RMA

BRAZOS COUNTY

REGIONAL MOBILITY AUTHORITY

2020 ANNUAL PROJECT REPORT

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CONTENTS

Per Texas Administrative Code (TAC) Rule § 26.65(b), this written report describes the progress made during 2020 on each Mobility Authority transportation project or system of projects, including the initial project undertaken by the Mobility Authority.

INTRODUCTION

Brazos County Regional Mobility Authority History and Overview

The Brazos County Regional Mobility Authority (BCRMA) is an independent governmental agency created in 2019, pursuant to Chapter 370 of the Texas Transportation Code, to improve the transportation network in Brazos County. On November 1, 2018, Brazos County filed a petition requesting authorization from the Texas Transportation Commission (TTC) to form the BCRMA. The TTC issued a Minute Order on May 30, 2019, to authorize creation of the BCRMA, and on December 10, 2019, the resolution creating the RMA was adopted by the Brazos County Commissioner's Court.

The BCRMA provides the community with another means of addressing safety and congestion. Through community consensus, our vision is to plan, develop, and operate a quality transportation system for people and goods that promotes safety, enhances quality of life and supports economic opportunity throughout Brazos County.

The BCRMA is authorized under state law to develop and implement a wide range of transportation projects including roadways, pedestrian/bike facilities, transit systems, and parking facilities. Because the BCRMA can independently generate revenue through various financial resources and innovative financing, transportation projects are less dependent on competing for limited state and federal funding sources.

Board Members

The Board of Directors is comprised of five local community volunteers who are responsible for setting policies, identifying priority projects, compiling a Strategic Plan, and ensuring the agency is operated in an efficient and effective manner. The Chairman is appointed by the Governor, and the Brazos County Commissioners Court appoints four additional members to serve on the Board, based on recommendations from local governments and entities. Since its inception, the Board met for the first time on January 30, 2020, and had five additional Board meetings in 2020.

Tedi Ellison
CHAIR
Gubernatorial Appointee
Term Ends 2/1/2021

Dennis Christiansen
VICE CHAIR
Texas A&M University System Representative
Term Ends 12/31/2021

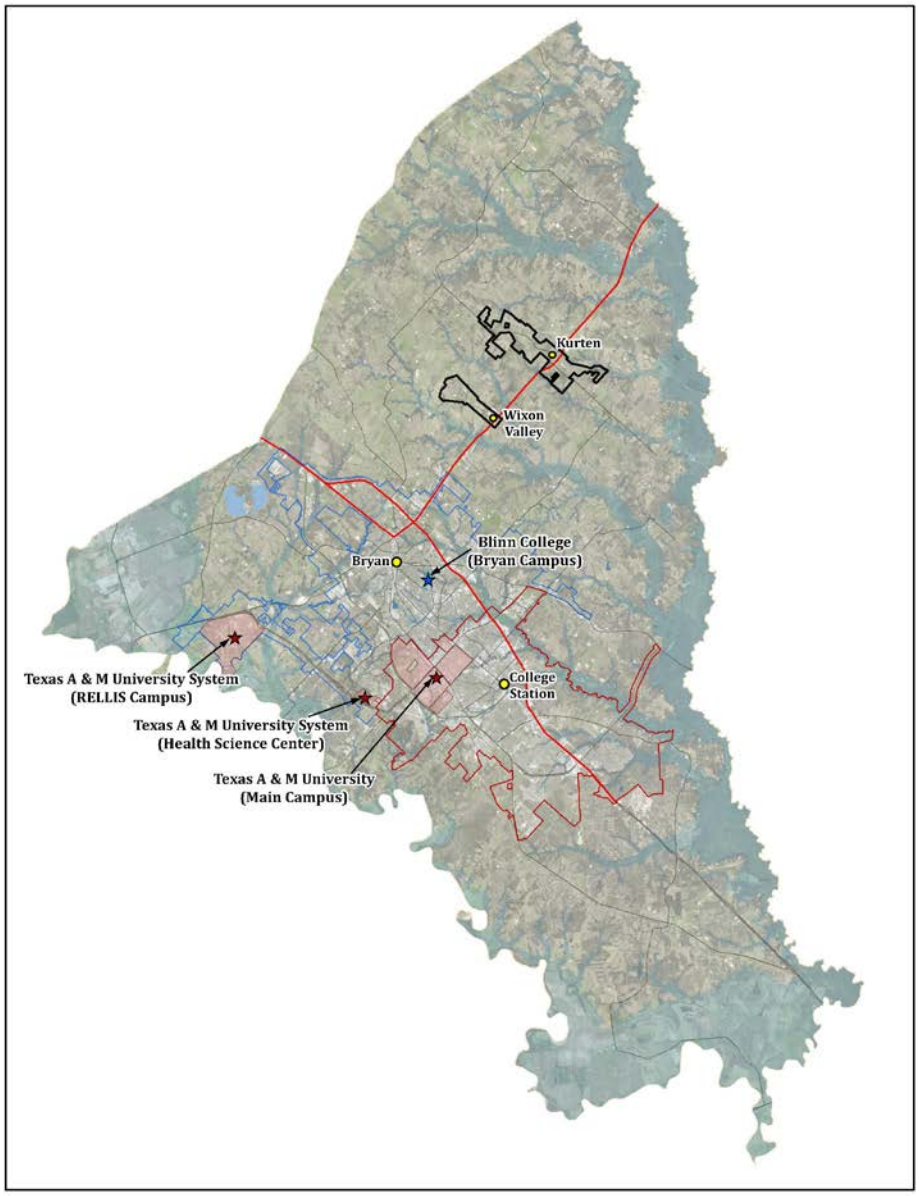
Veronica Morgan
MEMBER
City of College Station Representative
Term Ends 12/31/2020

R. Alan Munger
MEMBER
Brazos County Representative
Term Ends 12/31/2022

Jason Bienski
MEMBER
Bryan Representative
Term Ends 12/31/2023

Brazos County RMA Service Area and Regional Map

Encompassing Brazos County, the BCRMA serves not only Brazos County residents, but also out of town visitors and residents of the greater Brazos Valley who come to our area to visit and utilize all that Brazos County has to offer. Brazos County is situated between the Navasota and Brazos rivers in southeast central Texas. Brazos County was named for the Brazos River which forms its western border. Bryan is the County seat, and College Station is the other major community in the county. Other communities in Brazos County include Kurten, Millican, and Wixon Valley. Brazos County is located in the heart of the Texas Triangle – approximately 99 miles from Austin, 99 miles from Houston, 165 miles from Dallas, and home to Texas A&M University. Brazos County is crossed by U.S. Highway 190 and State Highways 6, 21, and 30, as well as the Union Pacific railroad.



UNIVERSITY DRIVE PROJECT

The project was defined in concept in a 2018 report prepared for the Bryan/College Station Metropolitan Planning Organization (http://www.bcsmpo.org/documentcenter/view/300/FM-60---University-Drive -approved-final-report). This MPO study estimates the total project cost to be $450 million. The concepts provided in this study take a unique approach to safety by grade separating a portion of the corridor. In late 2019, TxDOT held meetings with local stakeholders to decide on the scope.

The University Drive project, meeting all requirements specified in Chapter 370 of the Texas Administrative Code, was selected to serve as the initial project for the Brazos County Regional Mobility Authority. The TxDOT has hired a consultant to study the feasibility of the concept, provide traffic analysis, develop an initial cost estimate, and look at other potential ways to develop the project. The following summarizes the results of the study to date:

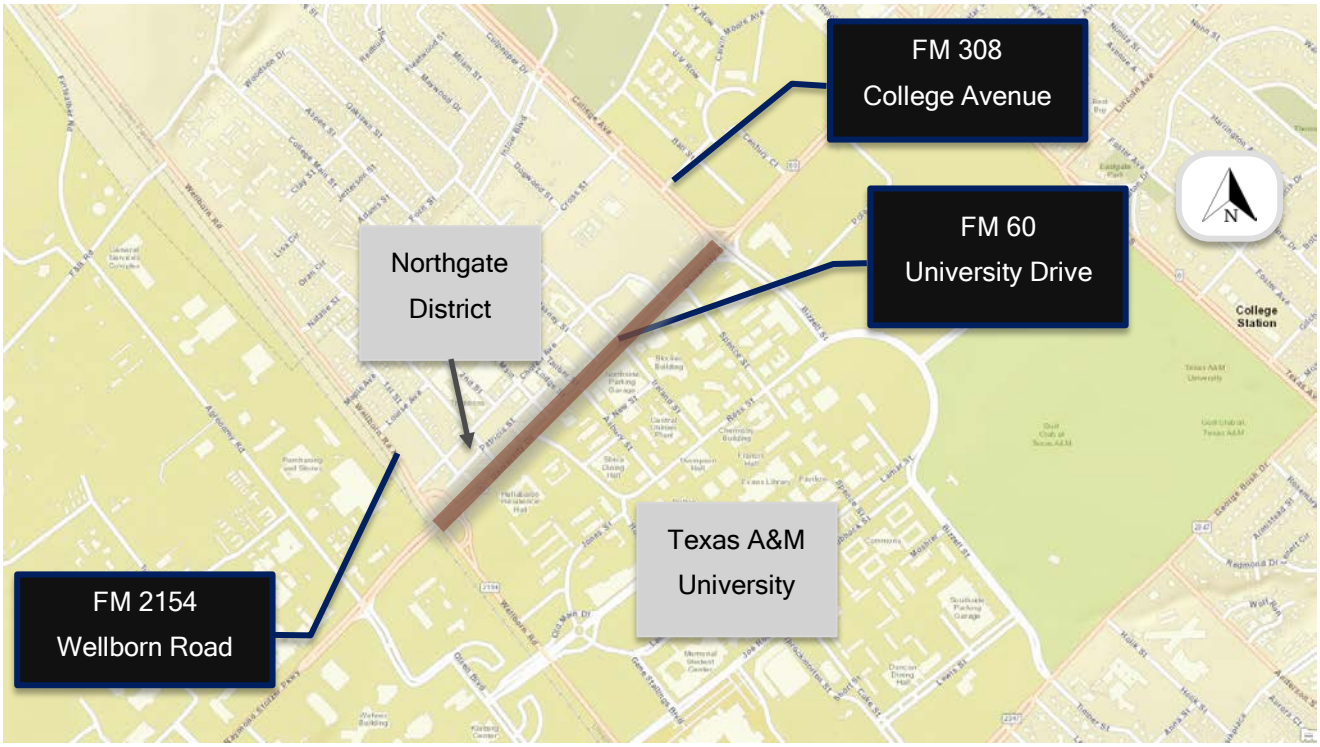
Study History

In February 2018, the Bryan/College Station Metropolitan Planning Organization adopted a Bicycle and Pedestrian Connectivity Study for the FM 60 (University Drive) corridor. FM 60 is a major arterial roadway, dividing the main campus of Texas A&M University from densely developed commercial and residential areas to the north. The study identified a number of creative solutions and improvement strategies that would encourage bicycle and pedestrian usage along and across the corridor, improving efficiency and safety for all users. One of the primary means considered was creating various forms of grade separation between motorized vehicles and other modes of transportation to transform FM 60 into a true multi-modal facility.

Existing Conditions

FM 60 separates Texas A&M University's main campus from nearby commercial and residential developments. The surrounding land uses generate high levels of bicycle and pedestrian activity. The corridor is a part of the National Highway System and is owned/maintained by the Texas Department of Transportation (TxDOT).

Figure 1: College Station Map



Infrastructure

FM 60 is a six-lane divided arterial roadway within the principal study area between FM 2154 (Wellborn Road) and SH 308 (College Avenue/Bizzell Street). This is the most constrained segment of the corridor, with right-of-way widths varying between 81 and 109 feet. There are six signalized intersections along this segment. Two additional intersections operate with stop-controls on the minor-street approaches.

Safety improvements were completed along the corridor in 2019. A raised median was added for the length of this segment restricting multiple access points to right-in, right-out only movements. At the intersection of FM 60 and Spence Street, the traffic signal was removed, and access was restricted to right-in, right-out. A new traffic signal was installed at the intersection with Church Street, 200 feet west of Spence Street. Additionally, pedestrian facility improvements such as additional crosswalks, median refuges, and decreased crossing distances were implemented.

Traffic

During 2019 daily traffic volumes along this segment varied between 35,000 and 40,000. The overwhelming majority of these vehicles are personal vehicles.

Bicycles & Pedestrians

A series of bicycle and pedestrian movement studies were conducted at signalized intersections in 2019. On a weekday during the Fall semester, there were more than 5,000 bicycle and 32,000 pedestrian movements. These counts do not include bicycles traveling in the vehicle travel lanes along FM 60 or any midblock movements.

Possible Improvements

The 2018 study concluded with several concepts to improve travel movements along the corridor. These concepts were intended to showcase different solutions and were divided into west, central, and east segments. The most intriguing concept was located in the central segment which featured four below grade travel lanes for FM 60 to reduce conflicts with bicycles and pedestrian movements while improving the efficiency of throughput, creating more public parklands, and possibly enhancing economic development. The two remaining lanes would provide local access. The concept is depicted on Figures 3 and 4. The Bryan District desired to analyze this concept first before considering other options.

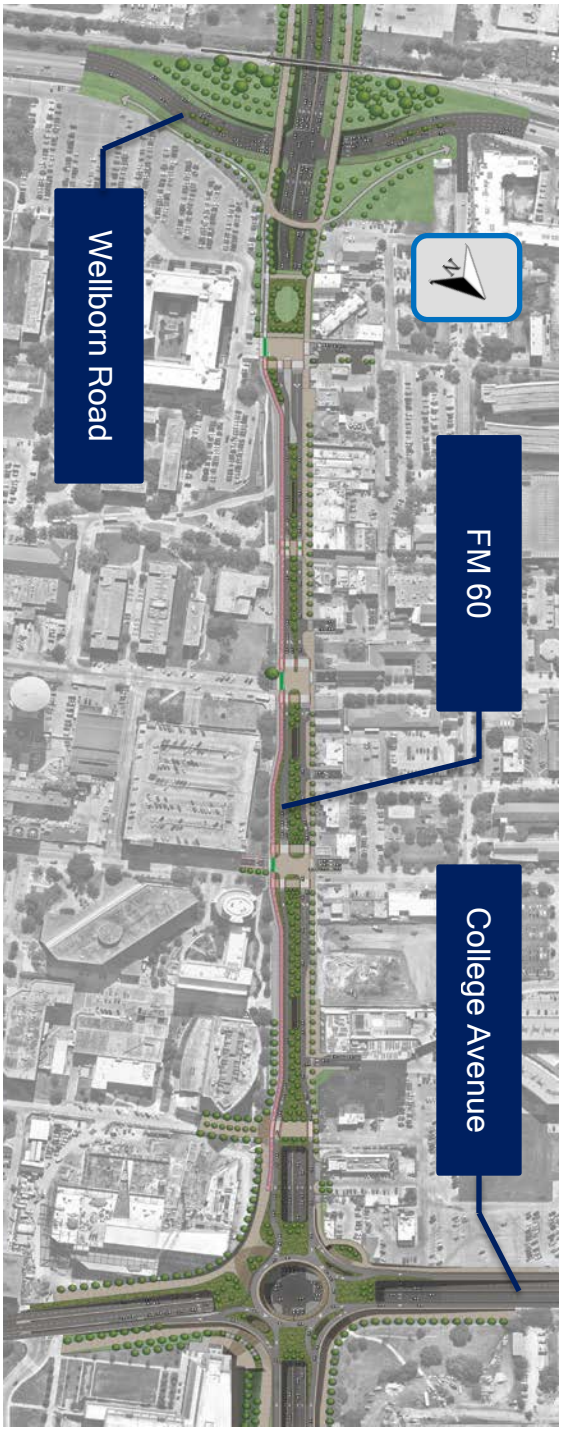


Figure 3: Proposed Improvement Corridor

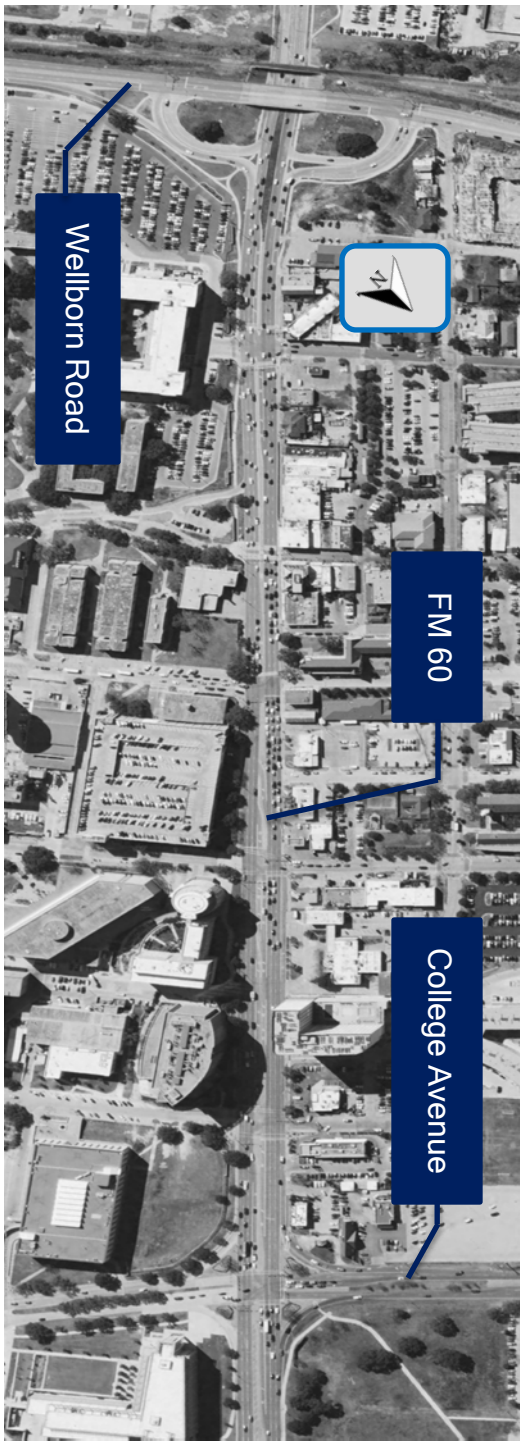
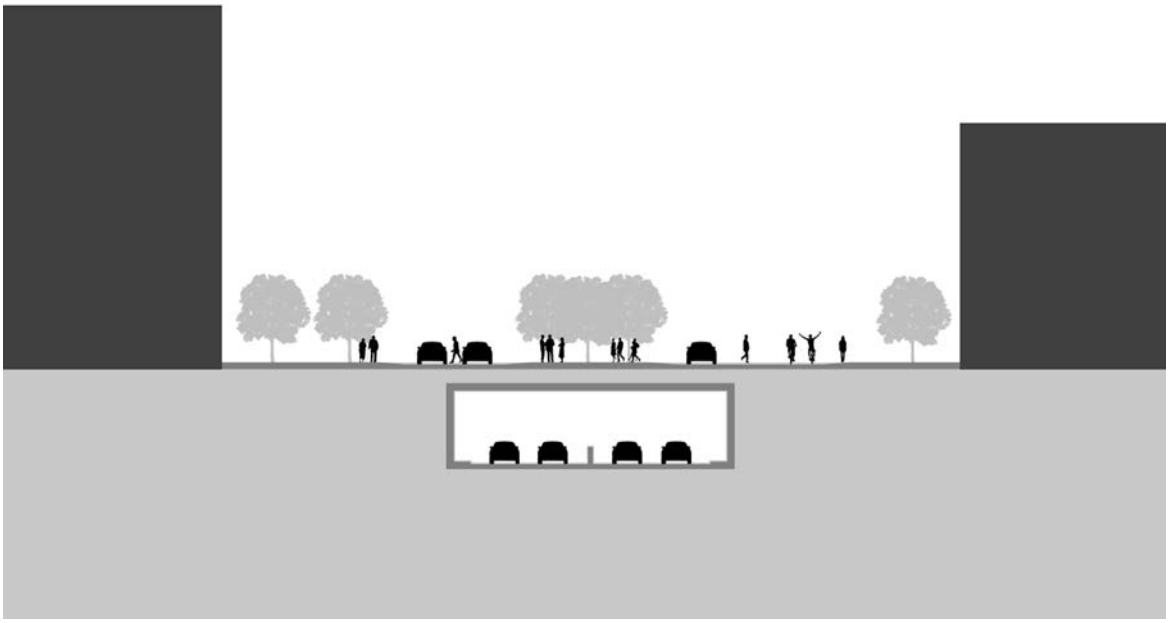


Figure 2: Existing Corridor

Figure 4: Typical Proposed Section



Traffic Forecasts

In order to evaluate how the concept operated and affected existing travel patterns, traffic forecasts were developed. An annual two percent growth rate was applied to existing 2019 traffic counts to develop the 2045 design year volumes. This rate was determined based on historical traffic growth, projected population and employment growth, data from the Bryan/College Station Metropolitan Planning Organization's travel demand model, and Texas A&M University's projected enrollment growth. Traffic in the proposed concept was derived based on historical origin-destination data from 2019 obtained from StreetLight.

The proposed concept separates the through traffic traveling between FM 2154 and SH 308/ Bizzell Street from the traffic that is accessing the Texas A&M University Campus or nearby commercial and residential properties in the Northgate District. The proposed concept also includes changes to the available access points for Texas A&M University and the Northgate District. These route changes that are required to navigate the proposed concept results in diverting traffic from the existing roadway. The notable traffic diversions that were applied for the design year are summarized below:

- Traffic making a continuous trip along FM 60 between FM 2154 and SH 308/Bizzell Street was routed to the tunnel section.

- Traffic with an origin and/or destination in the Texas A&M University Campus or Northgate District continued using the at-grade travel lanes or adjacent roadways.

The traffic diversions resulted in the projected volumes shown in Table 1 on the tunnel and at-grade (local access) sections in the 2045 design year.

Table 1: 2045 Projected Traffic Volumes

FM 60	AM peak hour		PM peak hour		Daily
	Eastbound	Westbound	Eastbound	Westbound	Bi-Directional
Below-Grade	670	1,580	2,030	1,020	41,000
At-Grade	310	680	810	680	21,000

The traffic forecasts on FM 60 with existing conditions suggest that this corridor will be extremely congested by 2045. Without substantial increases in capacity, traffic will experience LOS "F" conditions during major portions of both peak periods. However, based on the design year volumes, the two tunneled lanes in each direction should provide adequate capacity for the through traffic between FM 2154 and SH 308/Bizzell Street in 2045. The at-grade section should also be able to service the design year volumes with one lane in each direction. Local operations for the at-grade section will also be affected by the intersection control type and locations of turn bays.

Major Intersection Capacity Analysis

Forecasted traffic volumes were analyzed to determine the quality of traffic flow under the potential design at the two proposed at-grade locations (FM 2154 and College Avenue) which would be located at the end of the two tunnel portals.

At the FM 2154 intersection, the existing dual jug-handle configuration is proposed to be reconstructed as a single at-grade intersection. The FM 60 through traffic at FM 2154 currently experiences no delay as this is a free flow movement. The build condition at the SH 308/Bizzell Street intersection includes an at-grade design for through traffic using the signalized intersection within the tunnel. Local traffic is served by a ground-level roundabout. The Synchro analysis analyzed the below-ground signalized intersection. The design year (2045) peak hour Level of Service (LOS) and vehicle delay for both intersections are presented in Table 2.

Table 2: Build Conditions (2045) – Intersection Analysis

Intersection	Control	2045 AM		2045 PM	
		Delay	LOS	Delay	LOS
FM 60 at FM 2154	Signalized	101.1	F	98.8	F
FM 60 at SH 308/Bizzell Street	Signalized	46.7	D	116.8	F

Table 3: Synchro Queuing Analysis

Intersection	AM Peak Queue Length (feet)	PM Peak Queue Length (feet)
FM 60 @ FM 2154	1,000	1,350
FM 60 @ SH 308/Bizzell St	300	1,300

The results of these preliminary analyses suggest that the original concept will not provide adequate traffic movement along the corridor. Other strategies to improve pedestrian/bicycle safety will have to be considered.

Concept Cost

Table 4: Preliminary Cost Estimate

Item	Cost Range		
ROW Acquisition and Utility Relocation	$40,000,000	to	$60,000,000
Planning, Design and Engineering	$40,000,000	to	$60,000,000
Construction	$255,000,000	to	$385,000,000
Total	**$335,000,000**	**to**	**$505,000,000**

Costs shown are rounded in 2020 dollars. They are an order of magnitude, pre-design level effort. Allowance for design, permitting, and contingency will vary per item, location, and conditions.

Interim Findings

The initial study forecasts indicate that the existing infrastructure will not be adequate to handle daily traffic volumes between Wellborn (FM 2154) and College Avenue. The proposed 4-lane tunnel and 2-lane collector/distributor on top of the tunnel will accommodate 2045 traffic; however, the two at-grade intersections initially proposed at the entrances to the underground improvement will not operate at an acceptable LOS by 2045. It may be advisable to consider more modest improvement strategies such as providing limited grade separation between motorized and nonmotorized traffic movements at discreet locations along the corridor.

For additional information on the FM 60 University Drive project, please contact:

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Director Transportation Planning & Development
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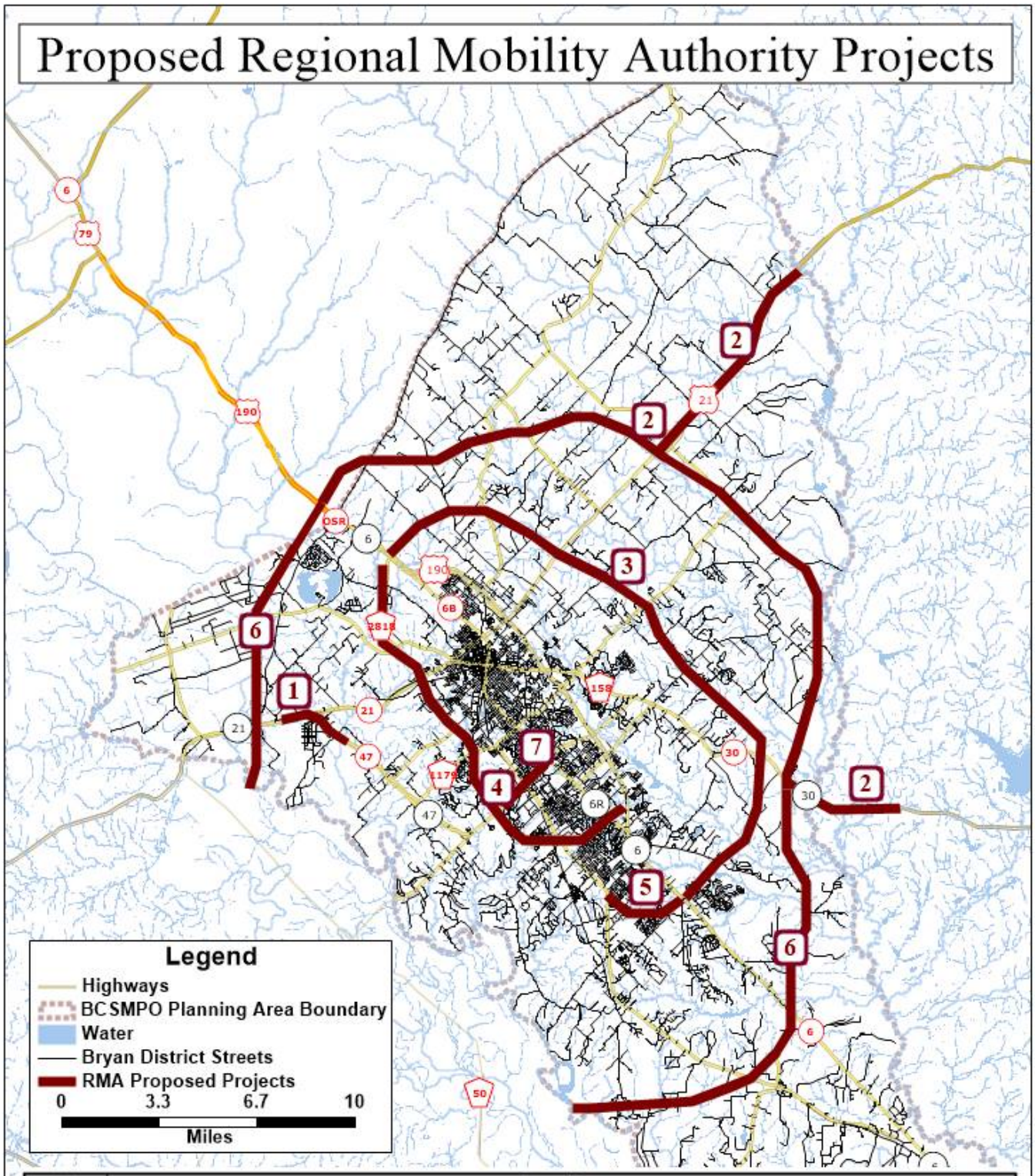
2021 AND BEYOND

In the near future, the RMA will be formalizing procedures for identifying new projects; however, potential projects that were identified on the MPO's thoroughfare plan that could be pursued by the RMA in the future include (in no particular order):

- Improvements to SH 21, SH 47, and various interchanges near the Texas A&M System's RELLIS Campus;
- I-14 section through Brazos County;
- Extension of FM 2818 from SH 6 North to SH 40 on the east side of Brazos County;
- FM 2818 main lanes;
- SH 40 main lanes;
- Outer loop (proposed I-214) around Bryan/College Station which is included on the MPO's thoroughfare plan;
- Additional grade separations along University Drive, for example Agronomy Road and Texas Avenue.

These potential projects are shown on a map on the next page.

Proposed Regional Mobility Authority Projects



ID	Description
1	Improvements to SH 21, SH 47 and various interchanges near TAMU RELLIS Campus
2	I-14 section through Brazos County (potential alignment/alternatives are being studied)
3	Extension of FM 2818 from SH 6 North to SH 40 on the east side of Brazos County
4	FM 2818 Main Lanes
5	SH 40 Main Lanes
6	Outer Loop (Proposed I-214) around Bryan/College Station which is included in the MPO's Major Thoroughfare Plan
7	Additional grade separations along University Drive, for example Agronomy Road and Texas Avenue