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Strand Associates, Inc.®
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www.strand.com

August 18, 2023

Ms. Stephanie Doland, Director of Development Services
City of Brenham
200 West Vulcan Street
Brenham, TX 77833

Re: Service Areas, Land Use Assumptions, and Population Projections Technical Memorandum
City of Brenham, Texas

Dear Ms. Doland:

Enclosed is the final Service Areas, Land Use Assumptions, and Population Projections Technical Memorandum.

Please call me at 979-836-7937 should you have any questions.

Sincerely,

STRAND ASSOCIATES, INC.®

Ryan D. Tinsley, P.E., ENV SP

Enclosure: Report

Technical Memorandum for
City of Brenham, Texas

Service Areas, Land Use Assumptions, and Population Projections

Prepared by:

STRAND ASSOCIATES, INC.®
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August 2023

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INTRODUCTION

This Technical Memorandum (Memorandum) evaluates the City of Brenham, Texas (City) water, wastewater, and roadway facility service areas, existing and future land use assumptions, and population projections to accommodate future development.

Strand Associates, Inc.® (Strand) appreciates the opportunity to assist the City in establishing water, wastewater, and roadway facility service areas, prepare population projections, and evaluate existing and future land use assumptions as part of the 2023 Impact Fee Study. Texas Local Government Code Chapter 395 (Chapter 395) authorizes the assessment of impact fees in Texas for water, wastewater, and roadway-related capital improvement plan (CIP) projects. The requirements of Chapter 395 will be followed to develop impact fees for the 2023 Impact Fee Study.

WATER AND WASTEWATER SERVICE AREAS

Existing water and wastewater service areas can generally be determined from the location of the respective mains. Chapter 395 allows the City limits as well as the City's extraterritorial jurisdiction (ETJ) to be considered the service area for water and wastewater facilities. Strand understands that the City prefers to include the City's ETJ within the water and wastewater service area. The dashed outer boundary in the Future Land Use map in Appendix A shows the City's ETJ and the limits of the water and wastewater service area. The service units for water and wastewater improvements will be assessed in terms of residential equivalent connections (REC), or the volume of water used by a standard 5/8-inch water meter during a 1-day period. Single-family residential units are equivalent to one REC. Multifamily residential, commercial, and industrial units will be adjusted to reflect their respective demand on the water and wastewater distribution and collection systems and in accordance with the ratio to 5/8-inch meter as established by the American Water Works Association (AWWA).

ROADWAY FACILITY SERVICE AREAS

Chapter 395 defines roadway service areas differently than water and wastewater service areas. Roadway service areas can be no more than 6 miles and are confined to the existing City limits. The Roadway Impact Fee Service Area Map in Appendix B shows that one roadway service area encompassing the entirety of the City limits is being evaluated for the 2023 Impact Fee Study.

The service units for roadway improvements will be assessed as the number of vehicle-miles. A vehicle-mile is the capacity consumed in a single lane in the PM peak hour by a vehicle making a trip 1 mile in length. The PM peak hour is used as a basis for transportation planning and the estimation of trips caused by new development.

EXISTING AND FUTURE LAND USE ASSUMPTIONS

The Future Land Use map in Appendix A was created using the City's Existing and Future Land Use maps from the 2019 Comprehensive Plan as a foundation. Before updating the land uses to match what has been developed since 2019, the current City limits and ETJ were updated to reflect tracts of land that have been annexed since the 2019 land use maps were created. The parcels in the 2019 Future Land Use map were reviewed and updated based on their current land uses as of

June 2023. Parcels that were found to be developed as of June 2023, had their land use updated to be consistent with their use. The properties that are undeveloped or currently being developed are hatched to show the future land use (residential, commercial, or industrial). See Appendix A for the Future Land Use map.

POPULATION PROJECTIONS

From 1970 through 2020, the City averaged a modest population growth rate of approximately 1.35 percent according to the United States Census Bureau and the City's 2019 Comprehensive Plan. From 2020 to 2023, the City saw a growth rate of 2.22 percent and, for the next 10 years, the City is anticipating growth between 3.25 and 4.00 percent. Growth rates between 1.00 and 3.00 percent are anticipated for the 10-year period from 2033 to 2043. These growth rates were used to develop the population projections shown in Figure 1.

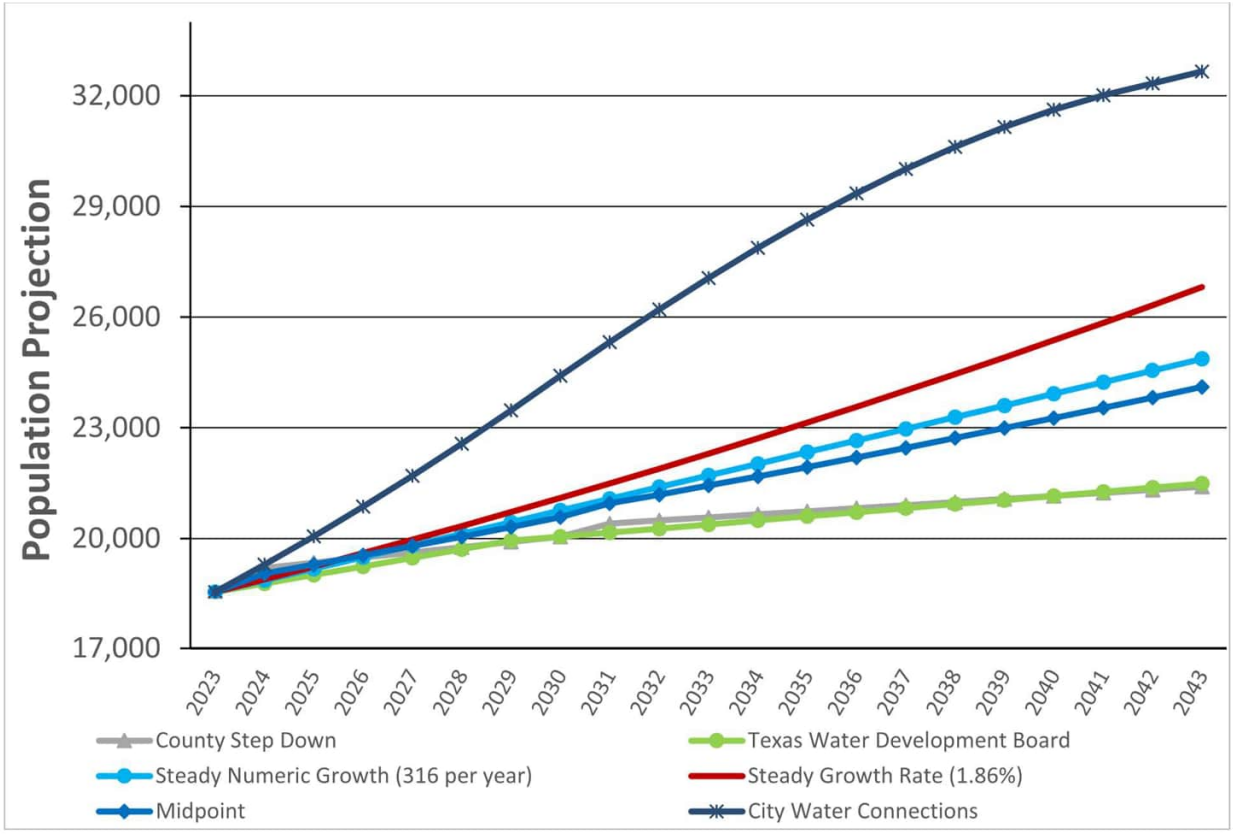


Figure 1 Population Projections

The five lower 20-year population projections in Figure 1 were modeled using the same methodologies that were used in the City's 2019 Comprehensive Plan population projections. The 2019 Comprehensive Plan models were recalculated to reflect more recent rates and were updated appropriately.

- County Step Down–This method assumed the population of the City reflects a percentage of the projected population of Washington County, Texas (County) in a given year. The graph in Figure 1 assumes that the City accounts for approximately 52.5 percent of the total population of the County. This percentage comes from the Texas Water Development Board (TWDB) projections for the City and County.

- TWDB–This government organization creates its own projections for cities at the beginning of every decade (i.e., 2020, 2030, 2040, and continuing) based on the number of projected water connections across the state of Texas. TWDB projections have been updated since the development of the 2019 Comprehensive Plan and updates are reflected in Figure 1.

- Steady Numeric Growth–This linear model assumes that the population will increase by approximately 316 people each year. This was the average growth per year from 2018 to 2023.

- Steady Growth Rate–This exponential model is based on the 1.86 percent compound annual growth rate (CAGR) the City had from 2018 to 2023.

- Midpoint–This model takes the average population from the lower County Step Down projection and the higher Steady Growth Rate projection.

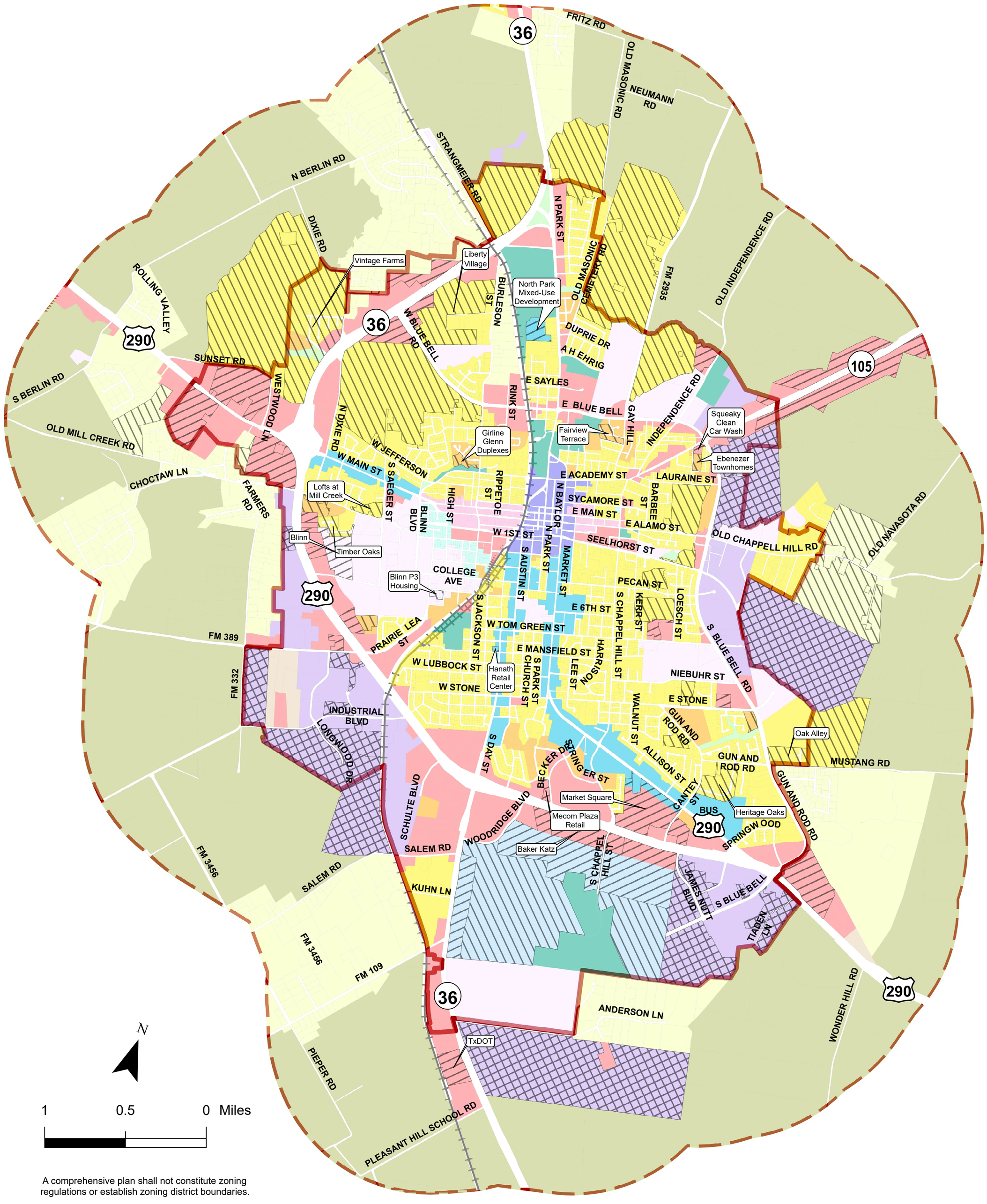
Strand has recently worked with the City to evaluate its water system and, in doing so, has prepared an additional population projection based on the number of projected water connections that the City anticipates adding to the water distribution system over the next 20 years. The City has reviewed these new projections and has accepted them for the purposes of planning for future growth as it relates to its water expansion study and the 2023 Impact Fee Study.

CONCLUSION

This Memorandum has presented information for the City's water, wastewater, and roadway service areas, existing and future land use assumptions, and revised 20-year population projections to accommodate future growth and development as it pertains to the 2023 Impact Fee Study.

APPENDIX A
FUTURE LAND USE MAP

Brenham, TX
Future Land Use



A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

Legend

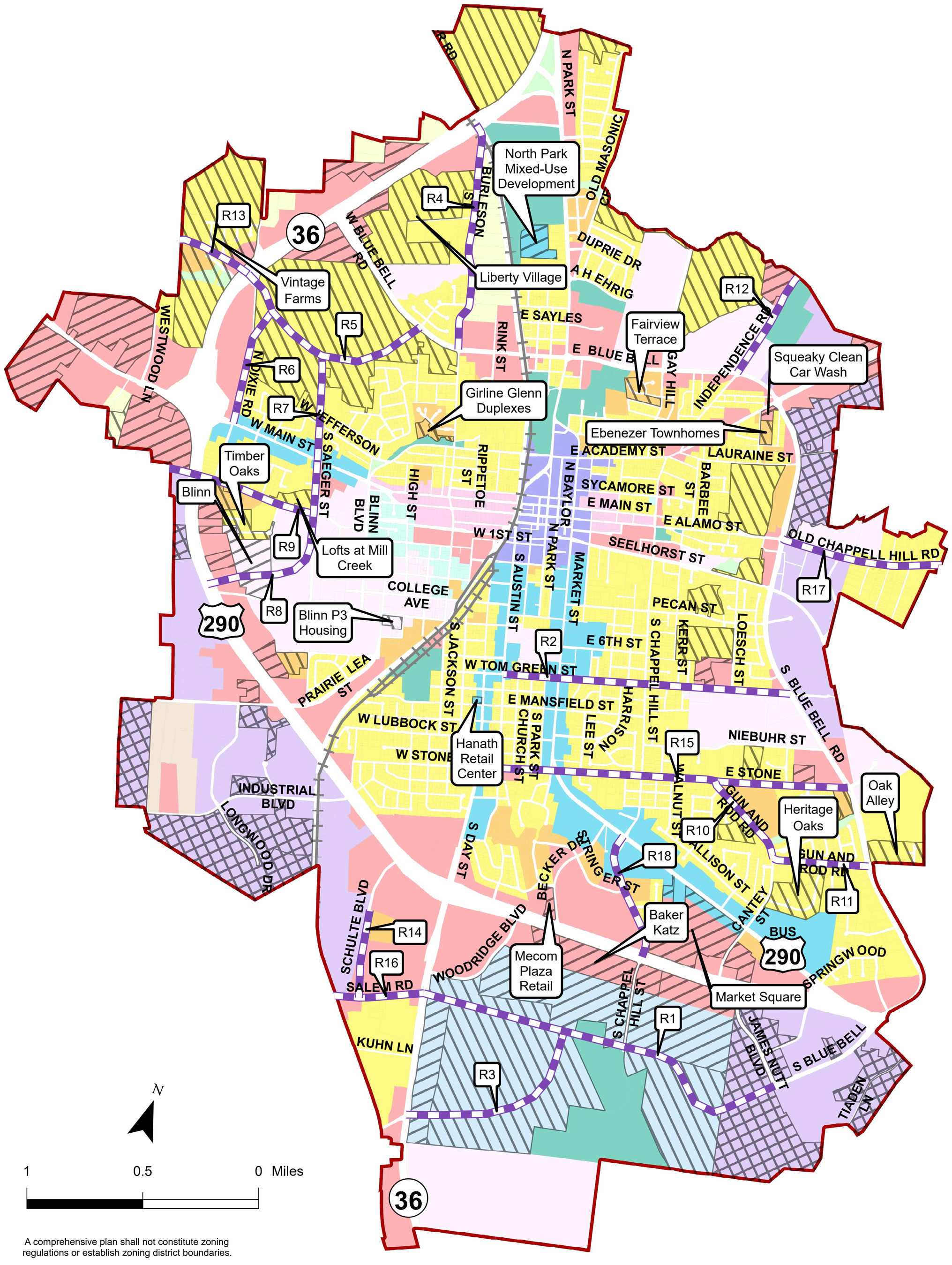
Future Land Use Plan

- Rural
- Open Space
- Park
- Estate Residential
- Single Family Residential
- Manufactured Homes
- Multi-Family Residential
- Mixed Use Blinn Adjacent
- Mixed Use Downtown Adjacent
- Corridor Mixed Use
- Planned Development
- Downtown
- Local Public Facilities
- Commercial
- Industrial

- **City Limits**
- **ETJ**
- **Railroad**
- **Future Commercial**
- **Future Industrial**
- **Future Residential**

APPENDIX B
ROADWAY IMPACT FEE SERVICE AREA

Brenham, TX
Roadway Impact Fee Service Area



A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

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Future Land Use Plan

- Rural
- Open Space
- Park
- Estate Residential
- Single Family Residential
- Manufactured Homes
- Multi-Family Residential
- Mixed Use Blinn Adjacent
- Mixed Use Downtown Adjacent
- Corridor Mixed Use
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- Downtown
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- Industrial

- **City Limits**
- **Railroad**
- **Future Commercial**
- **Future Industrial**
- **Future Residential**
- **Roadway CIP Projects**