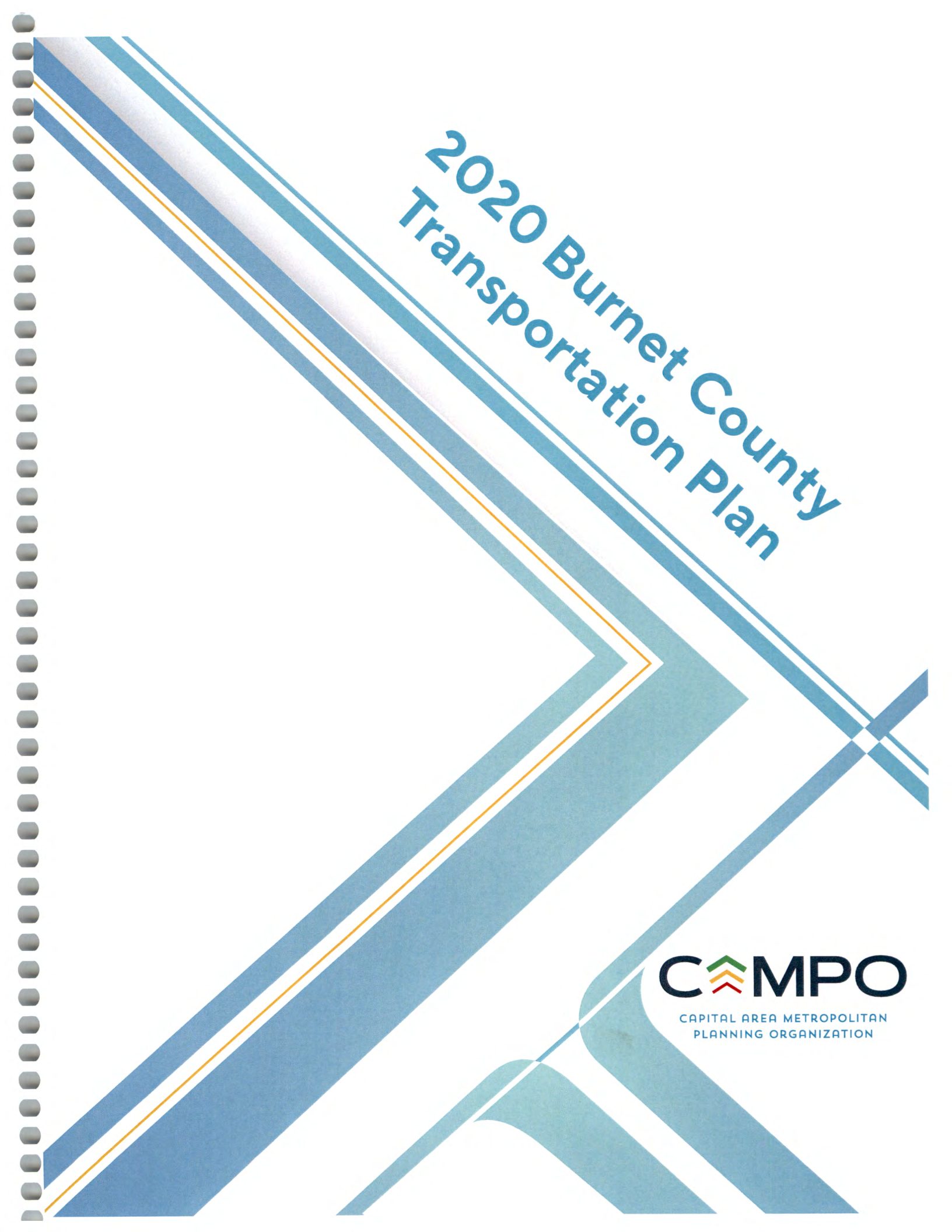




2020 Burnet County Transportation Plan

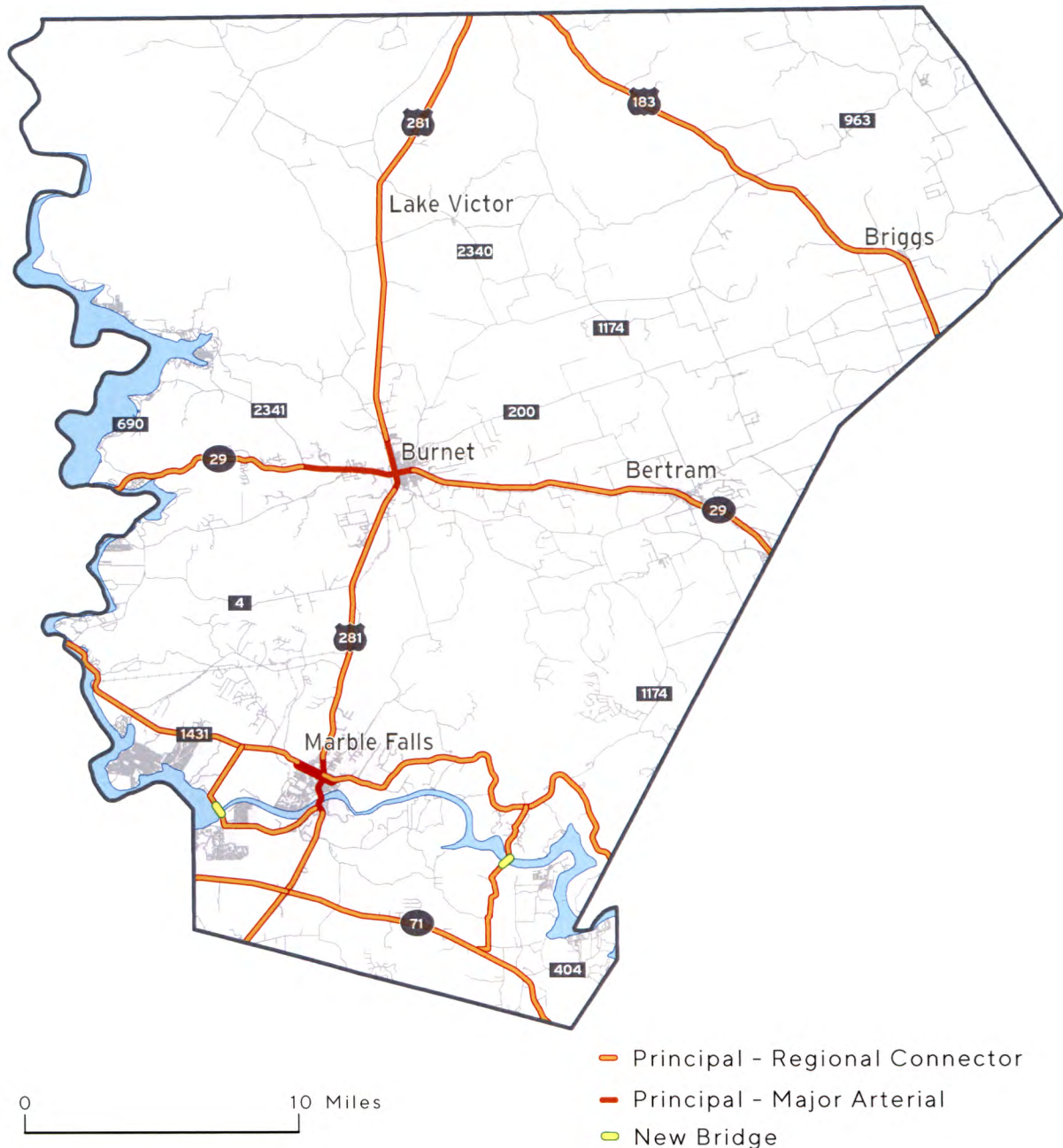
CAMPO
CAPITAL AREA METROPOLITAN
PLANNING ORGANIZATION

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Concept Plan & Recommendations

The Recommended Arterial Network identifies improvements that provide the greatest contribution to the highest functioning roadways. In addition to enhancing these roadways, the Recommended Arterial Network also includes two new bridges over the Colorado River, Wirtz Dam Bridge and The Narrows Bridge. Many of these specific improvements and new facilities were identified in local plans, including the 2010 Burnet County Transportation Plan, and further refined through public involvement and Steering Committee feedback as a part of the RACI. Not only will these recommendations bring benefit to residents and travelers in Burnet County through savings in time and miles traveled, but they will also help to provide a safer and more dependable transportation system.

Recommended Arterial Network



2020 Burnet County Transportation Plan Update

The 2020 Burnet County Transportation Plan Update is built from the recommendations of the 2010 Burnet County Transportation Plan, other local planning efforts within the county, and the RACI. Although the local plans produced by municipal and county governments exhibit a greater emphasis on local roads, while the RACI prioritized regional mobility, the two plans work together to provide a comprehensive vision for the county's future roadway network. Integrating and building on these differences, this plan serves as a key update to the 2010 planning effort and as a guide to future transportation planning in Burnet County.



Multi-modal



Growth



Equity
Health



Safety



Mobility



Environment

Study Process



CAMPO worked closely with the Regional Arterials Steering Committee to guide the study process through regular meetings and presentations using the Platinum Planning Program. Representatives from both Burnet County and the City of Marble Falls served on the Regional Arterials Steering Committee. Extensive outreach was conducted with local government officials and the public through a series of meetings. The study team then conducted comprehensive analyses which ultimately resulted in recommendations to improve the function of the Capital Area's arterial network.

CAMPO's Platinum Planning Program

The RACI and this plan are completed under CAMPO's Platinum Planning Program. The Platinum Planning Program is a comprehensive planning process that examines transportation, land use, and other planning areas. Planning in this way allows for more holistic recommendations to be made, ensuring that transportation planning considers other concerns and needs.



Burnet County Public Outreach Key Themes

- Additional river crossings
- Expansion needed on US 281
- Support for commuter and freight traffic
- Connections to existing arterials (SH 71, RM 1431, US 281)
- Limited visibility and lack of shoulders in southeast Burnet County





Grouping-up process - Deferred to TxDOT Classification Table

2010 Burnet County Transportation Plan	TxDOT	CAMPO Regional Functional Classification
-	Toll	Limited Access (Non-tolled/tolled)
-	Interstate Freeway / Expressway	
Principal Arterial	Principal Arterial	Principal Arterial Major Arterial Regional Connector
Minor Arterial	Minor Arterial	Minor Arterial
Collector	Major collector Minor Collector	Collector
Local	Local	Local

Figure 2.2

Existing Network Performance

Burnet County residents work and play in different cities across the Capital Area and depend heavily on the arterial network during their commutes. The existing network and its performance is directly related to the interaction between the available supply (roadways) and demand from people. Demand can be described as the number of roadway users, their origins and destinations, and how they traverse the roadway (car, bike, transit, etc.). Supply can be described as the amount of roadway and the type of roadway, i.e. miles of bike lanes, lane miles of roadways for automobiles and transit. Performance is a measure of the relationship between supply and demand. Roadway performance can suffer when demand is greater than supply. The root cause is often due to the fact that the supply is not appropriate for the demand, there is a lack of additional choices in the wider network, or the function of the road conflicts with how it has been designed to balance access and mobility concerns.

Travel times of people are impacted by both supply and the access to facilities whether it be roadways, bicycle lanes, or pedestrian facilities. Figure 2.4 summarizes how supply of different facilities impacts overall mobility in the region. The majority of centerline miles in Burnet County are classified as **Local Roads (50%)**.

Type	Percent of Centerline Miles by CAMPO Regional Classification Type ¹						
	Bastrop	Burnet	Caldwell	Hays	Travis	Williamson	CAMPO Region
Limited Access Route	3%	0%	1%	6%	10%	4%	6%
Tolled Limited Access Route	0%	0%	8%	0%	7%	5%	5%
Expressway/Regional Connector	21%	12%	17%	17%	29%	25%	23%
Minor Arterial	20%	8%	26%	25%	17%	29%	21%
Collector	14%	30%	11%	14%	2%	2%	8%
Local	42%	50%	37%	38%	35%	35%	37%
Total Network Miles	497	386	433	649	1,979	1,502	5,446

Figure 2.4

Vehicle miles traveled (VMT) represents the demand on the regional roadway network. Today, over **2 million** vehicle miles are traveled each day in Burnet County (approximately **4%** of the entire Capital Area).

Vehicle Miles Traveled by County ¹		
County	VMT	% VMT
Bastrop	2,301,000	4%
Burnet	2,258,000	4%
Caldwell	1,676,000	3%
Hays	7,251,000	12%
Travis	30,273,000	53%
Williamson	13,733,000	24%
Total	57,492,000	100%

Figure 2.5

¹ 2020 baseline represents the current transportation network performance

Network Connectivity

The structure of the roadway network plays a significant role in determining the effectiveness of travel, and impacts the form and function of communities. Ideally, and in congruence with the goals and vision of the Study, arterials should contribute to a well-connected, efficient network that provides safe, direct, redundant, and convenient access for multiple modes of transportation (including motorized and non-motorized modes). Arterials can and should provide a wide range of travel opportunities with varying speeds, using a broad set of cross-sections, for different travel purposes and various context zones (urban, suburban, rural). Today the region's arterials are under-performing and lack the necessary connectivity and redundancy for efficient transportation. Due to a variety of constraints, additional demand is put on the limited access roadways. As the arterial network is improved, volume can be shifted to take the load off the limited access corridors.

This plan evaluates the existing arterial network and assesses the existing policies to achieve these goals mentioned above. Building upon a solid understanding of current conditions, the concept plan acts as a guide for future network development and provides tools to reach the vision for the arterial network.

Connectivity is key as no single roadway can provide utility without connecting to other roadways. Today, limited access roadways do not have sufficient arterial support as they carry the brunt of the volume and demand in the Capital Area. A better connected road network can reduce VMT and VHT by providing more direct routes between origins and destinations, while a lack of connectivity often causes circuitous and indirect trips.

A better connected road network improves VMT by providing more direct routes between origins and destinations.

Road networks that lack connectivity often cause circuitous, indirect trips.



Figure 2.8

Intersection Density

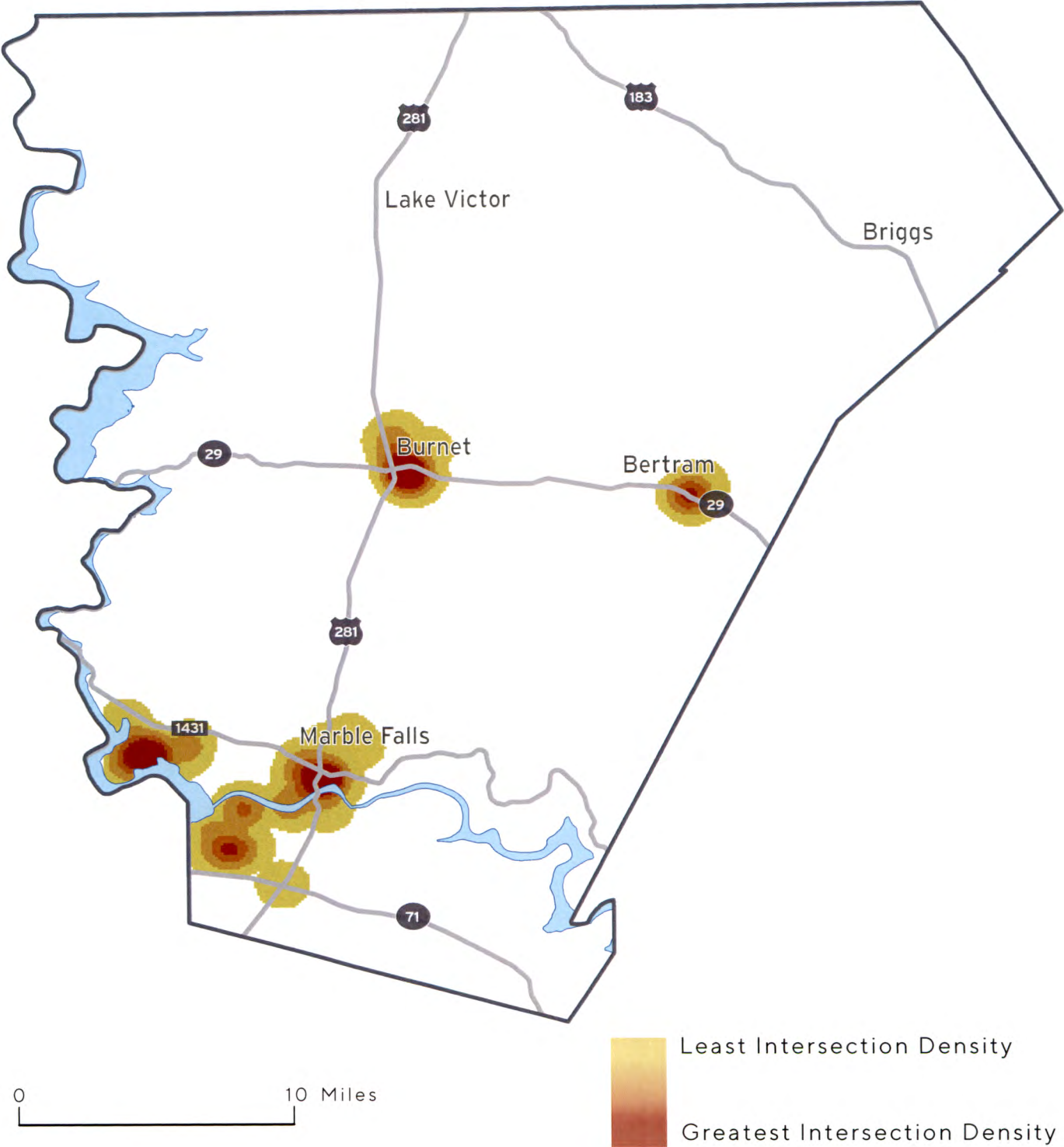


Figure 2.9

Crash Rate and Dangerous Corridors

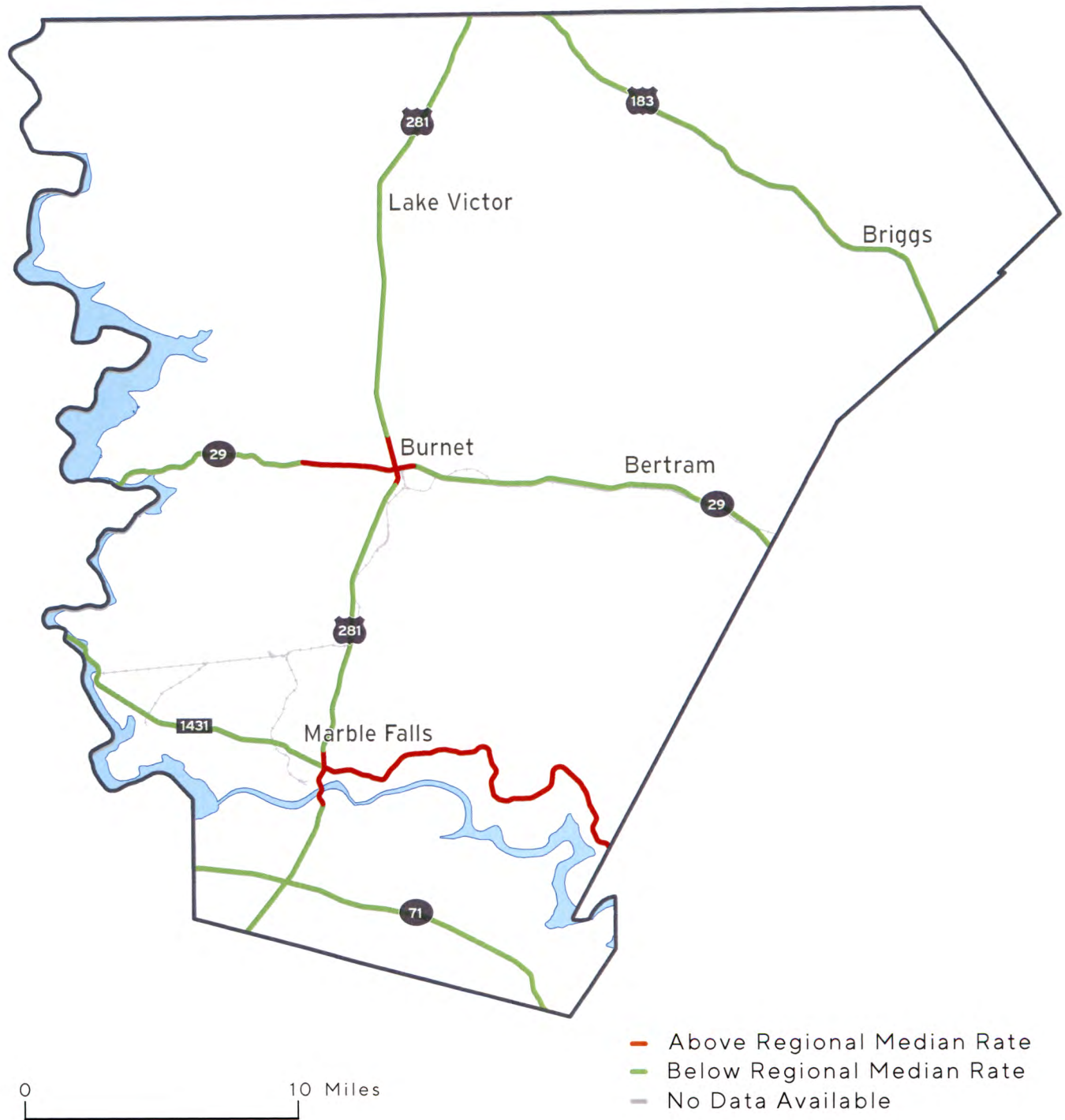


Figure 2.10

Emergency Response

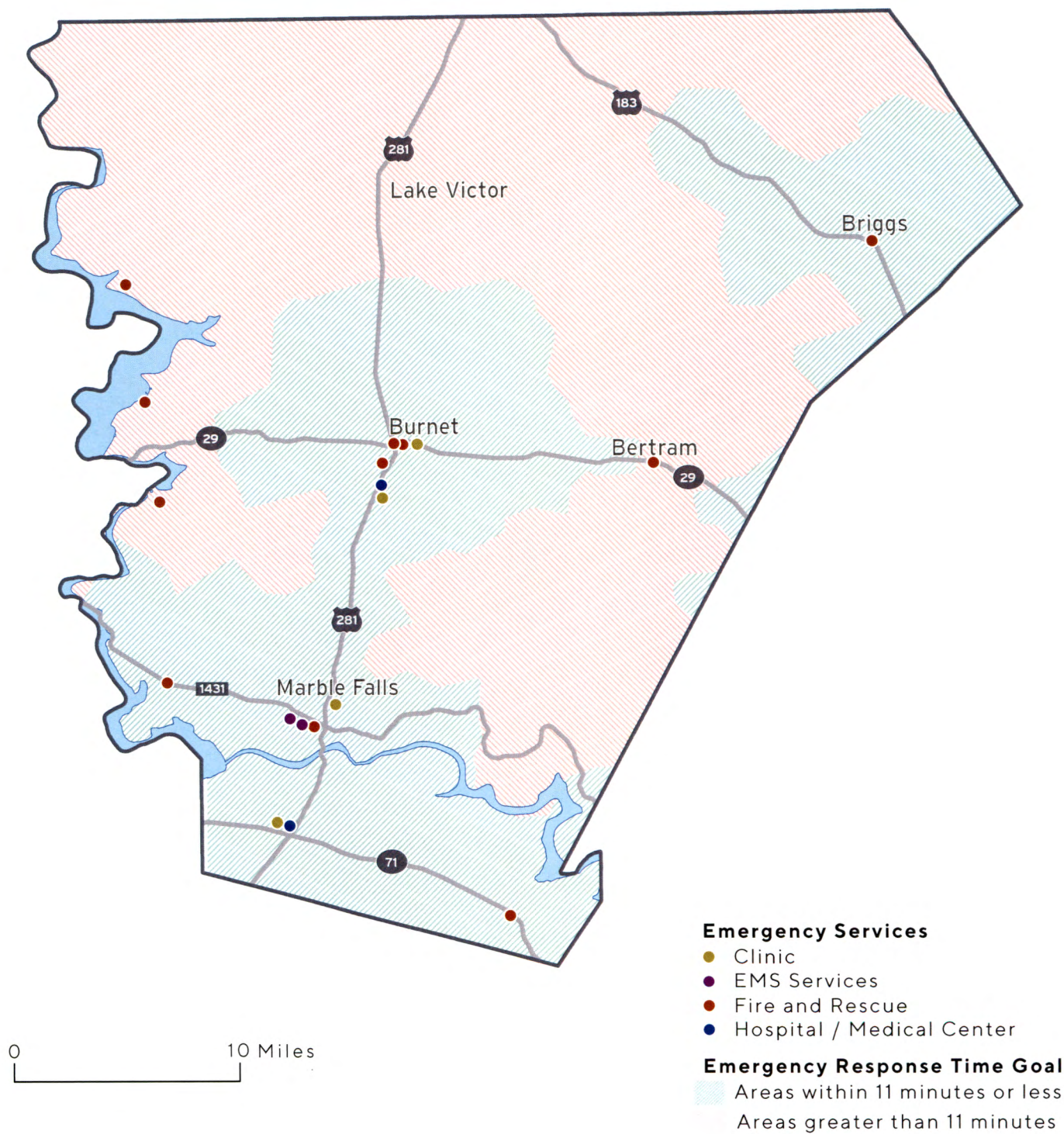


Figure 2.12

Vulnerability

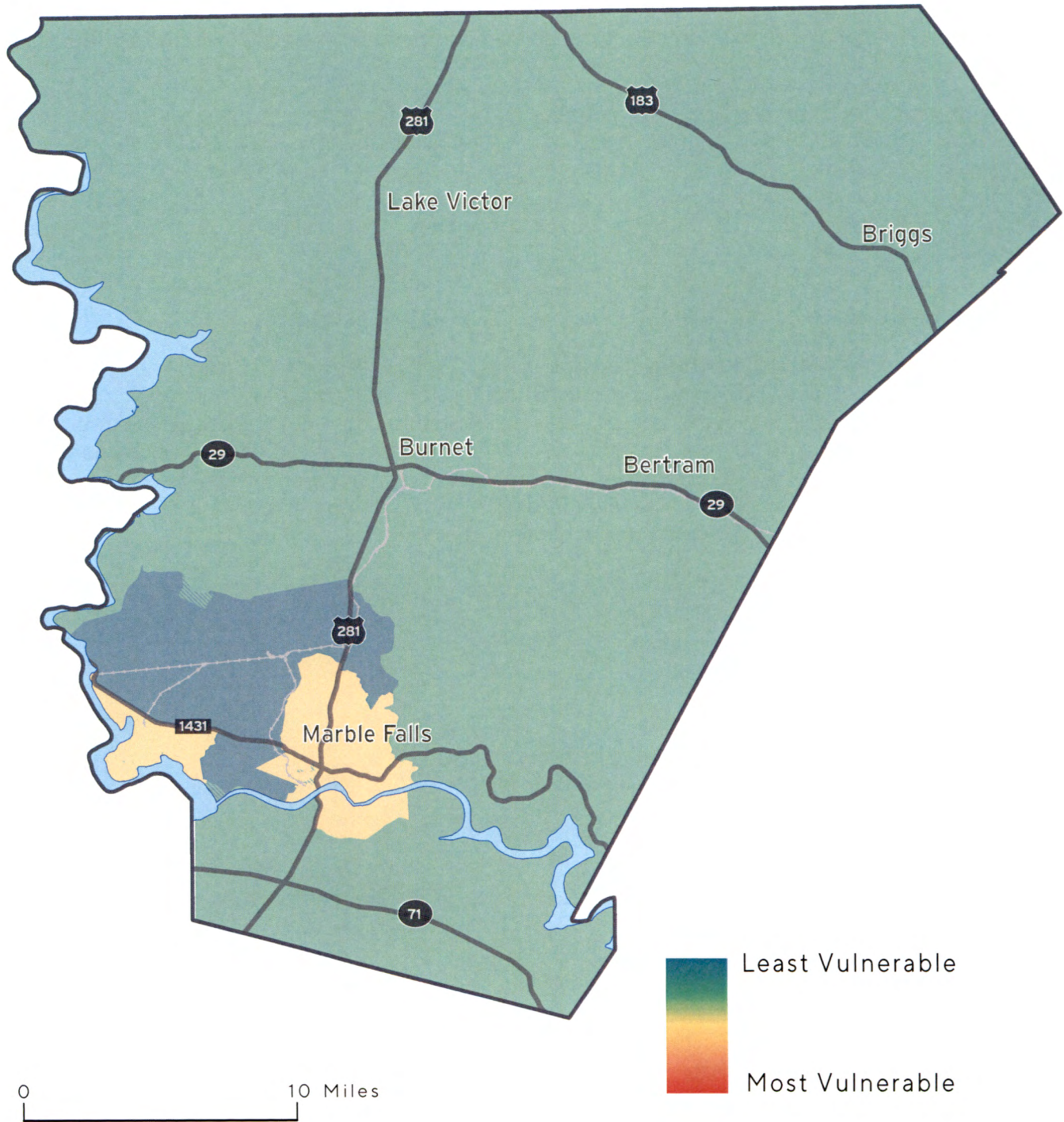


Figure 2.13

Preserved Lands

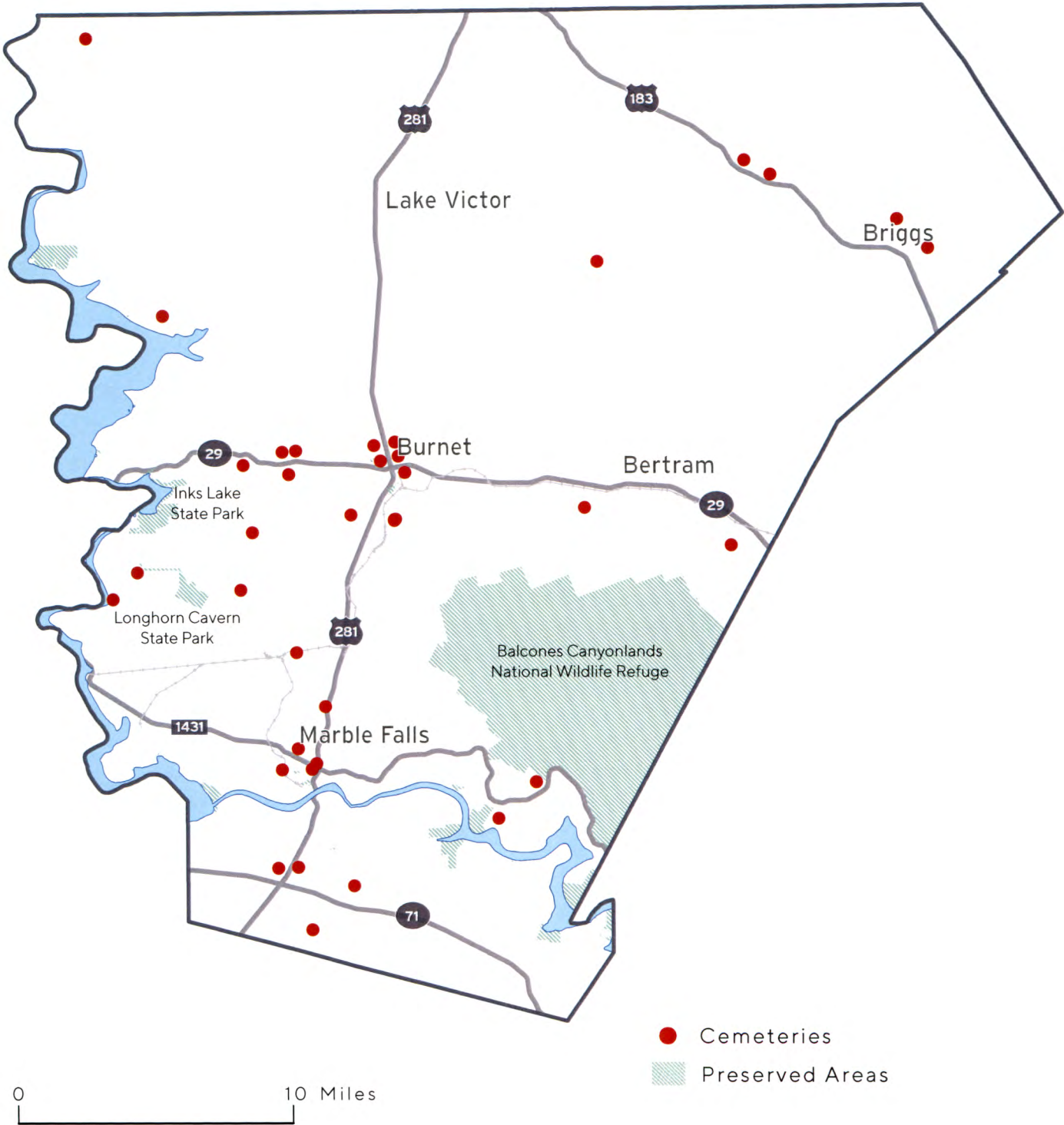


Figure 2.14

Traffic Counts

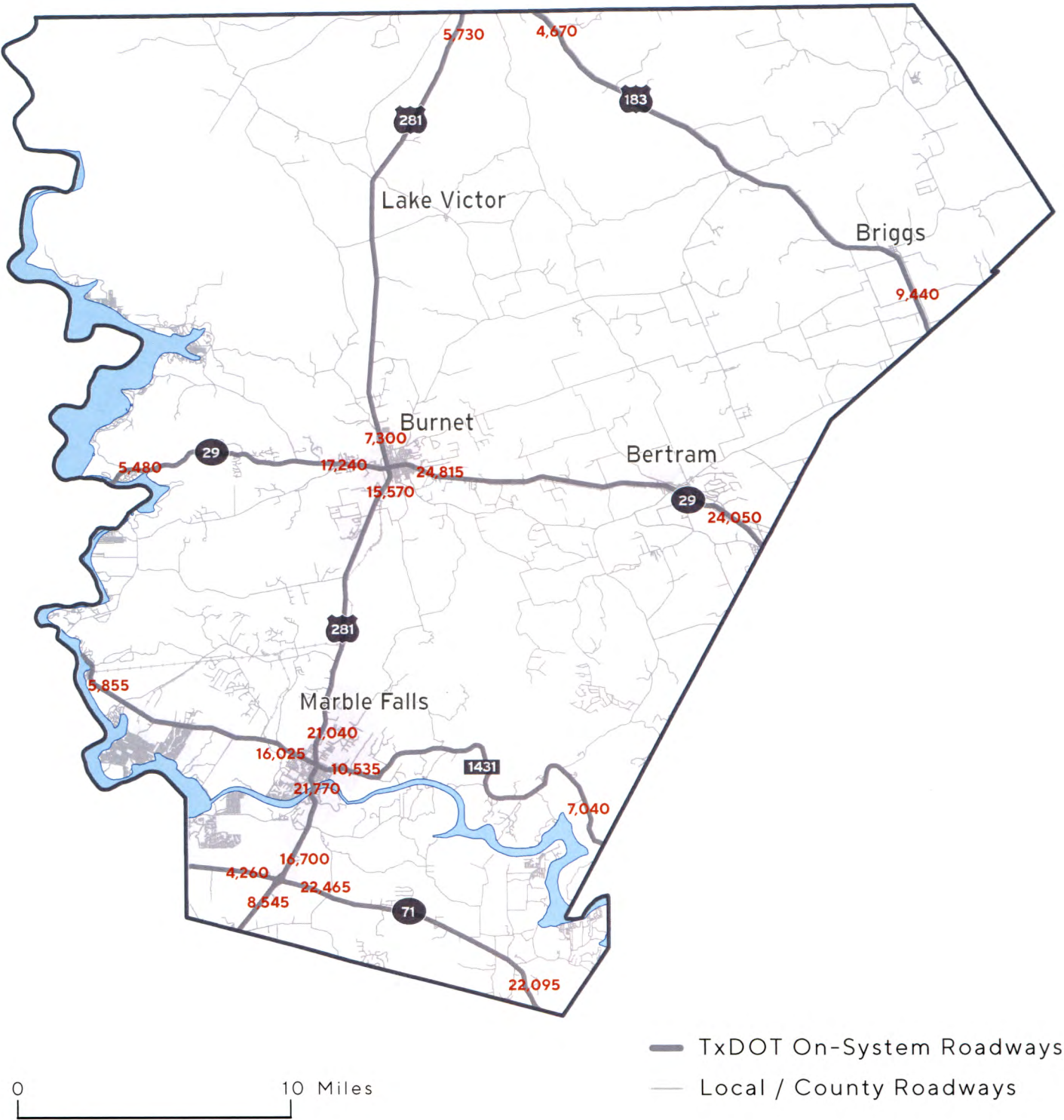


Figure 2.15

Performance Measures



Coding improvements include digitizing the existing, planned, and desired roadway connections into the regional model network and assigning attributes such as number of lanes and functional class based on the proposed improvement. The Travel Demand Model provides performance metrics which are used to evaluate and compare scenarios. The performance metrics are described below:

Centerline Mileage – the sum of the length of each roadway in the region. Increasing centerline mileage is equivalent to adding new roadways to the region’s current network.

Network Lane Mileage – the sum of the length of each roadway multiplied by the number of lanes within each segment of roadway. Increasing lane mileage is equivalent to adding new roadways and/or widening existing roadways. Adding lane mileage increases roadway capacity.

Vehicle to Capacity Ratio (V/C) – represents how “full” a roadway is. By dividing demand (VMT) by the capacity (lane miles) the result is the V/C ratio. A V/C under .85 means the roadway is operating at or near free-flow conditions. A V/C ratio of .85 to 1 means that a roadway segment is operating near or at full capacity. A V/C ratio above 1 means the roadway segment is operating over capacity.

Vehicle Miles of Travel (VMT) – represents vehicular demand. VMT is calculated by multiplying the number of vehicles on a roadway segment by the length of that segment. VMT can be calculated for individual roadways or for the entire regional roadway network.

Vehicle Hours of Travel (VHT) – the amount of time vehicles are on the roadways. VHT is calculated by multiplying the number of vehicles on a roadway by the travel time of the roadway. VHT typically decreases when improvements are made. When VHT is decreased, network speed is increased.

AM and PM Peak – time period during the morning (6:00am – 9:00am) and afternoon (3:30pm – 6:30pm) commute to and from work. The AM and PM peak are periods of the day where traffic demand is at its highest point.

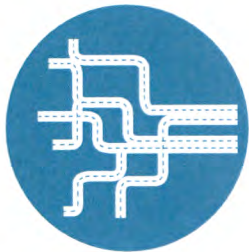
V/C ratio Ranges	
V/C Ratio	Description
0.0 - 0.85	Roadway operating at 85% of its capacity or less; free-flow traffic to slow traffic
0.85 - 1.0	Roadway operating between 85% and 100% of its capacity; stop and go
1.0 - 1.5	Roadway operating between 100% and 150% over capacity; congested
1.5 - >1.5	Roadway operating at over 150% of its capacity; “parking-lot” traffic

Figure 3.2

Future No-Build Network

The Future No-Build Network differs from the Baseline Network in that the population and employment are based on the 2040 adopted demographic forecast found in CAMPO's 2040 Transportation Demand Model. This network assumes a doubling of the region's current population and no additional roadway improvements. This type of scenario is often referred to as a "Do-nothing" scenario and is used to compare the impacts of improvements made in other scenarios. The key takeaway for this network's analysis is that as lane miles remain constant, roadway demand is expected to increase by 51% by 2045. The Future No-Build Network model results are shown below.

Future No-Build Network performance measures



Network Lane Mileage 848



VMT 3,405,000



VHT 63,000

Recommended Arterial Network

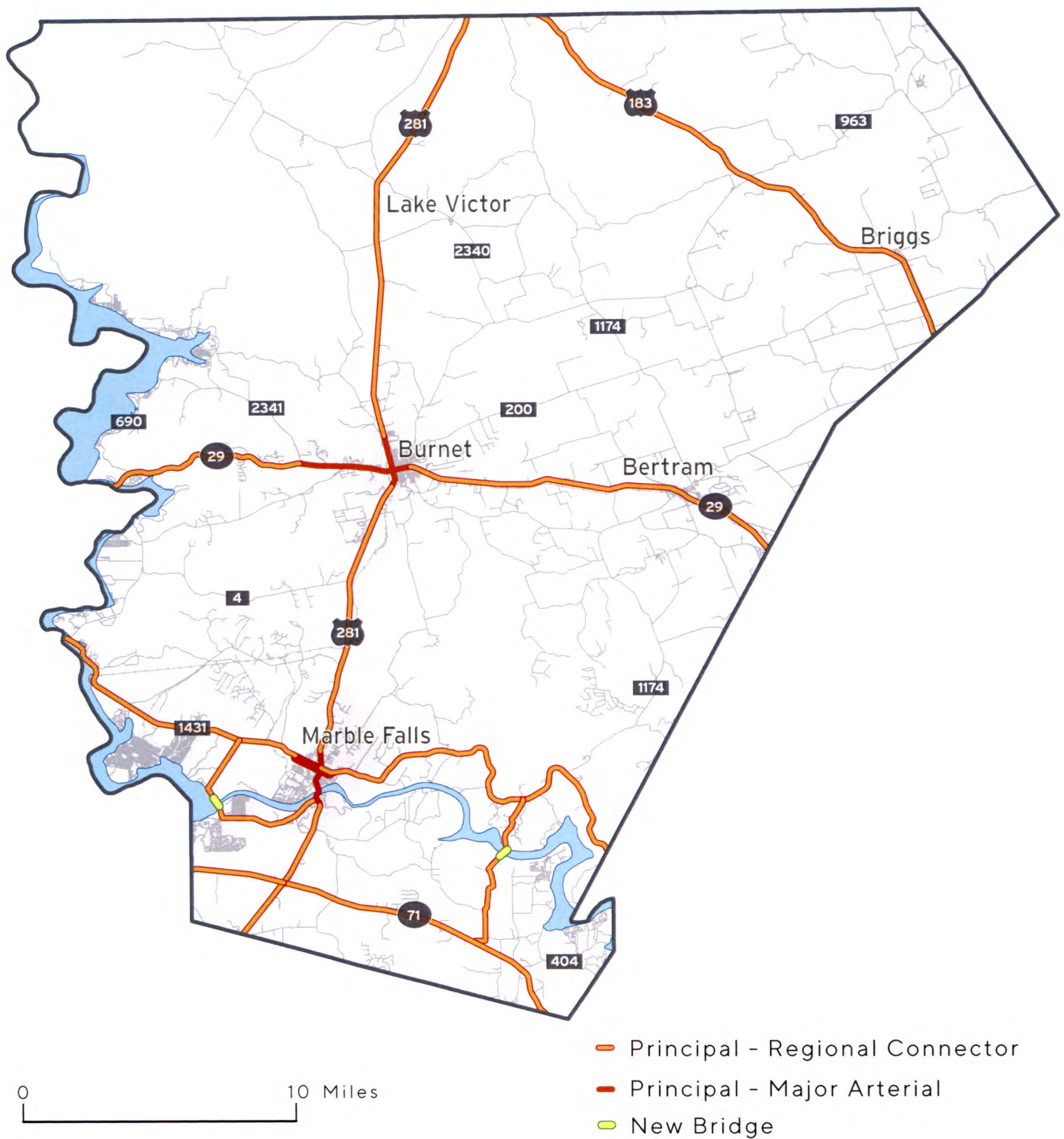


Figure 3.3

Projected Traffic Counts

The following map, Figure 3.4, shows the on-system network and the existing daily traffic counts, in addition to the projected future daily traffic counts.⁵ Even though the number of future trips is projected to increase significantly, the improvements outlined in this Recommended Arterial Network will improve the ability of the network to handle the additional trips efficiently.

Existing & Future Traffic Counts

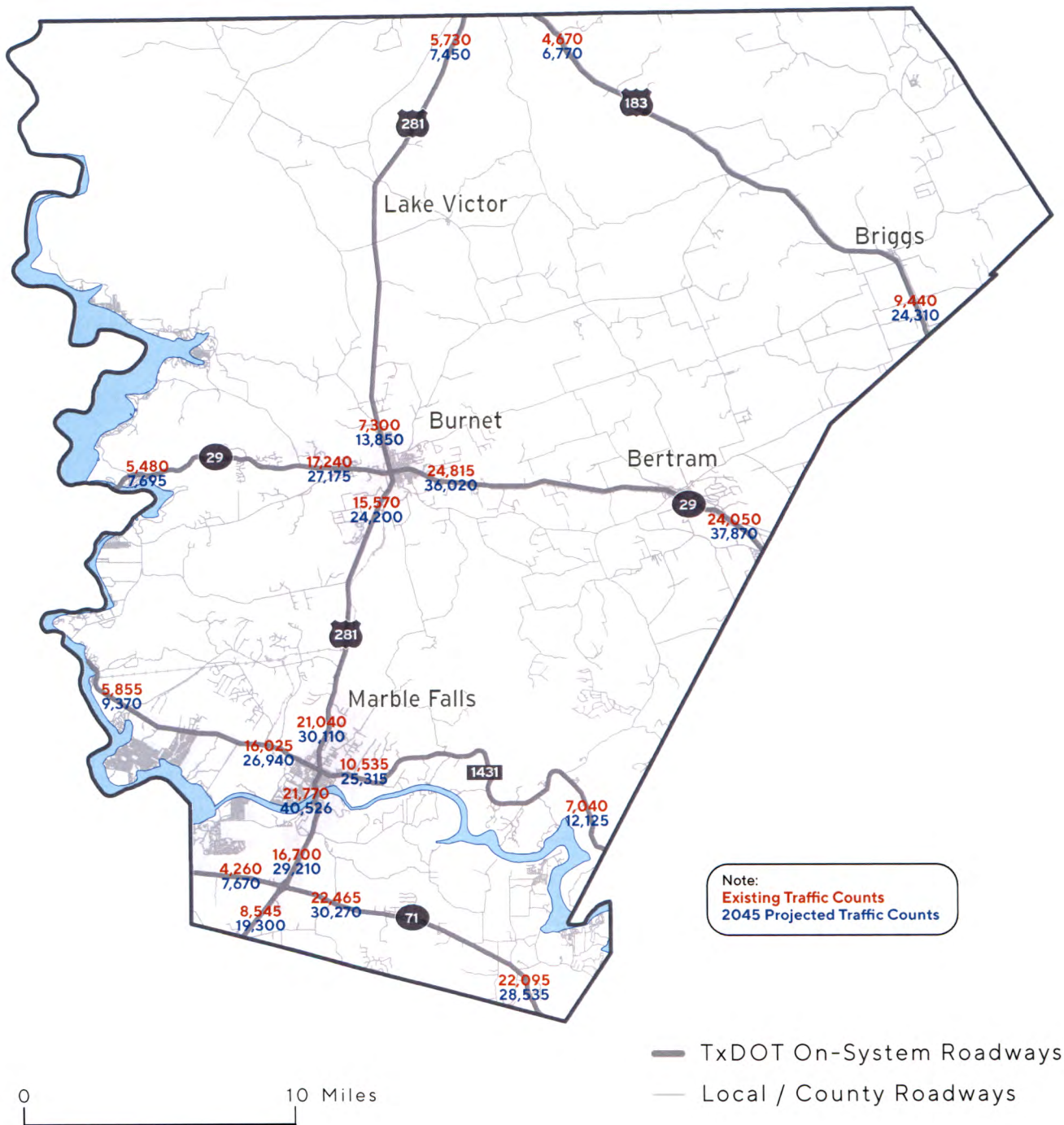


Figure 3.4

⁵ CAMPO Travel Demand Model

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