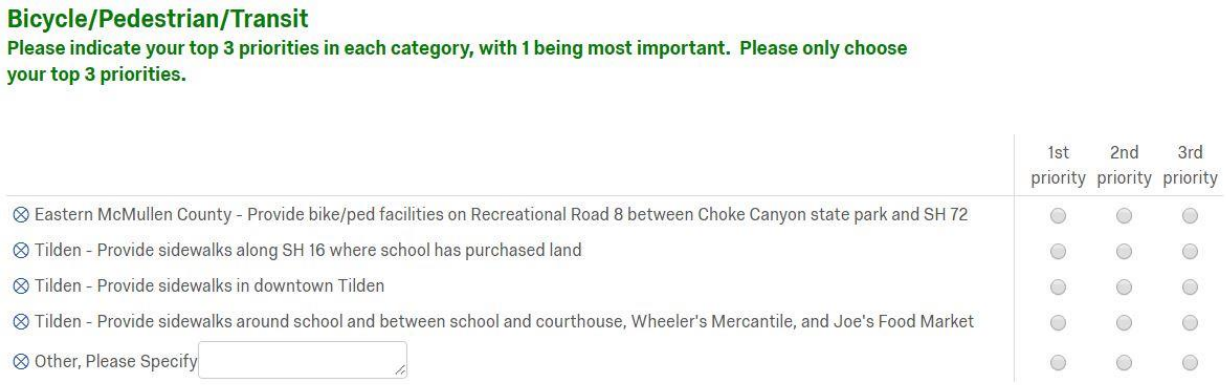

Figure 15. Bicycle, Pedestrian, and Transit Section of McMullen County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. One person completed the survey for McMullen County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Repair what is in place	3	1
2	Northern McMullen County—Expand SH 16 to 4 lanes between SH 72 Atascosa County Line	2	0
3	Northern McMullen County—Expand and straighten FM 791 between SH 16 and I-37	1	0
4	Central McMullen County—Remove traffic signals on SH 16	0	0
5	Northeastern McMullen County—Widen FM 99 to a Super 2 design from SH 72 to I-37	0	0
6	Southeastern McMullen County—Connect FM 1962 (Caron Road 889) to US 59	0	0
7	Northeastern McMullen County—Improve connections of FM 99 and SH 72 to I-37	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Northern McMullen County—Reconstruct SH 16 between Tilden and Franklin Ranch Road	3	1
2	Southern McMullen County—Improve the intersection of SH 16 and CR 624	2	0
3	McMullen County—Consider upgrading major facilities to Super 2 design to support future natural gas activity	1	0
4	Southern McMullen County—Consider park-and-ride facility at intersection of SH 16 and CR 264	0	0
5	Northwest McMullen County—Concern about bridge on SH 97 north of Franklin Ranch Road	0	0
6	Southeastern McMullen County—Evaluate CR 1962 for heavy truck use	0	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Tilden—Provide sidewalks around school and between school and courthouse, Wheeler's Mercantile, and Joe's Food Market	1	1
2	Tilden—Provide sidewalks along SH 16 where school has purchased land	2	0
3	Tilden—Provide sidewalks in downtown Tilden	3	0
4	Eastern McMullen County—Provide bike/ped facilities on Recreational Road 8 between Choke Canyon State Park and SH 72	0	0

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Other, Please Specify—Repair what is in place	TxDOT/District	Continued maintenance—district has a 4-year maintenance plan
2	Northern McMullen County—Expand SH 16 to 4 lanes between SH 72 Atascosa County Line	TxDOT/District	Short-term current passing lanes project/long-term 4-lane divided
3	Northern McMullen County—Expand and straighten FM 791 between SH 16 and I-37	TxDOT/District	Low volume roadway; keep an eye on development
4	Central McMullen County—Remove traffic signals on SH 16	TxDOT/District	Require a traffic study
5	Northeastern McMullen County—Widen FM 99 to a Super 2 design from SH 72 to I-37	TxDOT/District	Further study; special crews & maintenance have been addressing
6	Southeastern McMullen County—Connect FM 1962 (Caron Road 889) to US 59	TxDOT/District	New road location
7	Northeastern McMullen County—Improve connections of FM 99 and SH 72 to I-37	TxDOT/District	Corpus Christi District coordination

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Northern McMullen County—Reconstruct SH 16 between Tilden and Franklin Ranch Road	TxDOT/ District	Have spoken w/ Mike Acosta for contract work
2	McMullen County—Consider upgrading major facilities to Super 2 design to support future natural gas activity	TxDOT/ District	Super 2's have only been constructed on SH 16
3	Southern McMullen County—Improve the intersection of SH 16 and CR 624	TxDOT/ District	Base repairs were performed August 2015
4	Southern McMullen County—Consider park-and-ride facility at intersection of SH 16 and CR 264	TxDOT/ District	Include in the Regional Transportation Coordination Plan as a park-and-pool facility
5	Northwest McMullen County—Concern about bridge on SH 97 north of Franklin Ranch Road	TxDOT/ District	Austin/Houston Bridge Divisions performed trial type of PM on bridge beams
6	Southeastern McMullen County—Evaluate CR 1962 for heavy truck use	TxDOT/ District	Extremely low volume of truck traffic

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Tilden—Provide sidewalks around school and between school and courthouse, Wheeler's Mercantile, and Joe's Food Market	City/TxDOT/ School District	Recommend a Safe Routes to School Plan
2	Tilden—Provide sidewalks along SH 16 where school has purchased land	TxDOT/ District	Recommend a Safe Routes to School Plan
3	Tilden—Provide sidewalks in downtown Tilden	City/TxDOT	Recommend development of Pedestrian Plan
4	Eastern McMullen County—Provide bike/ped facilities on Recreational Road 8 between Choke Canyon State Park and SH 72	Texas Parks and Wildlife/ TxDOT	Possible TAP application: County would need to develop a plan; might qualify for recreational trails funding

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for McMullen County Projects

Table 7 provides the top three projects from McMullen County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in McMullen County.

Project Description	Weighted Technical Score
Expand SH 16 to five lanes between SH 72 to Atascosa County Line	50
Expand and straighten (shoulder and passing lanes) FM 791 from SH 16 to I-37 in Atascosa County	−50
Create Super 2 design on FM 99 from SH 72 to I-37	−50

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. McMullen County's highest ranked project (expand SH 16 to five lanes between SH 72 to Atascosa County Line) received the 10th highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to McMullen County Judge

Dear Judge James Teal,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in McMullen County, and we would appreciate your participation. The date of the workshop is:

Date: November 16, 2015
Time: 5:30 PM to 7:30 PM
Location: McMullen County Courthouse, Tilden

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Medina County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Medina County workshop was organized by TxDOT with the help of Medina County Judge Chris Schuchart. TxDOT sent a letter (shown in the Appendix) to Judge Schuchart requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Tuesday, November 10, 2015, from 1:00 PM to 4:00 PM at the South Texas Regional Training Center in Hondo. Thirty-three people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Medina County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Medina County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Medina County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Medina County both now and in the future. The following is a summary of the data presented at the Medina County workshop.

2.1. Medina County Demographic Data

Figure 1 provides the historic and projected population growth for Medina County between 1960 and 2040.

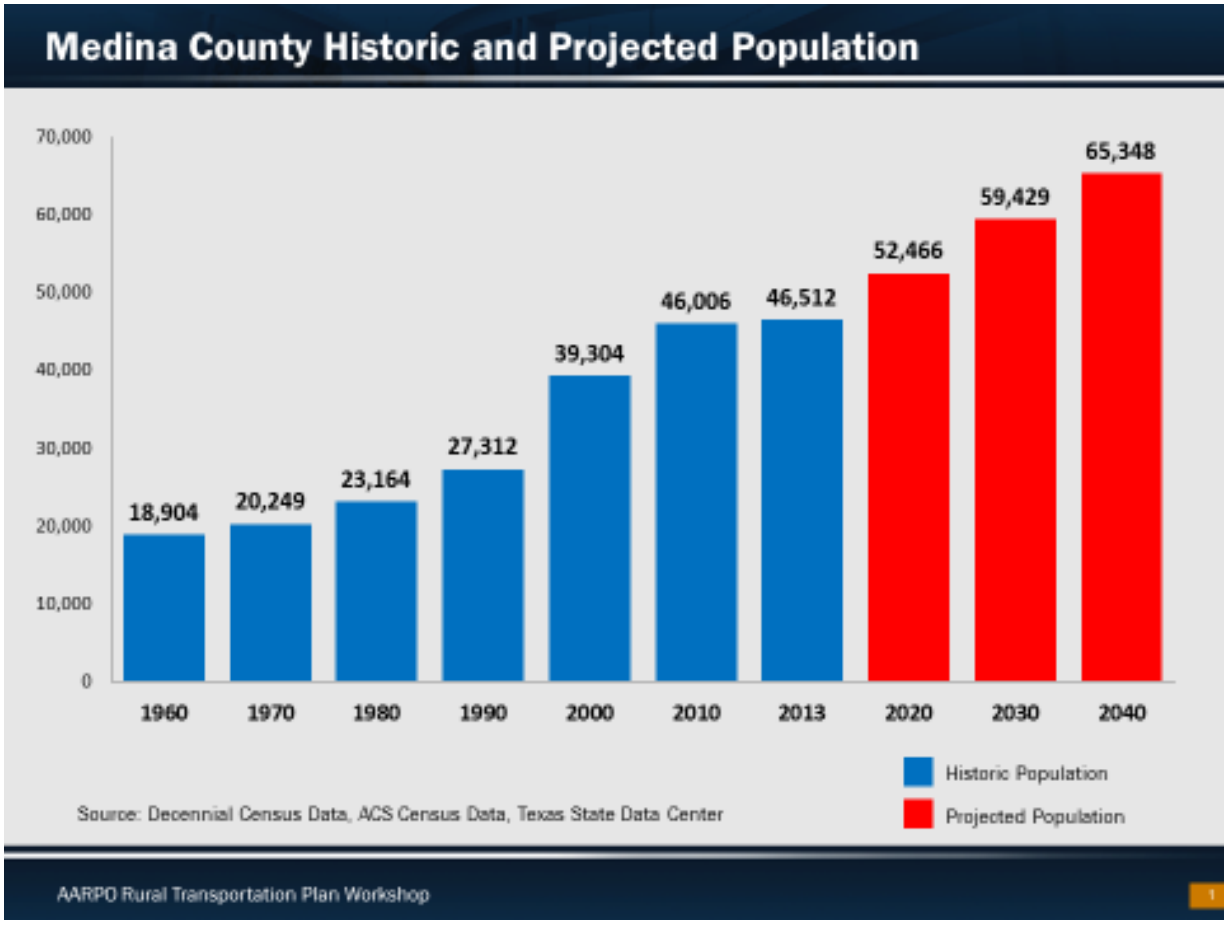


Figure 1. Medina County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Medina County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

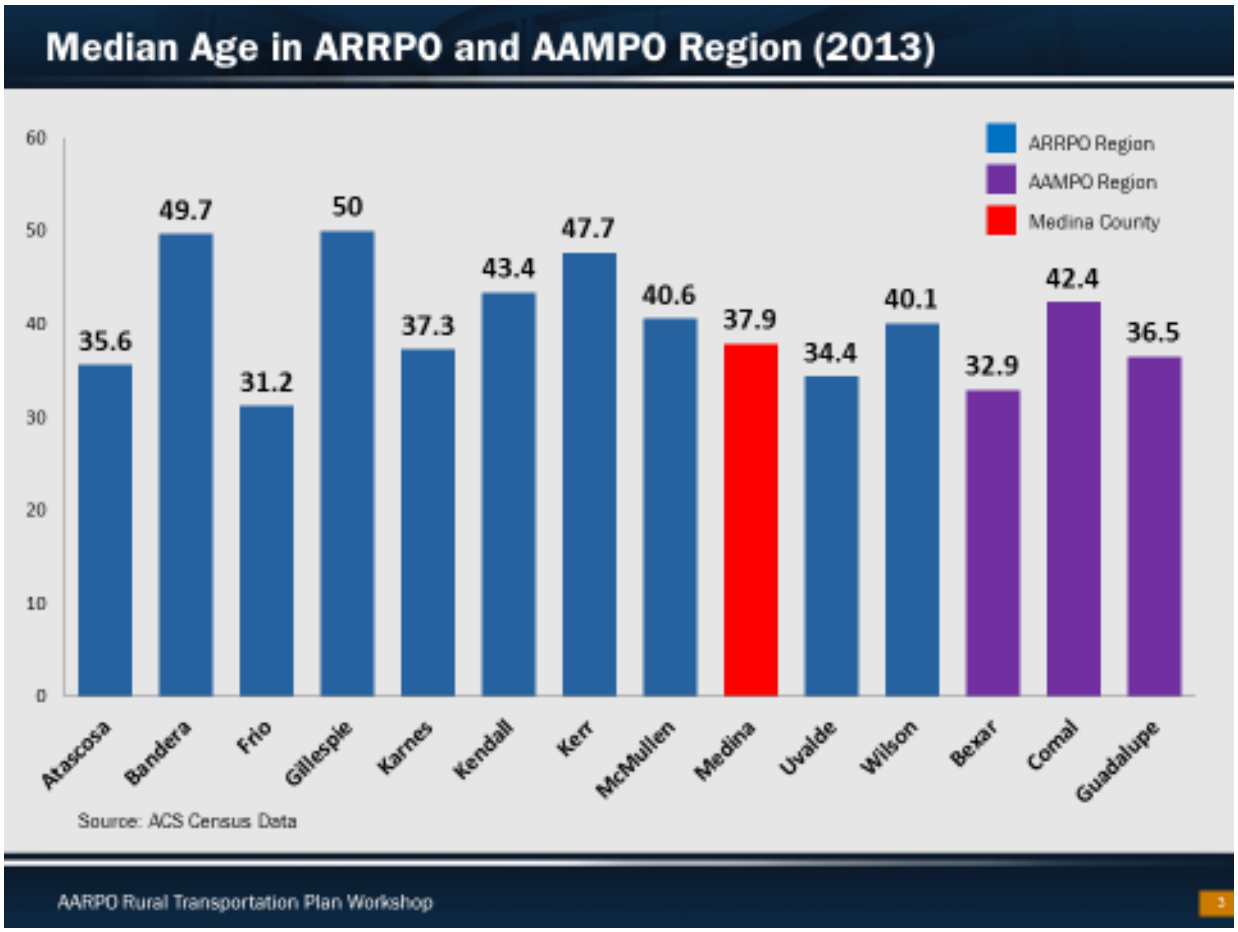


Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Medina County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

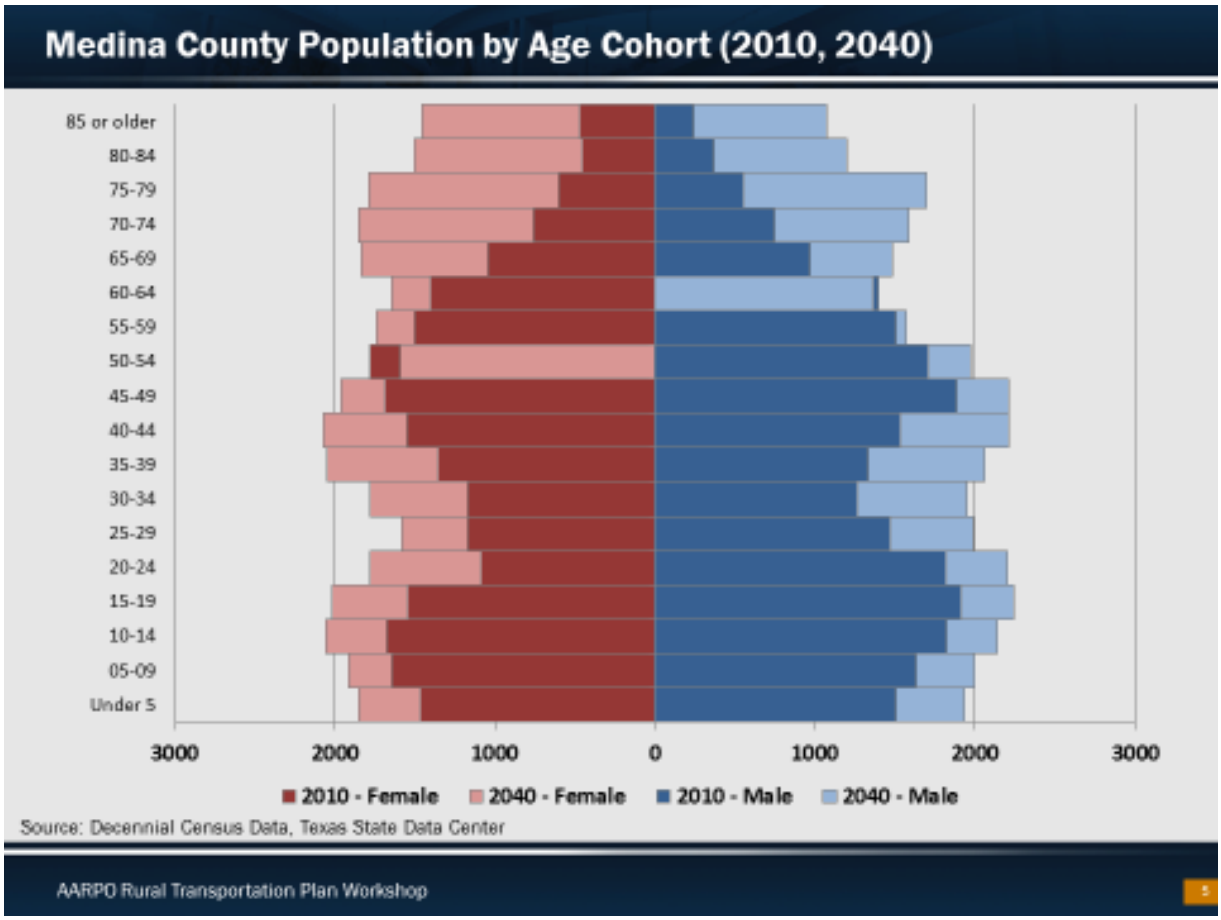


Figure 3. Medina County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Medina County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Medina County.

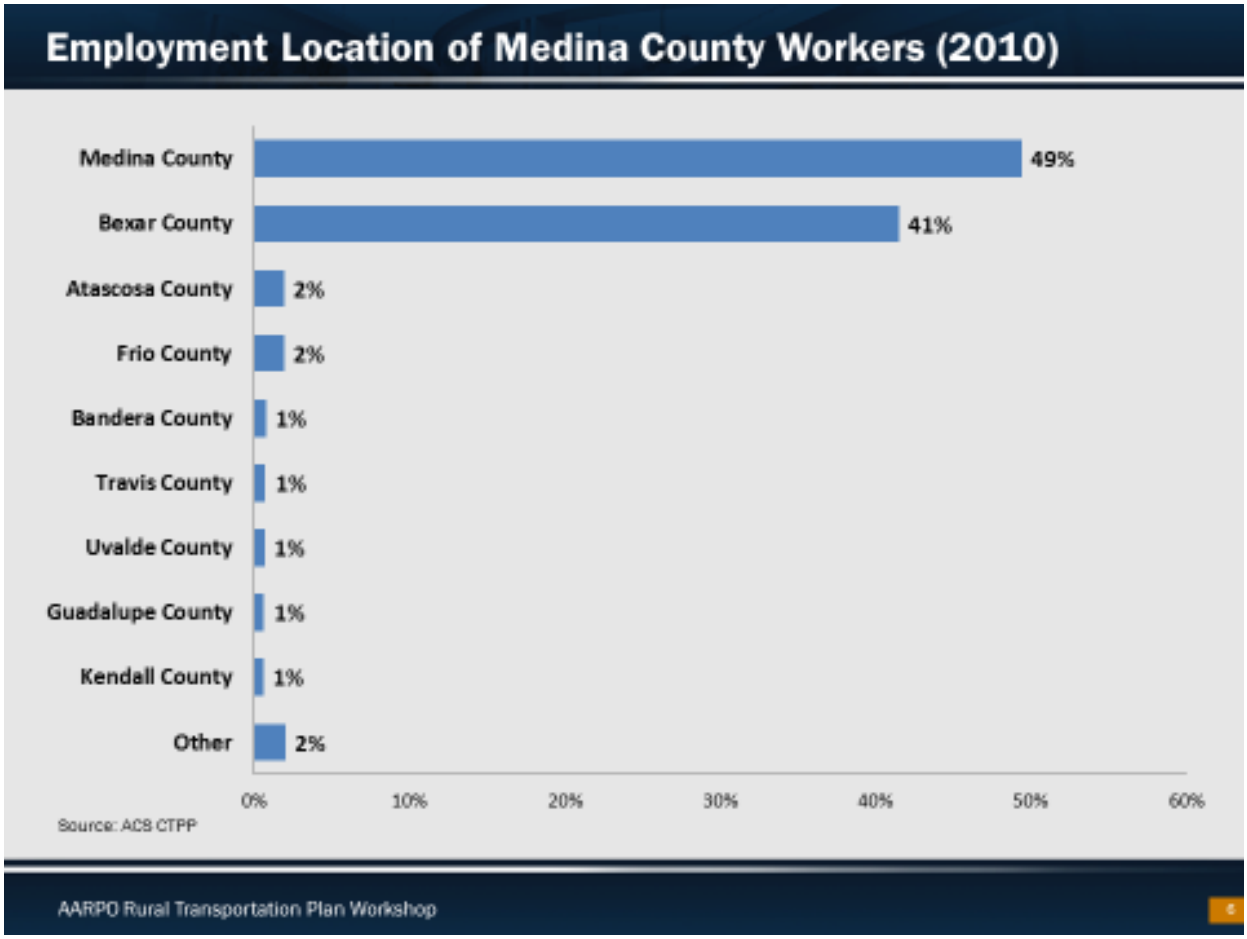


Figure 4. Employment Location of Medina County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Medina County.

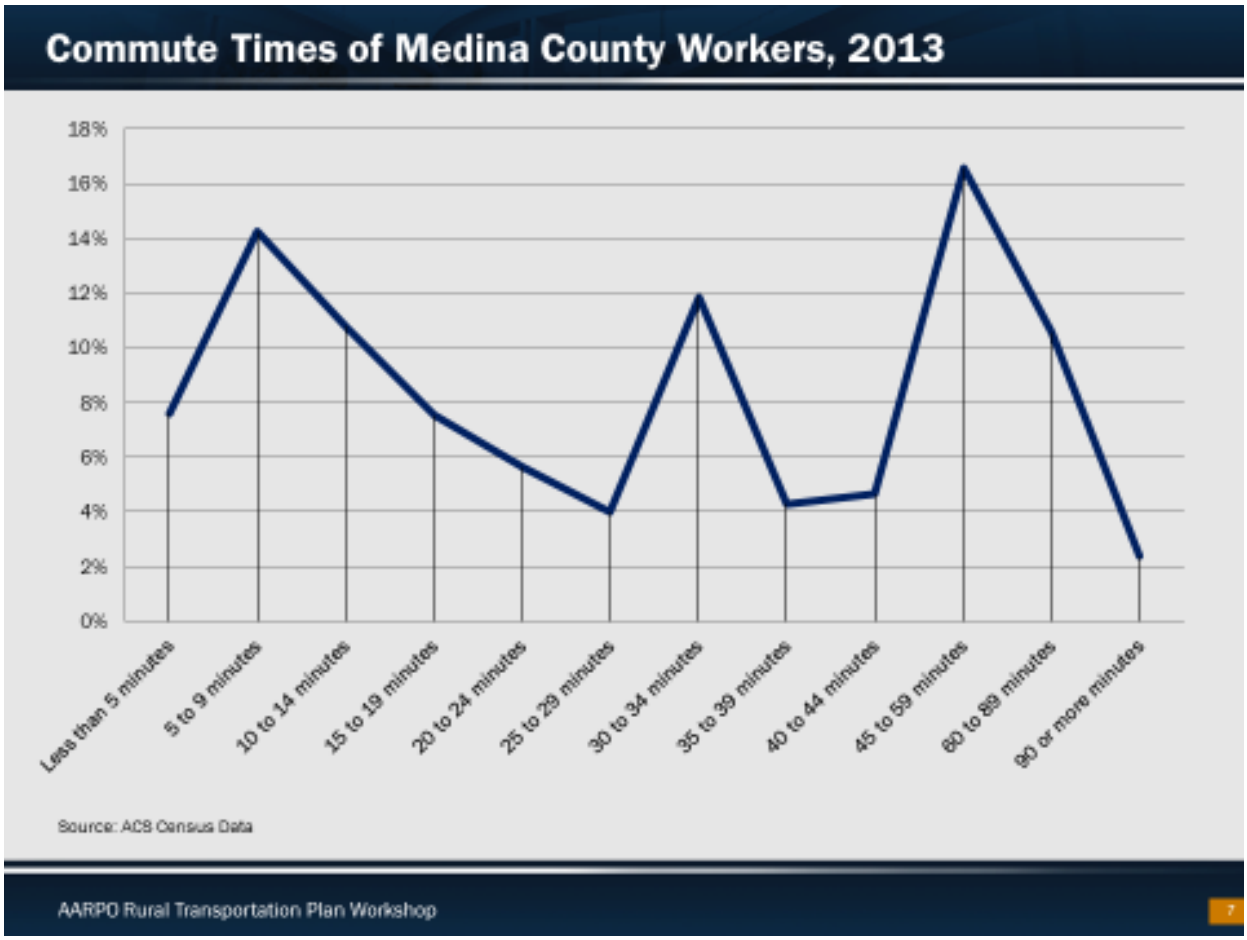


Figure 5. Commute Times of Medina County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Medina County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

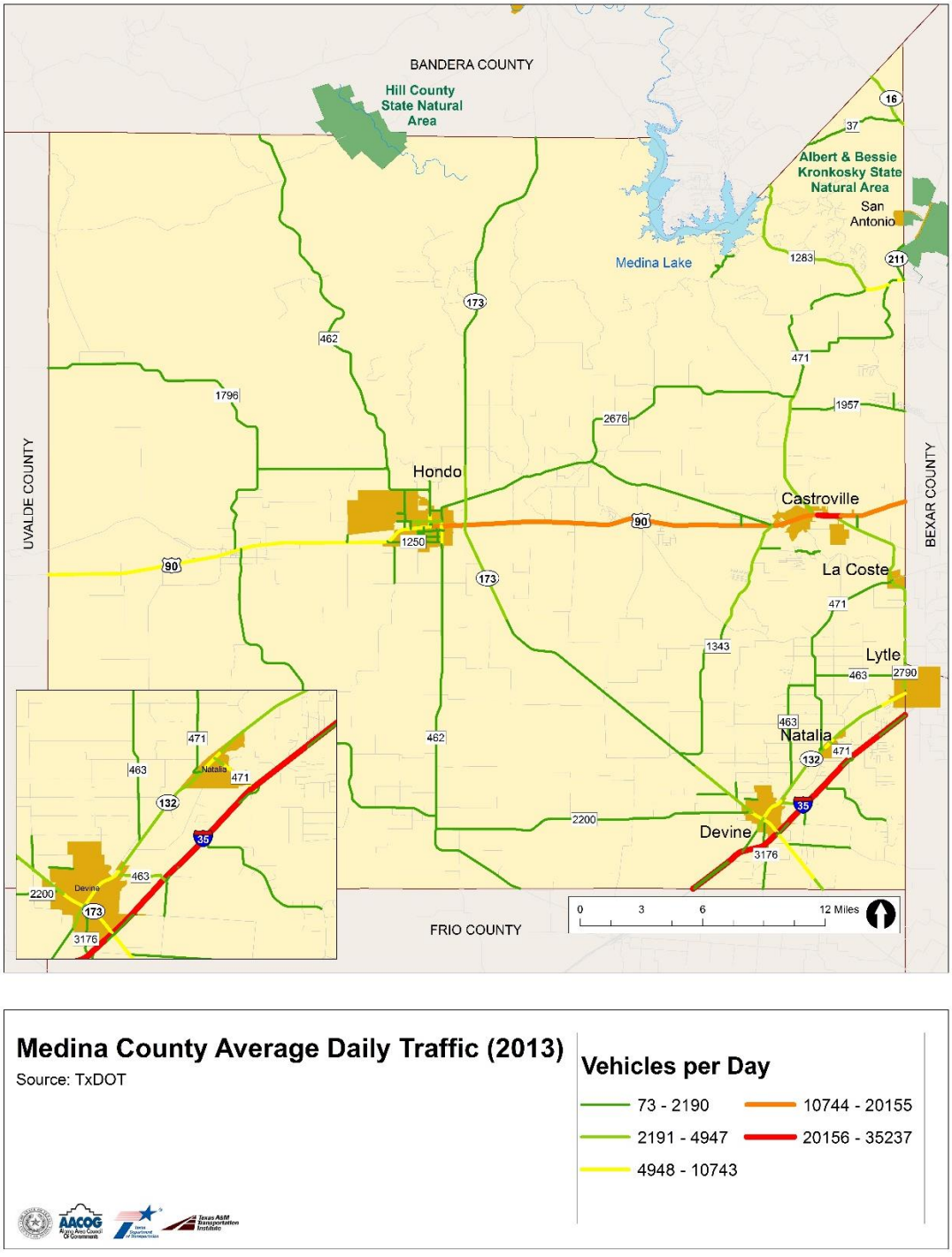


Figure 6. Average Daily Traffic in Medina County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Medina County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

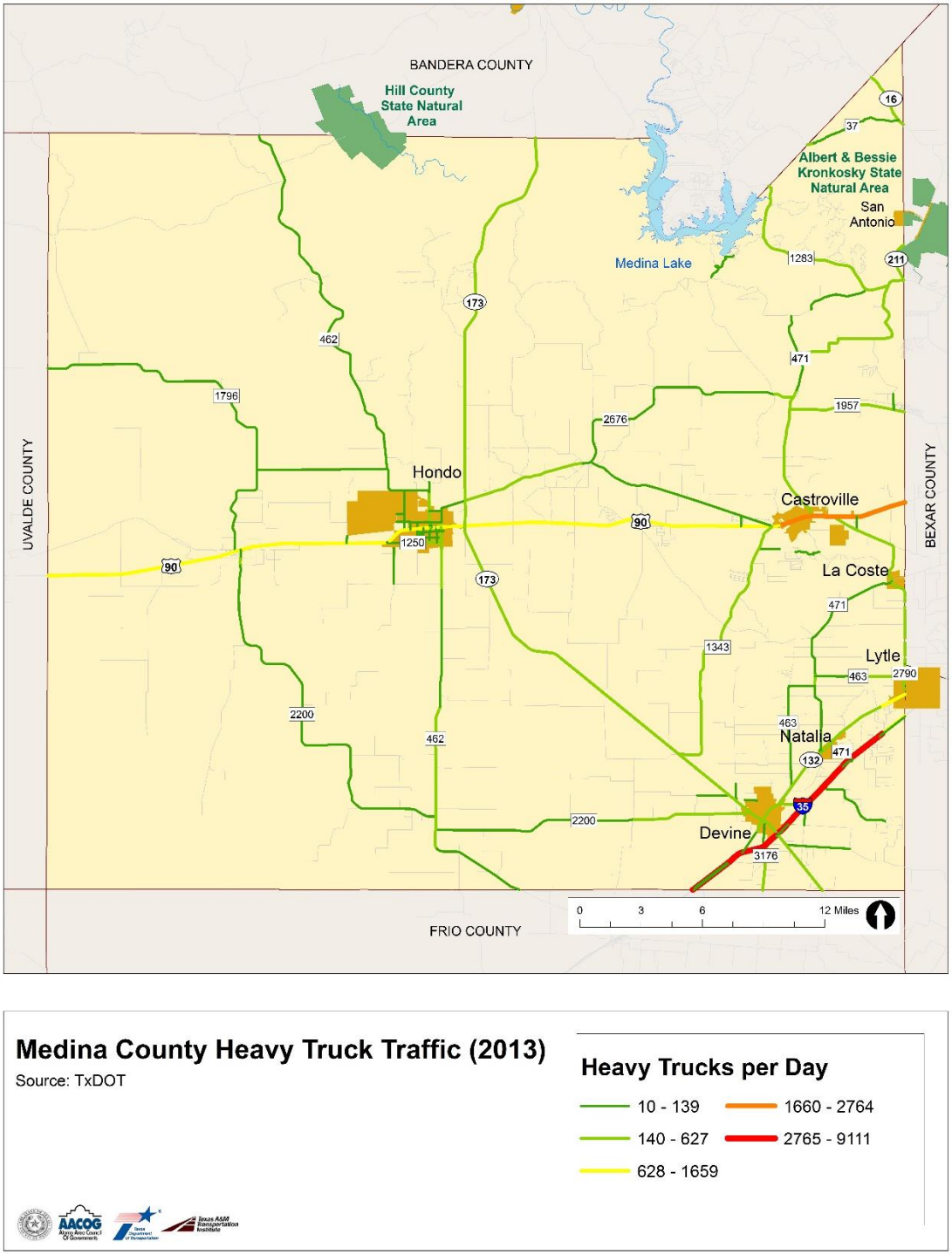


Figure 7. Heavy Truck Traffic in Medina County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Medina County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

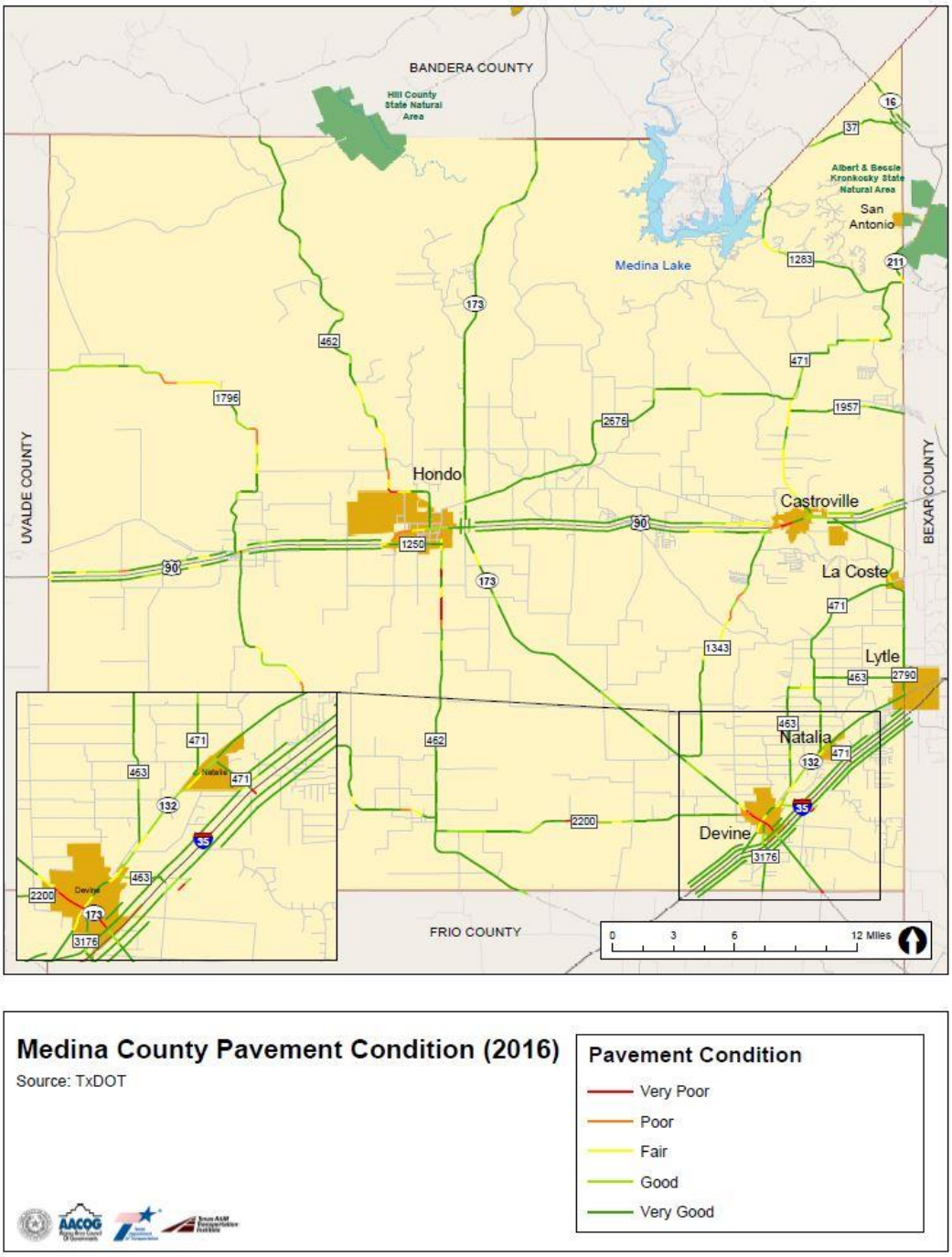


Figure 8. Pavement Conditions in Medina County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Medina County between 2010 and 2012. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

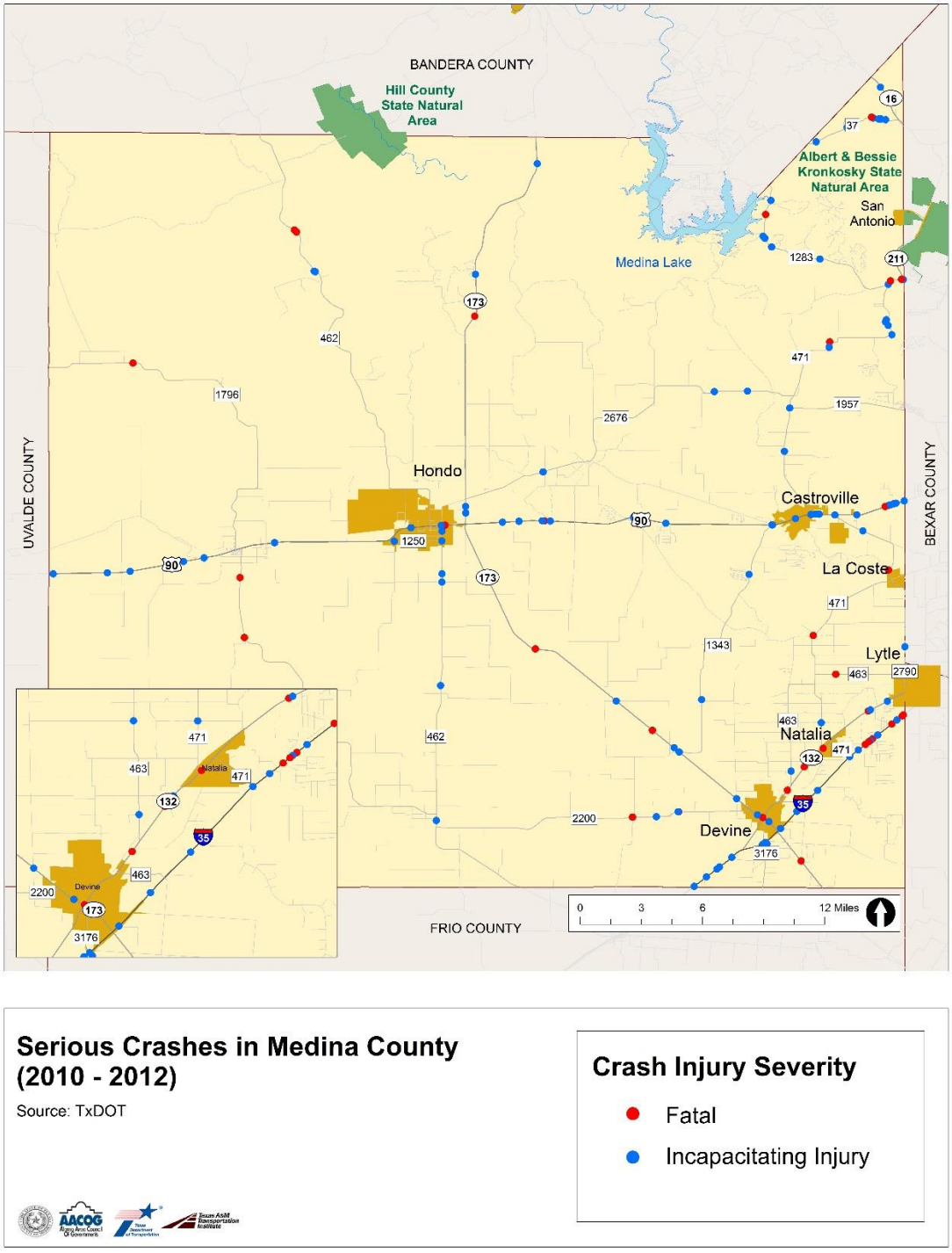


Figure 9. Serious Crashes in Medina County (2010–2012) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Medina County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Medina County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Medina County mobility and connectivity exercise map.

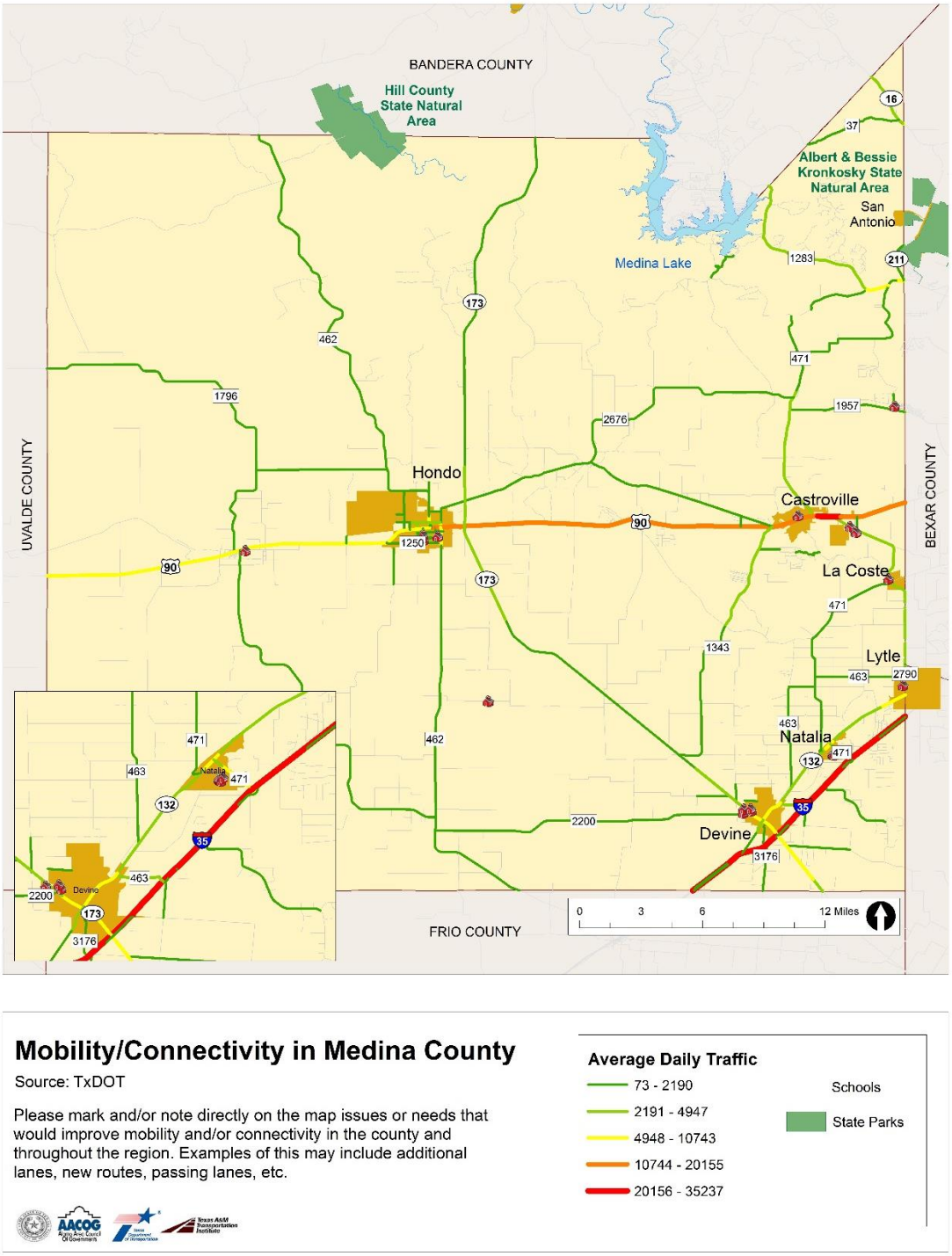


Figure 10. Medina County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Medina County maintenance and safety exercise map.

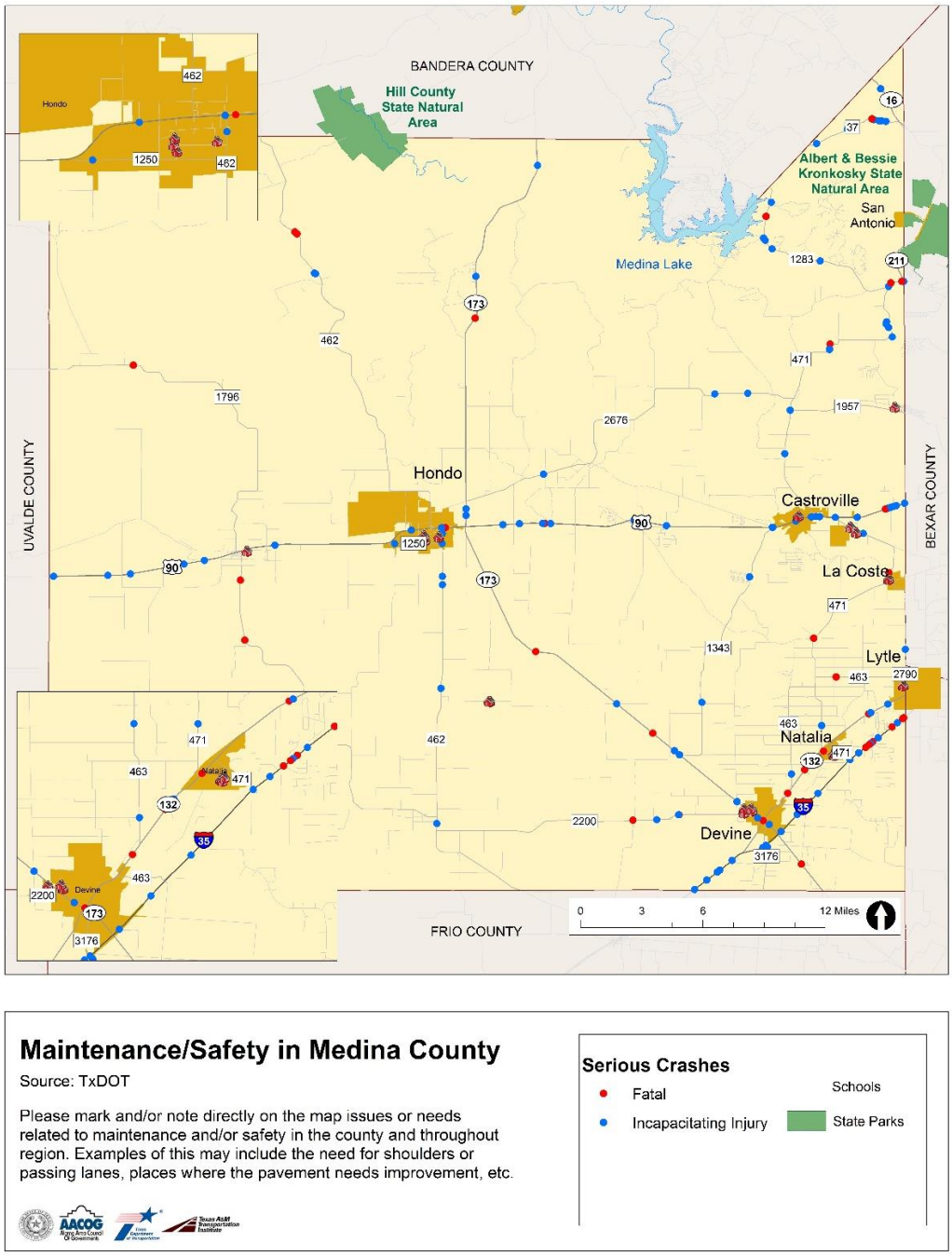


Figure 11. Medina County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Medina County bicycle, pedestrian, and transit exercise map.

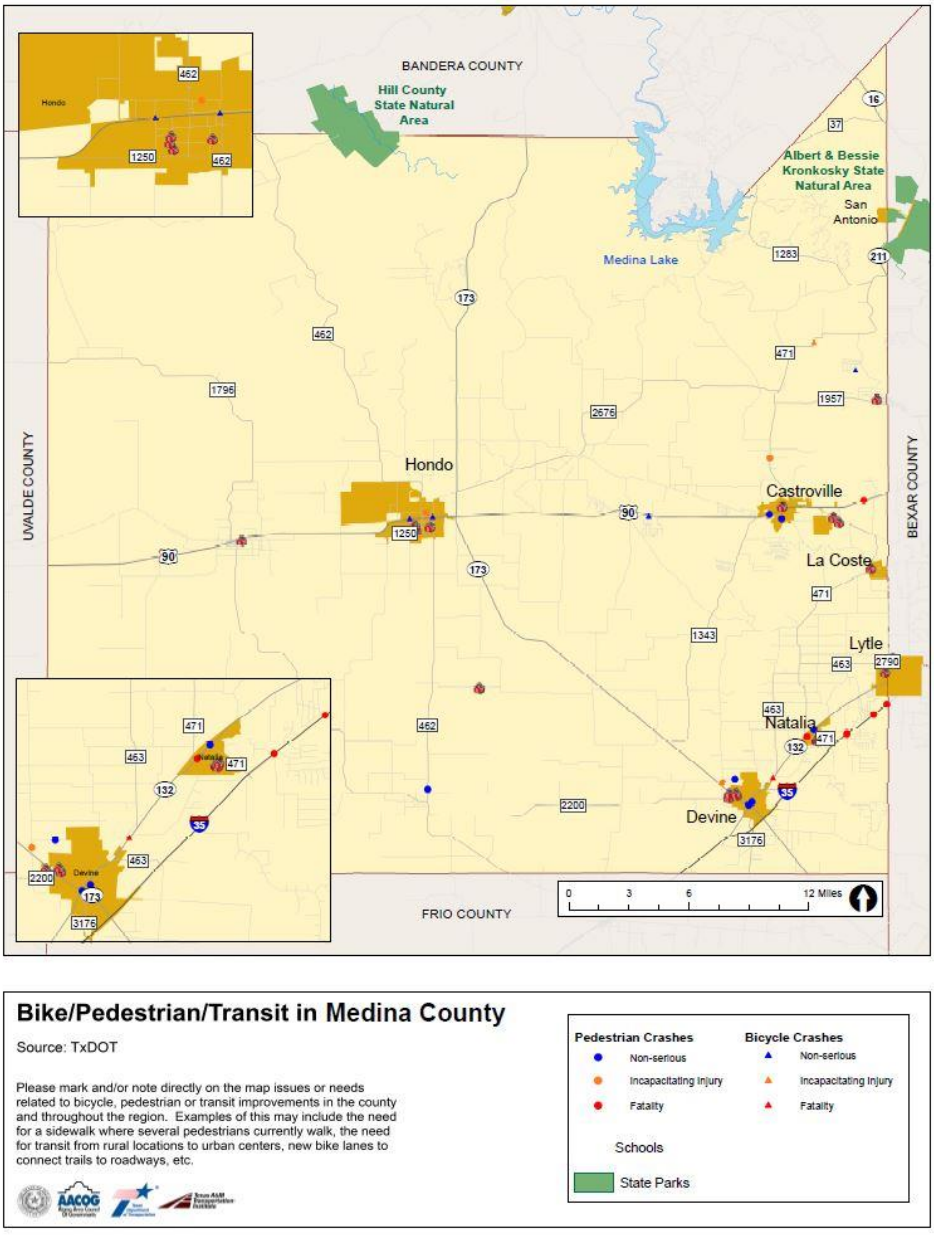
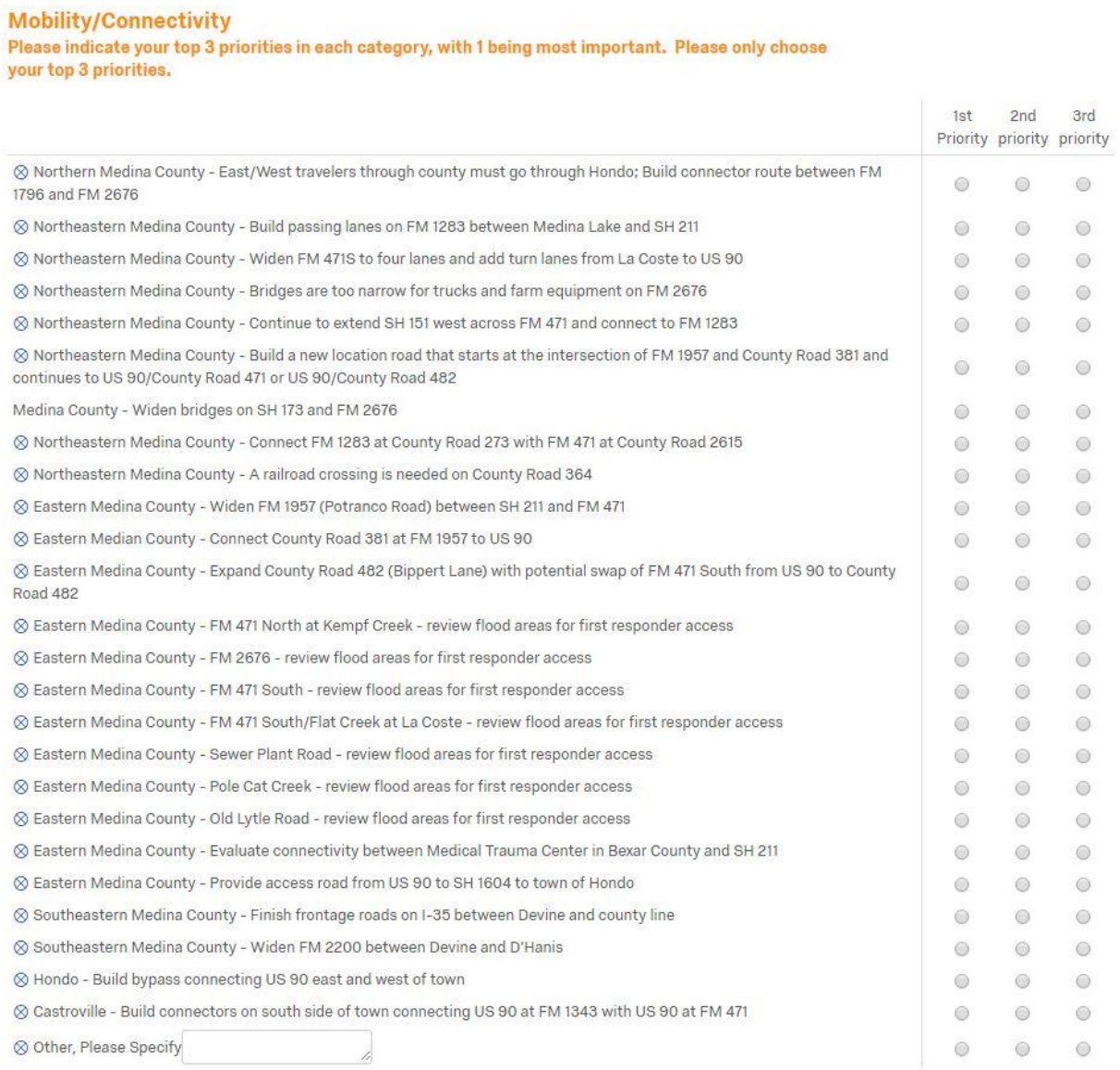


Figure 12. Medina County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Medina County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.



Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
⊗ Northern Medina County - East/West travelers through county must go through Hondo; Build connector route between FM 1796 and FM 2676	○	○	○
⊗ Northeastern Medina County - Build passing lanes on FM 1283 between Medina Lake and SH 211	○	○	○
⊗ Northeastern Medina County - Widen FM 471S to four lanes and add turn lanes from La Coste to US 90	○	○	○
⊗ Northeastern Medina County - Bridges are too narrow for trucks and farm equipment on FM 2676	○	○	○
⊗ Northeastern Medina County - Continue to extend SH 151 west across FM 471 and connect to FM 1283	○	○	○
⊗ Northeastern Medina County - Build a new location road that starts at the intersection of FM 1957 and County Road 381 and continues to US 90/County Road 471 or US 90/County Road 482	○	○	○
Medina County - Widen bridges on SH 173 and FM 2676	○	○	○
⊗ Northeastern Medina County - Connect FM 1283 at County Road 273 with FM 471 at County Road 2615	○	○	○
⊗ Northeastern Medina County - A railroad crossing is needed on County Road 364	○	○	○
⊗ Eastern Medina County - Widen FM 1957 (Potranco Road) between SH 211 and FM 471	○	○	○
⊗ Eastern Median County - Connect County Road 381 at FM 1957 to US 90	○	○	○
⊗ Eastern Medina County - Expand County Road 482 (Bippert Lane) with potential swap of FM 471 South from US 90 to County Road 482	○	○	○
⊗ Eastern Medina County - FM 471 North at Kempf Creek - review flood areas for first responder access	○	○	○
⊗ Eastern Medina County - FM 2676 - review flood areas for first responder access	○	○	○
⊗ Eastern Medina County - FM 471 South - review flood areas for first responder access	○	○	○
⊗ Eastern Medina County - FM 471 South/Flat Creek at La Coste - review flood areas for first responder access	○	○	○
⊗ Eastern Medina County - Sewer Plant Road - review flood areas for first responder access	○	○	○
⊗ Eastern Medina County - Pole Cat Creek - review flood areas for first responder access	○	○	○
⊗ Eastern Medina County - Old Lytle Road - review flood areas for first responder access	○	○	○
⊗ Eastern Medina County - Evaluate connectivity between Medical Trauma Center in Bexar County and SH 211	○	○	○
⊗ Eastern Medina County - Provide access road from US 90 to SH 1604 to town of Hondo	○	○	○
⊗ Southeastern Medina County - Finish frontage roads on I-35 between Devine and county line	○	○	○
⊗ Southeastern Medina County - Widen FM 2200 between Devine and D'Hanis	○	○	○
⊗ Hondo - Build bypass connecting US 90 east and west of town	○	○	○
⊗ Castroville - Build connectors on south side of town connecting US 90 at FM 1343 with US 90 at FM 471	○	○	○
⊗ Other, Please Specify	○	○	○

Figure 13. Mobility and Connectivity Section of Medina County Transportation Needs Prioritization Survey.

Maintenance/Safety

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
Medina County - Bridges are too narrow for farm equipment			
Medina County - Overweight truck enforcement is an issue			
Western Medina County - Improve pavement and shoulders on FM 1796 from US 90 to county line			
Western Medina County - Improve pavement and shoulders on FM 1796 from D'Hanis to county line			
Central Medina County - Truck traffic issues on FM 462 from PR 233 (north of Hondo) to Frio county line			
Central Medina County - Improve pavement conditions on SH 173 from County Road 247 north of Hondo to US 90			
Central Medina County - Striping safety issue at Verde Creek bridge			
Eastern Medina County - Improve pavement on US 90 between Fm 1796 and County Road 515			
Eastern Medina County - Traffic signal is needed at FM 1957 and County Road 381			
Eastern Medina County - County Road 264 is too narrow for large vehicles such as school buses			
Eastern Medina County - Truck traffic from quarries on FM 471 between Castroville and La Coste is an issue			
Eastern Medina County/Devine - Drainage issues on SH 173 northwest of Devine around County Road 761 or FM 2200			
Eastern Medina County - Road base failures on SH 173 between Hondo and Devine			
Other, Please Specify			

Figure 14. Maintenance and Safety Section of Medina County Transportation Needs Prioritization Survey.

Bicycle/Pedestrian/Transit

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st priority	2nd priority	3rd priority
Central Medina County/Hondo - Evaluate FM 462 from US 90 north to County Road 433 for nature trail with bike/ped access			
Central Medina County - Add shoulders for cyclist on SH 173 from US 90 to County Road 241			
Eastern Medina County - Desired route for cycling from Castroville into Bexar county			
Eastern Medina County - Improvements needed for bike access on FM 1957 from county line to FM 471			
Eastern Medina County - Connect cycling/walking routes through parks			
Eastern Medina County - Need for more bike lanes			
Eastern Medina County - Improvements needed for bike access on SH 211 to FM 471 through Castroville south to Natalia			
Eastern Medina County - Concern about bike safety from Medina Dam area to Apache Creek Linear Park in Bexar county			
Northeastern Medina County - Widen shoulders for cyclist on FM 2676 from SH 173 to FM 471 North			
Southeastern Medina County - FM 1343 between Castroville and SH 173			
Southern Medina County - Provide shoulders for cycling on SH 132 between Natalia and Devine			
Hondo - Opportunity for bike facility on FM 1250 (30th Street)			
Hondo - Potential cycling route on FM 1250 from Avenue U to FM 462			
Hondo - Provide trail around school construction site, currently disruptive			
Castroville - Insufficient access to regional park			
Other, Please Specify			

Figure 15. Bicycle, Pedestrian, and Transit Section of Medina County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Nine people completed the survey for Medina County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Castroville—Build connectors on south side of town connecting US 90 at FM 1343 with US 90 at FM 471	6	0
2	Eastern Medina County—Provide access road from US 90 to SH 1604 to town of Hondo	6	2
3	Northern Medina County—East/West travelers through county must go through Hondo; build connector route between FM 1796 and FM 2676	5	1
4	Hondo—Build bypass connecting US 90 east and west of town	5	1
5	Northeastern Medina County—Build a new location road that starts at the intersection of FM 1957 and County Road 381 and continues to US 90/County Road 471 or US 90/County Road 482	3	1
6	Eastern Medina County, Sewer Plant Road—Review flood areas for first responder access	3	1
7	Eastern Medina County—Evaluate connectivity between Medical Trauma Center in Bexar County and SH 211	3	1
8	Southeastern Medina County—Finish frontage roads on I-35 between Devine and county line	3	1
9	Southeastern Medina County—Widen FM 2200 between Devine and D'Hanis	3	1
10	Medina County—Widen bridges on SH 173 and FM 2676	3	0
11	Eastern Medina County—Widen FM 1957 (Potranco Road) between SH 211 and FM 471	2	0
12	Northeastern Medina County—Widen FM 471S to four lanes and add turn lanes from La Coste to US 90	2	0
13	Eastern Medina County, FM 471 South/Flat Creek at La Coste—Review flood areas for first responder access	2	0
14	Eastern Medina County, Pole Cat Creek—Review flood areas for first responder access	2	0
15	Eastern Medina County, Old Lytle Road—Review flood areas for first responder access	2	0

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey (Continued).

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
16	Other, Please Specify—Build connector road for truck traffic from FM 462 north of Hondo to SH 173 North	2	0
17	Northeastern Medina County—Connect FM 1283 at County Road 273 with FM 471 at County Road 2615	1	0
18	Northeastern Medina County—Continue to extend SH 151 west across FM 471 and connect to FM 1283	1	0
19	Northeastern Medina County—Add a railroad crossing on County Road 364	0	0
20	Northeastern Medina County—Build passing lanes on FM 1283 between Medina Lake and SH 211	0	0
21	Northeastern Medina County—Widen bridges to accommodate trucks and farm equipment on FM 2676	0	0
22	Eastern Median County—Connect County Road 381 at FM 1957 to US 90	0	0
23	Eastern Medina County—Expand County Road 482 (Bippert Lane) with potential swap of FM 471 South from US 90 to County Road 482	0	0
24	Eastern Medina County, FM 471 North at Kempf Creek—Review flood areas for first responder access	0	0
25	Eastern Medina County, FM 2676—Review flood areas for first responder access	0	0
26	Eastern Medina County, FM 471 South—Review flood areas for first responder access	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Medina County—Overweight truck enforcement is an issue	13	3
2	Eastern Medina County—Road base failures on SH 173 between Hondo and Devine	11	1
3	Central Medina County—Improve pavement conditions on SH 173 from County Road 247 north of Hondo to US 90	8	2
4	Eastern Medina County—Truck traffic from quarries on FM 471 between Castroville and La Coste is an issue	8	2
5	Medina County—Bridges are too narrow for farm equipment	6	0
6	Eastern Medina County—Traffic signal is needed at FM 1957 and County Road 381	3	1
7	Other, Please Specify—Improve pavement, drainage, and curbs on SH 173 within city limits of Devine	3	1
8	Eastern Medina County—Improve pavement on US 90 between FM 1796 and County Road 515	2	0
9	Eastern Medina County—County Road 264 is too narrow for large vehicles such as school buses	2	0
10	Eastern Medina County/Devine—Drainage issues on SH 173 northwest of Devine around County Road 761 or FM 2200	2	0
11	Western Medina County—Improve pavement and shoulders on FM 1796 from D'Hanis to county line	1	0
12	Central Medina County—Truck traffic issues on FM 462 from PR 233 (north of Hondo) to Frio County Line	1	0
13	Central Medina County—Striping safety issue at Verde Creek bridge	0	0
14	Western Medina County—Improve pavement and shoulders on FM 1796 from US 90 to county line	0	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Castroville—Insufficient access to regional park	10	3
2	Eastern Medina County—Desired route for cycling from Castroville into Bexar County	6	2
3	Eastern Medina County—Connect cycling/walking routes through parks	6	1
4	Southern Medina County—Provide shoulders for cycling on SH 132 between Natalia and Devine	6	2
5	Eastern Medina County—Need for more bike lanes	5	0
6	Hondo—Potential cycling route on FM 1250 from Avenue U to FM 462	5	1
7	Southeastern Medina County—FM 1343 between Castroville and SH 173	4	0
8	Hondo—Opportunity for bike facility on FM 1250 (30th Street)	3	1
9	Northeastern Medina County—Widen shoulders for cyclists on FM 2676 from SH 173 to FM 471 North	3	0
10	Central Medina County/Hondo—Evaluate FM 462 from US 90 north to County Road 433 for nature trail with bike/ped access	2	0
11	Eastern Medina County—Concern about bike safety from Medina Dam area to Apache Creek Linear Park in Bexar County	2	0
12	Hondo—Provide trail around school construction site, currently disruptive	2	0
13	Central Medina County—Add shoulders for cyclists on SH 173 from US 90 to County Road 241	1	0
14	Eastern Medina County—Improvements needed for bike access on FM 1957 from county line to FM 471	0	0
15	Eastern Medina County—Improvements needed for bike access on SH 211 to FM 471 through Castroville south to Natalia	0	0

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Castroville—Build connectors on south side of town connecting US 90 at FM 1343 with US 90 at FM 471	City/County Discussion	New location Roadway
2	Eastern Medina County—Provide access road from US 90 to SH 1604 to town of Hondo	TxDOT City/County Discussion	Phasing/frontage road/economic development
3	Northern Medina County—East/West travelers through county must go through Hondo; build connector route between FM 1796 and FM 2676	City/County Discussion	New location
4	Hondo—Build bypass connecting US 90 east and west of town	City/County Discussion	Phase a project
5	Northeastern Medina County—Build a new location road that starts at the intersection of FM 1957 and County Road 381 and continues to US 90/County Road 471 or US 90/County Road 482	City/County Discussion	New location
6	Eastern Medina County, Sewer Plant Road—Review flood areas for first responder access	County	
7	Eastern Medina County—Evaluate connectivity between Medical Trauma Center in Bexar County and SH 211	County Discussion	Emergency Management Plan
8	Southeastern Medina County—Finish frontage roads on I-35 between Devine and county line	City/County Discussion	New road—frontage
9	Southeastern Medina County—Widen FM 2200 between Devine and D'Hanis	TxDOT	Low volume
10	Medina County—Widen bridges on SH 173 and FM 2676	TxDOT	Inspected every two years—Bridge Program
11	Eastern Medina County—Widen FM 1957 (Potranco Road) between SH 211 and FM 471	TxDOT	Begin project development
12	Northeastern Medina County—Widen FM 471S to four lanes and add turn lanes from La Coste to US 90	TxDOT	
13	Eastern Medina County, FM 471 South/Flat Creek at La Coste—Review flood areas for first responder access	TxDOT	
14	Eastern Medina County, Pole Cat Creek—Review flood areas for first responder access	County	
15	Eastern Medina County, Old Lytle Road—Review flood areas for first responder access	County	

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs (Continued).

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
16	Other, Please Specify—Build connector road for truck traffic from FM 462 north of Hondo to SH 173 North	County	New location
17	Northeastern Medina County—Connect FM 1283 at County Road 273 with FM 471 at County Road 2615	County	New location—straighten out 471 with redwing road/ CR 371
18	Northeastern Medina County—Continue to extend SH 151 west across FM 471 and connect to FM 1283	County	New location
19	Northeastern Medina County—Add a railroad crossing on County Road 364	County	
20	Northeastern Medina County—Build passing lanes on FM 1283 between Medina Lake and SH 211	District—Coward	
21	Northeastern Medina County—Widen bridges to accommodate trucks and farm equipment on FM 2676	TxDOT	Continue to monitor; get commissioner to work with property owners to allow TxDOT to trim/cut some trees
22	Eastern Median County—Connect County Road 381 at FM 1957 to US 90	County	New location
23	Eastern Medina County—Expand County Road 482 (Bippert Lane) with potential swap of FM 471 South from US 90 to County Road 482	County	
24	Eastern Medina County, FM 471 North at Kempf Creek—Review flood areas for first responder access	TxDOT	Continue to monitor
25	Eastern Medina County, FM 2676—Review flood areas for first responder access	TxDOT	Continue to monitor
26	Eastern Medina County, FM 471 South—Review flood areas for first responder access	TxDOT	
27	Passing lanes SH 173 Hondo to Devine	TxDOT	

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Medina County—Overweight truck enforcement is an issue	DPS	Pass info to DPS/MCSO
2	Eastern Medina County—Road base failures on SH 173 between Hondo and Devine	TxDOT	Performing base repairs
3	Central Medina County—Improve pavement conditions on SH 173 from County Road 247 north of Hondo to US 90	TxDOT	Performing base repairs
4	Eastern Medina County—Truck traffic from quarries on FM 471 between Castroville and La Coste is an issue	TxDOT/DPS	Monitoring road conditions
5	Medina County—Bridges are too narrow for farm equipment	TxDOT/County	Monitor/inspect every two years
6	Eastern Medina County—Traffic signal is needed at FM 1957 and County Road 381	TxDOT	Work complete
7	Other, Please Specify—Improve pavement, drainage, and curbs on SH 173 within city limits of Devine	TxDOT	Project scheduled Feb 2018—does not address curb
8	Eastern Medina County—Improve pavement on US 90 between FM 1796 and County Road 515	TxDOT	Performing base repairs
9	Eastern Medina County—County Road 264 is too narrow for large vehicles such as school buses	County	Commissioner site
10	Eastern Medina County/Devine—Drainage issues on SH 173 northwest of Devine around County Road 761 or FM 2200	TxDOT/County Coordination	Regraded ditches
11	Western Medina County—Improve pavement and shoulders on FM 1796 from D'Hanis to county line	TxDOT	Completed seal coat
12	Central Medina County—Truck traffic issues on FM 462 from PR 233 (north of Hondo) to Frio County Line	DPS	Pass info to DPS/MCSO
13	Central Medina County—Striping safety issue at Verde Creek bridge	TxDOT	Submit for restripe
14	Western Medina County—Improve pavement and shoulders on FM 1796 from US 90 to county line	TxDOT	Completed seal coat

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Castroville—Insufficient access to regional park	TxDOT/ County/City	Develop a Pedestrian and Bicycle Plan
2	Eastern Medina County—Desired route for cycling from Castroville into Bexar County	TxDOT/ County	Develop a Pedestrian and Bicycle Plan
3	Eastern Medina County—Connect cycling/walking routes through parks	TxDOT/ County	Develop a Pedestrian and Bicycle Plan
4	Southern Medina County—Provide shoulders for cycling on SH 132 between Natalia and Devine	TxDOT	Include in the District Master Bicycle Plan
5	Eastern Medina County—Need for more bike lanes	TxDOT	Include in the District Master Bicycle Plan
6	Hondo—Potential cycling route on FM 1250 from Avenue U to FM 462	TxDOT	Include in the District Master Bicycle Plan
7	Southeastern Medina County—FM 1343 between Castroville and SH 173	TxDOT	Include in the District Master Bicycle Plan
8	Hondo—Opportunity for bike facility on FM 1250 (30th Street)	TxDOT	Include in the District Master Bicycle Plan
9	Northeastern Medina County—Widen shoulders for cyclists on FM 2676 from SH 173 to FM 471 North	TxDOT	Include in the District Master Bicycle Plan
10	Central Medina County/Hondo—Evaluate FM 462 from US 90 north to County Road 433 for nature trail with bike/ped access	TxDOT/Local	Develop a Pedestrian and Bicycle Plan
11	Eastern Medina County—Concern about bike safety from Medina Dam area to Apache Creek Linear Park in Bexar County	TxDOT/Local	Include in District Master Bicycle Plan, and monitor activity
12	Hondo—Provide trail around school construction site, currently disruptive	ISD/TxDOT/ Local	Implement a Safe Routes to School Plan
13	Central Medina County—Add shoulders for cyclists on SH 173 from US 90 to County Road 241	TxDOT	Include in District Master Bicycle Plan
14	Eastern Medina County—Improvements needed for bike access on FM 1957 from county line to FM 471	TxDOT	Include in District Master Bicycle Plan
15	Eastern Medina County—Improvements needed for bike access on SH 211 to FM 471 through Castroville south to Natalia	TxDOT	Include in District Master Bicycle Plan

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Medina County Projects

Table 7 provides the top three projects from Medina County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Medina County.

Project Description	Weighted Technical Score
Widen FM 1957 to four lanes between SH 211 and FM 471 W	−80
Widen FM 471 to four lanes between US 90 and La Coste city limits and to three lanes through La Coste city limits	−110
Build relief route north of Hondo connecting FM 462 and SH 173	−110

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Medina County's highest ranked project (widen FM 1957 to four lanes between SH 211 and FM 471 W) received a technical score that ranked 18th out of the 20 technical scores assigned to all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Medina County Judge

Dear Judge Chris Schuchart,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Medina County, and we would appreciate your participation. The date of the workshop is:

Date: November 10, 2015
Time: 1:00 PM to 4:00 PM
Location: South Texas Regional Training Center, Hondo

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.

Alamo Regional Rural Planning Organization (ARRPO) Needs Identification

Wilson County

2016

AACOG
Alamo Area Council Of Governments

Texas Department of Transportation

Texas A&M Transportation Institute

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Chapter 1—Introduction

The Alamo Regional Rural Planning Organization (ARRPO) conducted a series of transportation needs workshops throughout the ARRPO region with assistance from the Alamo Area Council of Governments (AACOG), the Texas Department of Transportation (TxDOT), and the Texas A&M Transportation Institute (TTI). Workshops were held in each of the 10 counties comprising the ARRPO region, including Atascosa, Bandera, Frio, Gillespie, Karnes, Kendall, Kerr, McMullen, Medina, and Wilson Counties. The purpose of the workshops was to work with local elected and appointed officials and members of the public to identify transportation needs for each county and to assist the San Antonio District of the Texas Department of Transportation in the development of a 10-year rural plan.

The Wilson County workshop was organized by TxDOT with the help of Wilson County Judge Richard Jackson. TxDOT sent a letter (shown in the Appendix) to Judge Jackson requesting his assistance in ensuring that a range of county representatives attend the workshop. Requested individuals included county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that would be able to provide input on the county's transportation needs. In addition, the workshop was advertised to the general public in local newspapers, if requested by local leaders. The workshop was held on Wednesday, December 16, 2015, from 9:00 AM to 11:30 AM at the Wilson County Commissioner's Courtroom in Floresville. Nine people attended the workshop.

The workshop began with a brief presentation of basic state and federal transportation planning principles and the role of ARRPO in this process, as well as an overview of demographic trends and the current transportation conditions in Wilson County. After the presentation, attendees participated in an interactive process to gather information about transportation issues and needs in Wilson County and the region as a whole.

This document provides an overview of the workshop outcomes and presents the results of the planning process for Wilson County.

Chapter 2—Existing Conditions

A range of existing conditions data was presented to attendees of the workshop, including demographic trends data as well as existing transportation conditions. Demographic conditions, such as current and projected population, impact transportation and must be taken into consideration when making transportation-related decisions. In addition, transportation conditions such as traffic volumes and roadway conditions provide context when considering future transportation improvements. These data were presented at the workshop so that attendees were aware of these conditions and could consider how they impact the transportation infrastructure in Wilson County both now and in the future. The following is a summary of the data presented at the Wilson County workshop.

2.1. Wilson County Demographic Data

Figure 1 provides the historic and projected population growth for Wilson County between 1960 and 2040.

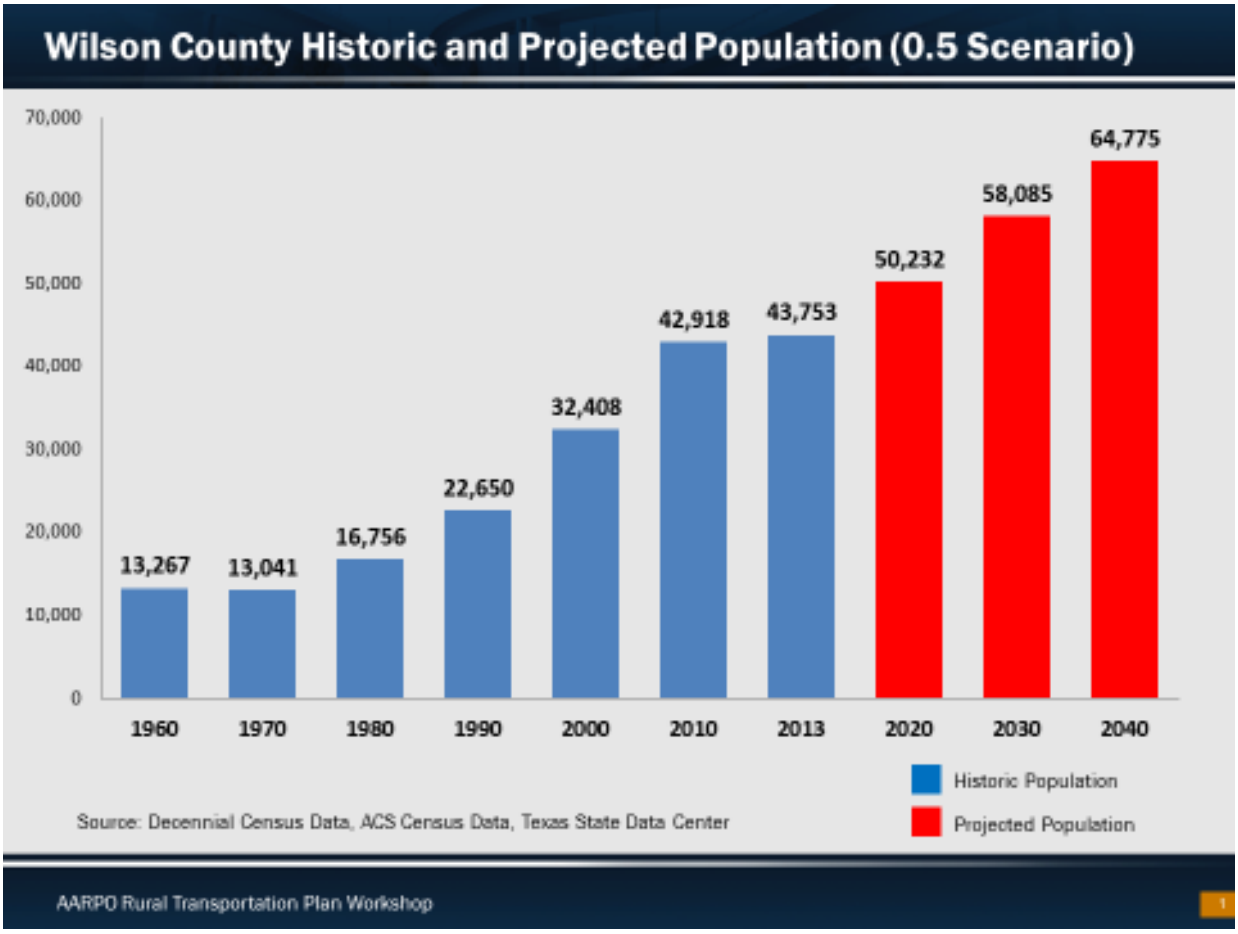


Figure 1. Wilson County Historic and Projected Population (Source: U.S. Census, Texas State Data Center).

Figure 2 provides the median age for all counties in the ARRPO region as well as the three-county Alamo Area Metropolitan Planning Organization (AAMPO) region. The median age in Wilson County is shown in red, with the remainder of the ARRPO counties shown in blue. The median ages of the counties that make up AAMPO are shown in purple.

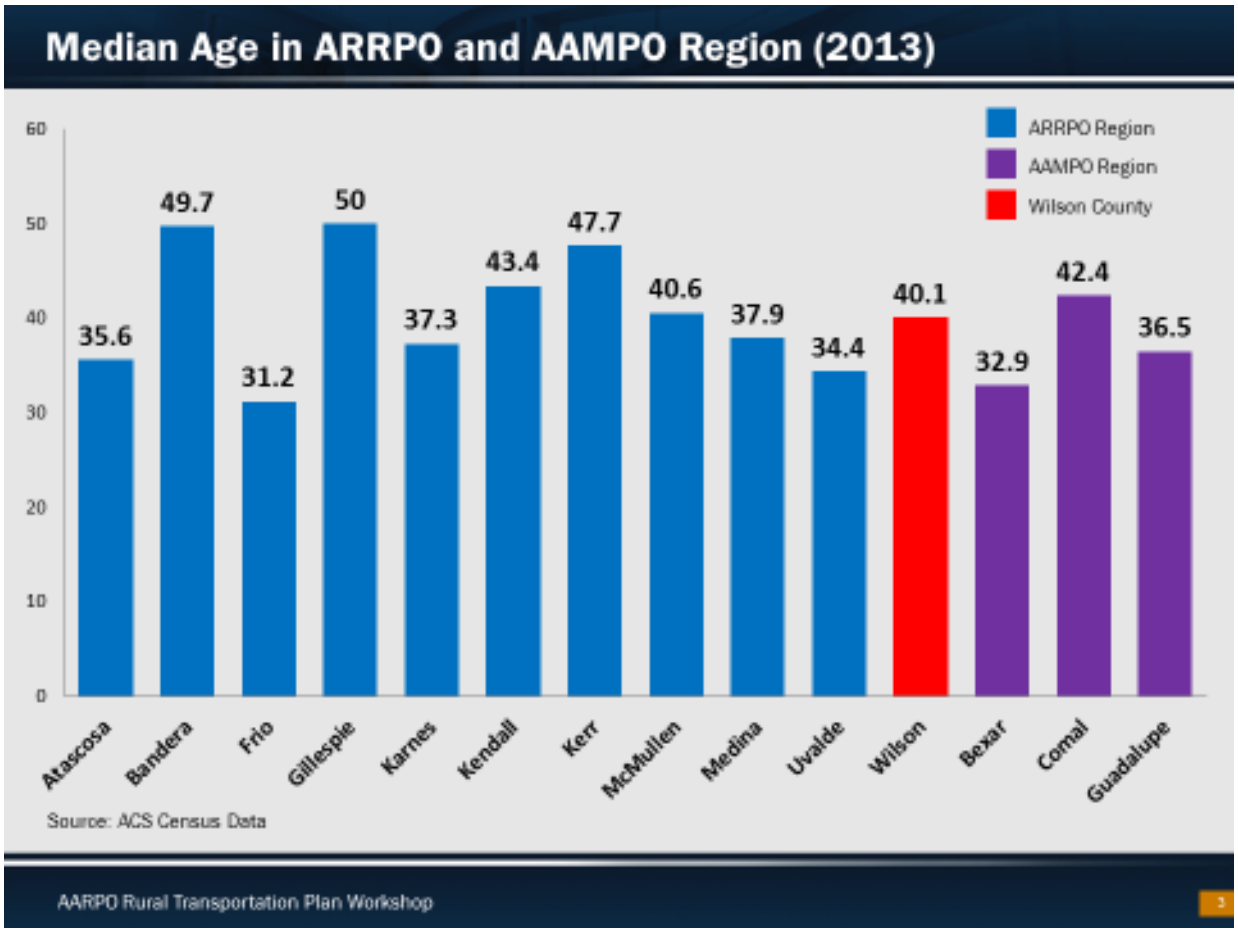


Figure 2. Median Age in ARRPO and AAMPO Region (Source: U.S. Census).

Figure 3 shows the 2010 population of Wilson County residents as well as the 2040 projected change in population broken down by age cohort and gender. The red bars represent the population of females in each age cohort in 2010, and the pink bars show the projected change in the female population in 2040. Additionally, the blue bars represent the population of males in each age cohort in 2010, and the light blue bars show the projected change in the male population in 2040.

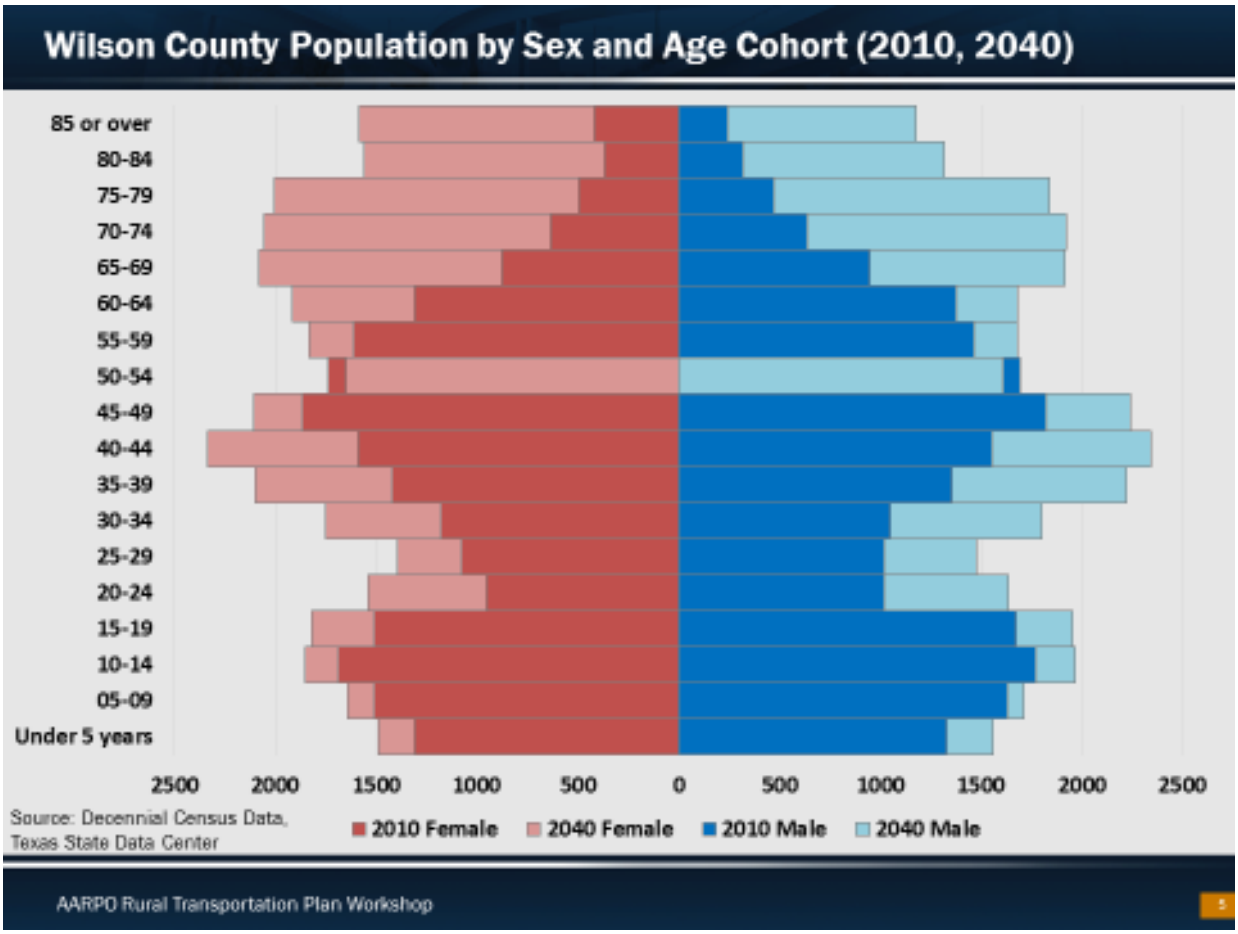


Figure 3. Wilson County Population by Sex and Age Cohort (2010, 2040) (Source: U.S. Census, Texas State Data Center).

2.2. Wilson County Transportation Data

Figure 4 provides the location (by county) of employment for workers who live in Wilson County.

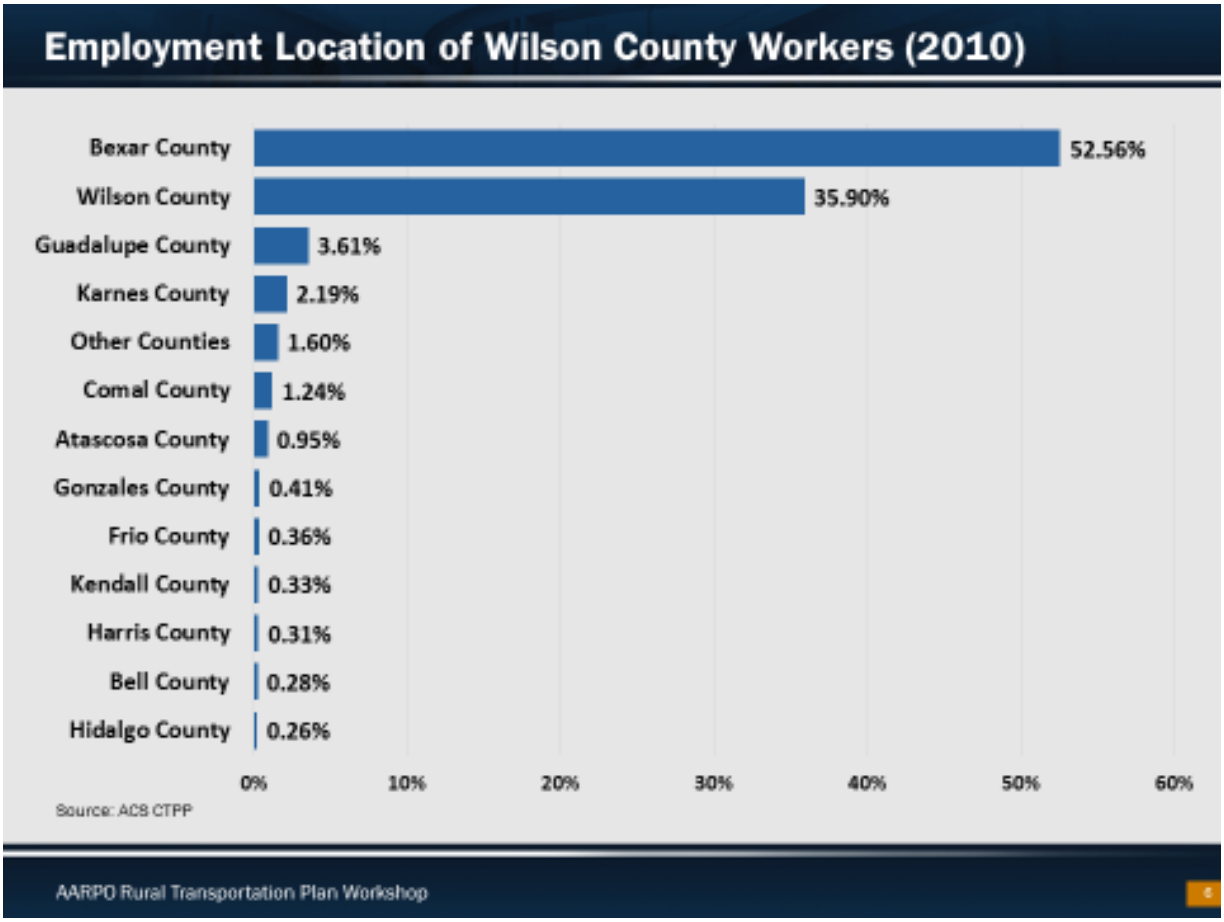


Figure 4. Employment Location of Wilson County Workers (Source: U.S. Census).

Figure 5 provides the commute times of workers who live in Wilson County.

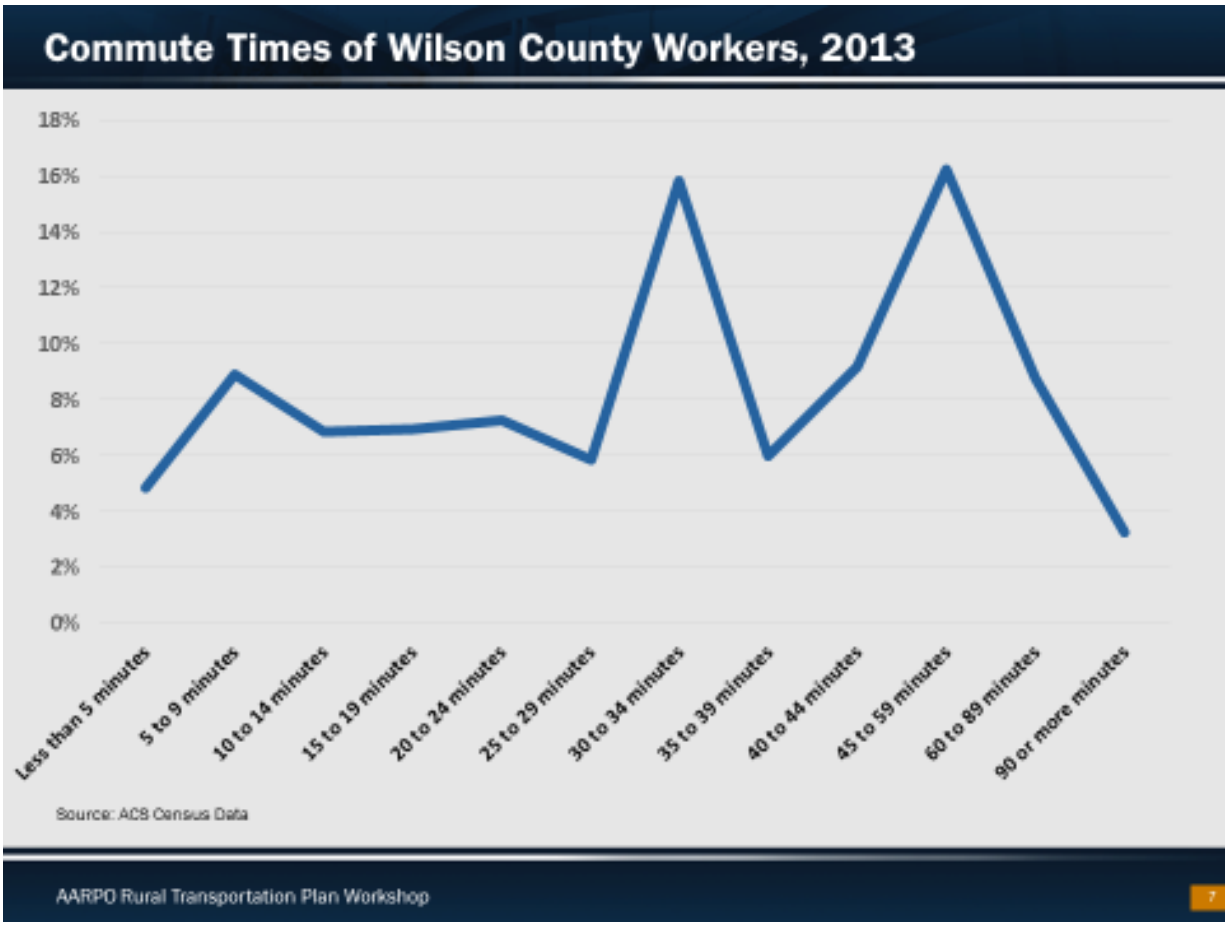


Figure 5. Commute Times of Wilson County Workers (Source: U.S. Census).

Figure 6 provides the average daily traffic counts (traffic volume) in Wilson County in 2013. The thick red lines show where traffic volumes are the greatest, and the thin green lines show where volumes are the lowest.

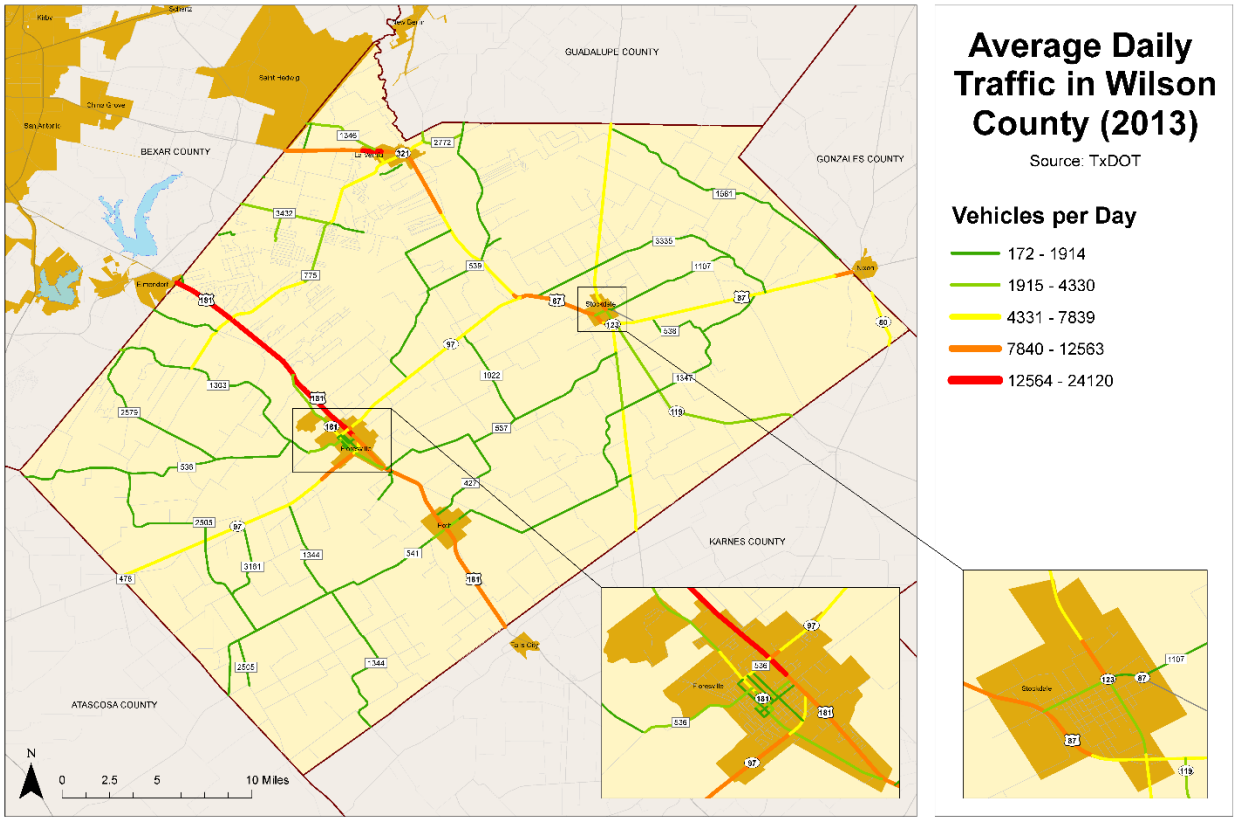


Figure 6. Average Daily Traffic in Wilson County (2013) (Source: TxDOT).

Figure 7 shows the daily volume of heavy truck traffic in Wilson County in 2013. Similar to the map above, the thick red lines show where heavy truck volumes are the greatest, and the thin green lines show where heavy truck volumes are the lowest.

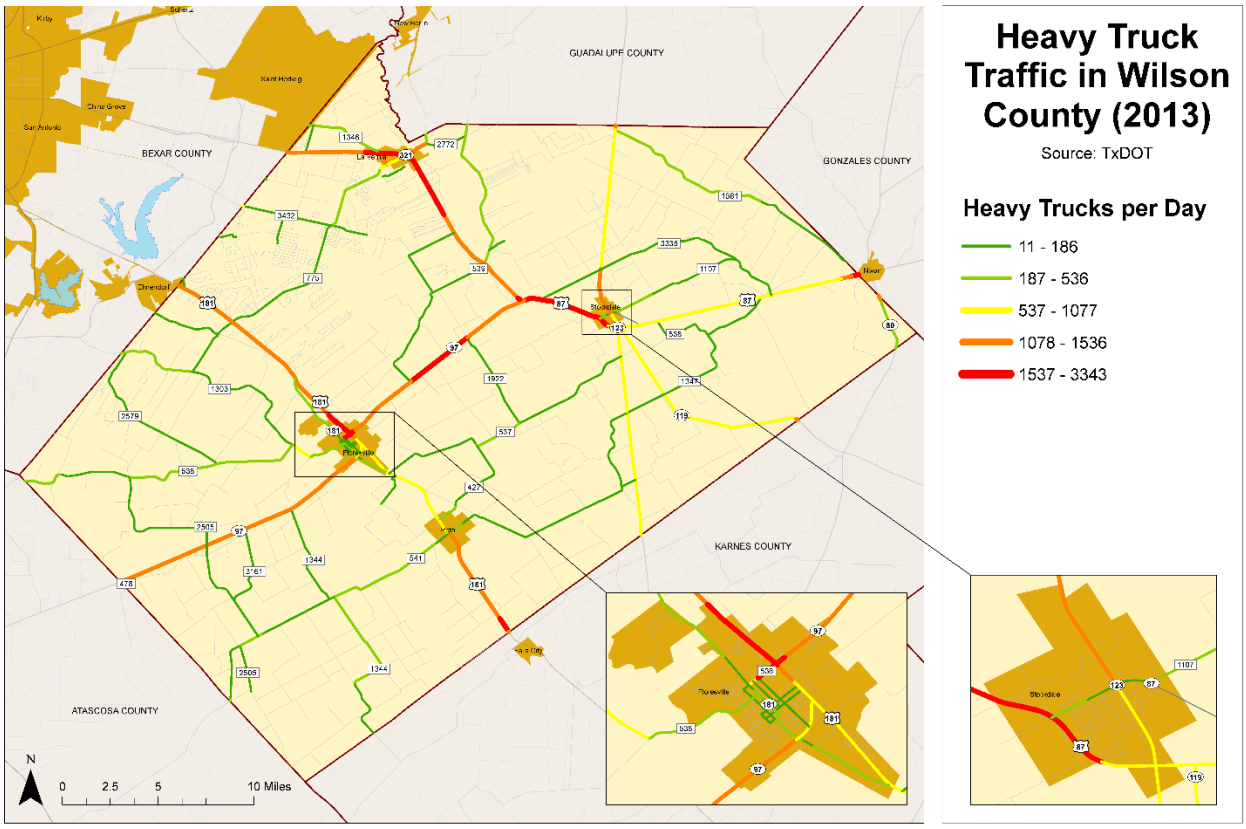


Figure 7. Heavy Truck Traffic in Wilson County (2013) (Source: TxDOT).

Figure 8 shows the 2016 pavement conditions in Wilson County. Green shows roadways that have the highest pavement condition scores, and red shows roadways with very poor pavement condition scores.

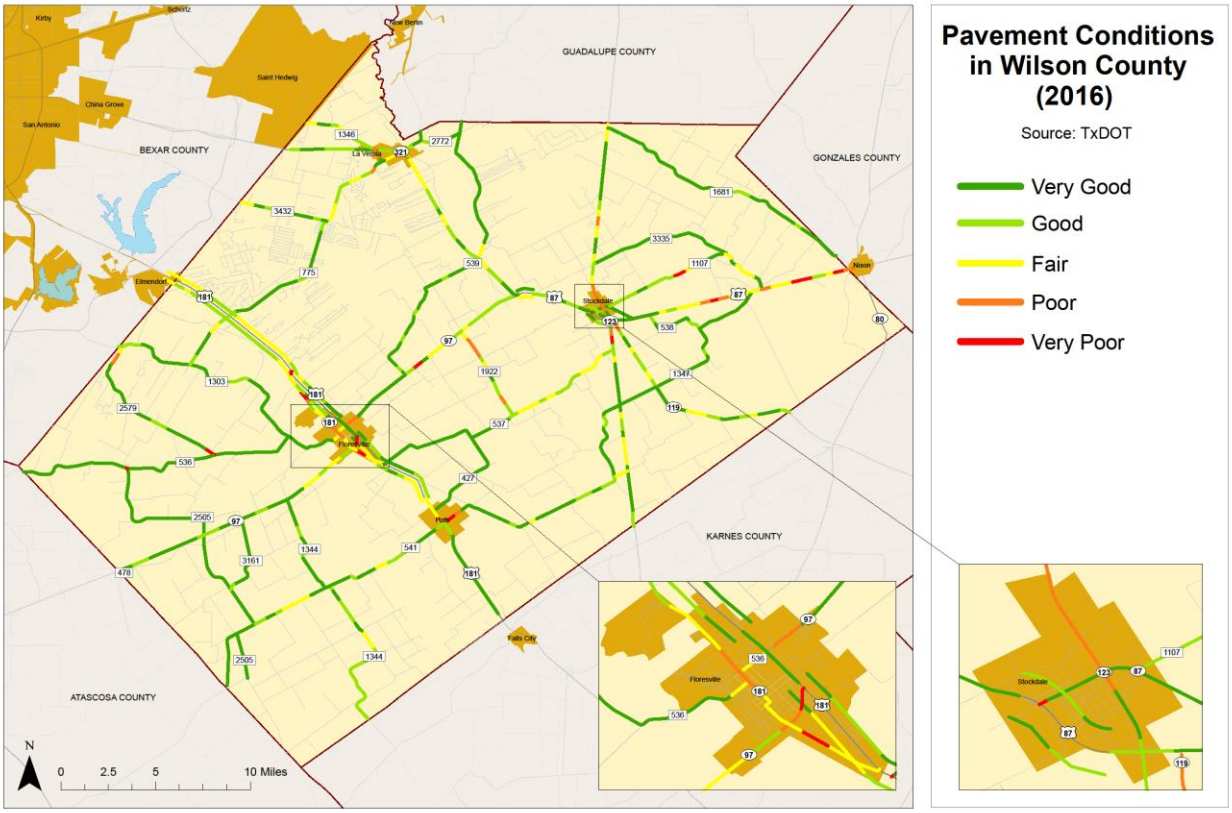


Figure 8. Pavement Conditions in Wilson County (2016) (Source: TxDOT).

Figure 9 shows serious crashes in Wilson County between 2010 and 2015. Red dots show locations where a fatal crash occurred, and blue dots show locations where an incapacitating injury occurred. Note that crashes that did not result in serious injury are not shown on this map.

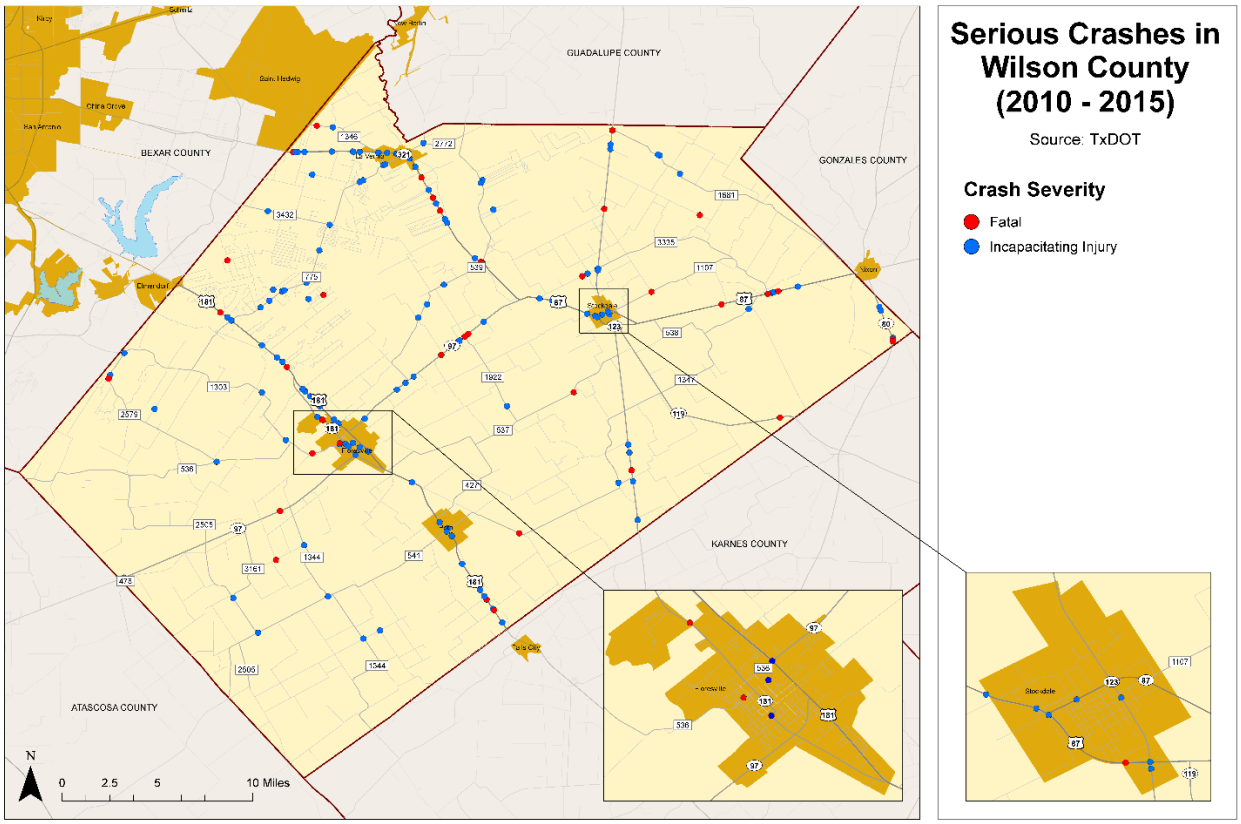


Figure 9. Serious Crashes in Wilson County (2010–2015) (Source: TxDOT).

Chapter 3—Transportation Needs Identification and Prioritization

Once the presentation portion of the workshop was concluded, attendees participated in a transportation needs identification exercise. The purpose of the transportation needs exercise was to identify the most important transportation issues and needs in Wilson County. The results of the exercise were used to develop a survey that was distributed to the public in order to identify the county's top priorities. The input from the exercise and the survey results were used by project staff to develop a prioritized list of projects aimed to address the transportation issues and needs within the county.

This chapter provides an overview and the results of the transportation needs identification exercise and the transportation needs prioritization survey.

3.1. Transportation Needs Identification Exercise

Wilson County workshop attendees participated in an exercise to identify transportation needs and issues for the following three transportation areas:

- Mobility and connectivity.
- Safety and maintenance.
- Bicycle, pedestrian, and transit.

For the mobility and connectivity exercise, participants were provided a map of the county that included traffic volume on major roadways. Participants were asked to mark and/or note directly on the map issues or needs related to improving mobility and/or connectivity both in the county and throughout the region. Examples included additional lanes, new routes, passing lanes, etc. Figure 10 shows the Wilson County mobility and connectivity exercise map.

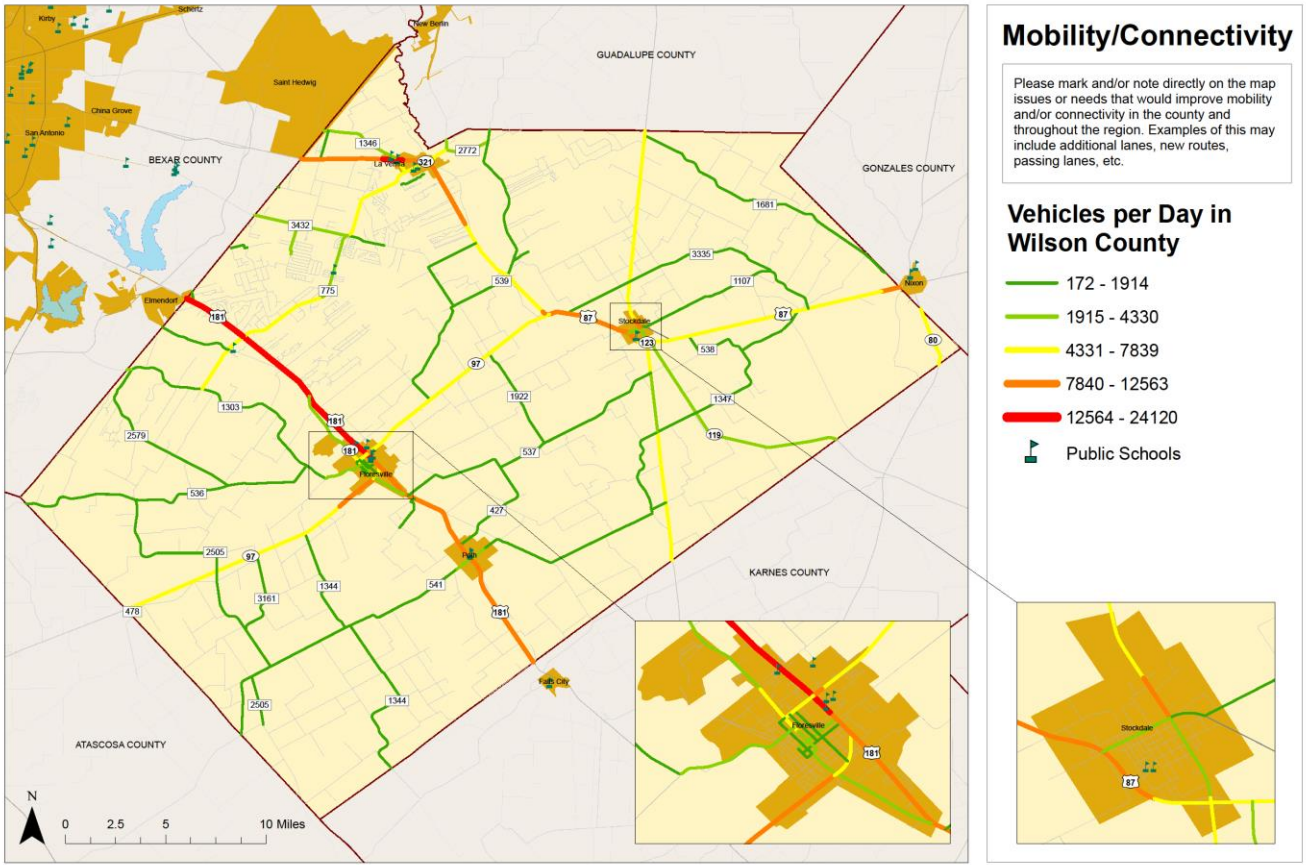


Figure 10. Wilson County Mobility and Connectivity Exercise Map.

For the maintenance/safety exercise, attendees were provided a map of the county that included vehicle crash data and were asked to identify the maintenance and safety needs within the county. Examples of maintenance and safety needs included the need for shoulders or passing lanes, places where the pavement needs improvement, etc. Figure 11 shows the Wilson County maintenance and safety exercise map.

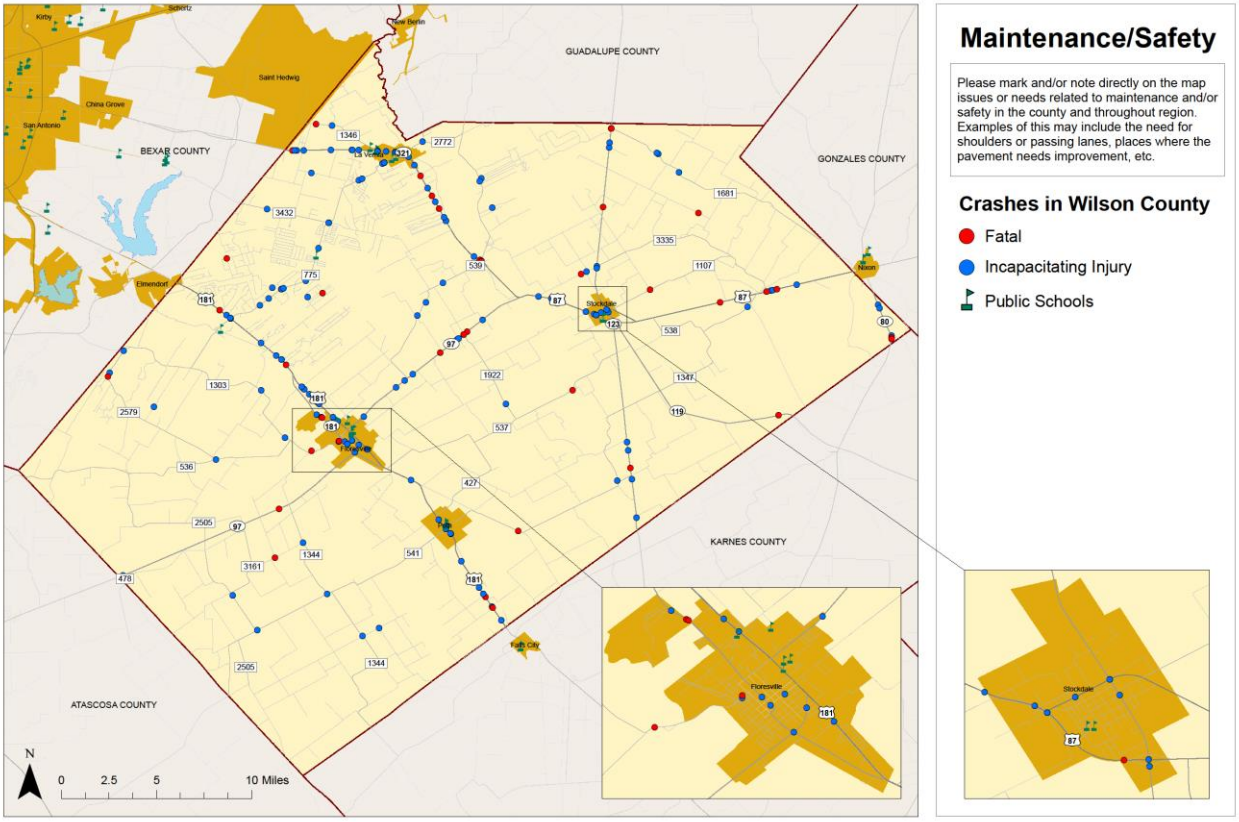


Figure 11. Wilson County Maintenance and Safety Exercise Map.

Finally, attendees were asked to identify issues and needs regarding bicycle, pedestrian, and transit. Examples of these types of needs included the need for a sidewalk where several pedestrians currently walk, transit from rural locations to urban centers, new bike lanes to connect trails to roadways, etc. Attendees were provided a map of the county that showed locations that would most likely attract bike, pedestrian, or transit trips (schools and parks) as well as the locations of where accidents occurred between a vehicle and a bicycle or a vehicle and a pedestrian. The map used symbols to indicate if the accident resulted in a fatality (red dot/triangle) or incapacitating injury (orange dot/triangle), or was classified as a non-serious accident (blue dot/triangle). Figure 12 shows the Wilson County bicycle, pedestrian, and transit exercise map.

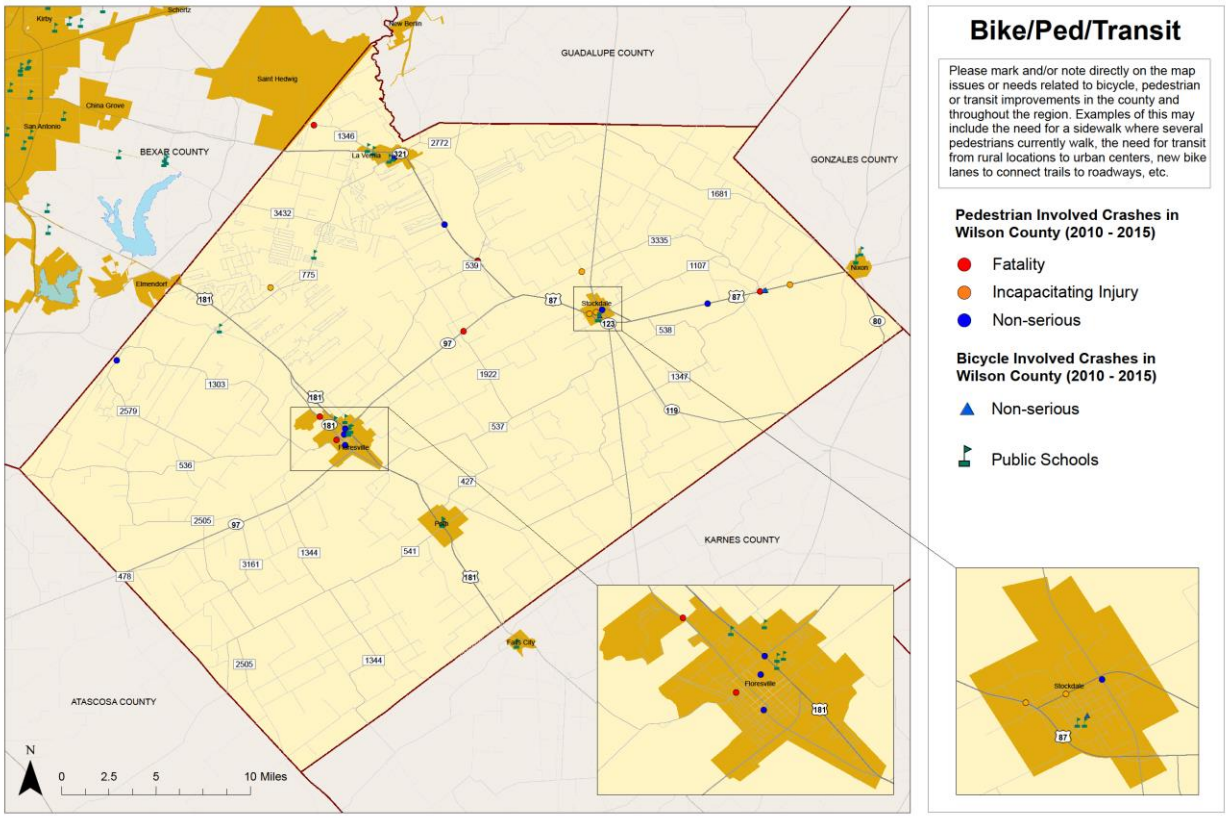
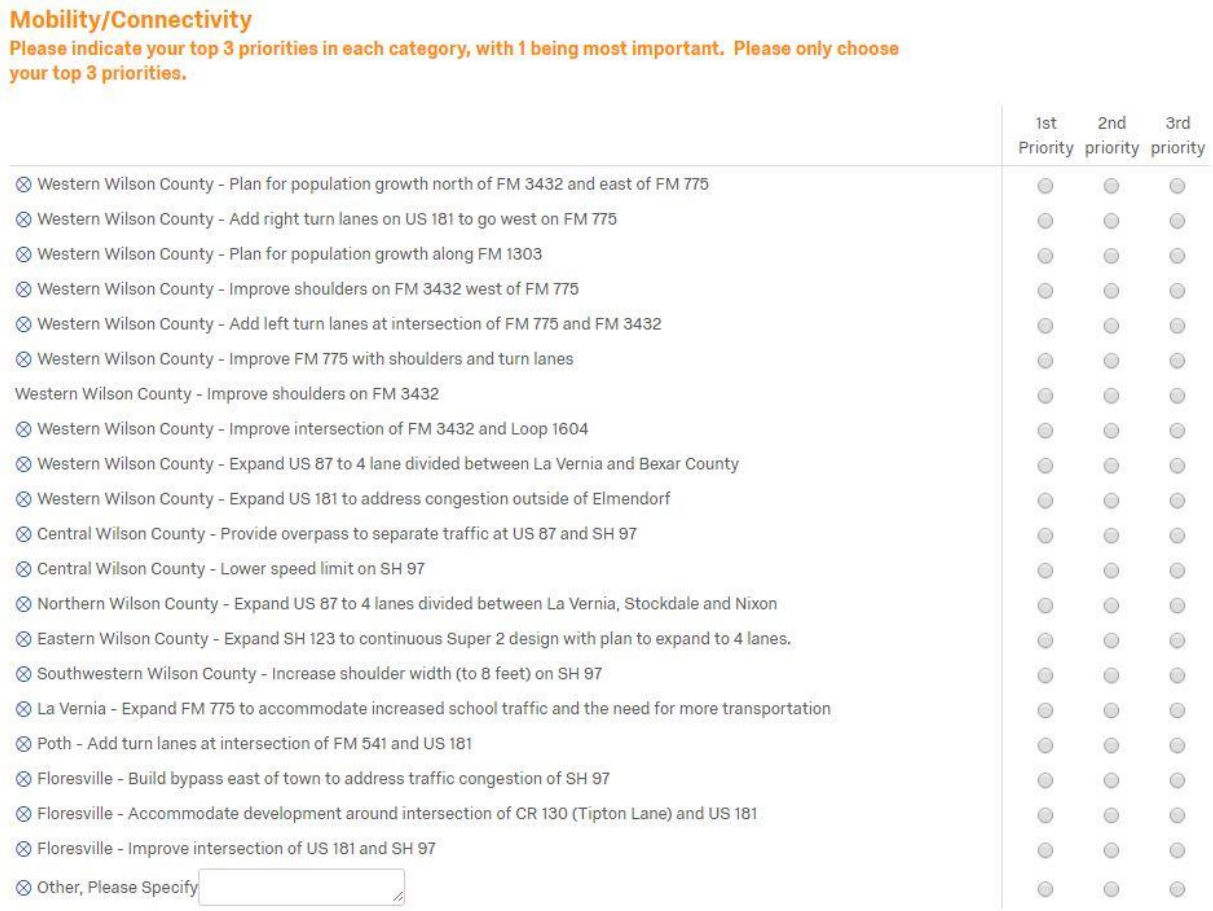


Figure 12. Wilson County Bicycle, Pedestrian, and Transit Exercise Map.

3.2. Transportation Needs Prioritization Survey

Staff compiled all of the needs and issues that Wilson County workshop attendees identified during the transportation needs exercises and developed a comprehensive list of transportation needs for each of the three transportation areas (mobility and connectivity; safety and maintenance; and pedestrian, bicycle, and transit). Staff then developed a transportation needs prioritization survey. The web-based survey was distributed to all workshop attendees by TxDOT, and recipients were asked to distribute the survey to as many individuals as they desired. Respondents were asked to rank their top three priorities from the list of transportation needs developed through the

workshops for each of the three transportation areas. Figures 13, 14, and 15 show the survey sections for each of the three needs areas.



Mobility/Connectivity

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

	1st Priority	2nd priority	3rd priority
⊗ Western Wilson County - Plan for population growth north of FM 3432 and east of FM 775			
⊗ Western Wilson County - Add right turn lanes on US 181 to go west on FM 775			
⊗ Western Wilson County - Plan for population growth along FM 1303			
⊗ Western Wilson County - Improve shoulders on FM 3432 west of FM 775			
⊗ Western Wilson County - Add left turn lanes at intersection of FM 775 and FM 3432			
⊗ Western Wilson County - Improve FM 775 with shoulders and turn lanes			
Western Wilson County - Improve shoulders on FM 3432			
⊗ Western Wilson County - Improve intersection of FM 3432 and Loop 1604			
⊗ Western Wilson County - Expand US 87 to 4 lane divided between La Vernia and Bexar County			
⊗ Western Wilson County - Expand US 181 to address congestion outside of Elmendorf			
⊗ Central Wilson County - Provide overpass to separate traffic at US 87 and SH 97			
⊗ Central Wilson County - Lower speed limit on SH 97			
⊗ Northern Wilson County - Expand US 87 to 4 lanes divided between La Vernia, Stockdale and Nixon			
⊗ Eastern Wilson County - Expand SH 123 to continuous Super 2 design with plan to expand to 4 lanes.			
⊗ Southwestern Wilson County - Increase shoulder width (to 8 feet) on SH 97			
⊗ La Vernia - Expand FM 775 to accommodate increased school traffic and the need for more transportation			
⊗ Poth - Add turn lanes at intersection of FM 541 and US 181			
⊗ Floresville - Build bypass east of town to address traffic congestion of SH 97			
⊗ Floresville - Accommodate development around intersection of CR 130 (Tipton Lane) and US 181			
⊗ Floresville - Improve intersection of US 181 and SH 97			
⊗ Other, Please Specify			

Figure 13. Mobility and Connectivity Section of Wilson County Transportation Needs Prioritization Survey.

Maintenance/Safety

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

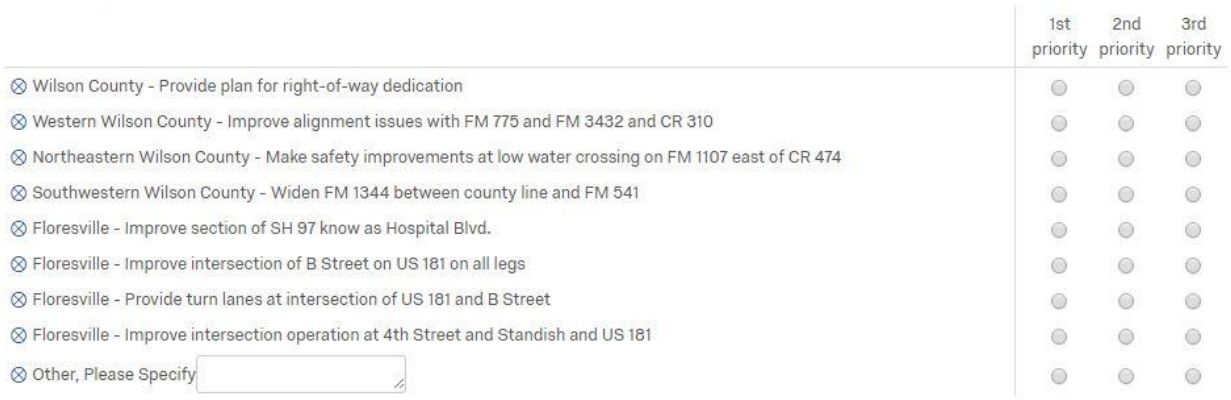


Figure 14. Maintenance and Safety Section of Wilson County Transportation Needs Prioritization Survey.

Bicycle/Pedestrian/Transit

Please indicate your top 3 priorities in each category, with 1 being most important. Please only choose your top 3 priorities.

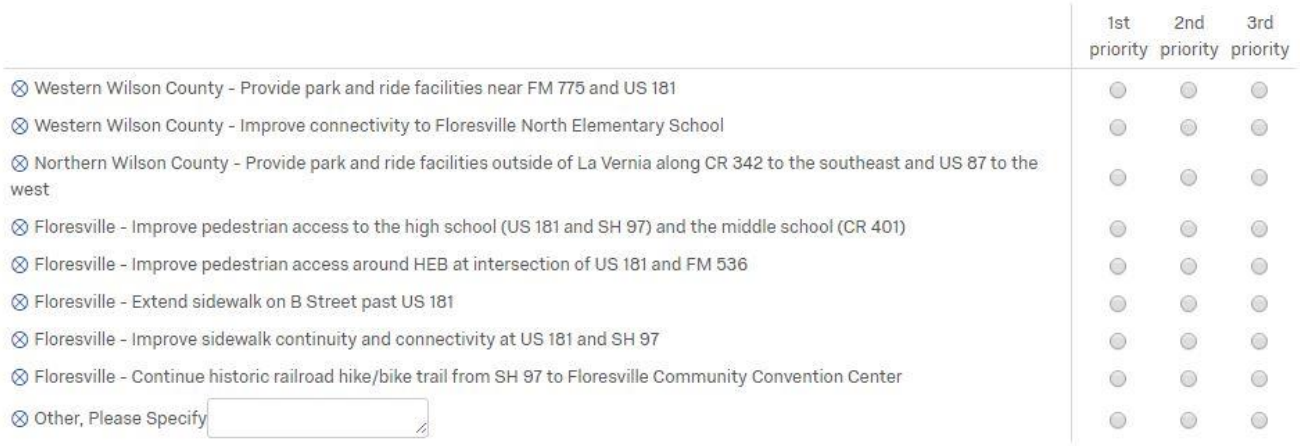


Figure 15. Bicycle, Pedestrian, and Transit Section of Wilson County Transportation Needs Prioritization Survey.

The survey was distributed in April 2016, and recipients were provided approximately four weeks to complete it. Three people completed the survey for Wilson County. TTI researchers tabulated the results and ranked the needs for each county by weighting #1 votes with 3 points, #2 votes with 2 points, and #3 votes with 1 point. The resulting weighted total provided a ranking of the transportation needs identified during the workshop. Tables 1, 2, and 3 provide a summary of the results for each need area ranked from highest to lowest priority. Each table provides the rank, a description of the identified issue/need, the combined weighted total, and the total #1 votes provided for each priority.

Table 1. Ranked Results of Mobility and Connectivity Transportation Needs Prioritization Survey.

Rank	Mobility/Connectivity	Weighted Total	Total #1 Votes
1	Western Wilson County—Expand US 87 to 4-lane divided between La Vernia and Bexar County	3	1
2	Floresville—Accommodate development around intersection of CR 130 (Tipton Lane) and US 181	3	1
3	Eastern Wilson County—Expand SH 123 to continuous Super 2 design with plan to expand to 4 lanes	2	0
4	Floresville—Improve intersection of US 181 and SH 97	2	0
5	Northern Wilson County—Expand US 87 to 4-lane divided between La Vernia, Stockdale, and Nixon	1	0
6	Floresville—Build bypass east of town to address traffic congestion of SH 97	1	0
7	Western Wilson County—Plan for population growth north of FM 3432 and east of FM 775	0	0
8	Western Wilson County—Improve FM 775 with shoulders and turn lanes	0	0
9	Western Wilson County—Improve intersection of FM 3432 and Loop 1604	0	0
10	Western Wilson County—Expand US 181 to address congestion outside of Elmendorf	0	0
11	Western Wilson County—Plan for population growth along FM 1303	0	0
12	Western Wilson County—Add right turn lanes on US 181 to go west on FM 775	0	0
13	Western Wilson County—Add left turn lanes at intersection of FM 775 and FM 3432	0	0
14	Western Wilson County—Improve shoulders on FM 3432 west of FM 775	0	0
15	Central Wilson County—Provide overpass to separate traffic at US 87 and SH 97	0	0
16	Central Wilson County—Lower speed limit on SH 97	0	0
17	Southwestern Wilson County—Increase shoulder width (to 8 ft) on SH 97	0	0
18	La Vernia—Expand FM 775 to accommodate increased school traffic and the need for more transportation	0	0
19	Poth—Add turn lanes at intersection of FM 541 and US 181	0	0
20	Western Wilson County—Improve shoulders on FM 3432	0	0

Table 2. Ranked Results of Maintenance and Safety Transportation Needs Prioritization Survey.

Rank	Maintenance/Safety	Weighted Total	Total #1 Votes
1	Southwestern Wilson County—Widen FM 1344 between county line and FM 541	5	1
2	Floresville—Improve section of SH 97 known as Hospital Blvd	3	1
3	Floresville—Improve intersection operation at 4th Street and Standish and US 181	3	1
4	Western Wilson County—Improve alignment issues with FM 775 and FM 3432 and CR 310	2	0
5	Floresville—Improve intersection of B Street on US 181 on all legs	2	0
6	Northeastern Wilson County—Make safety improvements at low water crossing on FM 1107 east of CR 474	2	0
7	Floresville—Provide turn lanes at intersection of US 181 and B Street	1	0
8	Wilson County—Provide plan for right-of-way dedication	0	0

Table 3. Ranked Results of Bicycle, Pedestrian, and Transit Transportation Needs Prioritization Survey.

Rank	Bicycle/Pedestrian/Transit	Weighted Total	Total #1 Votes
1	Floresville—Improve pedestrian access around HEB at intersection of US 181 and FM 536	4	0
2	Western Wilson County—Provide park-and-ride facilities near FM 775 and US 181	3	1
3	Floresville—Extend sidewalk on B Street past US 181	3	1
4	Floresville—Continue historic railroad hike/bike trail from SH 97 to Floresville Community Convention Center	3	1
5	Northern Wilson County—Provide park-and-ride facilities outside of La Vernia along CR 342 to the southeast and US 87 to the west	2	0
6	Floresville—Improve sidewalk continuity and connectivity at US 181 and SH 97	2	0
7	Floresville—Improve pedestrian access to the high school (US 181 and SH 97) and the middle school (CR 401)	1	0
8	Western Wilson County—Improve connectivity to Floresville North Elementary School	0	0

3.3. Identification of Responsible Agency/Department and Intended Action/Outcome for Transportation Needs

After the tabulation of survey results and weighting of the identified needs, TxDOT looked closely at each need to determine the responsible agency/department and decide what the appropriate action or outcome should be to address the transportation need. Those results are documented in Tables 4, 5, and 6.

Table 4. Responsible Party and Action/Outcome for Mobility and Connectivity Needs.

Rank	Mobility/Connectivity	Responsible Agency	Action/Outcome
1	Western Wilson County—Expand US 87 to 4-lane divided between La Vernia and Bexar County	TxDOT	Future planning needed
2	Floresville—Accommodate development around intersection of CR 130 (Tipton Lane) and US 181	TxDOT	Future planning needed
3	Eastern Wilson County—Expand SH 123 to continuous Super 2 design with plan to expand to 4 lanes	TxDOT	Roadway has been designated as an energy-sector need
4	Floresville—Improve intersection of US 181 and SH 97	TxDOT	Future planning needed
5	Northern Wilson County—Expand US 87 to 4-lane divided between La Vernia, Stockdale, and Nixon	TxDOT	Three separate projects to rehab the roadway between FM 539 and the Gonzales County Line
6	Floresville—Build bypass east of town to address traffic congestion of SH 97	TxDOT/ County/City	Future planning needed
7	Western Wilson County—Plan for population growth north of FM 3432 and east of FM 775	TxDOT/ County	Feasibility studies needed
8	Western Wilson County—Improve FM 775 with shoulders and turn lanes	TxDOT	Possible submittal for 2016 HSIP program
9	Western Wilson County—Improve intersection of FM 3432 and Loop 1604	TxDOT	Bexar County intersection
10	Western Wilson County—Expand US 181 to address congestion outside of Elmendorf	TxDOT	Roadway is currently 4-lane divided
11	Western Wilson County—Plan for population growth along FM 1303	TxDOT/ County	Feasibility studies needed
12	Western Wilson County—Add right turn lanes on US 181 to go west on FM 775	TxDOT	Proposed grade separation shown as Dec 19 backlogged project
13	Western Wilson County—Add left turn lanes at intersection of FM 775 and FM 3432	TxDOT	Possible submittal for 2016 HSIP program
14	Western Wilson County—Improve shoulders on FM 3432 west of FM 775	TxDOT	Possible submittal for 2016 HSIP program
15	Central Wilson County—Provide overpass to separate traffic at US 87 and SH 97	TxDOT	Future planning needed
16	Central Wilson County—Lower speed limit on SH 97	TxDOT	Need limits to determine the areas to do a speed study
17	Southwestern Wilson County—Increase shoulder width (to 8 ft) on SH 97	TxDOT	Proposed project letting in Aug 2016 to rehab, widen, and add passing lanes
18	La Vernia—Expand FM 775 to accommodate increased school traffic and the need for more transportation	TxDOT	Proposed FY 19 project to overlay FM 773 from FM 1346 to US 87
19	Poth—Add turn lanes at intersection of FM 541 and US 181	TxDOT	Current section is 4-lane undivided with “free” right turns at FM 541
20	Western Wilson County—Improve shoulders on FM 3432	TxDOT	Possible submittal for 2016 HSIP program

Table 5. Responsible Party and Action/Outcome for Maintenance and Safety Needs.

Rank	Maintenance/Safety	Responsible Agency	Action/Outcome
1	Southwestern Wilson County—Widen FM 1344 between county line and FM 541	TxDOT	Future rehab/widening project on FY 18 backlog
2	Floresville—Improve section of SH 97 known as Hospital Blvd	TxDOT	Current spot base repair contract to address pavement failures
3	Floresville—Improve intersection operation at 4th Street and Standish and US 181	TxDOT/City	Intersection went from two-way to four-way stop
4	Western Wilson County—Improve alignment issues with FM 775 and FM 3432 and CR 310	TxDOT	Possible submission for 2016 HSIP
5	Floresville—Improve intersection of B Street on US 181 on all legs	TxDOT	Future planning needed
6	Northeastern Wilson County—Make safety improvements at low water crossing on FM 1107 east of CR 474	TxDOT	Future planning needed
7	Floresville—Provide turn lanes at intersection of US 181 and B Street	TxDOT	US 181 currently has a center left turn lane; shoulders could be re-striped for right turns
8	Wilson County—Provide plan for right-of-way dedication	County	

Table 6. Responsible Party and Action/Outcome for Bicycle, Pedestrian, and Transit Needs.

Rank	Bicycle/Pedestrian/Transit	Responsible Agency	Action/Outcome
1	Floresville—Improve pedestrian access around HEB at intersection of US 181 and FM 536	TxDOT/City/ HEB Partnership	
2	Western Wilson County—Provide park-and-ride facilities near FM 775 and US 181	ART/VIA/ County/City	Regional Transit Coordination Plan
3	Floresville—Extend sidewalk on B Street past US 181	City	Develop a plan and submit through Transportation Alternatives Call for Project
4	Floresville—Continue historic railroad hike/bike trail from SH 97 to Floresville Community Convention Center	City	Develop a plan and submit through Transportation Alternatives Call for Project
5	Northern Wilson County—Provide park-and-ride facilities outside of La Vernia along CR 342 to the southeast and US 87 to the west	ART/VIA/ County/City	Regional Transit Coordination Plan
6	Floresville—Improve sidewalk continuity and connectivity at US 181 and SH 97	TxDOT	Future planning needed
7	Floresville—Improve pedestrian access to the high school (US 181 and SH 97) and the middle school (CR 401)	TxDOT/ISD/ City	Recommend Safe Routes to School Plan
8	Western Wilson County—Improve connectivity to Floresville North Elementary School	ISD/City/ County	Recommend Safe Routes to School Plan

Chapter 4—Regional Prioritization Process

The transportation needs identification workshops within each county were designed to gather input and inform the broader regional planning process with a focus on the mobility and connectivity needs. The data collected during the needs assessment workshops were further refined to identify specific projects that address the top three priorities in each county. TxDOT district staff and TxDOT area engineers worked with local stakeholders to more clearly define specific projects. The result was a final list of 33 projects—three in each of the 10 ARRPO counties and three in Uvalde County. The members of the ARRPO, through coordination with their own local elected officials, either concurred with the three priority projects or suggested alternative projects.

The safety and maintenance needs as well as the transit, bicycle, and pedestrian needs were communicated to appropriate agency staff.

4.1. Project Scoring

A rural performance-based planning tool was developed that calculates a technical score for each of the prioritized projects in the region. The technical scores for each of the projects were calculated based on three categories: connectivity, project readiness, and safety. These categories were developed based on conversations related to priorities established early in the process with the ARRPO board as important goals when selecting projects. These goals are also consistent with TxDOT's strategic plan, the TxDOT 2040 Transportation Plan. In addition to the technical score, the planning tool also includes other project information such as project description, anticipated letting date, length, and project cost estimate.

4.1.1. Data and Scores Used to Calculate Technical Score for Connectivity

The information below provides the scoring criteria and values used to calculate the technical score for each mobility and connectivity project.

Functional Classification: The functional classifications for roadways were developed through a consultative process in 2014 with local officials, and the hierarchy of interstate/principal arterial compared to minor arterial and major collector represent a higher probability of providing connectivity across jurisdictions and being more regional in nature.

These data were retrieved from the Statewide Planning Map. Projects were scored as follows:

- Principal Arterial or Interstate Highway = 1.
- Minor Arterial = 0.
- Major Collector = −1.

Note: New roads were designated as major collectors for this exercise.

Average Daily Traffic (ADT): The ADT for the location of the project was calculated and scores were applied as follows:

- More than 10,000 vehicles per day = 1.
- Between 5,000 and 9,999 vehicles per day = 0.
- Fewer than 5,000 vehicles per day= −1.

Note: New roads were scored with ADT from parallel routes.

Gap: Projects were assessed on whether they filled a gap within the TxDOT system and scores were applied as follows:

- Yes = 1.
- No = 0.

Freight: The Primary Freight Network comprises nearly 6,400 miles of highways and is projected to carry more than 10 million tons of cargo by 2040. It includes connections to major freight generators, gateways, and ports of entry. The majority of the Primary Freight Network is also designated by the Federal Highway Administration as Corridors of National Significance, indicating that this network is not only critical to Texas but to the nation as a whole. The Secondary Freight Network/Emerging Freight Corridors includes nearly 13,400 miles of highways. It represents connections to rural areas and energy-sector corridors and is projected to carry more than 10 million tons or more by 2040. If the project was located on the Statewide Freight Network, scores were applied as follows:

- Part of the Primary Statewide Freight Network = 1.
- Part of the Secondary Statewide Freight Network = 0.
- Not part of the Statewide Freight Network = −1.

Note: New roads were designated as not being on the network.

4.1.2. Data and Weights Used to Calculate Technical Score for Project Readiness

The following criteria were used to calculate the technical score for project readiness for each project. These data were developed through a collaborative approach using the expertise of the TxDOT area engineers, planning staff, and advance planning engineers to determine project readiness.

Right of Way (ROW): Projects were assessed for ROW needs. Scores were applied as follows:

- 50–100 percent of needed ROW acquired = 1.
- 25–50 percent of needed ROW acquired = 0.
- 0–25 percent of needed ROW acquired = −1.

Environmental Process: Projects were identified as being classified as categorically exempt (CE) from the National Environmental Policy Act process or requiring either an

environmental assessment (EA) or an environmental impact statement (EIS). A CE document is prepared for a project that will not have a significant impact on the human or natural environment and thus have minimal impact on project readiness. These types of projects typically do not require additional ROW and will be developed in the existing corridor.

An EA determines if there will be significant impacts to the human or natural environment. If significant impacts are found, then an EIS is developed. This is a much more complex document that requires significant analysis prior to federal approval of a project. This type of document could add significant delays to project delivery, thereby resulting in a lower score for project readiness. Scores were applied as follows:

- CE = 1.
- EA = 0.
- EIS = −1.

Note: New roads were given an EIS rating when on new alignments; if following an existing county road, EA was assumed.

4.1.3. Data and Weights Used to Calculate Technical Score for Safety

TxDOT is responsible for the collection and analysis of crash data submitted by law enforcement on form CR-3, Texas Peace Officer's Crash Report. TxDOT maintains a statewide automated database for all reported motor vehicle traffic crashes. TxDOT Traffic Operations provided the data that were used to determine this technical score. The following methodology was used to calculate the technical score for safety for each project.

Crash Rate**:** The average of the crash rates for 2013, 2014, and 2015 for the segment of roadway that the project is on were calculated and compared to the statewide average crash score. Scores were applied as follows:

- Average crash score more than 10 points above statewide average crash score = 1.
- Average crash score within 10 points of the statewide average crash score = 0.
- Average crash score more than 10 points below statewide average crash score = −1.

Note: New roads or relief routes were scored based on parallel routes similar to the assumptions made on ADT for new roadways or relief routes, assuming they would have similar traffic patterns and crash histories.

4.1.4. Final Technical Scores for Prioritized Projects

A technical score for each of the categories was calculated by summing the scores for each of the data within each category. A final technical score for each project was calculated by weighting the technical score for each category as follows:

- Connectivity = 40 percent.
- Project Readiness = 30 percent.
- Safety = 30 percent.

The resulting total provided a final technical score for each project. This weighting was approved by the ARRPO board.

4.2. Technical Scores for Wilson County Projects

Table 7 provides the top three projects from Wilson County along with the technical scores received using the Rural Performance-Based Planning Tool described above.

Table 7. Technical Scores for Prioritized Projects in Wilson County.

Project Description	Weighted Technical Score
Expand US 87 to four lanes from La Vernia to Bexar County Line	120
Expand SH 123 to five lanes throughout Wilson County	80
Provide shoulder and turn lane improvements on FM 775 between US 181 and I-10 in Guadalupe County	−30

Chapter 5—Conclusion

The ARRPO planning process was a collaborative effort that successfully developed consensus among the rural counties in the San Antonio region about future transportation infrastructure in the region. The efforts of all involved will collectively lead to a stronger regional transportation system in the near and long term. The tangible result of the planning process—a comprehensive, regional prioritization of transportation projects—will provide the TxDOT San Antonio District with the ability to invest in projects that will provide the greatest benefit to the greatest number of people in the region. The projects that received the highest technical scores using the Rural Performance-Based Planning Tool have the highest regional impact and will benefit both individual counties and the ARRPO region as a whole. Wilson County's highest ranked project (expand US 87 to four lanes from La Vernia to Bexar County Line) received the fifth highest technical score of all projects using the Rural Performance-Based Planning Tool. The results of the ARRPO planning process will directly inform future transportation funding decisions made by the TxDOT San Antonio District and will provide a funding blueprint for years to come.

Appendix—Letter to Wilson County Judge

Dear Judge Richard Jackson,

The Alamo Regional Rural Planning Organization (ARRPO) is initiating the development of a transportation plan that will shape and guide the future of transportation in our region. This plan will identify and prioritize short- and long-term needs for each county within the ARRPO area and will be the first step in identifying priorities for the region as a whole.

The Alamo Area Council of Governments (AACOG), as the governing body of ARRPO, and the Texas Department of Transportation (TxDOT) will lead this effort with the assistance of the Texas A&M Transportation Institute (TTI), collectively the planning team. I need your input to identify the needs in our county for the transportation plan. The planning team has organized a workshop in Wilson County, and we would appreciate your participation. The date of the workshop is:

Date: December 16, 2015
Time: 9:00 AM to 11:30 AM
Location: Wilson County Commissioner's Courtroom, Floresville

The workshop will provide a brief presentation on basic state and federal transportation planning principles and the role of ARRPO in this process. The second step of the workshop will be an interactive process to gather information about projects in the region. The workshop will last approximately two hours. We will publicly advertise this meeting to ensure that participation of elected officials is not impacted. We need your help ensuring the appropriate people participate in the workshop to provide local knowledge. This may be county and city elected officials and staff, economic development directors, school district personnel, utility providers, and any other stakeholders that can provide input on the county's needs.

If you have any questions about the workshop, please contact Darcie Schipull at TxDOT at 210-615-5902 or darcie.schipull@txdot.gov. With your help, this process will be successful.