

MESA

THE SEGUIN COMPREHENSIVE MASTER PLAN

The Seguin Comprehensive Master Plan

prepared by

MESA Design Group
Dallas, TX

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acknowledgements

The creation and adoption of successful public plans results from the inputs, involvement, and dedication of a wide range of community leaders.

The Seguin Comprehensive Master Plan is the result of the commitment of Seguin elected officials, staff, and community members to positive growth and change in the community. The following individuals were instrumental in the construction of this Plan.

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executive summary



executive summary

This Plan Report represents a detailed account of all components that were developed in the creation of the Seguin Comprehensive Master Plan. These components are organized by the major project phases, and include Assessments, the Planning Framework, Plan Elements, and Implementation Strategies. A description of the Planning Process was also included in this Plan Report.

Planning Process. Over the past two years, MESA has worked with the City of Seguin to develop a Comprehensive Master Plan to guide future growth and development. Elements of this Plan grew out of extensive public inputs, in the form of public workshops and focus group meetings, as well as assessments of the existing community context. Through the planning process, a Facilitator Group was also identified, with the intent of establishing this group not only as facilitators during the planning process, but as future facilitators of plan implementation as well.

Assessments. Prior to the development of the Elements of the Comprehensive Master Plan, the Consultant Team conducted various assessments of the physical, economic, and cultural context in which the City of Seguin has grown. These assessments addressed Natural Systems, Physical Systems, Economic Conditions, and a Form Analysis of the City. For each of these components, particular planning issues (opportunities and constraints) were identified. Through these assessments, the Consultant Team was able to identify existing conditions to which the Comprehensive Master Plan must speak. The inputs provided by the Consultant Team were presented in Workshop #1 to the general public for comment and feedback.

Planning Framework. Once the assessments were completed and community feedback was gathered at Workshop #2, community inputs were translated into Goal Statements that could inform the Plan. These goal statements were then compared back to the planning issues identified by the Consultant Team to determine Strategic Community Goals. The Planning Framework was developed as a physical manifestation of those Strategic Community Goals, with key themes portrayed as graphic elements, creating a general form for subsequent Plan Components. The Planning Framework identified Responsive Zones, Transitions, Connectivity, and Centers of Activity as key elements that the Comprehensive Plan must establish. The Planning Framework was presented in Workshop #2 to the general public for comment and feedback and was subsequently endorsed.

Plan Elements. The Planning Framework provided a backdrop for the creation of the elements of the Comprehensive Master Plan. The six plan elements developed include: the Future Land Use Plan, the Public Open Space Plan, the Thoroughfare Plan, the Infrastructure Plan, the Housing Plan, and the Public Facilities Plan. Each of these plan elements is intended to serve as a tool to guide future decisions made in the City of Seguin.

- The *Future Land Use Plan* was created as a series of Land Use Districts that are mixed use by nature, where acceptable uses, density ranges, and general character and intent are identified for each District. This Plan is intended to direct future zoning decisions made in the City of Seguin, rather than replace the Zoning Ordinance.
- The *Public Open Space Plan* defined the various public open spaces, including parks, greenways, and designated

natural areas, and then identified processes recommended for the creation of those open spaces.

- The *Thoroughfare Plan* was designed to create a legible system for mobility, relieve congestion by enhancing east-to-west movement, and identify possible phasing of public transit.
- The *Infrastructure Plan* illustrates the City's ability to provide service at certain milestones of community growth.
- The *Housing Plan* identified initiatives that would assist in defining improvements to the various neighborhoods of Seguin.
- The *Facilities Plan* provides a recommendation regarding the number and proximate location of future police and fire facilities to adequately service the community in the future.

Implementation. To ensure implementation of the Plan Elements created for the City, strategies were developed regarding key elements related to growth and economic development. These include Downtown Revitalization, Urban Design, and Recommendations for Plan Implementation. Because Downtown represents not only the historic town core, but future economic opportunity, a strategy for Downtown Revitalization was created to address physical and programmatic initiatives to enhance opportunities for positive growth and redevelopment. Recommendations for Urban Design Guidelines were then identified to provide direction for the formulation of specific guidelines in the future, including guidelines for the public and private realm. Finally, Recommendations for Plan Implementation were made, identifying a sequence of actions that would facilitate the effective implementation of the concepts and elements developed in this Comprehensive Master Plan.



part one: the planning process



1.1 the planning process

The Seguin Comprehensive Master Plan has been formulated within an extensive and inclusive process of public participation.

Public Participation is essential in the formulation of a Comprehensive Plan that has life beyond its adoption. Over the upcoming years, local leadership must emerge that will preserve the vision articulated by the plan, looking to it first and foremost in the shaping of public policy. The Engagement Strategy is the process through which public input for the plan will be gathered and by which local leadership will be defined.

The Planning Process employed in Seguin requires five critical forms of communication between the Consultant Group and the Community:

1. Leadership by the Facilitator Group
2. Inputs from Focus Groups
3. Direction from the Community at Large
4. Review and direction from City Staff
5. Approval from City Council

1. Leadership by the Facilitator Group.

One of the factors that ensures successful implementation of a comprehensive plan is community support. To maximize public involvement and community ownership, the Facilitator Group was appointed to work with the Planning Team in review and presentation of plan elements during the public process. The Planning Team engaged the Facilitator Group as community leaders of the planning process, and this Group led all breakout groups at public workshops. This Group is intended to ultimately serve as the Long Range Planning Committee, advocating the Comprehensive Plan.

2. Inputs from Focus Groups.

To ensure that a full range of public/stakeholder input was acquired, MESA hosted Focus Group Sessions with stakeholders in the community. The stakeholders consisted of those community members who either were not sufficiently represented at Workshop #1, or who typically do not engage in the other public workshops. Information acquired at these Sessions was presented at Workshop #2, along with the Planning Framework. Focus Group Sessions were held for each of the following stakeholder groups:

- Economic Development: Clustered property and business owners in sensitive areas of growth and change, as well as builders and developers actively engaged in the City of Seguin.



- Environmental Preservation: Community members were invited to attend a session to discuss key ecological zones in Seguin, as well as particularly sensitive areas that would be of concern during the development of the Plan Elements.
- Texas Lutheran University: Students, staff, and faculty members were invited to participate in this Focus Group, to provide inputs regarding impact on TLU of future growth and development.

3. Direction from the Community at Large.

A. Public Workshop #1 (Analysis)

Once the Assessments (Phase One) were completed, the Planning Team conducted Public Workshop #1. This workshop involved two phases: Consultant Presentation of Findings and Community Input of Issues. In the first portion, representatives from the Planning Team summarized the results of the various assessments conducted prior to the Workshop. In the second portion, participants reviewed and commented on information disclosed via breakout groups.

In the course of this first workshop, community goals and objectives were formulated. These goals and objectives were used as guides for all other aspects of the plan. Breakout discussion groups were the means by which participants gave input concerning future goals and objectives for the city. This community input then became the basis for the goals and objectives, upon which all planning components were built.

B. Public Workshop #2 (Envisioning)

Following a “pre-meeting” with the Facilitator Group, the Planning Team conducted a second Workshop that was open to the general public in the City of Seguin. This Workshop was led by the Planning Team, but breakout groups were again led by the Facilitator Group. In this session, a summary of the strategic goals generated in Workshop #1 and the Planning Framework were presented. The purpose of Public Workshop #2 was the acquisition of public input regarding the Planning Framework and Strategic Goals, refinement of the Planning Framework, and establishment of a consensus on the recommended direction of future planning components.

C. Public Workshop #3 (Putting it all together)

Following a “pre-meeting” with the Facilitator Group, the Planning Team conducted Public Workshop #3. In this workshop, the individual Plan Elements were presented by both the Consultant Team and the Facilitator Group. During this workshop, public input and feedback regarding the Plan Elements was acquired. Like Workshops #1 and #2, members of the Facilitator Group led breakout sessions.

4. Review and Direction from City Staff.

Throughout the Planning Process, City Staff has facilitated and directed the activities of the Consultant Team. Through close collaboration regarding content, communication, and public engagement, the Staff has provided necessary leadership in the creation of the Seguin Comprehensive Plan.

5. Adoption by City Council.

Upon completion of all tasks described in the planning process, MESA prepared and delivered a presentation to the Seguin Planning and Zoning Commission. This meeting was conducted as a work session, walking through the draft plan report, to ensure opportunity for the Commission to validate whether the Plan Report was consistent with the Strategic Goals identified by the community through the planning process. The Planning and Zoning Commission unanimously approved the Comprehensive Master Plan for adoption.

At the subsequent City Council meeting, MESA presented the Comprehensive Plan to the Council for consideration for adoption. Upon deliberation, Council adopted the Comprehensive Master Plan as produced.



part two: assessment



2.1 natural systems assessment

All cities lie within a natural system that is unique to that particular place. This system is complex, with multiple interdependent factors that contribute to the health and stability of that system.

INTRODUCTION

As man is dependent upon natural resources for survival, the identification of the natural system in which we live, and the means by which we affect that system, is an important element in preservation of quality of life. Before we can assess current environmental conditions found within the City of Seguin, an analysis and identification of what that natural environment is, apart from human impact, will serve as a critical informative tool. Defining the ecological context of an area helps us identify critical components of the natural system, boundaries and patterns of spatial distribution, and attributes that may be critically affected by future growth and development. This ecological context contains an analysis of the soils of the Seguin area, the surface and groundwater systems in the region, and the vegetation that characterizes the area. Collectively, these features define the ecological zones for the area containing the City of Seguin.

As cities grow within their ecological context, there will be interactions between the built and natural systems. The rivers, lakes, and aquifers serve as water supply for the community. Designated land uses impact soil fertility and erosion of the land. Air quality is altered due to increased production and population growth. These are a few of the means by which the built system can impact the natural systems found within a community. Identifying specific environmental conditions that have been affected by growth and development of the City of Seguin aids in determination of future development constraints. In this way, a systems approach, including water, soil, and vegetation, is taken to understand the natural conditions and constraints in Seguin.

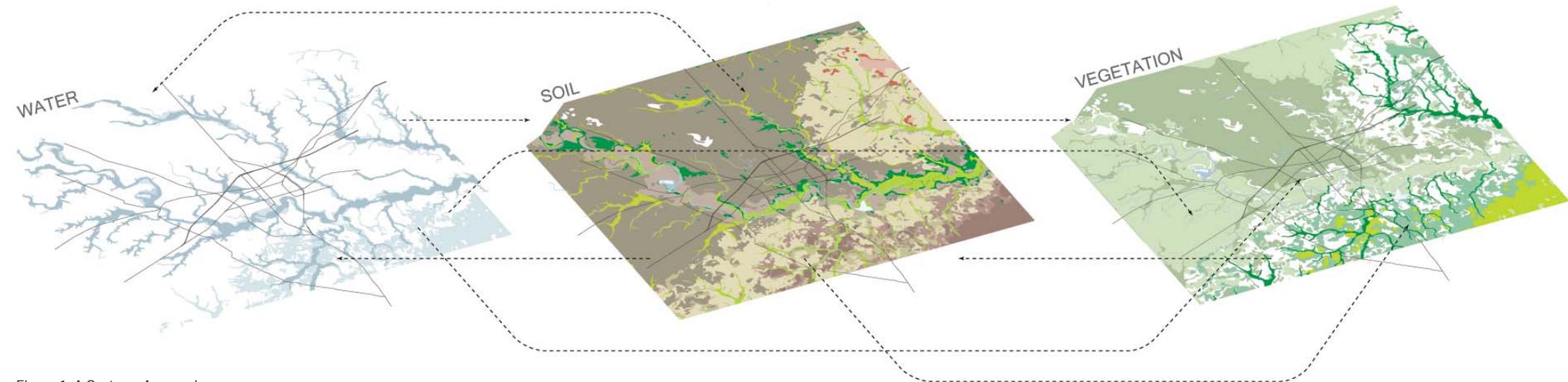


Figure 1. A Systems Approach.

ECOLOGICAL CONTEXT: THE NATURAL FOUNDATION UPON WHICH SEGUIN IS BUILT

Ecology incorporates all living and non-living components that are characteristic of a place, as well as their various interactions. There is an interdependency of these components that makes each ecological system unique. Non-living components, such as soil, water, and climate, determine to a large extent what living components will be found within an area. Living components, namely vegetation and wildlife, form a network of interdependency through which resources are cycled. Collectively, these elements make up the ecology of a place.

Seguin is found at an ecological crossroads of the natural system. The geology of the area indicates a transition along the edge of the Carrizo-Wilcox aquifer. This boundary runs Southwest to Northeast, along the southern portion of the City. At this edge, a distinctive transition in non-living elements can be observed. The sub-surface water table is bound (the aquifer lies south of this line), and soil types transition from clay-based to sand-based. The general topography of the area also changes along this line. South of this boundary, the elevation of the land begins to vary, and hills can be seen. North of this line, the land is relatively flat, with only occasional variation in elevation. Patterns were observed and outlined for soil types, water, and vegetation, which collectively mark the general ecological zones found within the Seguin area.



Figure 2. Guadalupe River Watersheds Basin.



Soil

The soils of Seguin can be grouped into three general categories: clay-based soils (typically fertile, good for farmland), sand-based soils (greater sub-surface water content, oaks grow well here), and bottomland soils (deposited by surface water action). Understanding these soil types is important for many reasons. Soil formations influence many forces and activities within an area, such as patterns of water movement, erosion, and fertility of the land.

Clay-based soils (which include the blackland prairie soil found in the northern part of the Seguin area) are typically fertile, and good for farmland, as they are generally nutrient-rich. They do not, however, filter water very well. Clay pans frequently form impervious barriers to water infiltration. Because of this, subsurface water stores are generally lower in clay soils than they are in sand soils.

Sand-based soils are associated with the southern portion of the Seguin area. Sand soils filter water much better than clay soils, which helps to explain the increased subsurface water content that is found in the area south of the Guadalupe River. They do not, however, possess the same nutrient content (and thus fertility) that characterizes clay soils.

Bottomland soils are deposited and affected by moving surface water. They are typically found in and around river and stream beds. As land is eroded upstream, those sediments are deposited downstream. Changing conditions in the waterways impact the soil depositions in their path. Because of the alluvial/depositional nature of soils along waterways, they are different from the soils found in surrounding areas, namely in their erosive nature, fertility, and moisture content.

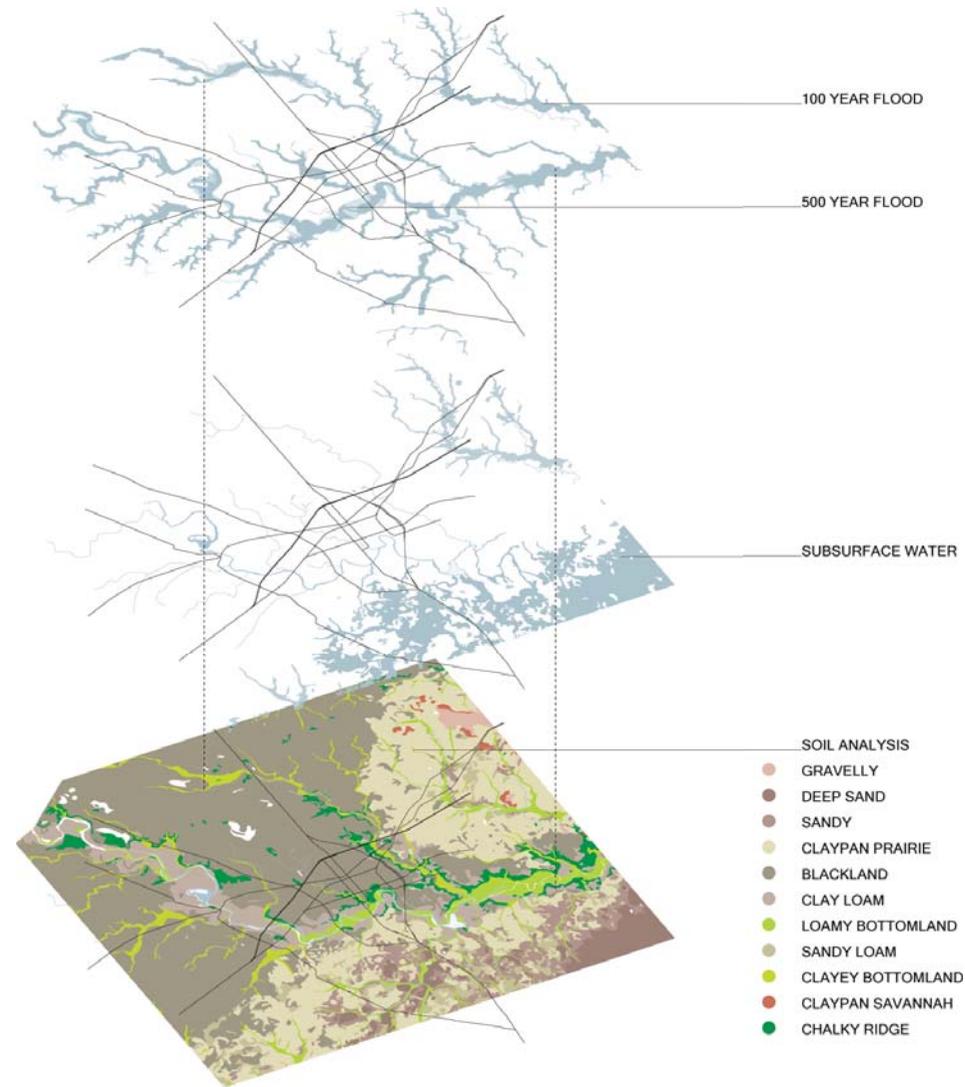


Figure 3. Seguin Soil Composite.

Water

Seguin falls within two different water districts. Because of its location within the Guadalupe River basin, its surface water is monitored by the Guadalupe-Blanco River Authority. It is part of the Middle Guadalupe River sub-watershed, which stretches from New Braunfels southward into Gonzales County, encompassing 2160 square miles of land. The Middle Guadalupe sub-watershed is a component of the larger Guadalupe River Watershed, which begins in Kerr County, continues to the Gulf of Mexico, and serves as a drainage basin for many counties in Central and South Central Texas. The Guadalupe River Basin contains fertile soil, with tributaries and intermittent streams providing corridors for wildlife movement, and areas of increased soil moisture content that positively impact local vegetation.

Seguin also sits above a portion of the Carrizo-Wilcox aquifer, which is regulated and monitored locally by the Guadalupe County Groundwater Conservation District. There is a geologic seam that runs southwest to northeast through the Seguin area. This seam marks the terminal edge of the Carrizo-Wilcox aquifer, separating the natural fabric of the area into two primary zones, with the aquifer lying south of the line. This seam manifests itself in several ways. The sub-surface water table follows the aquifer (south

of the seam), and intersects the Guadalupe River just south of downtown. Where the Guadalupe River intersects this sub-surface water table, there is a change in the direction of flow of the River itself, as it responds to the change in geologic conditions. This can be observed in the directional change of flow of the Guadalupe River from a Southeastern to an Eastern direction just south of the downtown area. The river adjusts just east of the Glen Cove area, seeing a slightly more southeastern direction of flow. Interestingly, the River does not resume its original southeastern directional pattern until it has broken past the aquifer south of Gonzales.

The hydrologic intersection of surface and subsurface components expresses itself in an interesting way. Springs are common within areas of aquifer outcroppings, as surface and subsurface water tables intersect. This is just what we see in the City of Seguin, noting Walnut Spring in particular. Again, community growth and development almost always alters the natural landscape, and, therefore, historic accounts of natural conditions are often more informative of the native ecology of a place than current analysis. By looking at the historical significance of Walnut Spring in this area, the presence of such springs is better understood.

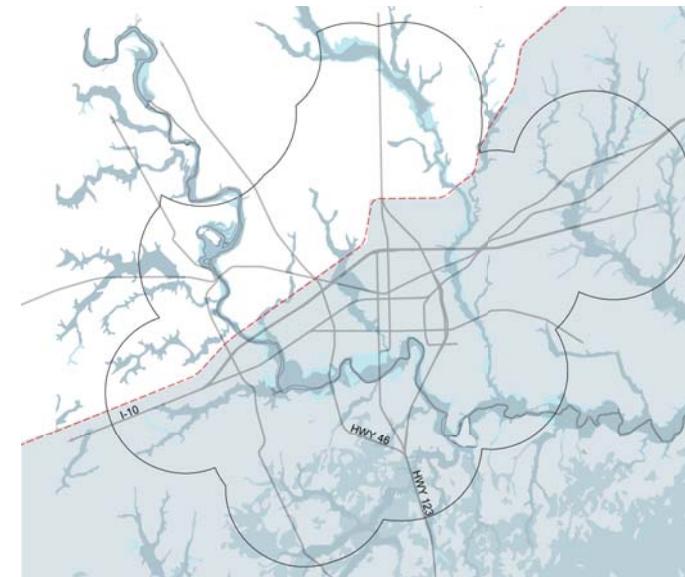


Figure 4. Carrizo-Wilcox Seam.

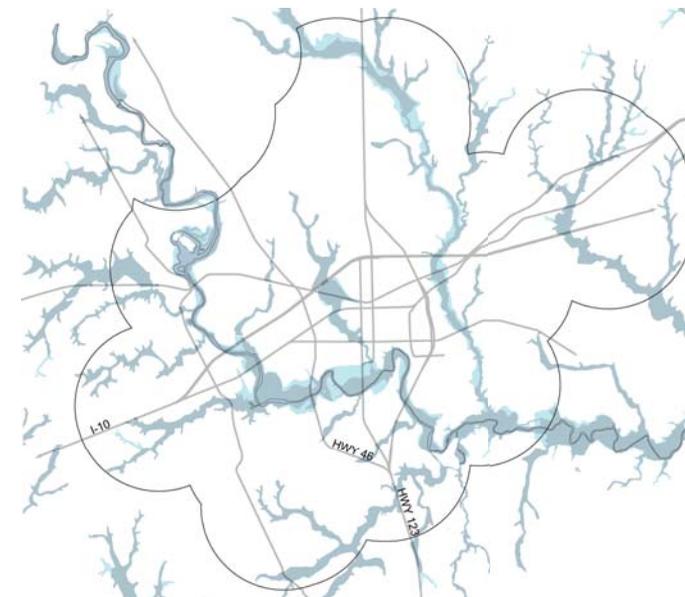


Figure 5. 100 and 500 Year Flood Plains.



Vegetation

In general, the land falling within the City of Seguin can be classified as either Prairie or Oak Woods. The prairie areas fall north of the Carrizo-Wilcox Seam, and extend up into the farmland north of the current City limit. The Oak Woods lie south of the geologic seam.

Seguin lies within the Middle Guadalupe Watershed, which is characterized by the following distribution of vegetative cover:

Pasture/Hay	25.5%
Evergreen Forest	18.0%
Deciduous Forest	15.5%
Grass/Herbaceous	15.1%
Shrubland	12.0%
Row Crops	8.1%

In its natural state, this prairie land would be characterized by a mixture of tall grasses, such as Big and Little Bluestem, Yellow Indiangrass, and Switchgrass. Prairies are very difficult habitats to restore, as they depend upon resident wildlife for maintenance of ground conditions necessary for their perpetuation. Historically, animals such as prairie dogs and bison aided in aeration of the soil, in seed dispersion, and in nutrient deposition.

The alteration of these prairies for agricultural use alters the soil conditions. The majority of Blackland Prairie in Texas has been converted into farmland, due to the richness of the soils, and their conduciveness to monoculture grass/grain growth. This conversion of the mosaic grass landscape into one of uniform monoculture (ie: corn crops) clearly transforms the habitat, as wildlife is forced to relocate, and soils conditions are altered. Nutrient depletion and erosion are two of the most significant alterations that occur. Prior to conversion for agricultural use, these prairie lands would have hosted a broad range of grasses, forbs, and occasional tree groves, providing food and shelter to resident wildlife, maintaining a balanced, symbiotic relationship. Consistent with trends throughout the State, there is little Prairie habitat left intact in the Seguin area.

South of the geologic seam running through the City lie the Oak Woods. This area is characterized by several stands of oaks, such as the Blackjack Oak, the Bluejack Oak, the Post Oak, and the Live Oak (the Live Oak also occurs in the Prairie areas, but only in close proximity to the Guadalupe floodplain). Trees are the habitat component providing the strongest visual distinction between the Prairie and Oak Wood habitats. In addition to these

trees, however, grasses such as Silver Bluestem, Yellow Indiangrass, and Little Bluestem can also be found in the Oak Woods areas.

The distribution of vegetation within the Seguin area follows another trend. In addition to the contrast created at the geologic seam, vegetation also changes depending upon proximity to the riparian corridors (river and stream beds) found in the area. Live Oak, Yaupon, and Silver Bluestem are found almost exclusively within riparian corridors, while distributions of Post Oaks and Big Bluestem do not follow surface water flow. This indicates that there are more than two general habitat zones within the City of Seguin, as variation within the Prairie and variation within the Oak Woods can be observed, based upon proximity to the floodplain associated with the Guadalupe River. This is consistent with the observed trends in soil distribution, as the general soil types found in the area are clay-based (northern area), sand-based (southern area), and bottomland (along river and stream channels). The interface of the surface water conveyance system (river and streams) with other external conditions creates four ecological zones in the Seguin area.

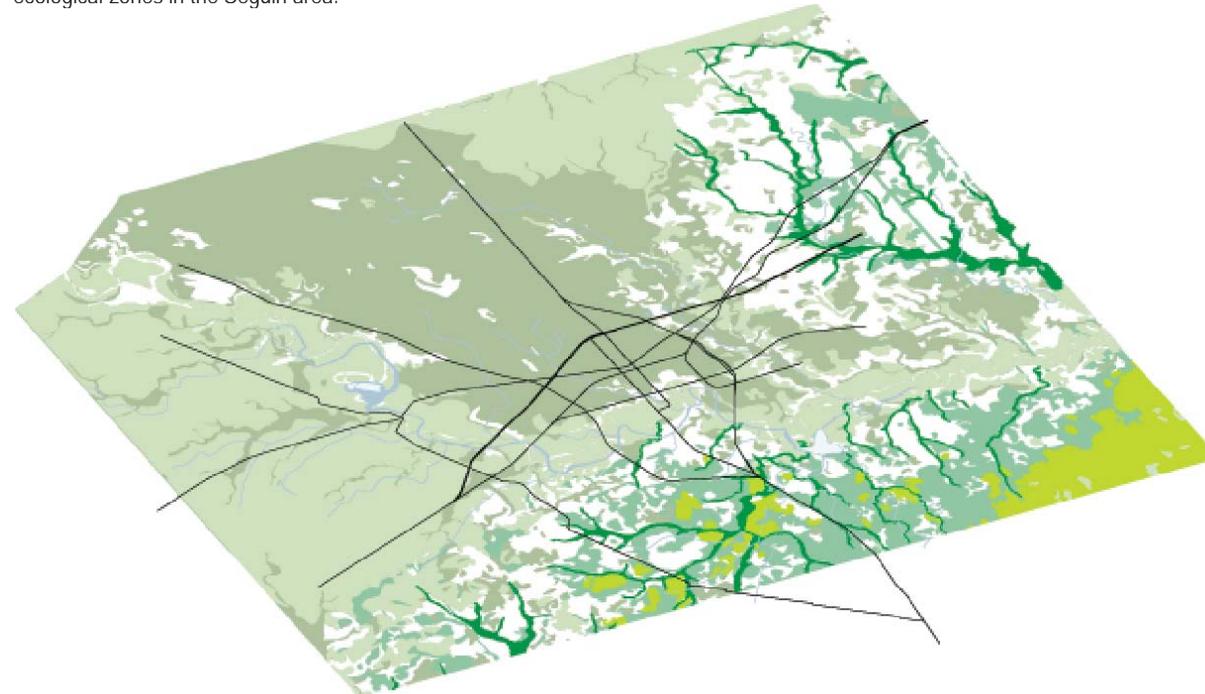
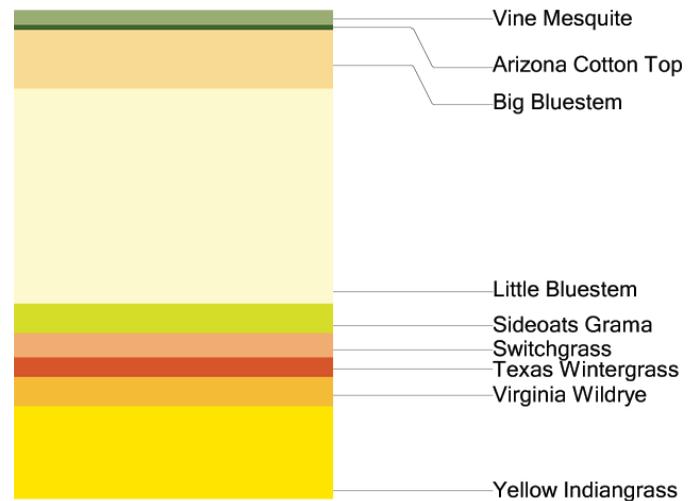


Figure 6. Seguin Vegetation Composite.

SEGUIN ECOLOGICAL ZONES

The relationship of living and non-living components within a natural system will determine the habitat zones of that system. Seguin lies along the transition from Texas Blackland Prairie to Oak Woodlands. Due to the influence of the Guadalupe River basin, a further division can be noted, as the basin is a significant riverine or riparian area. These factors indicate that there are actually four distinct habitat zones in the Seguin area: The Prairie Zone, the Prairie Riparian Zone, the Oak Woods Zone and the Oak Woods Riparian Zone.

Prairie Zone. The Prairie Zone has relatively uniform topography and is not characterized by a sub-surface water table. The soil types of this area are clay-based and nutrient-rich. Prairies are generally complex grassland communities, whose root systems aid in the infiltration of water and in soil stabilization. The dense grass coverage houses a variety of animal life. Trees occur occasionally in mottes (clusters), but prairies are generally open grassland expanses. Common vegetation expected in the Seguin Prairie Zone are listed below.



PRAIRIE



YELLOW INDIAN GRASS

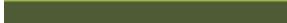
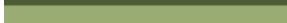
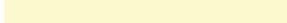


BIG BLUESTEM

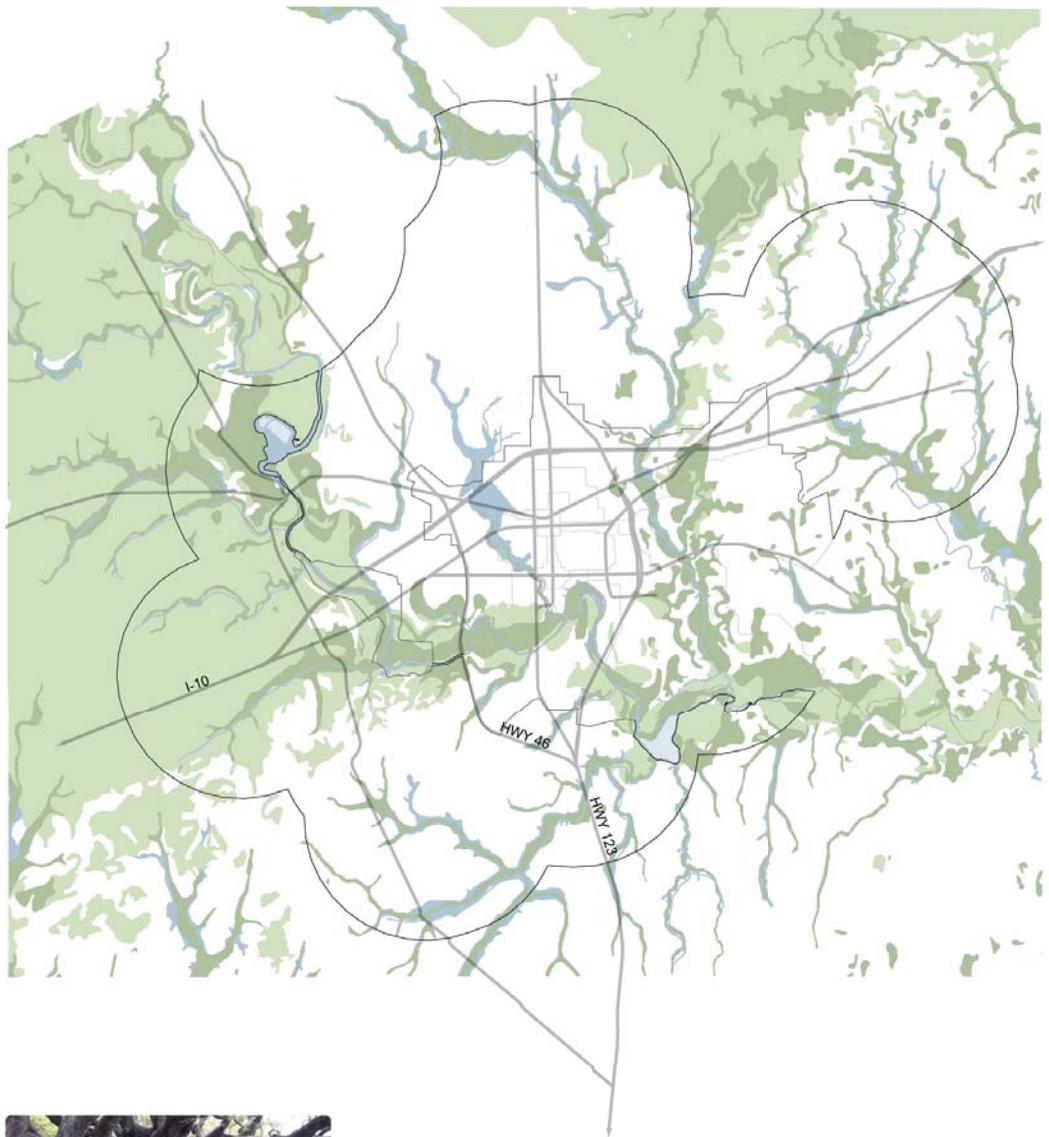


SWITCHGRASS

Prairie Riparian Zone. As the Guadalupe River cuts through the Blackland Prairie, it forms a riparian zone. The term riparian refers typically to the banks of a river or stream, and these areas are ecologically diverse. The Prairie Riparian Zone of the Seguin area contains Tinn Clay (bottomland) soils, which are constantly affected by the action of surface water collection and flow, namely the behavior of the Guadalupe River and its tributaries. These areas are subject not only to normal surface water movement, but also to flooding at various frequencies, depending on elevation and seasonal weather patterns. The Seguin Prairie Riparian Zone follows the 500 year FEMA floodplain boundary fairly closely. Riparian zones are ecologically diverse areas. Many animals depend upon these zones as corridors for movement and for food and water supply. In prairie areas, riparian corridors provide tree coverage that is relatively uncommon away from the water's edge. These trees also provide stability in the face of the hydrologic actions mentioned above, protecting the soil from erosion. Typical vegetation to be expected in this area are shown below.

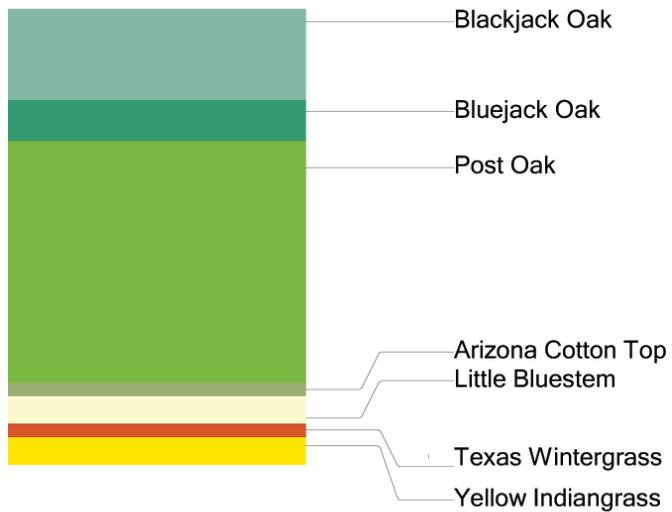
-  Bald Cypress
-  Live Oak
-  Vine Mesquite
-  Little Bluestem
-  Silver Bluestem
-  Switchgrass
-  Virginia Wildrye
-  Yellow Indiangrass
-  Eastern Gammagrass

PRAIRIE RIPARIAN

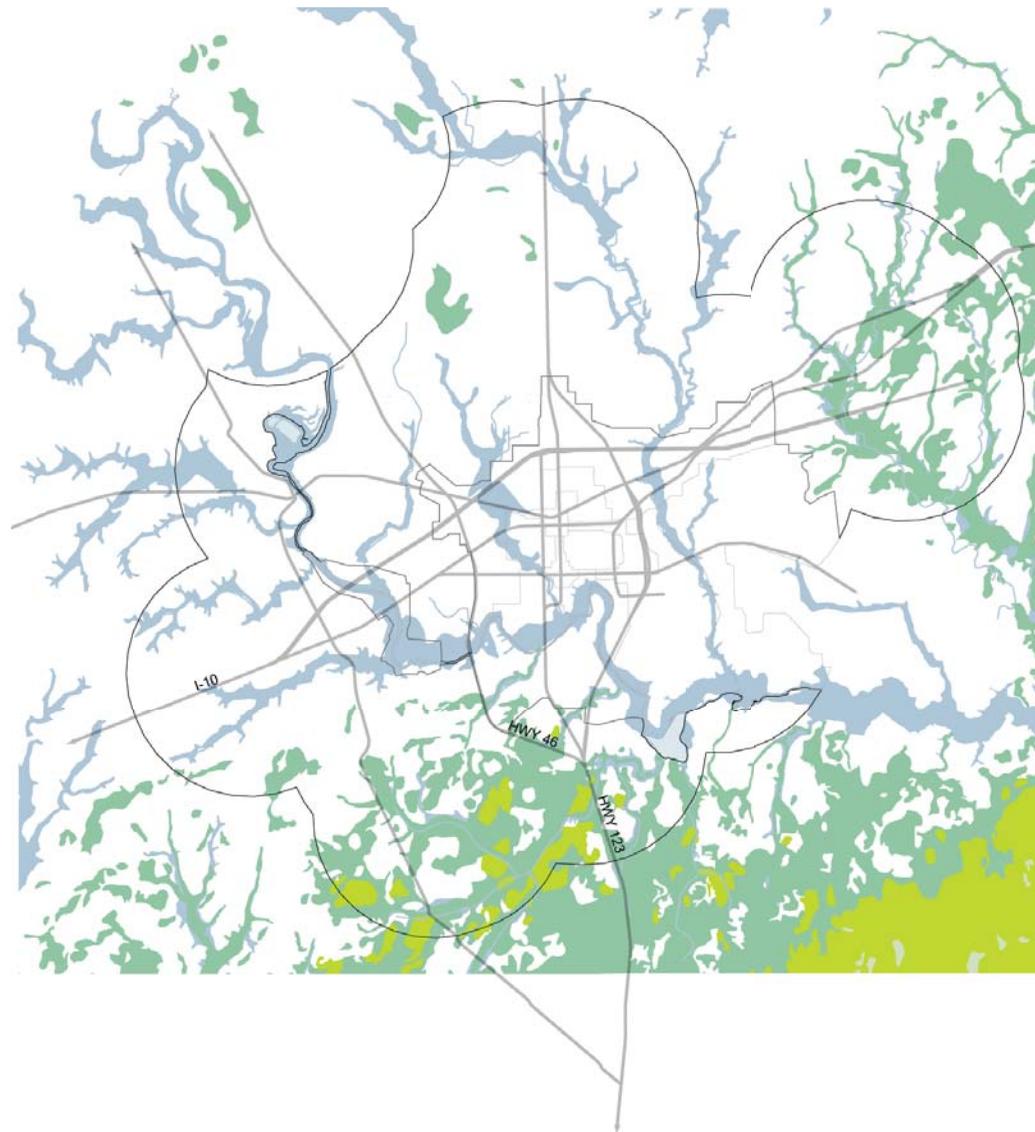


LIVE OAK

Oak Woods Zone. The Seguin Oak Woods are characterized by sandy soils, and the topography shows a higher level of variability. As sand filters water more effectively than clay, these soils contain higher sub-surface moisture content, in which oak trees tend to fare well. The tree coverage found in the Oak Woods area provides many environmental benefits, such as atmospheric carbon sequestration. Trees take in carbon dioxide from the air (unwanted) and release oxygen (wanted), purifying the air and ultimately restoring carbon stores in the soil. Typical vegetation in the Oak Woods includes the following:



OAK WOOD

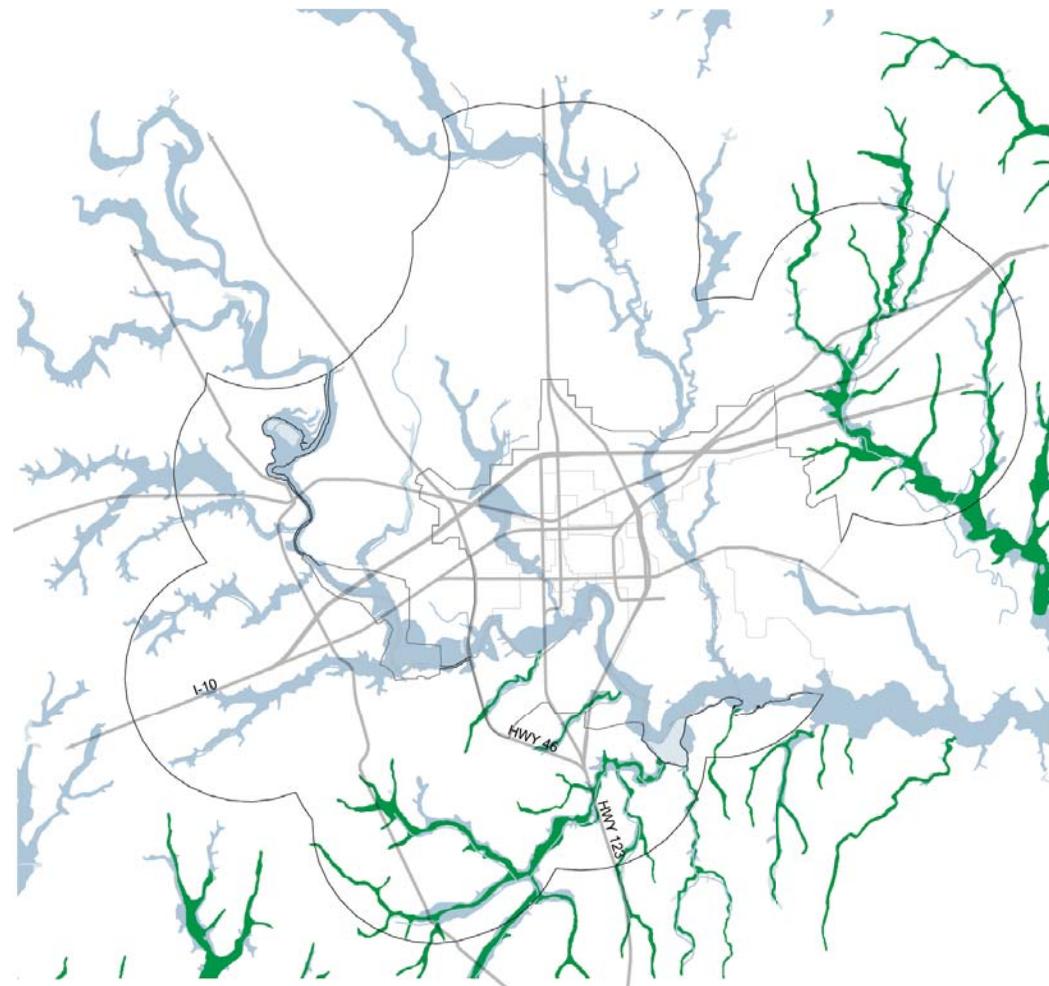


POST OAK



Oak Woods Riparian Zone. The Oak Woods Riparian Zone contains sandy bottomland soils. Like the soils found in the Prairie Riparian Zone, these soils are affected by the Guadalupe River and its tributaries. They are primarily sand-based, but are shaped by deposits and erosion due to surface water movement. They maintain a character that differs from the soils found in the Oak Woods, due to the influence of surface water movement within the Guadalupe River Basin. The river and stream banks of this zone provide stability in the face of water erosion, as well as a source of food and water for wildlife. The presence of the Guadalupe River creates a variation in vegetation from the surrounding area. The following are typically found in this zone:

- Bald Cypress
 - American Elm
 - Black Willow
 - Blackjack Oak
 - Live Oak
 - Yaupon Pine
 - Little Bluestem
 - Silver Bluestem
 - Switchgrass
 - Virginia Wildrye
 - Yellow Indiangrass
- OAKWOOD RIPARIAN**



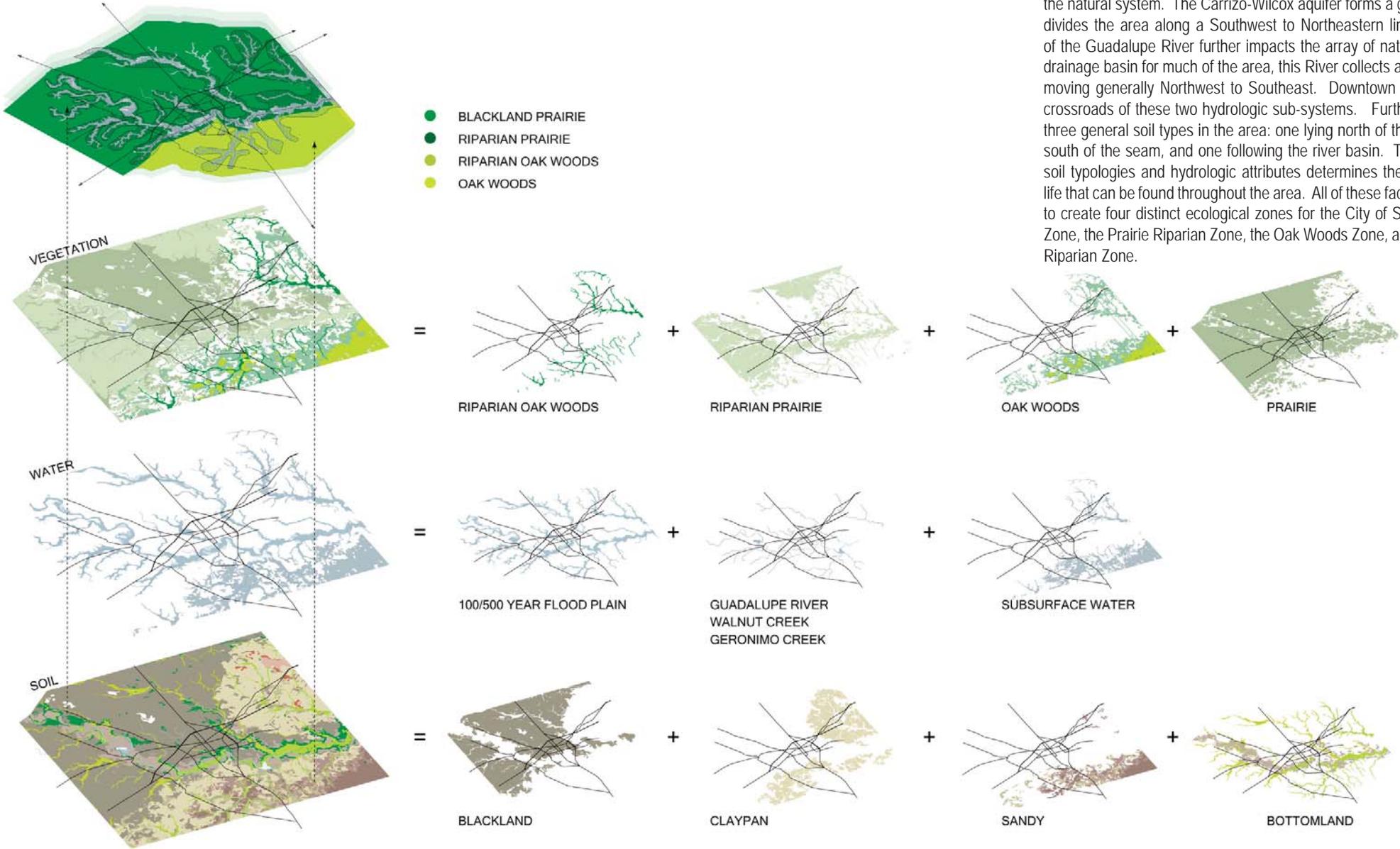
BLACK WILLOW



AMERICAN ELM

Ecological Context: A Summary

Seguin sits at an ecological crossroads of many different components of the natural system. The Carrizo-Wilcox aquifer forms a geologic seam that divides the area along a Southwest to Northeastern line. The presence of the Guadalupe River further impacts the array of natural spaces. As a drainage basin for much of the area, this River collects and conveys water, moving generally Northwest to Southeast. Downtown Seguin sits at the crossroads of these two hydrologic sub-systems. Furthermore, there are three general soil types in the area: one lying north of the seam, one lying south of the seam, and one following the river basin. The combination of soil typologies and hydrologic attributes determines the plant and animal life that can be found throughout the area. All of these factors work together to create four distinct ecological zones for the City of Seguin: The Prairie Zone, the Prairie Riparian Zone, the Oak Woods Zone, and the Oak Woods Riparian Zone.



ENVIRONMENTAL ASSESSMENT: THE IMPACT OF THE BUILT SYSTEM UPON THE NATURAL SYSTEM

Introduction

The growth of the built environment has a definitive impact on the natural system of a place. As basic factors such as land, air, and water are altered, the living components of the system are affected as well, meaning that changes in environmental quality have a direct impact on the quality of life for a community. For the Seguin area, soil, air quality, and surface water management were analyzed to determine the impact to date of the built system upon the natural system described in the previous section.

Soil

Over 750,000 acres of the land in Guadalupe County is used for agricultural purposes, while only about 500 acres are dedicated to conservation efforts. This impacts the landscape of the area in two ways: the removal of the stabilizing effect of native plant communities and the impact of land management practices associated with agricultural use.

In the native ecological context described above, complex plant communities aid in the absorption of surface water, in soil stabilization, and in nutrient cycling. Furthermore, the absence of these plant communities exposes soils to erosive factors, such as surface water flow.

Surface water movement brings about soil erosion in the absence of stable vegetative communities.

THEREFORE preserve stable vegetative communities to prevent soil erosion.

The large proportion of agricultural land indicates that the majority of the native habitat of the County has been altered from its natural state. In agricultural areas, monocultures and crop treatments have altered not only the vegetation in these areas, but also the soil conditions.

Soil composition has been altered through agricultural pressure.

THEREFORE enhance soil conditions through introduction of Best Management Practices in agricultural areas.

County	Land Area	Percent in Agricultural Use	Land in Agricultural Use	Harvested Cropland	Total Woodland	Total Pastureland	Conservation Reserve/Wetlands
Caldwell	349,304	75.9%	265,269	36,392	25,330	216,410	87
Calhoun	327,911	65.1%	213,390	57,528	4,547	138,963	n/a
Comal	359,358	51.0%	183,241	13,185	21,743	162,342	1,566
DeWitt	581,939	96.2%	560,093	41,346	33,118	499,693	172
Gonzales	n/a	n/a	n/a	54,368	56,977	635,800	821
Guadalupe	455,171	76.4%	347,763	82,748	27,348	244,807	437
Hays	433,878	68.8%	298,493	25,758	19,376	260,771	n/a
Kendall	423,998	76.7%	325,412	12,881	18,492	298,136	14
Refugio	n/a	n/a	n/a	79,344	8,303	460,426	1,128
Victoria	564,855	81.1%	458,111	95,644	15,077	336,277	1,655

Source: GovStats, 1997 Figures. All Land Area in Acres.

Figure 7. Guadalupe County Agricultural Land Use.

Air

Guadalupe County, along with many surrounding counties (such as Bexar, Hays, and Travis), is near non-attainment for ozone levels. There is an ozone monitoring station in the City of Seguin, with 1 hour and 8 hour values recorded daily. As the San Antonio Metropolitan Area continues to grow, this issue will become more difficult to correct. Because the San Antonio Metropolitan Area created an Early Action Plan, it was given three years to decrease its air pollution levels. This three year period expired in December of 2007. Although Guadalupe County is anticipated to meet thresholds of air quality attainment at this time (achieving a rating of less than 82ppb for 2007), EPA standards will most likely become more stringent in the future.

As EPA standards become more stringent, it will be increasingly difficult to reach attainment levels for air quality in the face of urban growth.

THEREFORE minimize negative impact of urban growth on air quality.

It is important to remember that air is not limited by political bounds. This means that regional activity will impact local air quality. Activity in the San Antonio area will have a strong impact on air quality in Seguin, as will growth and change along the I-35 Corridor.

Air quality in Seguin is affected by regional activity, including that found in surrounding cities such as San Antonio.

THEREFORE address air quality issues in Seguin in a manner consistent with activity in surrounding areas, such as San Antonio.

Furthermore, the Texas Commission on Environmental Quality monitors air pollution produced at six point sources in Guadalupe County. These are the local sources of many air pollutants, such as NO_x (Nitrous Oxide) and VOCs (Volatile Organic Compounds). Although point sources of air pollution are regulated federally, the levels they produce must also be accounted for locally.

Local point sources contribute a range of air pollutants, which decrease air quality.

THEREFORE minimize negative impact of local point sources of air pollution.

As Seguin grows, air quality issues such as ozone levels and point sources of air pollution must be addressed, as air quality impacts overall community quality of life. As plans are developed for community growth and development, measures should be considered that assist in the improvement of air quality for Seguin.

Vehicular traffic patterns will affect air quality for Seguin.

THEREFORE develop transportation plans for Seguin that reduce vehicular trips, and therefore diminish the negative impacts on air quality.

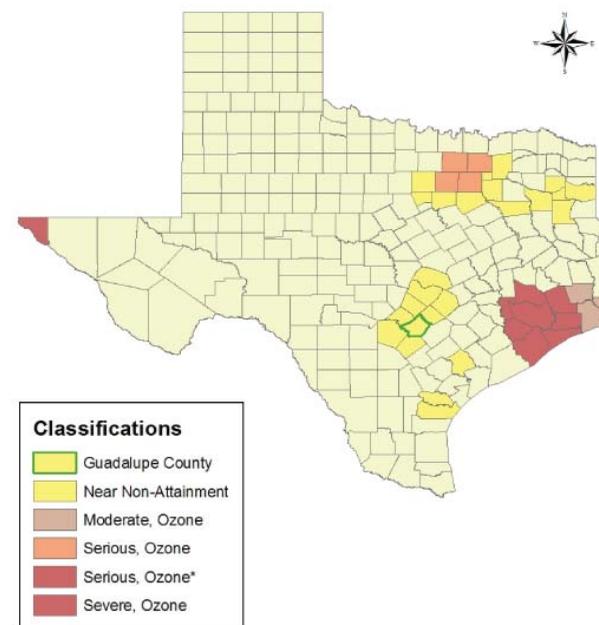


Figure 9. Texas Air Quality Concerns by County.

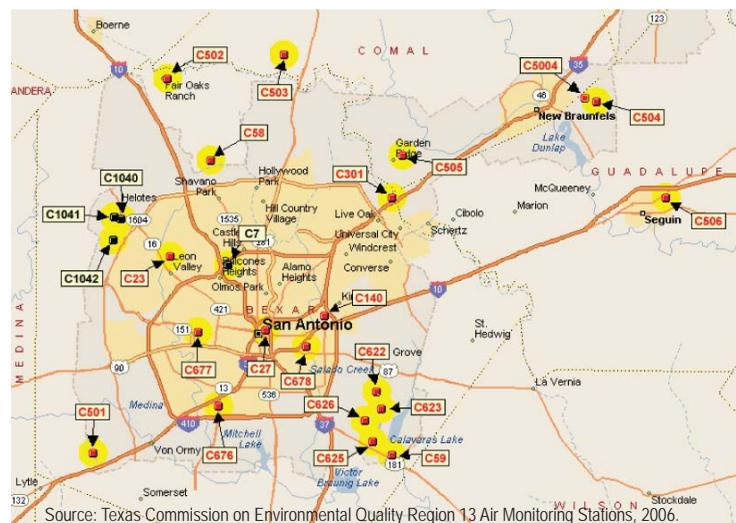


Figure 8. Seguin Air Quality Points of Concern.



WATER

One of the most visible and pronounced interfaces of the natural system and the built system is the role of the Guadalupe River in growth and development in the City of Seguin. As Seguin grows, that relationship will continue to exert a strong presence in the life of the City. Urbanization (the expansion of the city/community fabric and all associated effects) impacts the hydrologic system in two general ways: it impacts water quality and it impacts water quantity.

Water Quality. The most recent studies conducted of water quality throughout the Guadalupe River Basin (published by the Guadalupe-Blanco River Authority in 2007) indicate that the segment of the Guadalupe River extending throughout the Seguin area does not exhibit any significant water quality concerns. This study includes Lake McQueeney and Lake Placid, and is classified as segment 1804 of the Guadalupe River. Of all factors assessed, not a single test indicated a significant level of concern for the Guadalupe River at the time of this assessment. However, it has been noted that exotics (non-native species, such as hygrophila and loricarids) have been introduced into the Guadalupe for the purpose of algae control. Although this does not have a significant effect on current water quality, it could be detrimental in the future. Recreational pressures also have an impact on water quality, as well as development pressure upstream.

As recreation and development pressures increase upstream along the Guadalupe, the quality of surface water in the Seguin area will be affected.

THEREFORE establish and enforce standards for development and recreational use along the Guadalupe River.

Geronimo Creek (Guadalupe River segment 1804A) has been designated as an area for concern, as recent tests indicate significant levels of nitrates, as well as higher bacteria counts than should be expected. This designation is for the entire creek system, from its beginnings north of Seguin to the point of confluence with the Guadalupe River. There is at this time no declared source for these increases in nutrient levels.

Geronimo Creek is an area of concern for water quality, due to nutrient and bacteria levels.

THEREFORE establish and enforce standards of land use to protect and preserve water quality in Geronimo Creek.

As growth continues along the I-35 corridor, it is reaching continuously down Highway 46 toward Seguin. This is creating a strip of development extending downward from New Braunfels, east of the Guadalupe River, and west of Geronimo Creek. This has a direct effect on the surface water system. The surface water collection system is altered, and exposed soils create increased sedimentation in the watershed drainage system.

Water Quantity. Because of its location in the Guadalupe River Basin, Seguin is subject to frequent flooding. These floods shape the culture of the area, and are a significant factor of both the natural and built system. Besides their physical impact on the City, they have a sobering financial impact, and also affect quality of life of the citizens who live and work in the City.

Although flooding is a natural phenomena, floods can be magnified by the impact of land use practices, urbanization, and development. Floods in the Seguin area are normally swells in the Guadalupe River, and are generally caused by:

- Regional storms or prolonged periods of precipitation (upstream conditions, especially in June, July, and September)
- Increase in impervious surfaces (urbanization)
- Impact of tropical storms (Texas Coast)
- Dam failures (Canyon, McQueeney, Placid)

Flooding in the Seguin area typically results from seasonal storms, leading to increased water volume in the system.

THEREFORE create land use designations that acknowledge flood behavior characteristic of the Guadalupe River Basin.

THEREFORE improve stormwater management policies and practices in Seguin.

Currently, the rivers, lakes, and streams of the Seguin area flood due to water catchment, rather than a backing-up of the system. This means that, as development pressures continue upstream, the ability of the Guadalupe River to convey flood waters according to current patterns will become very difficult. Flood incidents will most likely be increased by effects of future development, due to increased pressures on river and stream channels.

Floods are natural phenomena, but are magnified by urbanization.

THEREFORE incorporate principles of retention, detention, and infiltration into plans, so as to preserve and enhance the conveyance of surface water in Seguin.

As urbanization occurs, the amount of impervious surface in the area is increased. Impervious surfaces prevent the absorption of water, and increase the amount of surface water run-off. This puts abnormal amounts of pressure upon river and stream channels that must carry the excess water volume, altering channel attributes and increasing sedimentation.

Increases in impervious surface, due to an expansion of the built environment, will place increased pressure on the Guadalupe River basin, which serves as a catchment for surface runoff.

THEREFORE designate areas of catchment and infiltration throughout Seguin that will diminish pressure on the Guadalupe River from increased impervious surfaces.



ENVIRONMENTAL ASSESSMENT: A SUMMARY OF CONCERNS ADDRESSED

SOIL QUALITY

- Surface water movement brings about soil erosion in the absence of stable vegetative communities. **THEREFORE preserve stable vegetative communities to prevent soil erosion.**
- Soil composition has been altered through agricultural and development pressure. **THEREFORE enhance soil conditions through introduction of Best Management Practices in agricultural areas.**

AIR QUALITY

- As EPA standards become more stringent, it will be increasingly difficult to reach attainment levels for air quality in the face of urban growth. **THEREFORE minimize negative impact of urban growth on air quality.**
- Air quality in Seguin is affected by regional activity, including that found in surrounding cities such as San Antonio. **THEREFORE address air quality issues in Seguin in a manner consistent with activity in surrounding areas, such as San Antonio.**
- Local point sources contribute a range of air pollutants which decrease air quality. **THEREFORE minimize negative impact of local point sources of air pollution.**
- Vehicular traffic patterns will affect air quality for Seguin. **THEREFORE develop transportation plans for Seguin that reduce vehicular trips, and therefore diminish the negative impacts on air quality.**

WATER QUALITY

- As recreation and development pressures increase upstream, the quality of surface water in the Seguin area will be adversely affected. **THEREFORE establish and**

enforce standards for development and recreational use along the Guadalupe River.

- Geronimo Creek is an area of concern for water quality, due to nutrient and bacteria levels. **THEREFORE establish and enforce standards of land use that will protect and preserve water quality in Geronimo Creek.**

WATER QUANTITY

- Flooding in the Seguin area typically results from seasonal storms, leading to increased water volume in the system. **THEREFORE create land use designations that acknowledge flood behavior characteristic of the Guadalupe River Basin. THEREFORE improve**

stormwater management policies and practices in Seguin.

- Floods are natural phenomena, but are magnified by urbanization. **THEREFORE incorporate principles of retention, detention, and infiltration into plans, so as to preserve and enhance the conveyance of surface water in Seguin.**
- Increases in impervious surface, due to an expansion of the built environment, will place increased pressure on the Guadalupe River basin, which serves as a catchment for surface runoff. **THEREFORE designate areas of catchment and infiltration throughout Seguin that will diminish pressure on the Guadalupe River from increased impervious surfaces.**



2.2 physical systems assessment

The physical systems that support the City of Seguin include water, sewer, and drainage services, and must be adequate to serve future development needs.

The Comprehensive Plan should seek to accommodate future development regarding infrastructure needs in order to best serve the growth of the City. In order to understand these needs, the current physical systems must be understood. The following section examines Seguin's current water, sewer, and drainage service provision. The City of Seguin most recently updated its impact fees for water and sewer in 2005. The water portion was updated again in 2007 due to the Schertz/Seguin Water Supply Corporation beginning to charge its own impact fee. The capacity analysis, land use plan, and population projections were not changed in the revision.

The capacity analysis for all sewer and water infrastructure is based on a living unit equivalent (LUE). The LUE is a derivative measurement intended to establish a common measurement unit for all types of land uses. An LUE is equivalent to the amount of demand typically produced by a single-family residence using a ¾" water meter. Demand is directly calculated by population and translated into LUEs. Thus, an LUE is not a unit usage statistic per se, but rather a translation of such statistics into a common denominator. It is standard practice to use a LUE as a measurement in capacity analysis for impact fee studies and comprehensive plans.

Service areas are controlled and monitored by the Texas Commission on Environmental Quality (T.C.E.Q.). Cities have Certificates of Convenience and Necessity (CCN) that define their service areas and that are issued by the T.C.E.Q. A CCN authorizes a utility to provide water or sewer utility service to a specific area and obligates the utility to provide continuous and adequate service to every customer who requests service in that area. The relative capacities for future growth of various infrastructure components for water are based on the projected population within the existing CCN only. This is because the City is completely surrounded by other entities and legally cannot serve areas without consent from those entities (Figure 1). Thus, even though the population in 2017 is projected to be 34,000 people, the City may only be providing water service to 30,000. The relative capacities for future growth of various infrastructure components for sewer are based on the projected population as a whole for the entire City. This is because the City has additional area in which to acquire CCN within the E.T.J. (Figure 2). Thus, it is assumed that the population in 2017 will be 34,000 people and the City will provide sewer service for 34,000 people.

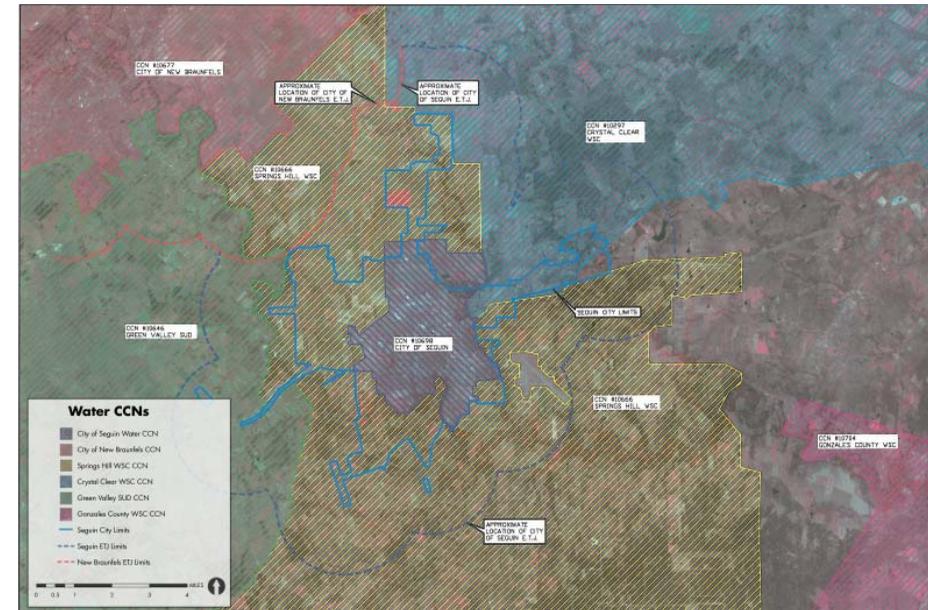


Figure 1. Seguin Area Water Certificates of Convenience and Necessity.

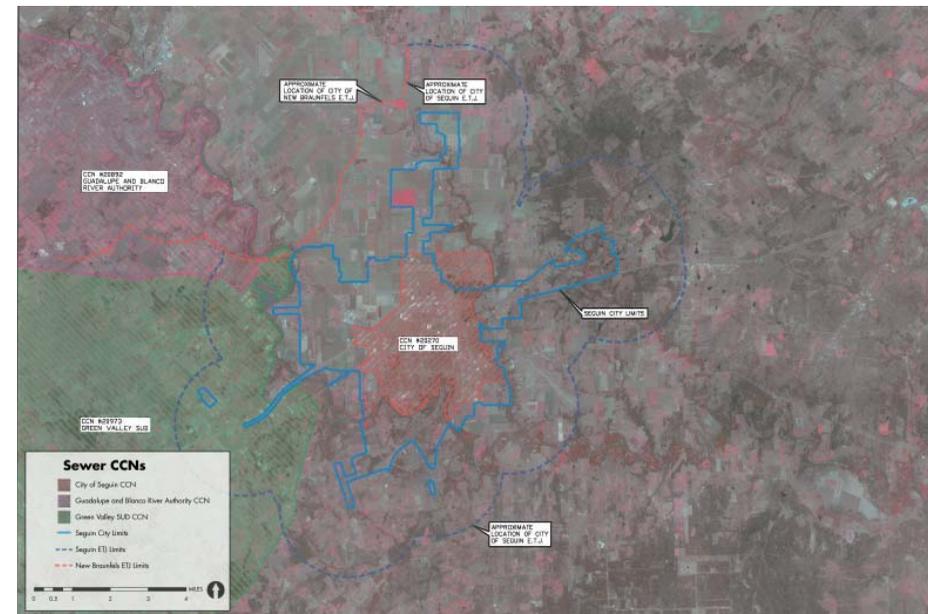


Figure 2. Seguin Area Sewer Certificates of Convenience and Necessity.

WATER

The City currently purchases treated groundwater from the Schertz/ Seguin Water Supply Corporation. By contract, the City is entitled to 50% of the groundwater from the wells and treated groundwater from the Nixon Water Treatment Plant. The City provides potable groundwater to residents within its current CCN. In addition to the groundwater, the City also has water rights from the Guadalupe Blanco River Authority (G.B.R.A.) to use the Guadalupe River for a source of surface water supply.

The population data used herein is based on the established populations previously set forth in this Plan. The City has 7,716 various sized water meters in service at this time. Based on the various water meter sizes (meters larger than ¾" will count for more than one LUE) and the total number of each, the total LUEs used for comparison was 9,151. The conversion factors (LUEs per meter) are a standard from the American Water Works Association (AWWA). These are based on continuous duty maximum flow rate in gallons per minute derived from AWWA C700-C703. Figure 3 lists the number of each type of water meter in Seguin and illustrates how the total number of LUEs (9,151) was obtained.

Water Supply

The Schertz/Seguin W.S.C. currently has eight wells in service capable of producing approximately 13.824 million gallons per day (MGD). Per the agreement between Seguin and Schertz, only half of this production is available to the City of Seguin at any given time. Thus, for engineering purposes, this study will assume 6.912 MGD existing supply available for Seguin. In addition to the groundwater, the City also has water rights from the Guadalupe Blanco River Authority (G.B.R.A.) to use the Guadalupe River for a source of surface water supply. The City is allowed to use 7,000 acre feet a year from the River (6.249 MGD). The City also purchases 1,000 acre feet per year from G.B.R.A., bringing the total water available from the Guadalupe River to 7.142 MGD. Based on data provided by City

METER SIZE	LUEs per Meter	Number of Meters	Number of LUEs
5/8"	0.667	0	0
3/4"	1	7,251	7,251
1"	1.667	171	285
1-1/4, 1-1/2	3.333	87	290
2"	5.333	163	869
3"	10.667	24	256
4"	16.667	12	200
6"	33.333	8	267
Total		7,716	9,151

2008 Population per LUE: 2.84

Figure 3. Seguin Living Unit Equivalent (LUE) Calculation Table.

personnel, the average groundwater usage per LUE is 412 gallons per day. The peak groundwater usage per LUE is 696 gallons per day.

T.C.E.Q. requires a minimum ground water capacity of 0.6 gallons per minute (gpm) per LUE. Based on the City's total number of LUEs of 9,151, the City would need 7.906 MGD of water supply. The City currently has 6.912 MGD available for groundwater. However, since the City also has an additional 7.142 MGD (8,000 acre feet) of surface water available, it is in compliance with T.C.E.Q. requirements. The existing capacities and actual usages are shown in Figure 4. The City only serves Tyson Foods and the Rio Nogales Power Plant with surface water.

Water Treatment

The Schertz/Seguin W.S.C. currently has one groundwater treatment plant, the Nixon Water Treatment Plant. This plant is expected to treat all of the existing water wells and proposed future water wells to meet the 20,000 acre feet per year limit in Gonzales County. The treatment plant has a capacity of approximately 17.28 MGD. Per the agreement between Seguin and Schertz, only half of this treatment capacity is available to the City of Seguin at any given time. Thus, for engineering purposes, this study will assume 8.64 MGD existing supply available for Seguin. The average and peak quantities treated by the groundwater plant is equal to the water supply from the groundwater plant described above.

In addition to the Nixon Water Treatment Plant, the City also has a surface water treatment plant located within the City on the Guadalupe River that has a capacity of 11.60 MGD. The plant is referred to as the Starcke Park Water Treatment Plant. The City has the means to blend treated groundwater and surface water in the distribution system to meet peak demands and special purposes throughout the year. To date, the City has rarely had to use this means to meet water demands. Less than 10% of the time during the summer months has the City had to blend water in order to meet demand. The City has determined that residential customers should be served with groundwater in lieu of surface water or blending. The Starcke Park water plant currently treats water only for use by Tyson Foods and the Rio Nogales Power Plant. The average water treated for these industrial users is 3.63 MGD. The peak water treated for them is 5.03 MGD.

T.C.E.Q. requires a minimum treatment capacity of 0.6 gpm per LUE. With 9,151 LUEs currently, the City would need 7.906 MGD of treatment capacity. The City currently has 8.64 MGD treatment capacity at the Nixon Water Treatment Plant. In addition, the City also has 11.60 MGD of treatment capacity at the Starcke Park Water Treatment Plant. The existing capacities and actual usages are shown in Figure 5.

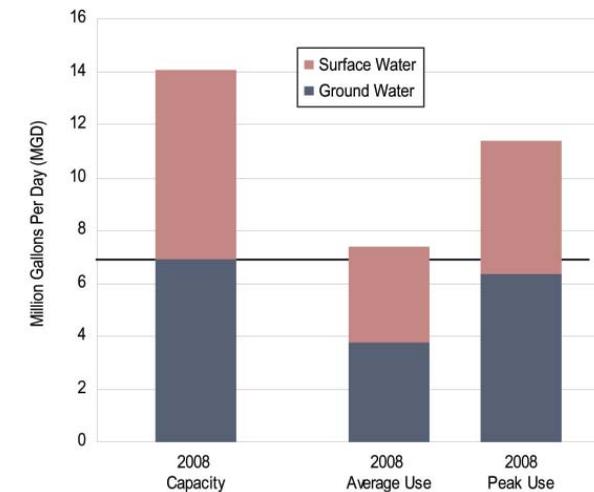


Figure 4. Seguin 2008 Water Availability and Use.

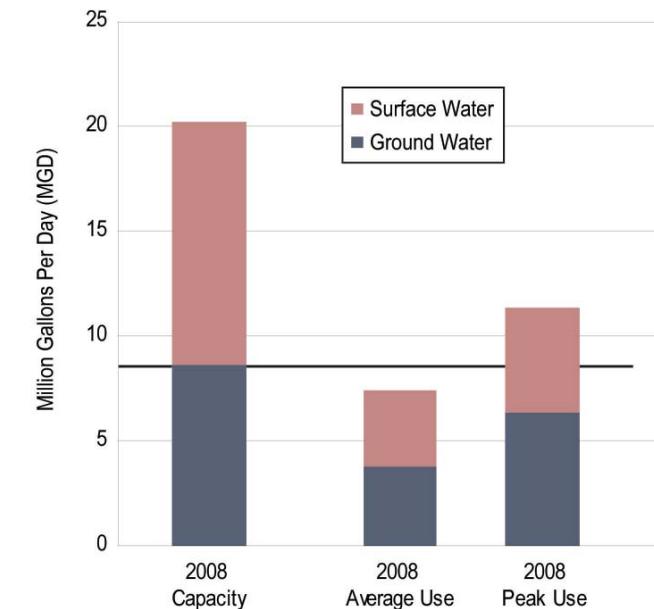


Figure 5. Seguin 2008 Water Treatment Capacity and Use.



Pumping Capacity

The Schertz/Seguin W.S.C. pumps potable water from the Nixon water treatment plant to the City of Seguin. The City then pumps the water into the distribution system and to the various elevated tanks throughout town. The City has an existing high service pumping capacity of 14.40 MGD. This is based on the pumping capacity at the Starcke Park water treatment plant. Currently, the Starcke Park water treatment plant has four 2,500 gpm high service pumps. These pumps do not currently pump surface water to the distribution system, but they can be operated this way. They are only used to distribute groundwater received from the Schertz/Seguin W.S.C. The Starcke Park plant has an additional four 2,000 gpm high service pumps to pump surface water to Tyson Foods and Rio Nogales Power Plant. The pumping capacity at the Nixon Water Treatment Plant was not included in the total pumping capacity shown in Table 6. The Schertz/Seguin W.S.C. control these pumps. The Nixon plant has four 3,000 gpm high service pumps and a high service pumping capacity of 17.28 MGD.

T.C.E.Q. requires that the City provide capacity for 2 gpm per LUE or 1,000 gpm total pumping capacity with one pump out of service and the ability to meet peak hourly demands. Based on the current LUEs (9,151), a capacity of 26.35 MGD would be needed to meet the first criteria, which the City cannot currently meet. However, the City can currently meet the second criteria, as the estimated peak hourly demand is 6.37 MGD and the City has 10.80 MGD pumping capacity (3 – 2,500 gpm pumps), with one pump out of service.

It should also be noted that the City has one additional high service pump station located along the SH 123 Bypass. This pump station delivers water from the Lucille elevated tank to the Continental elevated tank. The pump station has three 500 gpm high service pumps. This pump station was not included in the total capacity since it currently serves a small portion of City and a small elevated tank. If the elevated tank is upsized at a future date, then the pump station would need expanding as well.

Ground Storage

The City has three main ground storage reservoirs. The total existing ground storage capacity is 3.14 million gallons (MG). At the Starcke Park water treatment plant there is a 3.0 MG ground storage tank. The high service pump station previously mentioned that pumps water from the Lucille elevated tank to the Continental elevated tank has two 70,000 gallon ground storage tanks. The ground storage capacity at the Nixon water treatment plant, which is a 2.0 MG tank, was not included in the overall capacity.

Engineering standard practice is to have 100 gallons per LUE for ground storage capacity. Based on the existing LUEs (9,151), 0.9151 MG of ground storage is required, which is easily met by the City's existing 3.14 MG ground storage capacity.

Elevated Storage

The City has four elevated tanks located throughout the City. The Lucille and Kingsbury tanks have a capacity of 1.0 MG each. The Ireland tank has a capacity of 0.5 MG and the Continental tank has a capacity of 0.15 MG. The City has a total existing elevated storage capacity of 2.65 MG.

T.C.E.Q. requires 100 gallons per LUE for elevated storage capacity. Based on the existing LUEs of 9,151, 0.9151 MG of elevated storage is required. This is easily met by the City's existing 2.65 MG elevated storage capacity.

Distribution System

The City has an extensive distribution system consisting of water main sizes ranging from 2" to 24". Engineering standard practice is to have 1.5 gallons per minute per LUE for distribution system capacity. The 30" and 42" transmission mains from the Schertz/Seguin W.S.C. have not been included in the City's distribution system capacity because they are not used for distribution purposes. Based on the existing LUEs (9,151), 19.766 MGD of capacity is required (or 2,160 gallons per LUE). The City has an existing distribution system capacity of 22.066 MGD. However, this capacity does not necessarily mean the City has an excess of capacity. Some areas within the City and the outlying areas are deficient or have no distribution at all. In addition, existing pressure in some areas may not be adequate for fire protection.



SEWER

Wastewater is a significant and influential infrastructure system because the cost of a wastewater system is most affected by the capability of the wastewater to flow by gravity. Therefore, the need to secure right-of-ways along low elevations (along creeks, drainage ditches, etc.) is critical to implementation of a gravity system. The City of Seguin is divided into four primary watersheds that will provide the framework upon which a future wastewater system will be planned. These watersheds are:

- The Little Mill Creek Basin: This basin flows north to south west out of City limits, into the Guadalupe River.
- The Walnut Branch Basin: This basin flows north to south from the northwest part of the City through the center part, into the Guadalupe River.
- The Geronimo Creek Basin: This basin flows north to south east along the eastern portion of the City limits, into the Guadalupe River. The Geronimo Creek basin extends north up to IH-35 in New Braunfels.
- The Area South of the Guadalupe River: This basin flows south to north towards the Guadalupe River.

The City of Seguin currently owns and operates the collection system and treatment plants within the Walnut Branch and Geronimo Creek basins. The City owns and operates the collection system while the Guadalupe Blanco River Authority (G.B.R.A.) owns and operates the treatment plant for the area south of the Guadalupe River. Currently little or no sewer service is provided to the Little Mill Creek basin. The portion which is served, is pumped back to the Walnut Branch basin collection system.

As previously stated and shown in Figure 2, the City of Seguin has a limited CCN for sewer. However, unlike the water CCN, no entity has claimed large tracts of sewer CCN surrounding the City. The City currently services areas outside of its existing CCN by means of gravity mains, lift stations,

and force mains. The City is allowed to service these areas because no one has claimed this area. However, if an entity did claim these areas, the existing LUEs would be continued to be served by the City, but all new LUEs would be served first by that entity. In other words, if this were to occur any additional capacity in the existing system in these areas would go unutilized.

Based on the actual number of sewer service connections (6,361) and a similar conversion as shown in Figure 4, the City has 7,544 LUEs for sewer.

Wastewater Treatment

The City of Seguin currently operates two wastewater treatment plants. The Geronimo Creek treatment plant and the Walnut Branch treatment plant are located north of the Guadalupe River. The G.B.R.A. Springs Hill wastewater treatment plant is located south of the River. Although the City owns or operates the collection system and lift stations south of the River, it does not own and operate the wastewater treatment plant. The permitted flow is set by the T.C.E.Q. for all the treatment plants. The capacity of the treatment plants is based on the design average flow per day. The overall capacity and the average flow for 3 consecutive months at each of the three plants are shown in Figure 6. Historically the flow rate split between the two wastewater treatment plants is 65% to Walnut Branch and 35% to Geronimo Creek.

Of the 6,361 total sewer connections for the City, 421 connections (499 LUEs) are from the system south of the River. It is important to keep these connections and flows separate since they will affect the future capital improvements differently. Thus average flows divided by the current LUEs gives an average flow of 504 gallons per day per LUE for the system north of the River and 301 gallons per day per LUE for the system south of the

River. The reason for the difference in flows between the two systems is because the majority of the connections south of the River are residential. Engineering standards assume 3 people per household and/or LUE. T.C.E.Q. design standards stipulate 100 gallons per day per person and/or LUE. The system north of the River has more commercial and industrial users that contribute to a higher average flow. Currently, a large portion of the 504 gallons per day per LUE for the north system can be attributed to industrial users such as Tyson Foods and Rio Nogales Power Plant.

Wastewater Treatment Facilities	2008 Capacity Available	2008 Average Flow	Number of Sewer Connections	Number of LUEs	Average Flow/LUE
North of Guadalupe River			5940	7045	504 gallons/day/LUE
Geronimo Creek WWTP	2.31 MGD	1.35 MGD			
Walnut Branch WWTP	4.90 MGD	2.20 MGD			
South of Guadalupe River			421	499	301 gallons/day/LUE
Spring Hill WWTP	0.30 MGD	0.15 MGD			
City of Seguin Total	7.51 MGD		6361	7544	

Figure 6. Seguin Wastewater Treatment Facilities.



Lift Stations

The City currently operates numerous sewer lift stations (19 at the time of this Plan). Lift stations are constructed to serve areas that cannot gravity flow sewage to the wastewater treatment plants. Fourteen of these lift stations are located north the River and are as follows:

- Unity (620 gpm)
- Glen Cove (120 gpm)
- Crossroads (400 gpm)
- Nolan Street (100 gpm)
- Water Plant (120 gpm)
- Wave Pool (120 gpm)
- Friesenhahn Road (300 gpm)
- Continental (120 gpm)
- Chisolm Trail (300 gpm)
- Burges Street (150 gpm)
- Jim Barnes (600 gpm)
- Jud's (300 gpm)
- Navarro (475 gpm)
- Mill Creek (300 gpm)

Five of the lift stations are located south of the Guadalupe River and are as follows:

- Sutherland Springs (120 gpm)
- River Oak Drive (120 gpm)
- Nagel Street (100 gpm)
- Guadalupe Drive (100 gpm)
- Country Club (120 gpm)

It is estimated that the total pumping capacity of the existing lift stations is 6.60 MGD.

Lift stations are designed to carry peak wastewater flows. Assuming that 504 and 301 gallons per day per LUE are the average flow (as determined in Figure 6), a factor of 3 is applied to get the peak flow. The estimated peak flow is 1,512 gallons per day per LUE north of the River. This makes the estimated demand on the north lift stations 10.652 MGD. The estimated peak flow is 903 gallons per day per LUE south of the River. This makes the estimated demand on the south lift stations 0.451 MGD. Currently, the demand on the north lift stations is greater than the capacity of the lift stations (Figure 7). This may require further study by the City. However, peak flows are a conservative measure calculated to determine the worst case scenario, not day to day operating. In addition, each of the lift stations is equipped with two pumps that can operate together to meet the peak flows if necessary. The pumping capacities listed above for each lift station

are based on only one pump in service, a design standard. In addition, the 10.652 MGD is representative if all flow was going to lift stations and then being pumped to the wastewater treatment plants. Both the Walnut Branch and Geronimo Creek WWTPs are fed by large gravity lines that are not fed by lift stations. Thus, not all of the peak flow is passing through a lift station.

Collection System

The City has an extensive collection system consisting of gravity sanitary sewer main sizes ranging from 6" to 24". The collection system is designed based on peak flow rates. In previous sections, a peak flow rate was determined for the systems north and south of the River. For this section, the flow rate determined for the north system will be utilized. The current peak demand is 1,512 gallons per day per LUE. This requires a capacity of approximately 11.41 MGD. The City of Seguin has a current collection system capacity of 12.69 MGD. However, this capacity does not necessarily mean the City has an excess of capacity. Some areas within the City and the outlying areas are deficient or have no collection system at all.

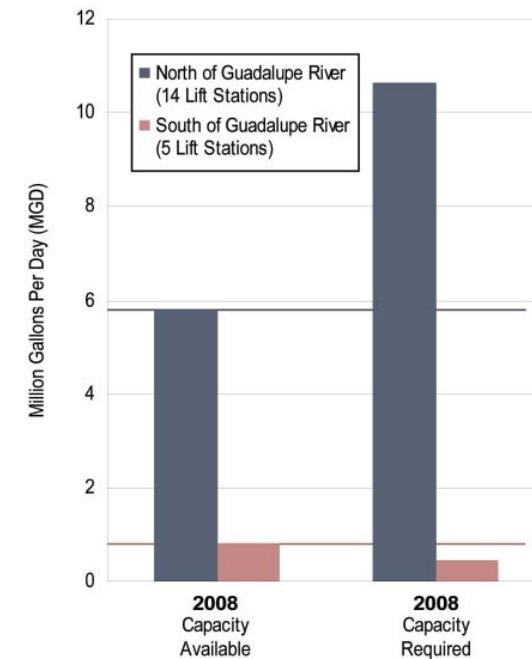


Figure 7. Seguin Lift Station Capacity.

DRAINAGE

The City has not conducted a drainage system analysis. The overall topography of the City is generally flat and gently slopes to each of the major basins or directly to the Guadalupe River. The City currently has ordinances that require all new development to detain post-development runoff to pre-development runoff rates for the 2, 10, 25, 50 and 100 year storm events. The City ordinances must be met by any development within the City's E.T.J. Storm sewer systems for new developments are required to be designed to carry the 100 year storm events. Most of the City's existing infrastructure (storm sewer) is designed to carry storm events less than the 10 year. All state (TxDOT) systems are designed to carry a minimal storm event of 25 years.

Two large drainage basins encompass the majority of the existing City limits. As discussed in the sewer section, there are four large drainage basins that encompass the City's E.T.J. and proposed land use plan. Walnut Branch runs along the west side of the City and converges with the Guadalupe River near the Walnut Branch wastewater treatment plant. It extends north of the City to Lake McQueeney. Walnut Branch has been improved throughout the years between New Braunfels Street and the River. It varies between a manmade earthen channel, concrete lined channel, and natural earthen channel. The City is currently in the process of designing flood control detention ponds north of New Braunfels Street and IH-10. These ponds are being designed to keep the 100 year flood event within the banks of the existing Walnut Branch channel south of New Braunfels Street. In addition, the ponds will reduce the 100 year floodplain within portions of the City. Walnut Branch is an intermittent stream from the Police Station north to Lake McQueeney. However, south of the Police Station to the Guadalupe River constant water flows in it due to underground springs.

Another major drainage area is Geronimo Creek. Geronimo Creek runs along the east side of the City limits. Geronimo Creek is a natural creek that has not been improved. It extends from the City of New Braunfels to the Guadalupe River. Many areas along the creek are prone to flooding and this will worsen as future development occurs upstream. The City cannot enforce detention requirements or preventive measures outside of its E.T.J. Since Geronimo Creek has such a large watershed, continued development within Guadalupe County and from IH-35 to Seguin will cause a larger burden. Some areas of the floodplain have risen by seven feet in the last twenty years. Unchecked development will cause flooding to existing homes and businesses, not to mention creating areas that will not be developable in the future. Currently, Guadalupe County is in the process of beginning a watershed study of Geronimo Creek and its affect on the City and surrounding areas.

Another drainage area is Little Mill Creek. Little Mill Creek runs along the west side of the City just outside the City limits. Little Mill Creek is a natural creek that has not been improved. It extends from the north end of the City to the Guadalupe River. Little Mill Creek is an intermittent stream throughout its entire length. Many areas along the creek are prone to flooding during large rain events. Little Mill Creek watershed extends beyond the City E.T.J., and the City of Seguin cannot enforce detention requirements or preventive measures outside of its E.T.J. Unchecked development will cause flooding to existing homes and businesses, not to mention creating areas that will not be developable in the future.

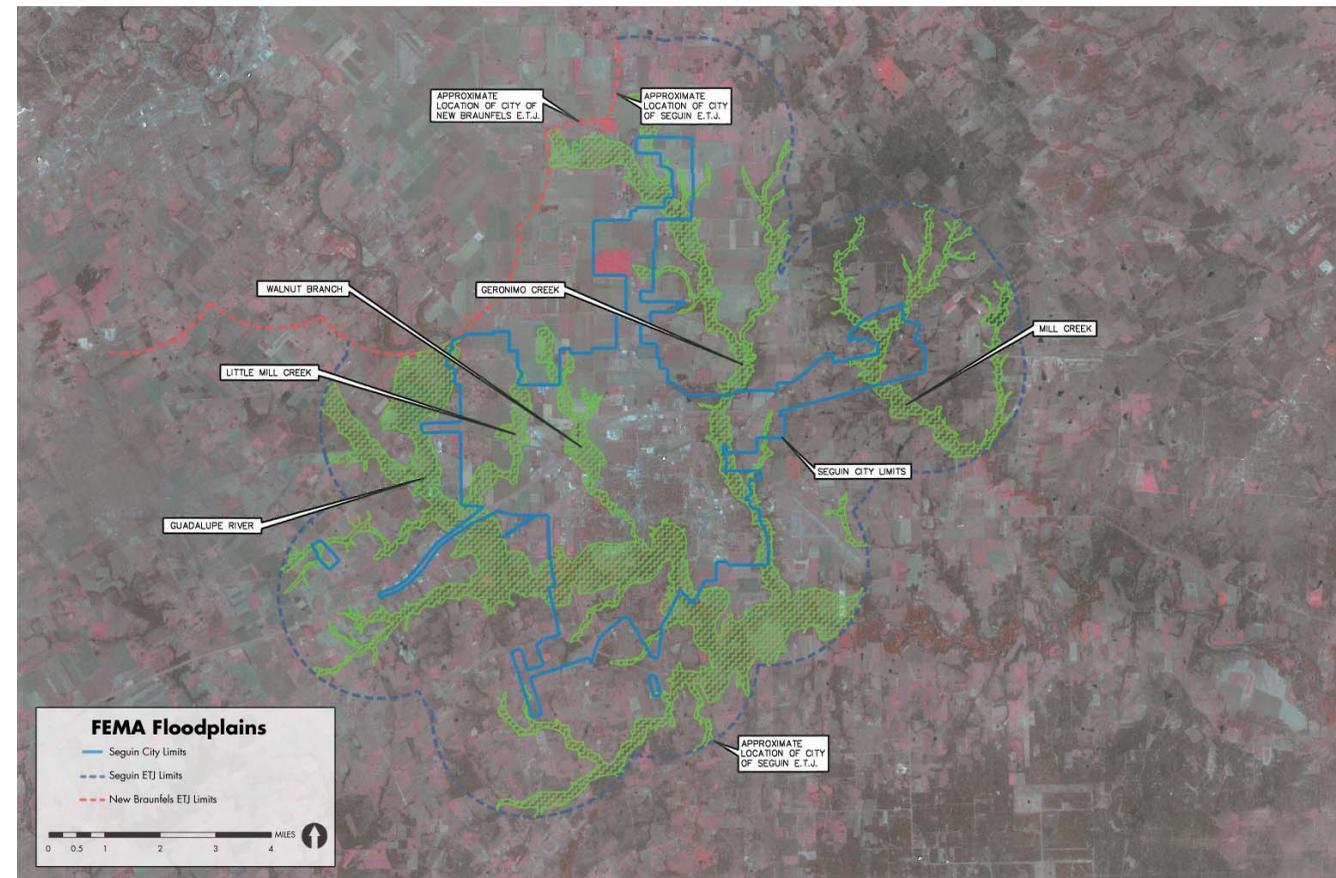


Figure 8. Seguin Area FEMA Floodplains.

2.3 city area form assessment

The heart and soul of Seguin lies in its close association with the personalities that founded Texas and in its beginning as both a County Seat and a City sustained by the agrarian economy that the fertile landscape afforded.

The heart and soul of Seguin lies in its close association with the personalities that founded Texas, as well as its history of regional political significance. The landscape afforded a fertile landscape that encouraged Seguin's agrarian economy, and Seguin held added significance as County Seat for Guadalupe County. This began a history of distinction that set Seguin on a different (and more urban) path than its neighboring rural townships.

Selection of Seguin as the Governmental Seat for a newly created Guadalupe County occurred for the same reasons that Seguin would, from that moment forward, draw attention as a place to gather traffic, people, and products from the surrounding landscape. A certain amount of commercial enterprise could also be supported by the traffic demand incurred by this jurisdictional function.

Seguin's landscape lies in the "Texan" Ecological Province, encompassing two important vegetative regions within the State. These regions are the Texas Blackland Prairie and the East Central Texas Oak Woods. The confluence of these two regions at Seguin provided a rich agricultural resource that offered fertile soil and thick forest. Therefore, crops and timber became early economic underpinnings of a new and growing City. The early town plan, which is described below, provided designation for both of these agricultural activities.

Seguin sits on a blackland bluff overlooking the Guadalupe River floodplain at a point where flat land (associated with blackland soils) breaks into

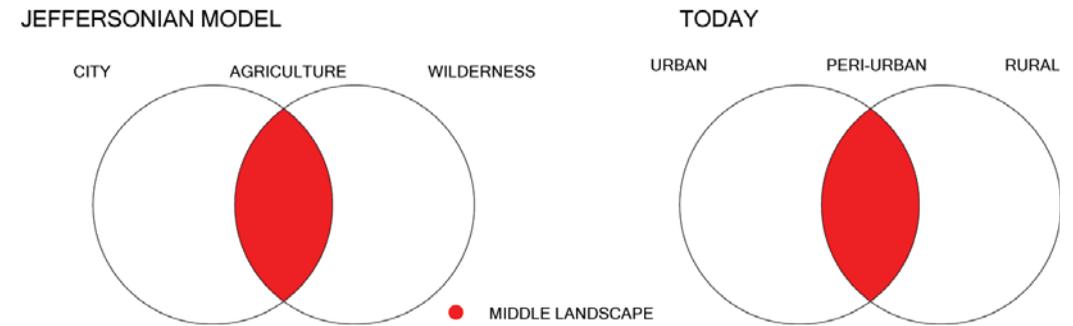


Figure 1. Models of Land Development.

more steeply sloped land (associated with more acidic soils), and where water might be quickly lifted up to supply a spring (such as Walnut Spring). Seguin's site offered the new settlement certain benefits in its location not easily found in this open land. It provided:

- A defensible exposure with the river protecting almost three sides of the original settlement
- A source of fresh water (from Walnut Spring) and a source of industrial water (from the Guadalupe River)
- The availability of farm land to the north (for food and economic development) and the availability of timber land to the south (for construction and economic development)
- Connectivity to other frontier towns and settlements via the cattle trail and stage coach road that also made use of Walnut Spring

The founders of Seguin acquired this specific site not only for its many attributes, but also for its unique beauty, which is referenced by the visitors and settlers who made their way to Walnut Spring. These comments are well documented in the writings and notes of those first 33 shareholders in the Corporation that established Seguin's original town plan.

The era of Seguin's founding was also the era of a more general westward expansion by European immigrants flowing from the eastern United States. Many of these settlers came to Texas following the opening of Mexican Territory to general settlement (1822). The visions of land and a better life that inspired families to endure the trials of frontier settlement consumed the consciousness of a young nation, giving rise to many visionaries and utopian thinkers in pursuit of the ideal city. Some of these experiments found their way into the mid-west (places such as New Harmony by Robert



Owen and Oneida or Amana), while others became the frontier model for settlers trying to civilize a hostile land (such as the Plat of Zion imposed by early Mormons in Utah and along the Virgin River Valley of Nevada). Therefore, it is not surprising that the first settlement of Seguin (then called Walnut Springs) was accompanied by a visionary plan that set in place a template for the city's future and provides background by which the planning issues of today can be understood.

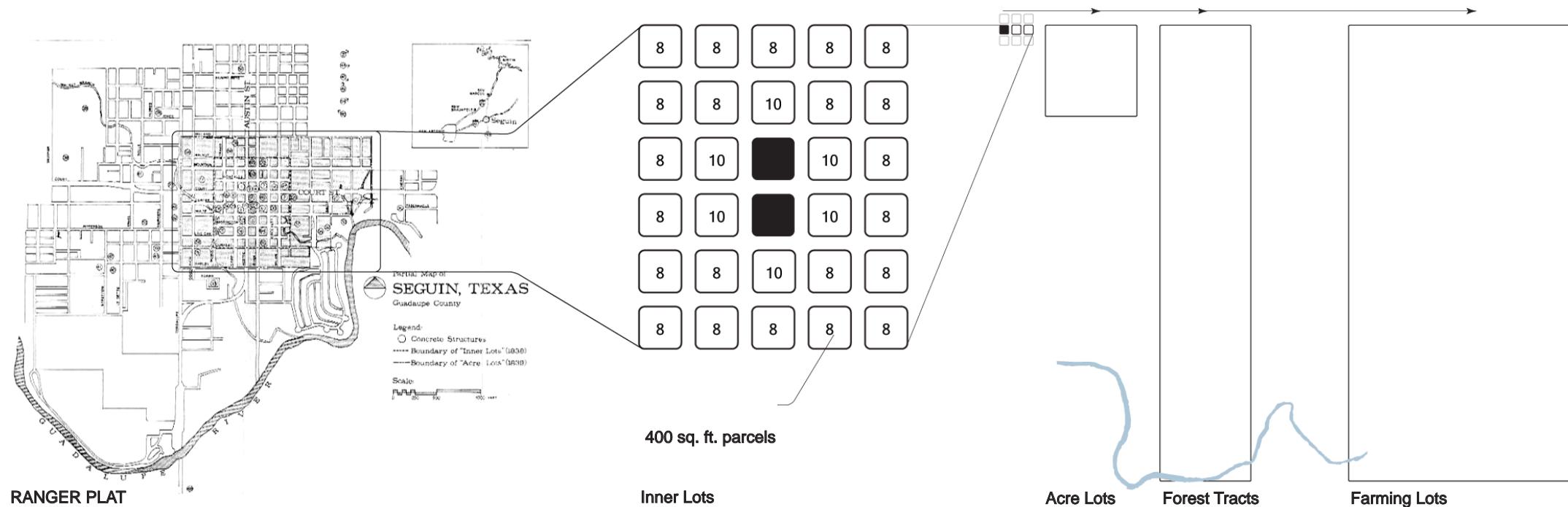
However, early in its history, downtown's place as a hub within the patterns of local and regional movement was weakened by a shifting of traffic to newer corridors which passed outside the core instead of through it. As the City matured and grew, traffic densities were continually shifted to newer thoroughways, which moved increasingly further from the core area. Each new major thoroughway precipitated a wave of commercial investment and residential growth, which would collectively constitute the form of the City at

that time. Every time that traffic and infrastructure shifted, the dominance of Seguin's central core was challenged. The City Form, which was once highly legible, became harder to comprehend. This is the greatest issue facing the City at this moment in its history, as these trends, should they continue, will further convolute the form of the city. The City's present form reflects these conflicts that assault and weaken its historic center.

The positioning of Seguin's early plan (hereafter called the Ranger Plat), the natural features of its environs, and the intervention of major thoroughways that attracted growth during various historic periods defines a constellation of experientially meaningful and cognitively strong sub-districts that comprise the physical form of the City. Each district possesses a different set of physical characteristics, is challenged by different physical issues, and is experiencing different trends of change. Therefore, these Form Districts are appropriate planning areas that can facilitate comprehension of the issues

to be addressed by the Comprehensive Plan, articulation of the planning goals, and allocation of the planning recommendations. Each of these districts is unique for the following reasons:

- *Each presents its own challenges of enhancement and enrichment*
- *Each must find its own connection to the historic and future city*
- *Each possesses its own challenges to future growth*
- *Each has its own identity and spatial character*
- *Each has its own economic characteristics*
- *Each is in a state of transition unique to itself*



Within the City limits and the Extra-Territorial Jurisdiction (ETJ) of Seguin, there are 17 experientially identified districts, which are named as follows:

1. **The Town Center District:** This is generally the area of the original Ranger Plat and the corridors of earliest growth along Court Street and Austin Street.
2. **The Transitional District:** Bounded by highway commercial development on three sides and the historic City core on the fourth, this district is where residential development of different historical periods comes together in a diverse fabric of housing type and age.
3. **The Timber Lots District:** This district lies south of the historic City core and encompasses those early Ranger Plat tracts called the Timber Lots. It has a distinctive setting and physical fabric due to its age and proximity to the Guadalupe River.
4. **The Walnut Creek District North:** This district encompasses the area of the early Ranger Camp (west of Austin Street and north of Court Street).
5. **The Walnut Creek District South:** This district covers a large, mostly residential area between Court Street, Walnut Creek, and the Guadalupe River. It includes many historic residential structures and a rolling topography. The uniformity of Seguin's grid seen north of Court Street is challenged by the topography of this area. Consequently, the internal street layout here has many discontinuities and disruptions.
6. **The Station District:** This is a largely non-residential district that encompasses the old railroad freight station (west of Austin Street) and the old passenger station site (east of Austin Street). Much of the City's older industrial fabric lies within this zone, which is bisected by the railroad track and Business 90 (Kingsbury Street).
7. **The University District:** This is a district of emerging importance to the future of Seguin because it contains an active and growing University (Texas Lutheran University). Bounded roughly by Court

Street, Highway 46, Business 90, and portions of Walnut Creek, this area includes the University and the residential fringes that adjoin it.

8. **The Highway Commercial District:** The term Highway Commercial District describes an area on both sides of Business 90, the Highway 123 Bypass, and Court Street (east of downtown). This zone is filled with commercial development oriented to and capturing the value created by the vehicular volumes traveling these corridors. Large plate buildings and expansive parking areas are typical of the development pattern evident.
9. **The Jefferson District:** This district lies west of the Walnut Creek South District and east of Highway 46. It is a transitional residential area containing both newer and older homes laid out on straight streets that make a loosely defined grid with varying cell sizes. Development along the streets is more uniformly related to the street (uniform set back and orientation). This creates a differentiation between the Jefferson District and the districts closer to the City core, which exhibit more incremental qualities of residential development.
10. **The River Bend District:** This district lies on both the north and south sides of the Guadalupe River as it passes through Seguin. Here, verdant river banks have attracted the development of luxury homes laid out along winding streets that respond to the dramatic topography of this area.
11. **The North Seguin District:** This is a district that lies generally to the north of the Station District and is part of Seguin's early suburbanization. Here, long blocks with uniformly arranged houses fronting them depart from the historic square grid and show a development pattern more common in city suburbs.
12. **The Freeway District:** This district lies on the north and south sides of Interstate 10 from its intersection with Highway 46 to its intersection with the Highway 123 Bypass. This district will ultimately grow to include the intersection of IH-10 and the proposed SH 130. This

district has a regional scale that visually conveys its connection with the regional reach of the interstate system.

13. **The Geronimo Creek District:** This district lies east of the Highway 123 Bypass, west of Geronimo Creek, north of the Guadalupe River, and south of Business 90. Here the influence of Geronimo Creek nurtures a rich landscape set in rolling topography that has attracted higher income housing but is segmented by the influence of existing highways over development patterns.
14. **The Agricultural District:** A vast and largely undeveloped area lying north of IH-10 and flanking both sides of the highways to New Braunfels and San Marcos. This is an area where future development pressure is beginning to emerge, driven by growth in neighboring Cities. It is important to monitor how this development will mesh with the growth of Seguin.
15. **The Randolph District:** This is an area west of the Randolph Air Force Auxiliary Base and east of Geronimo Creek. Future eastward expansion of local residential development is limited by the presence of the base air strip. This presents a land use challenge for this district and poses conflicts with residential development within the Geronimo Creek District.
16. **The Guadalupe District:** This is another vast area of largely undeveloped land to the west of the Guadalupe River and divided by the westward extension of FM 78 and IH-10 and the southern extension of FM 725. The power of the Interstate and other corridors crossing the area to influence and regionalize development could potentially conflict with local development.
17. **The Lake Placid District:** This district circumscribes a residential community that has grown up around Lake Placid. Many of the homes are second homes and the area is spatially isolated from other growth areas of Seguin.

The following text presents each of these 17 Form Districts and discusses the particular aspects of form that make it unique. In addition, the planning issues that will shape and influence the formulation of Seguin's Comprehensive Plan are presented. These issues are summarized by issue statements (written in bold type) presented at appropriate points throughout the text. These statements express the form analysis in terms that can be addressed by the Comprehensive Plan Document.

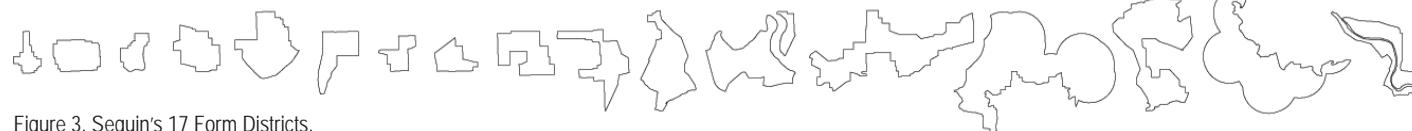
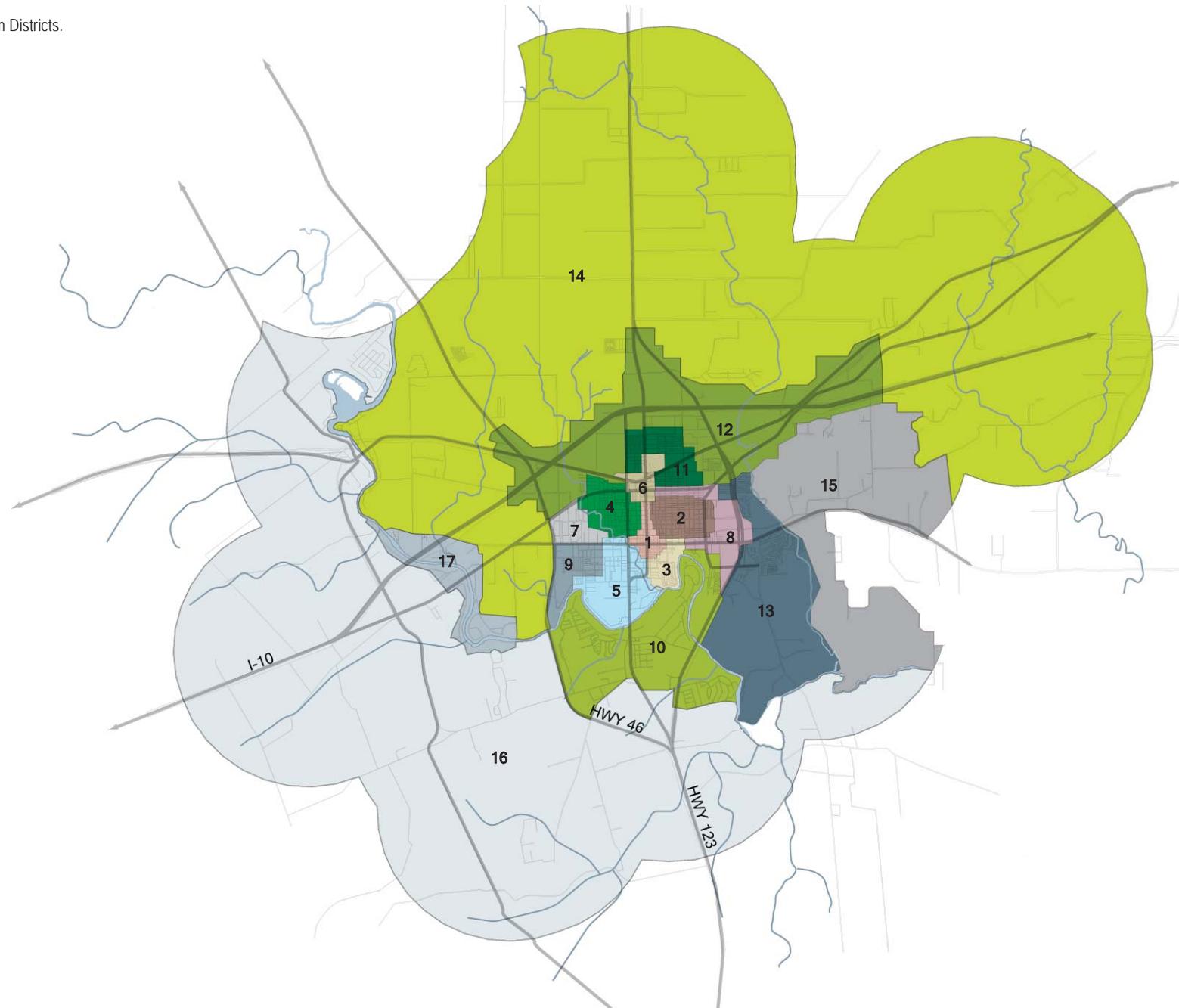


Figure 3. Seguin's 17 Form Districts.

Figure 4. Map of Seguin's 17 Form Districts.

- 1. Town Center
- 2. Transitional
- 3. Timber Lot
- 4. Walnut Creek North
- 5. Walnut Creek South
- 6. Station
- 7. University
- 8. Highway Commercial
- 9. Jefferson
- 10. Riverbend
- 11. North Seguin
- 12. Freeway
- 13. Geronimo Creek
- 14. Agriculture
- 15. Randolph
- 16. Guadalupe
- 17. Lake Placid



DISTRICT 1: THE TOWN CENTER DISTRICT

Seguin's Town Center District is distinctive with its courthouse set off the public square rather than on the square. Known as the Open Plaza Prototype, this form is found in only seven of the 92 Texas County Seats, including the City of New Braunfels. The Shelbyville Prototype, which is the form of Town Center with the Courthouse sitting on the Square, is found in 62% of Texas County Seats, such as the Williamson County Square found in Georgetown, Texas. This unique relationship is evidence that a particularly visionary plan (The Ranger Plat) was proposed at Seguin's outset. The Ranger Plat is also interesting because it encompassed more than the town center, it addresses the town economy. The Ranger Plat is, in many ways, a closed system, a vision of a **complete** community, a vision of a complete settlement. A detailed description of the Ranger Plat is presented in [Under the Live Oak Tree](#), a history of Seguin by John Gesick, Jr. According to Mr. Gesick:

"The town of Walnut Springs [Seguin] was organized into four sections. As one drives about town today he can easily pick out each section's characteristics...The four sections of the town were the central or inner lots, the acre lots, timber lots, and farming lots.

In the inner lots, there were 56 blocks, each two hundred feet wide. The center two blocks, as indicated earlier, were retained for public use. Each of the remaining 54 blocks were divided into building lots with each block being further divided into 8 lots. The only exception to this was the six blocks surrounding the two inner blocks. Each of those six blocks was divided into 10 lots.

The second section, the acre lots, surrounded the central 56 blocks. These were named acre lots so that if people wanted to garden or keep some livestock or poultry then they would have enough land. To the south of the acre lots was the third section. It was called the timber lots. Each of these lots had 5 acres and the lots fronted the Guadalupe River.

The fourth section was to the north of the acre lots, called the farming lots. These lots were twelve acres in size and ran as far north as present day IH-10, and east of Guadalupe Street... Their roads, already mentioned, were well laid out, being required to be 70 feet wide and running north-south and east-west."

The above described pattern of concentric private functions about a central public function (oriented due north/south and east/west) bears a striking resemblance to other early 19th century town visions. The most apparent comparison is to the popular utopian notion that public functions reside within residential functions which reside within agricultural functions. This plan form pushes animals and farm activities to the perimeter of a closely associated residential core. In this way, the core of the town nurtured collective social activities and civic affairs. Therefore, the Ranger Plat implies an attempt to orchestrate human relationships and establish a community ideal amid the beautiful setting at Walnut Springs. The Ranger Plat establishes a relationship with the "wilderness" (an untamed and often hostile frontier) that is distinctly Jeffersonian... namely the separation of city from wilderness by an intervening "middle landscape" (a space controlled by yeoman farmers).

Enclosure of the public center and further enclosure of the residential core established by the Ranger Plat created a rigid plan form (grid) that would not accommodate change, however inevitable that change may be. Placement of the most ornamented Courthouse entry on Centre Street, opposite the public square (at Market Street) suggests that Market or Centre Street was originally envisioned as the primary east/west corridor. This would parallel the relationship between major movement corridors and the open plaza of other Cities like New Braunfels (where San Antonio Strasse is the major circulation corridor through town) Similarly, location of a major hotel along River Street suggests that River Street was originally envisioned as the primary north/south corridor. However, early in Seguin's history, Court Street became the primary east/west thoroughfare. Location of the Train Station west of Austin Street and operation of a mule drawn trolley between the station and downtown (along the Austin Street right of way) eventually made Austin Street the primary north/south thoroughfare. As a result, the center of town slightly shifted from the intersection of Center, River, and Market to Austin and Court early in Seguin's history. This is the beginning of a pattern of continual shifting that defines the form of Seguin and increasingly depreciates the economic power and functional importance of the City center.

Therefore, the Plan for Seguin must re-establish the functional and economic importance of Seguin's historic center by restoring its prominence within the pattern of traffic movement and development.

Therefore, create a commercial core that gathers the incoming traffic.



Therefore, establish points of entry into the core area that are part of the normal movement pattern.

As Austin and Court Street gathered greater traffic density and established greater prominence in Seguin's patterns of movement, development began to cleave to the edges of their respective right of ways and in doing so, move the city pattern from its original concentric and concentrated form to an increasingly more lineated and dissipated form. These lineal reaches of commercial development stretched ever further east and west along Court Street and north along Austin Street (toward the train station). As development populated the pathways leading into downtown Seguin, the once dramatic sense of arrival became increasingly vague until it was uncertain as to where downtown began and ended. This loss of clear physical expression contributed to a loss of center and made the town ripe for increasing competition from peripheral arterials and arterial intersections. The benefits of aggregation which once gave prominence to a tightly clustered central city were lost to spatial dissipation of a limited commercial demand along bypass corridors that ended up competing with downtown.

Therefore, the Plan for Seguin must give greater physical definition to downtown within the existing movement pattern and encourage aggregation of commercial investment within the core city.

The lineal development patterns extending out of Seguin's downtown lay generally to the east and north of the City core due to the physical limitations imposed by Walnut Creek (west) and the Guadalupe River (south). This north/east trend was facilitated by the train station (north) and the nearby town of Gonzales, which made intervening road frontage more valuable. The dominance of these corridors is clear in the nature of buildings fronting them. Along Austin Street a line of larger, more stylish homes emerged (these depict various periods of the Victorian era and present a stately/opulent façade to the street) which evidenced the City's rising wealthy class. The types of uses attracted to Austin Street were large homes, entertainment, schools, institutions, and employment. The types of uses attracted to Court Street were governmental and retail. The early prominence of Austin and Court Streets over Market and River Streets mark the beginning of an on-going pattern of separating the City core from the major circulation corridors upon which it was built. Even though the main thoroughfares only shifted one block to the north, the impact would be to weaken the relationship between Seguin's City core and incoming roadways that served it. As other major roads (such as Highways 90, 46, and the Highway 123 Bypass) moved the incoming traffic (and the attractions to



investment that it offers) further away from the City core, downtown became progressively weaker (a place of retreating investment).

Therefore, the traffic movement must engage the Town Center District and a hub of its organization so that there is a stronger connection between this place of historic investment and the emerging places of current investment.

As Austin and Court Street became more important, each began to support a building scale that is generally larger than buildings around the Square. More consistently two stories and having a wider street frontage, buildings fronting Austin and Court Streets became some of the most important buildings in the growing City. The 1924 Sanborn Map clearly shows the growing importance of Austin and Court Streets. The density of (and continuity of) frontage along Austin and Court Streets is significantly greater than that along Market or River Streets. However, the close proximity to the Courthouse and Square maintained a general connection between newer growth and the historic core that preserved the City form and identity. It was only when investment later moved to other streets more distant from the core that the City's clear concentration about its historic center began to dissipate.

Therefore, Austin and Court Streets must be reconnected to the major movement pathways of local and regional traffic so that the central importance of the historic City core is restored and maintained.

Outside the area of the original 56 (200 feet by 200 feet) blocks, the distance between streets tends to be greater (making larger blocks). The notable exception to this is the distance between Austin and River Streets which maintains the 200 feet separation beyond the 56 block area and up to the Railroad Station (Business 90). Consequently, there is a clear spatial relationship between Austin and River Streets that is unique but that relationship is not confirmed by any particular street function. The original town plan shows Austin and River Streets continuing north as equal out-bound thoroughfares. However, for reasons presented earlier, Austin Street gained dominance over River Street, making River Street less relevant to local movement and obscuring the simple symmetry of the Ranger Plat. Houses located on the short blocks between Austin and River Street have double frontage with some houses oriented to Austin and others oriented to River. The result is a confused fabric of front yard, back yard, residential, and commercial all mixed in a narrow space between two closely associated streets. The equal function of these two streets strengthens the importance of Seguin's open plaza as a place of arrival and the importance of both River and Austin Streets as approaches to this destination. Loss of that equal



function weakens both the sense of approach and the sense of destination. Both of these attributes are important to a viable City center.

Therefore, strengthen the destination qualities of Seguin’s Town Center District by restoring the shared approach functions of River and Austin Streets and restoring the importance of Seguin’s open Plaza as a place of arrival.

Therefore, establishing approach identities that will invite movement toward the Town Center District.

By establishing a “middle Landscape” between the City and the Guadalupe River (the Timber Lots), Seguin removed its “City” from any association with the Guadalupe River and made no real effort to be a River City (as did other Cities along significant Rivers such as Orange, Texas, along the Sabine). In a time when downtown Seguin gathered regional and local traffic to support its central viability, the River and associated unpredictable flooding were threats to maintenance of a predictable market place. The destination significance of downtown Seguin lay in its function as a circulation hub. However, today the hub function has been replaced by more convenient bypass streets and highways. Consequently, connection to the River has gained new importance to re-establishing the destination significance of Seguin’s downtown area.

Revitalizing the downtown core as an investment environment necessitates that a new destination significance for this historic area be envisioned. Spending within the core area is a function of the duration of downtown visits. The longer the visit, the more a visitor will spend. Visitor spending is particularly influential (in terms of the investment it will attract) when the duration of a visitor stay is extended to over-night. Currently, traffic moves by (not through) the Town Center District on Court Street but does not spend significant time within the core area to precipitate spending.

Therefore, strengthen the destination qualities of the Town Center District by creating an appropriate link with the Guadalupe River and establishing other destination attributes that will support downtown visits, downtown stays, and downtown spending.

The loss of hub significance to downtown left the City core with little relevance as a destination except for its continued importance as a County Seat and place of Civic Government. However, recent exportation of civic functions to Highway 46 begins a process of further erosion of downtown’s remaining destination significance. Future public facilities (as needed to

serve the growing City) represents a significant public investment that could greatly strengthen the historic City center.

Therefore, preserve and strengthen the governmental importance of the Town Center District by expansion of these facilities within the downtown area.

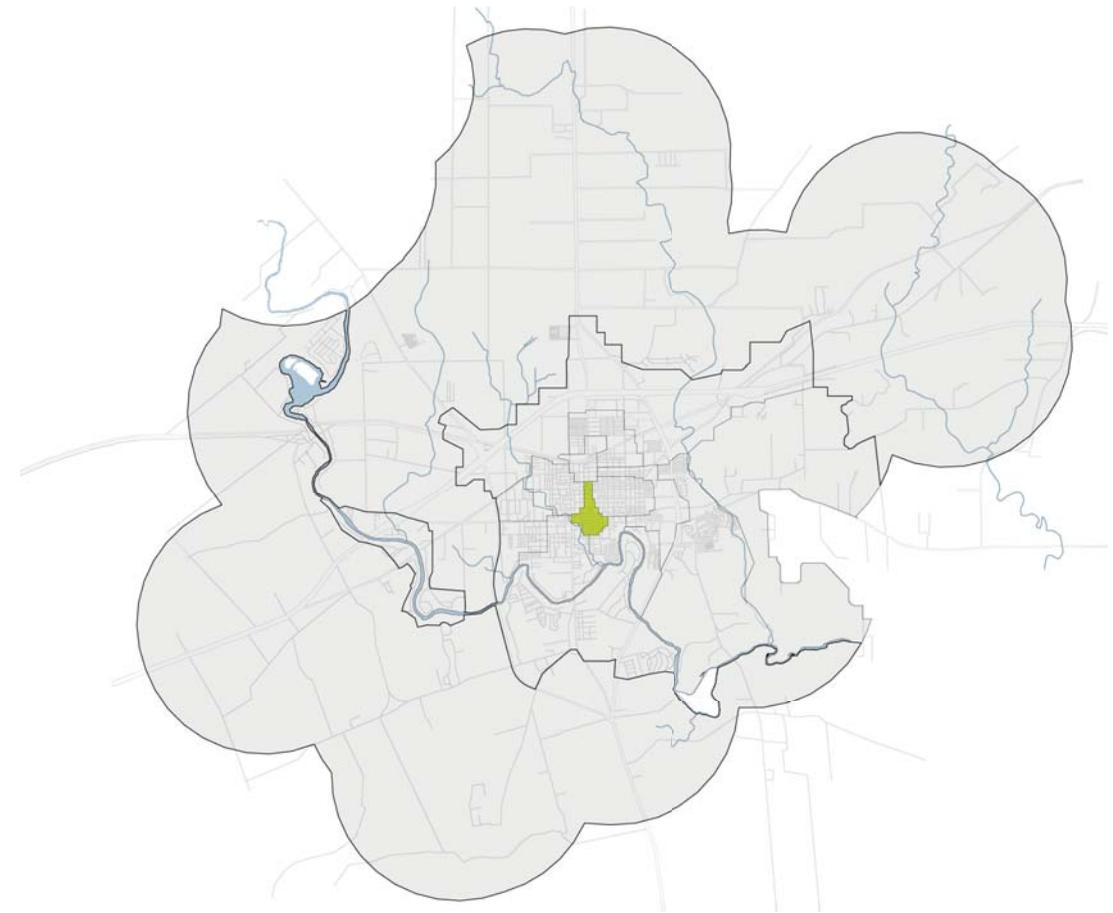


Figure 5. The Town Center District.

DISTRICT 2: THE TRANSITIONAL DISTRICT

The area north of Court Street and east of the Austin/River Street spine is a relatively dense zone that reflects the fading influence of Seguin's historic City center. Portions of this district adjacent to the core contain older homes and portions of this district adjacent to emerging commercial centers (along Business Highway 123, Business 90, and eastern Court Street) contain newer homes. Between is diverse residential fabric of varying age and physical condition as the district makes a transition between the older city and the emerging city. Unlike the historic core which grew in conformance to an orderly plan (continuous street frontage and similar building orientation), the Transitional District has grown in defiance of the grid-like street pattern that traverses it. Varied building orientation, irregular street frontage, divergent spatial relationships within the block, and differing building style/age/condition all contribute to an overall sense of chaos within the built fabric. Consequently, the transition accomplished through the fabric of this district is not one that speaks to planned City growth but to the economic struggle that exists between the older and newer City. This makes the Transitional District a barrier between the Older and Newer City that further contributes to the isolation of Seguin's historic core.

Therefore, the tendency of the Transitional District to be a barrier between Seguin's historic core and areas of newer development and investment must be transformed into a link between them that will mitigate the growing isolation of downtown.

The built fabric of the Transitional District appears incremental and unplanned because the ordering influence of the area's relatively uniform

grid has had no influence on development and has no vertical expression within the physical fabric. Yard planting extends to the edge of the street but does not express the lineal nature of the street. Instead it expresses the plant design preferences of the lot owner. As a result, there is no recognition of the public domain in the landscape arrangement. Street lights and curbs are noticeably absent, thereby further reducing any articulation of the street infrastructure and creating a street plane that is very close to the level of the lot plane. Consequently, visual differentiation of the ground plane between public and private is difficult and the power of the street to order the fabric of this district is weakened. Finally, the street is not uniformly recognized by building placement within the lot. Setbacks and building orientation within a block vary widely. There is no common frontage. As a result the ordering influence of the street is overwhelmed and the identity of this area's fabric is largely conveyed by highly diversified development within the block. The jump from the highly organized core to the disorganized fabric of the Transitional District contributes to the isolation of downtown and disconnects the larger city.

Therefore, the public domain within the Transitional District must be given greater visual clarity/definition that links older and newer areas of Seguin across the physical fabric of this district and creates a greater visual identity for this area.

The visual randomness of the Transitional District is most dramatically conveyed by the randomness of the lotting pattern within block cells of its street grid. In the original town plan, blocks within the grid were uniformly subdivided into lots (typically 8 lots) sharing a common rear lot line and street orientation. However, within the Transitional District, no such

uniformity can be found. The number of lots within the block cell is varied as well as the street orientation and rear lot relationships. This creates a randomly defined edge of spatially separated buildings defining an un-built center that often functions like a common rear yard space. A frequent lack of yard fencing results in a typical openness to this central block space that dramatizes randomness in what is built. If the blocks were developed in the manner of a typical subdivision, the use of block space would have been more efficient and more uniform. Consequently, one can speculate that this area was not built in the typical manner but grew organically instead, orderly as if under the rule of a plan or speculative enterprise. The Transitional District is unplanned and is the result of growth initiatives at various points of time led by individuals or groups of individuals acting in their own interest rather than a larger civic interest. The result of such growth is an area of uncertain form, identity, and general value. This presents a challenge to any residential growth of Seguin's historic core because it does not provide for an area of historic housing stock contiguous with the City's Historic Center that can accommodate needed residential reinvestment.

Therefore, the Transitional District must be addressed with program initiatives that will facilitate more orderly redevelopment and more general stabilization.

The clear randomness found in lotting patterns is echoed by a clear randomness in the age, style, maintenance, and value of the built housing stock. Large and small houses can coexist within the same block cell with different street frontage and different levels of maintenance and upkeep. The pattern of what is built suggests that the block cell was at one time owned by one individual who later sold off tracts (or otherwise transferred building rights) within their ownership without the guidance of oversight by ordinance or central authority. As a result, it is common to find a larger older home within the block surrounded by smaller homes built at a later date. The older home often manifests a tradition of style and/or design (typically Victorian) with the newer home(s) being more anonymous and generic. This means that the Transitional District contains a certain amount of historic fabric.

Therefore, the remaining Historic Fabric of the Transitional District should be preserved as part of any initiative to revitalize this area.

While a general grid of streets suggest some form to the public domain within the Transitional Zone, this grid is riddled with discontinuities that limit the number of streets extending from one side to the other. These through streets are operationally more important than streets that do not go "through"





but this importance is not visually conveyed. All streets within the Transitional District are uniformly sized and share the visual qualities described above. This makes location within the district difficult to comprehend and hinders any clear sense of place needed for this district to become a neighborhood. A more clearly stated visual hierarchy within the internal street system would help create a sense of order and comprehensibility needed in this area.

Therefore, a greater sense of order and identity within the Transitional District must be conveyed by a clearer articulation of the public street system and hierarchical movement patterns within it.

The edge definition of the Transitional District is clearly expressed by the dramatic change of land use at Business Highway 123, Business 90, and Court Street. The sudden change from residential to commercial is jarring. This makes the district's edges hostile to (rather than reinforcing of) its identity. The result is to understand that this district exists behind (and separate from) commercial development along the major streets that bound its edge. This separation (and isolation) is reinforced by a lack of entry that allows movement through the peripheral commercial boundary without becoming fully engaged in it. When edges have no intentional points of entry, the edges become boundaries meant to separate rather than engage the adjacent urban fabric. The result is a series of physical disconnects that afflicts this area and many parts of Seguin. Without such connection, the City fabric fragments into autonomous pieces that begin to function independently rather than jointly (in the manner of a more unified City).

Therefore, the dramatic separation between the Transitional District and its commercial edges must be mitigated by clear points of entry that define portals and begin to link separated elements of the City fabric.

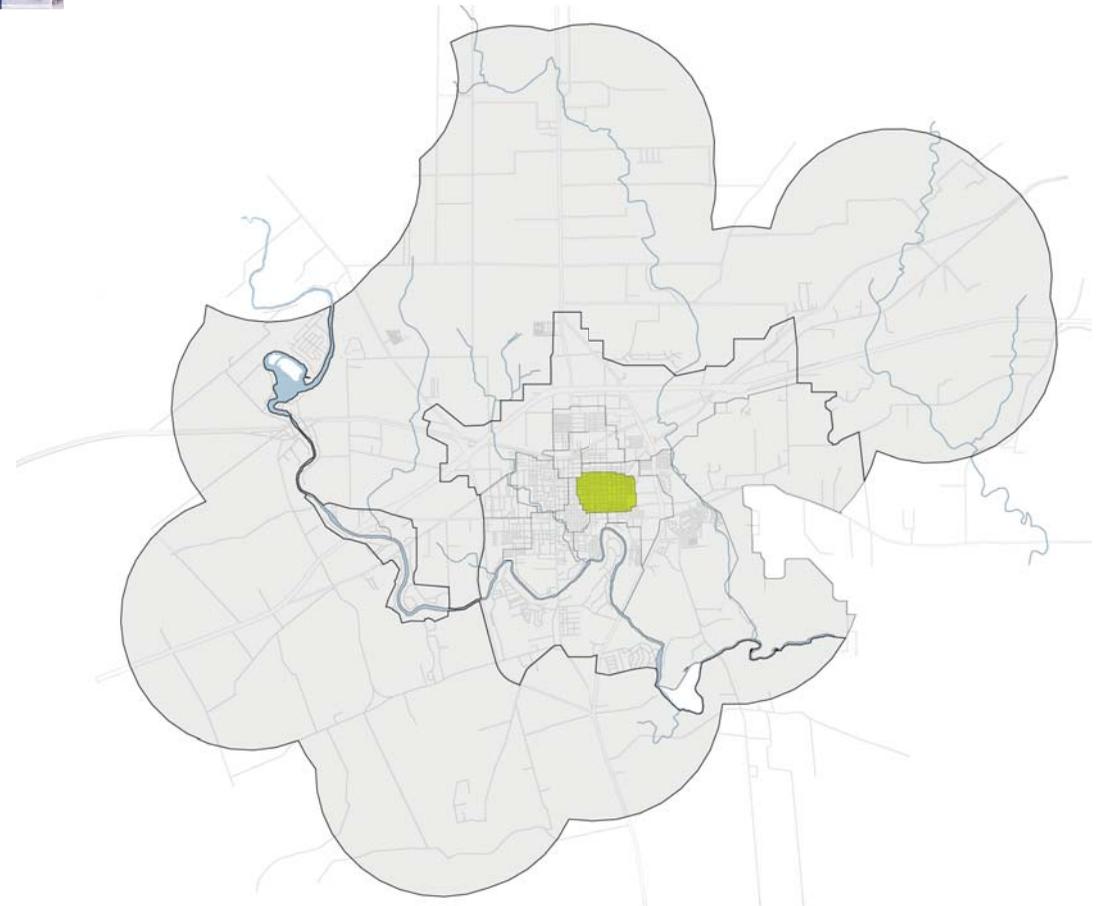


Figure 6. The Transitional District.

DISTRICT 3: THE TIMBER LOTS DISTRICT

The area south and southeast of the Historic Town Center, east of Austin Street, and north of the Guadalupe River is a mostly residential zone of older homes set in a rolling landscape that is significantly different than flatter land to the north. Historically land in this area was referred to as the “Timber Lots”, a term that describes its original relationship (as a source of timber for early Seguin) to the Town Center. The timber resource contained within the Timber Lots grew as a result of the River’s influence, suitable soil conditions, and a nurturing topography that supported a diverse riparian forest.

The early use of this area for timber production rather than more intense settlement established a significant (and lasting) separation between the Guadalupe and downtown Seguin that led to growth of a core City area separated from and independent from the River corridor. As timber use ceased and the Timber Lot District began to develop, the rolling river topography prevented any southern extension (toward the Guadalupe) of the core’s regular/uniform grid. Consequently, the Timber Lot District developed its own unique street and building pattern and in so doing became both an identifiable zone and an established barrier between any southern connections of the Historic Core to the Guadalupe River.

Earlier in this analysis the Transitional District was described as developing independent of the Historic Core and thereby contributing to isolation of the downtown as well as disconnection between component elements of the larger City. Similarly, development of the Timber Lots District in a form and pattern independent of the Historic Core further contains the core City in an unresponsive physical fabric. Consequently, approaches to the downtown area must traverse these barrier communities.



Therefore, future public and private development within the Timber Lot District must reflect some aspect of the form and character of Seguin’s Historic Core that will link the district and the City and thereby establish a connection between the City and the River rather than just the District and the River.

River Street extends southward out of the Historic Downtown into the Timber Lots District as if it would come to the River itself. Instead it gets lost in an irregular physical fabric and street pattern and never fulfills the connection its name suggests. This dramatizes the extent to which the Timber Lot District, in its current state, separates downtown from any meaningful connection with the Guadalupe. Like the Transitional District, the Timber Lot District contains a mixed and varied physical fabric of houses in varying condition, occupying varying orientations within the block, built at different points in time under varied stylistic notions, and manifesting diverse levels of maintenance. Visual consolidation of the Timber Lot District into a comprehensible zone/community/neighborhood is hindered by these broad differences within its physical fabric. Without such consolidation, the Timber Lot District cannot become a true component of the City that embraces the River. Its current state is like the flood plain...unresolved...a fragment fringe that dissipates toward the River rather than embraces it. In its fragmented condition, the Timber Lots District only separates the City from its River, not connects it.

Therefore, fragmentation of the Timber Lots District must be visually consolidated so that it can function as a true sub-district of the City that links City and River.

The unresolved residential fabric of the Timber Lots District is echoed in the generally unresolved state of the public fabric (namely streets). The term unresolved here suggests that articulation of the public domain (which includes the street pavement) lacks vertical expression/visual reinforcement. Such articulation is necessary to “contain” the lots within a public infrastructure. Such visual definition is the condition of the city while lack of such definition is more characteristic of the country. To bring the rural relationship of street to property into the City and express it within a street pattern that is orthogonally arranged (right angles and short blocks) suggests that there is insufficient public infrastructure to support development. This affects property value and the public image of an area that should realize the benefits of its association with both downtown and a verdant river. No such value has been realized here and the image of this district is unclear.

Therefore, plans for the Timber Lots District should pose design initiatives that will strengthen the expression of public fabric (street) and bring greater shared identity to this area.

In part, the unresolved state of The Timber Lots District reflects a generally unplanned clash between what is natural and what is built. Rolling topography and well defined drainage ways do not provide the best ground plane upon which to place an orthogonal street pattern. The result is a street pattern riddled with discontinuities that challenge any sense of orientation or identity. As one travels through this district, they encounter sharp right angle turns that leave one type of street setting and embrace another. A street may terminate at the side yard of a lot (typically a lot where the demarcation between what is “within” and what is “without” the property line is not clearly understood), then force a turn onto an intersecting street that flows to the front yard of another lot (at which point, the traveler is provided with an option to turn right or left with out fully understanding where either choice will take him/her). Within this type of confusing movement pattern the built fabric shifts and changes (age, style, level of maintenance) further contributing to a lack of comprehensible form and further reflecting the extent to which the river landscape refuses to submit to an urbanized development pattern. There needs to be greater reciprocity between how this area is built and the landscape in which it resides. Failure to do so denies the presence of the River and isolates the present day Timber Lots District from the River association that inspired its original purpose and name.

Therefore, plans for the Timber Lots District should allow greater visual expression of the distinctive natural setting in the treatment of streetscape and other public areas.





Finally, the Timber Lots District is an historic part of Seguin that has been associated with the City since its beginning. There are several large, beautiful, and historically important homes within this area that provide an historic context as important as the area's natural context. Historic homes tend to cluster closer to downtown and as one moves away from downtown (towards the River) the housing stock tends to be newer and constructed without regard for elements of style/design that would have made them compatible to (harmonious with) the pre-existing historic fabric. Continuity is an important dimension of stability and stability is necessary for historic areas to realize reinvestment. The lack of continuity within the fabric of the Timber Lots District reinforces an image of instability and transition that discourages reinvestment and/or the restoration of older historic homes. Successfully revitalized historic City/Town Centers in Texas have active (active meaning that reinvestment is occurring) residential historic districts about their perimeter. Blocks within the Timber Lots District are sparsely developed which means that the opportunity to realize greater continuity within this area still exists. However, appropriate development of existing vacant parcels and/or redevelopment of existing built parcels will require some level of public support to overcome the aspects of instability currently visible.

Therefore, programs and design initiatives are needed to bring greater visual continuity and greater historic sensitivity to new development and/or redevelopment of this area.

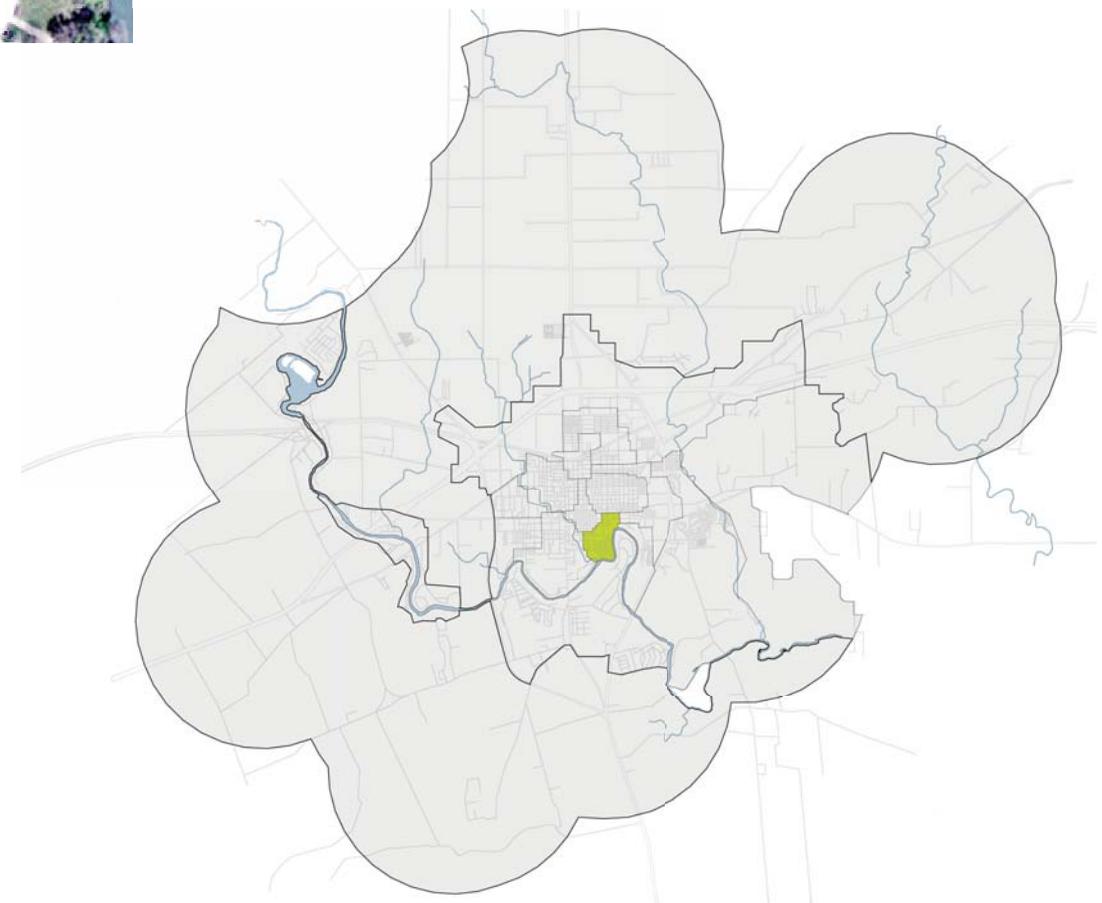


Figure 7. The Timber Lots District.

DISTRICT 4 AND 5: WALNUT CREEK DISTRICTS, NORTH AND SOUTH

As Walnut Creek extends north from its intersection with the Guadalupe River, it passes through a largely residential area that lies generally west of Seguin's downtown core. Consequently Walnut Creek divides this area into two parts (north of the Creek and South of the Creek). Central to both areas is the creek itself and the open spaces it creates. The presence of the creek challenges the orthogonal street layout that typifies this area, causing the right angle street geometries to break down at the creek edge. This gives the creek a strong presence in the Creek District and creates a focal element of identity and orientation. However, the presence of the creek is only realized as it opposes the grid. Where the grid is in control, the creek and the benefits of identity it affords are invisible. Walnut Creek is a fundamental structural element of the City of Seguin that should be echoed throughout those areas that hosts its presence. Denial of the creek disengages the flanking areas from a meaningful structural interconnection that ties districts of the City together upon a common armature.

If districts of the City cannot be linked through shared natural features then other means of interconnection must bring them together in a shared identity/function that make the collection of such districts a place. The original plan of Seguin sought to make this necessary interconnection by assigning interrelated purpose to the blocks (public, private, farming, and timber arrayed within a grid). As Seguin has given its commercial uses over to each new bypassing street and highway (Highway 90, the Highway 123 Bypass, Highway 46 and IH-10) it has become more difficult to retain those former interdependencies that held Seguin together in a comprehensible form about its core downtown. The Walnut Creek district displays the sequential disassociation of Seguin's fabric that afflicts much of the older

City area (areas of the City that have not grown from their strong relationship to the River). Consequently, the Walnut Creek District embodies many of the same characteristics found in the Transitional District and is in many ways a transitional area that defines that zone lying between the old core and newer zones of development. Unfortunately, this is not a function or purpose that creates stability or encourages reinvestment.

Therefore, a plan for Seguin must re-establish the structural/functional interrelationships between areas of the City lost as the pattern of focal points and corridors (that once held them together) shifted.

Within the Transitional District, blocks are generally square, and in the Walnut Creek Districts, lots are generally rectangular. This benefits the internal fabric because it promotes more continuous street frontage and a clearer definition of a shared public domain. However, the central axis of these blocks shift orientation. Generally east of Gonzales Street, the axis orientation is north to south and west of Gonzales it is east to west, while south of the creek, it runs in both directions. The result is a general sense of incremental growth and unplanned development. A shift in block orientation is accompanied by frequent discontinuities in the street pattern. Many streets that should align across major arterials (such as Gonzales Street) do not and consequently create a jarring break in the internal continuity of this area. The grid is broken by the creek, the grid is broken by the major arterials, and the orientation of cells within the grid shifts. Consequently, the internal fabric of the Walnut Creek District is fragmented by everything that crosses it. The Walnut Creek District must come together as a true "district" so that a coherent vision for its future can be envisioned.

Therefore, internal disruptions within the Walnut Creek District must be mitigated through initiatives that establish greater internal continuity and give greater clarity to those elements of the area that traverse its fabric without disruption.

Internal definition must be accompanied by external definitions that give form to the edges and points of entry into the Walnut Creek District. A potential for strong edge definition lies in Business 90, commercial frontage of Austin Street, the University, and the Guadalupe River. However, the Walnut Creek District does not derive any internal form from its association with these potential edges. The district fabric separates itself from the University by a large unused open space that is disconnected from the street (held behind private lots that front the street). Likewise, the fabric of the district separates itself from the River by coming up to Starcke Park but not embracing this coming together with any public component of the district's fabric (street). As a result, the park is a separation, not a connection. The Walnut Creek District flows to and blends with the fabric of Austin Street, making this edge ambiguous and formless. Finally, the fabric of the Walnut Creek District addresses Business 90 as if it were an internal street, not a bounding street (houses front the highway right of way). This varied relationship to corridors that should provide a strong edge is part of the overall fragmentation that characterizes this part of Seguin.

Therefore, edges of the Walnut Creek District must be solidified and points of entry more clearly articulated within the fabric of this area.

Internal discontinuities and weak edges create an area of the City that has no internal hierarchy. This type of internal structure is important to establishing a cognitive structure upon which we create our sense of "place". Internal hierarchies include streets that are more important than others (and that importance is celebrated) and places that are more focal than others. Movement along and arrival upon are key distinctions that give form to our comprehension of district. The Walnut Creek has many internal opportunities to create this structure and in so doing give greater identity to an area becoming lost to the incremental growth that afflicts it. Certainly streets like Guadalupe and Court Street can be visually celebrated as major internal corridors and Walnut Creek (as well as the open spaces it presents) can be more powerfully connected to the public elements of this area's fabric. With primary internal destinations and connections established, lesser connections can be made until an internal network evolves and a greater sense of place is created.





Therefore, an internal hierarchy of corridors and focal points must be established within the Walnut Creek District so that a coherent and identifiable form will emerge.

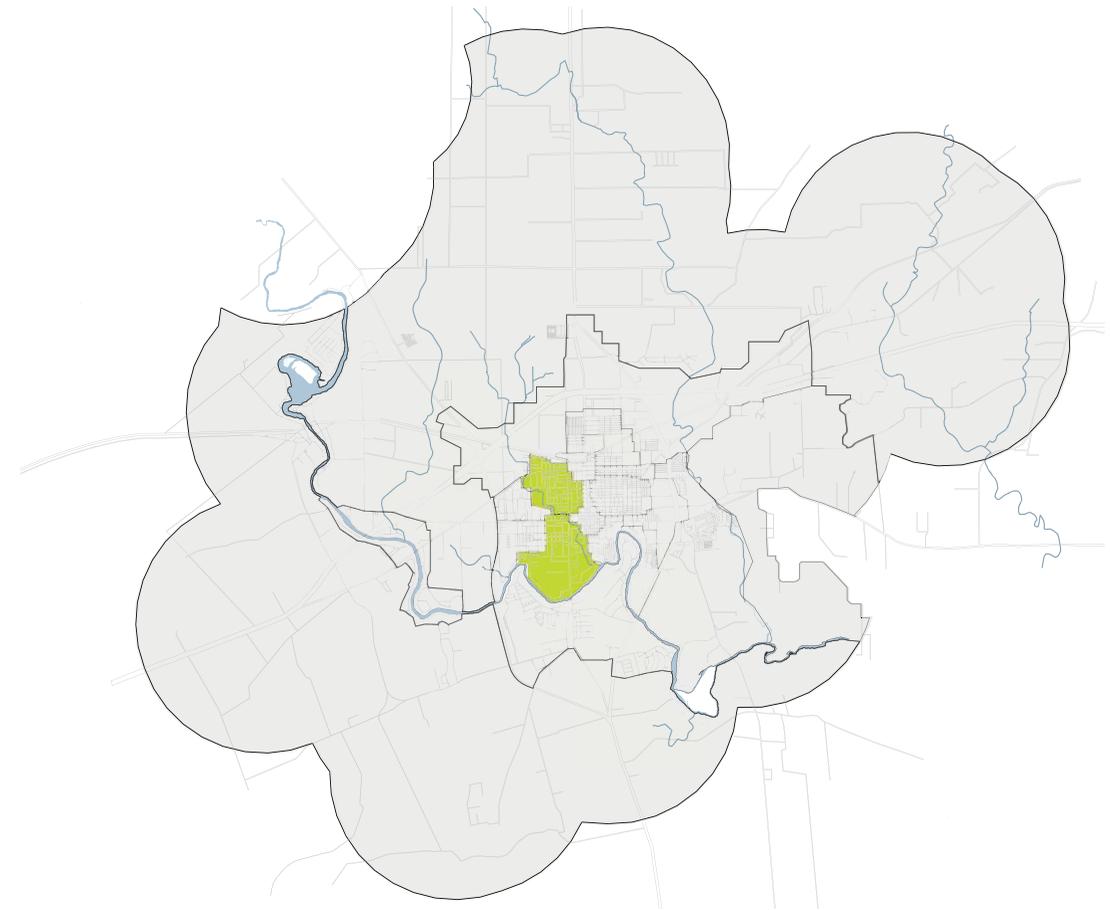


Figure 8. The Walnut Creek Districts, North and South.

DISTRICT 6: THE STATION DISTRICT

By the early 20th century, Austin Street had fully emerged as a major commercial spine for Seguin. The activity of Austin was celebrated with a mule drawn trolley that ran from the train station (at the intersection of Austin and the Railroad Track) to Market Square (at Austin and Market Streets). Responding to the railroad's importance as a link to larger markets and responding to increasing traffic volumes along Austin Street, commercial and industrial buildings began to emerge along Austin's right of way. The 1924 Sanborn Map clearly shows the physical power of Austin as a commercial spine and the clustering of commercial/industrial buildings about the train stations. This clustering defines an area referred to herein as the Station District.

Moving north along Austin Street, arrival at the Station District is physically announced by the sudden presence of commercial buildings set close to the street and forming a continuous "street wall". South of this portal, buildings vary in their relation to and distance from the street, thereby making the beginning of the Station District more noticeable. However, the continuity of building façade is only momentary. Once into the district area, visual clarity is quickly lost to a diversity of building type/style/age/condition/and relation to the street. Like areas of Seguin previously discussed, a diverse internal fabric hinders the power of the Station District to be viewed as a coherent and definable zone of stability. At one time the station and its surrounding zone terminated the activity and thrust of Austin Street, making it a type of satellite to an active downtown core. Today, the activity and thrust of Austin Street extends well beyond the Station District, making it a zone one passes through (rather than comes to). Consequently, the once terminal district that identified itself through its economic importance and linkage to the railroad now must identify itself through the strength of its physical fabric. However, that physical fabric is riddled with partially used buildings, vacant

lots and other types of spatial dispersion that hinders the comprehension of the district and promotes ambiguity relative to the area's sense of being a district. Any revitalization of the Station District beyond its frontage on Austin Street will require a more clearly stated identity and sense of place.

Therefore, plans for the Station District must identify a focus of activity that will bring the district together and justify this cluster of nonresidential uses in a residential area. Such plans must also pose design initiatives that will create greater physical continuity.

A large part of an area's perception as a "place" lies in the clarity of its edge definition. The Station District confronts adjacent residential zones without a clearly formed edge... simply a sudden jump in land use. This lack of edge definition further weakens the Station District and prevents it from emerging as a true sub-component of the City. Instead it becomes another transitional zone adjacent to the City core... a transition zone that must be passed through as one approaches the core along Austin Street... a transition zone that further isolates the central city from newer development along IH-10. In order for the Station District to be a positive part of the experiences that approach Seguin's downtown, it must be established as a definable district through which one travels. In this way it becomes a landmark, a reference point, and a functioning element in the pattern of elements that comprise one's cognitive map to the City.

Therefore, the Station District must be given greater physical definition through clearer identification of its edges and establishment of portals and landmarks within the district that will provide needed elements of cognitive structure.

When the stations were operational, the Station District had a focusing purpose that established its relationship to the rest of the City. It was a functioning element of a viable hub. Today, the freight station is a feed store and the old passenger station has been redeveloped. As a result, the district has lost that focusing function that gave it a meaning by which activities within the district were brought into a functioning relationship with the rest of the City. Areas adjacent to the Station District were likewise brought into a functional relationship to the rest of the City. Without the operational presence of the railroad, the important focus the station provided is absent and the district disengages from the city fabric. Consequently the district becomes a disruption to the areas/zones that embrace it. Losing a connection with the railroad weakened the Station District's previous form-giving influence on surrounding residential areas that grew up in its presence. Without that relationship, the Station District and its adjacent residential areas lose the structural "underpinnings" that held them together in a relationship unique to the City. A central focus for this area must once again be found so that the Station District and the areas that embraces it can "reconnect" and re-link the City's now disrupted structure that once nurtured Seguin's town core.

Therefore, plans for the Station District must restore a central purpose that will define the area's relation to the downtown core and its relation to neighboring residential areas.

When an operational Station was present, the Station District comprised an historic setting of buildings and activities. Today, only remnants of the historic fabric remain and these surviving pieces are visually overwhelmed by newer industrial construction (representing varied levels of capital investment). Even a vestige of earlier railroad spurs are visible in the street pavement testifying to the extent to which land use within the district and





the railroad were connected. Newer development tends to be larger than historic development, making the emerging scale of the district increasingly incompatible with adjacent residential areas. This growing incompatibility between district and adjacent uses further fragments and disrupts the fabric of Seguin. The freight station itself has been converted to a feed store with no visual remembrance that it was a station or that it was once the operational heart of this area. Any future for the Station District that is compatible with surrounding residential and business areas lies in its historic identity. Protection of this historic fabric and celebration of the station function that gave it form is an important part of realizing a purpose and future for this area that can more positively influence surrounding residential areas.

Therefore, measures must be taken to recognize, protect, restore, and revitalize the historic fabric of the Station District.

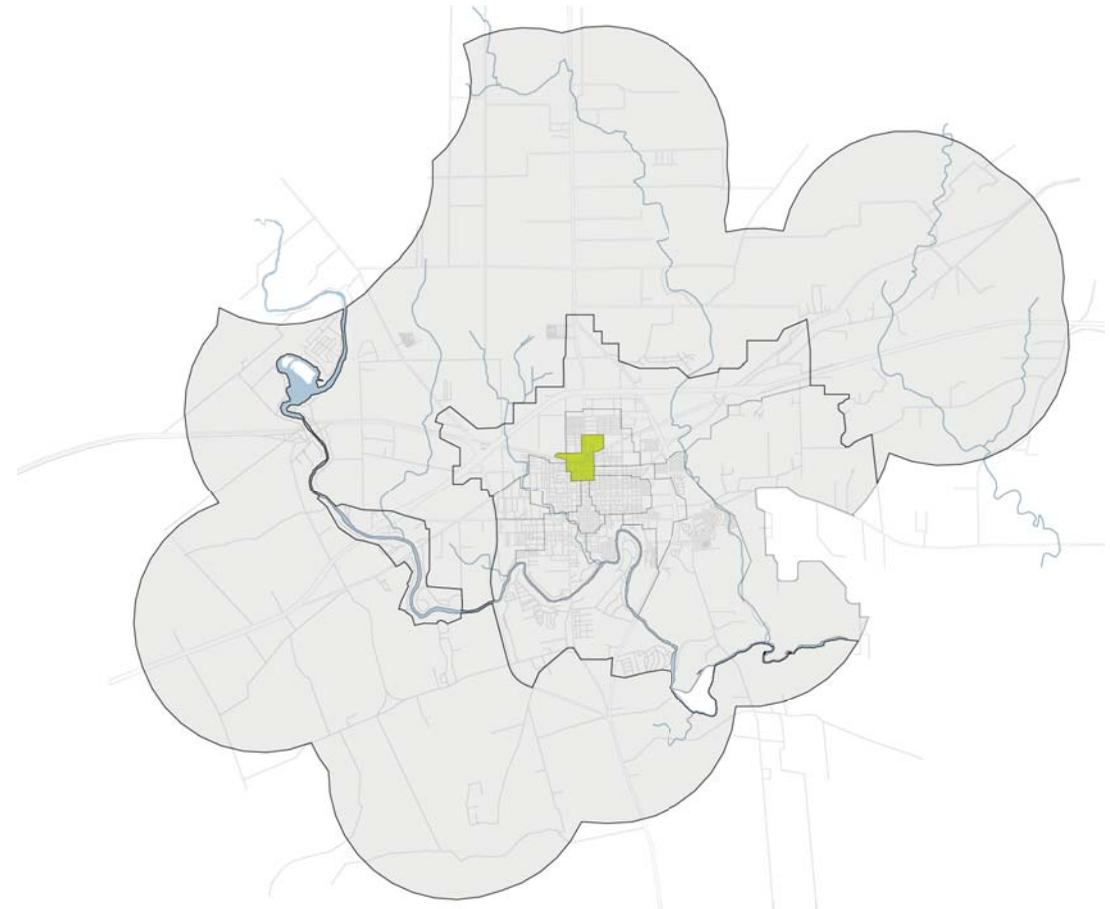


Figure 9. The Station District.

DISTRICT 7: UNIVERSITY DISTRICT

Texas Lutheran University sits in the center of a well defined area that is bounded by major streets and open space. IH-10 defines the northern edge, Court Street defines the southern, an expansive portion of Walnut Creek Flood Plain defines the east, and un-built rural land defines the west. Within this tightly bounded district are various autonomous sub-components. These include:

- The University whose campus plan tends to isolate the school.
- The residential area located between the Campus and Walnut Creek whose separation from the University and separation from the other residential areas of Seguin (due to the barrier created by Walnut Creek) creates an enclave unique to this district.
- The public facilities area that lies west of Highway 46 and contains Seguin's new police and courts building. Without connection to the University or other public facilities of the City, this sub-zone remains isolated.

The University District comes together as an identifiable area because of the clarity of its physical definition and the strong symbolic importance of the central University campus. However, once in the district there is some confusion as to how it is structured and how it connects with the rest of the City.

The University sits on a large campus with generous spaces between its buildings. The edges of the campus have deep setbacks, which spatially remove the University from any clear connection with its surroundings. In addition, the campus has no clear major entry or ceremonial space that serves as a link between the school and its host community. In many ways the University's plan tends to cloister school activities. This limits the University's power to function as a form giving element for the City. University facilities are huddled together in the middle of a generous campus

that sets a perimeter of open space between the physical school and the University's functioning heart. Street/drive connections with Highway 46, Court Street and Business 90 do not align with city streets, making the sense of separation more apparent. As a result, the City around the University has grown without much recognition of the University itself and consequently, not benefiting from the presence of this great academic resource as an image maker and form giver for Seguin.

Therefore, future plans for the University District must establish greater connectivity between the Texas Lutheran University and the adjoining City fabric.

Texas Lutheran University is connected to Highway 46 via a divided drive that by virtue of its scale (width) is viewed as the primary entrance. However, once within the campus fabric, the divided drive does not come to a traditional monumental building or monumental space. As a result, the connection does not serve in a way that provides linkage between the school and the City. Opposite the drive (west side of Highway 46) the City has not responded to the school's presence with stores or activities serving the needs of students. Similarly, the retail along Court Street is traditional highway retail showing little to no dependence on student patronage. As the City fabric approaches the fabric of a University it is typical for it to contain residential and non-residential uses that provide off-campus living/shopping services and thereby hosting the student population that is now counted among its citizens.

Therefore, the major portal entrances to Texas Lutheran University need to be visually identified as such and reinforced by city residential and retail uses that serve the student population.

Texas Lutheran's current curriculum emphasis on Fine Arts does not speak directly to Seguin's need for more technically based skills in its workforce. It is important that the University and the City work together so that Seguin can begin to offer potential incoming industries (with higher wage capability) a higher skilled labor pool.

Therefore, the curriculum focus of the University and the employment needs of the City should be brought together in a joint initiative to facilitate economic development and attract higher wage employment potential.

East of Texas Lutheran University is a residential zone that like the University facility is isolated from the larger urban fabric of Seguin. Houses fronting Vaughn Avenue face the large open flood plain of Walnut Creek and houses fronting Prexy Drive face the back side of the University, thereby limiting any connection with Seguin to the east or west. Commercial development of Court Street limits connection to the south and lack of development north of San Antonio Street (as well as extending portions of Walnut Creek) limit any meaningful northward connection. This residential area, lying within the shadow of the University and adjacent to Walnut Creek, holds much promise for bringing both the school and the housing clusters into the sphere of downtown Seguin. Current plans are now underway to study the enhancement of Walnut Creek as an activity and pedestrian spine that runs to and through the downtown area.

Therefore, Plans for the future enhancement of Walnut Creek should address its potential to link heretofore isolated areas of Seguin to its downtown core.

Like many of Seguin's near downtown neighborhoods, this University residential area is fragmented by encroachments and discontinuities that amplify its isolated condition. Continuous residential frontage facing





the Walnut Creek Floodplain quickly dissipates as the residential areas extend westward. As a result, residential frontage facing Texas Lutheran is partially complete, being disrupted and punctuated with non-residential uses and parking. Long blocks running north and south have limited east to west connection except those connections that serve the functional needs of the campus. This makes the residential fabric subordinate to the University and largely encroached upon by the University with a jarring and disruptive edge providing a fragile separation. As Texas Lutheran reaches to Walnut Creek and Walnut Creek reaches to Texas Lutheran, it could provide a focusing public space/connection that defines and gives form to the residential area caught between. In this redefinition, the edge where University and residential fabrics comes together needs to find a purpose that serves both interfaces. Again, a public space is best suited for such an interface, a space that will serve both school and domestic needs.

Therefore, the residential area lying between the University and Walnut Creek must acquire a definition that gives it a sense of place, a connection to the University, and a connection to the larger fabric of Seguin.

At the present, Highway 46 is largely undeveloped except for Texas Lutheran University and a new Civic Police and Courts facility. Both are significant public/institutional investments in this corridor which has no structural relationship to Seguin's historic or current patterns of growth. Yet, there is an institutional claim to this highway that merits its recognition as a major destination. Like much of Seguin, dispersed pockets of commercial development and dispersed pockets of public investment reflect a City whose center (and the power of that center) is under constant challenge and facing continued erosion.

Therefore, a Walnut Creek link between downtown and the University District must define a strong connection that brings the City's public/institutional centers together. In addition, more linkages along Court Street must be considered and implemented.

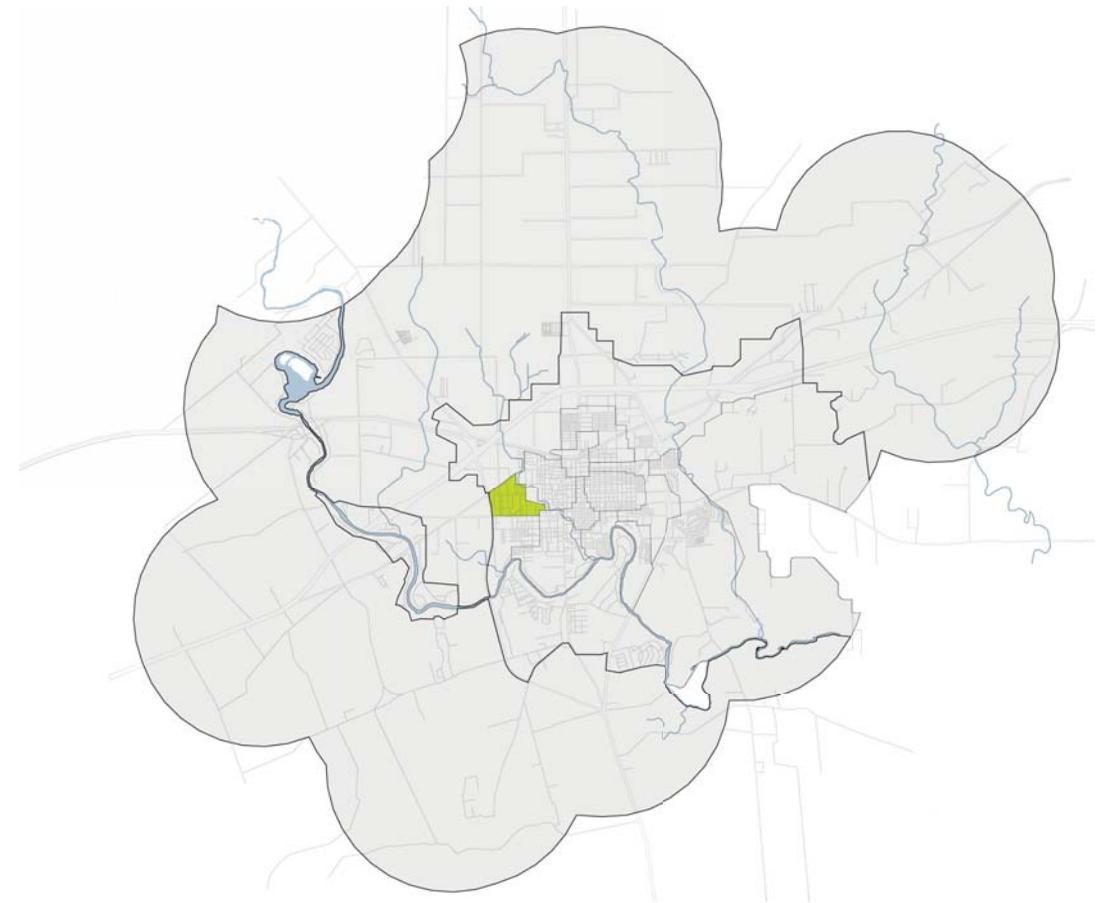


Figure 10. The University District.

DISTRICT 8: THE HIGHWAY COMMERCIAL DISTRICT

A large portion of Seguin's retail services have migrated to Highway 90 (Kingsbury Street), Highway 123 Bypass, and the eastern portion of Court Street (Alternate 90). All of these streets are TX DOT roads that conform to highway design standards, and the retail land uses that have grown up along these roadways assumes a typical highway form. Typical highway form means large plate structures set far from the street right of way with a foreground of parking, taking up that front yard space. The retail square footage now residing within the Highway Commercial District poses a strong challenge to Seguin's downtown core. Vacant space within the downtown core suggests that the downtown area cannot compete. However, the new suburban form of retail in Seguin is missing the form elements that give the street the distinctive and pedestrian friendly qualities that make it a City. Downtown can only maintain a retail density if it finds connection with the emerging retail areas and also finds a retail specialization that makes it a complement to, rather than a competitor with, emerging highway retail areas.

Therefore, the spatial separation of downtown from the Highway Commercial District must be overcome so that the downtown area can supplement the limited retail form present in these highway areas.

Therefore, development design guidelines and public streetscape improvements must be employed to bring the Highway Commercial District together as a visually coherent and pedestrian friendly place that reflects the environmental heritage unique to Seguin.



Therefore, continued attraction of the City's retail to State TX DOT Highways will mean a loss of cityscape that has made Seguin unique and that must be mitigated by a Streetscape Urban Design Program.

Attraction of retail uses to Highway 90, Highway 123 Bypass, and Court Street (as well the emergence of major retail along IH-10) is changing the nature of Seguin's retail fabric. Local serving retail (originally found in downtown) has given way to regional retail that derives a large portion of its patronage from the density of traffic traveling **by** Seguin on these highways and freeway. Specialty retail has largely vanished and "demand" oriented retail has become dominant. Demand retail means supplies and necessities like gas stations, fast food, building supplies, groceries, etc. Downtown Seguin once hosted a local department store that in its day was a center of fashion and new products for the City. Now the Wal-Mart or Dollar Store attracts those buyers to highway, auto oriented retail centers. Detachment from the street, the scale of the plate, the ubiquitous branding, and growing dependence upon highway traffic reflect a dissipation of the City's economic energy. Spatial dispersion (in the form of highway fronted strip centers) means that individual retail outlets operate independently, thereby requiring a bigger plate facility with more products. In the older urban form, retail outlets had the benefit of aggregation (much like a mall) which nurtured the growth and patronage of more specialized retail uses surviving in the traffic generated by a larger anchor. Continued strip development of retail will further weaken the environment in which more specialized retail uses can survive. The loss of retail aggregation has led to narrowing of the City's retail diversity.

Therefore, further retail development within the Highway Commercial District and along IH-10 must create nodal clusters (that will support more retail diversification and specialization) rather than strip frontage.

Now that retail land uses have gravitated to the frontage of Seguin's highways, these same retail areas become major entries to the City's residential areas. As retail frontage becomes more lineal (strip form) and highway fronted, it acts as a barrier between, rather than an entrance to, or an edge of, residential areas lying behind. Ribbons of regional, highway oriented retail strips begin to divide the City and dissipate its sense of place, comprehensible form, and connection with its own heritage. This increasing dissipation of fabric is one of the biggest future challenges facing Seguin as the economic attraction of IH-10 grows and proposed SH 130 begins to exert its economic presence.

Therefore, the tendency of growing retail frontage to isolate portions of Seguin's residential fabric must be mitigated by the recognition of retail entries in the design of these highway retail centers, creation of commercial/residential transitions that respect the residential interface, and the emergence of a generally more nodal development pattern in nonresidential land use.

As retail development along Highway 90, Highway 123 Bypass, and Alternate 90 becomes more lineal and regional highway traffic increases, management of traffic into and out of retail strips becomes more difficult. The current/emerging retail form and the street maneuvers required to enter or exit retail development is possible on streets that currently function under capacity. However, as regional and local traffic increase (for example traffic generated by SH 130), ingress/egress, location of median cuts, and internal retail circulation will become more of an issue. Greater traffic will also bring with it the occurrence of larger plate retail venues (like Target, Marshalls, etc.). Contemporary "larger plate" retail development typically brings an entourage of pad and/or smaller retail tenants with it. These pad and/or smaller retail establishments will be in competition with (or actually be) current major tenants in Seguin's Highway Commercial District.

Consequently, some present highway retail could relocate to newer space, closer to the hosting large plate or go out of business due to severe competition. This of course would precipitate vacancy outside the downtown core and make vacancies a more prevalent condition within Seguin. As retail becomes more ubiquitous and highway dependent, the potential for strip competition and vacancies in outmoded centers becomes





higher. The beginning of this trend is usually first seen in the franchise food establishments. Throughout Texas, aging highways are lined with vacant stand-alone chicken or burger places as larger, newer, and more anchor focused centers attract franchise food patrons. Finally, the increased lot/parcel depth possible along newer freeways and highways is more appealing to newer large plate retail centers, leaving existing centers (on shallower lots/parcels that back up to preexisting residential land uses) unable to compete spatially.

Therefore, an overall retail strategy is needed for Seguin that seeks to diversify the City's retail fabric. This strategy must understand emerging retail trends and the tendency of newer highway retail to precipitate vacancies in older highway retail.

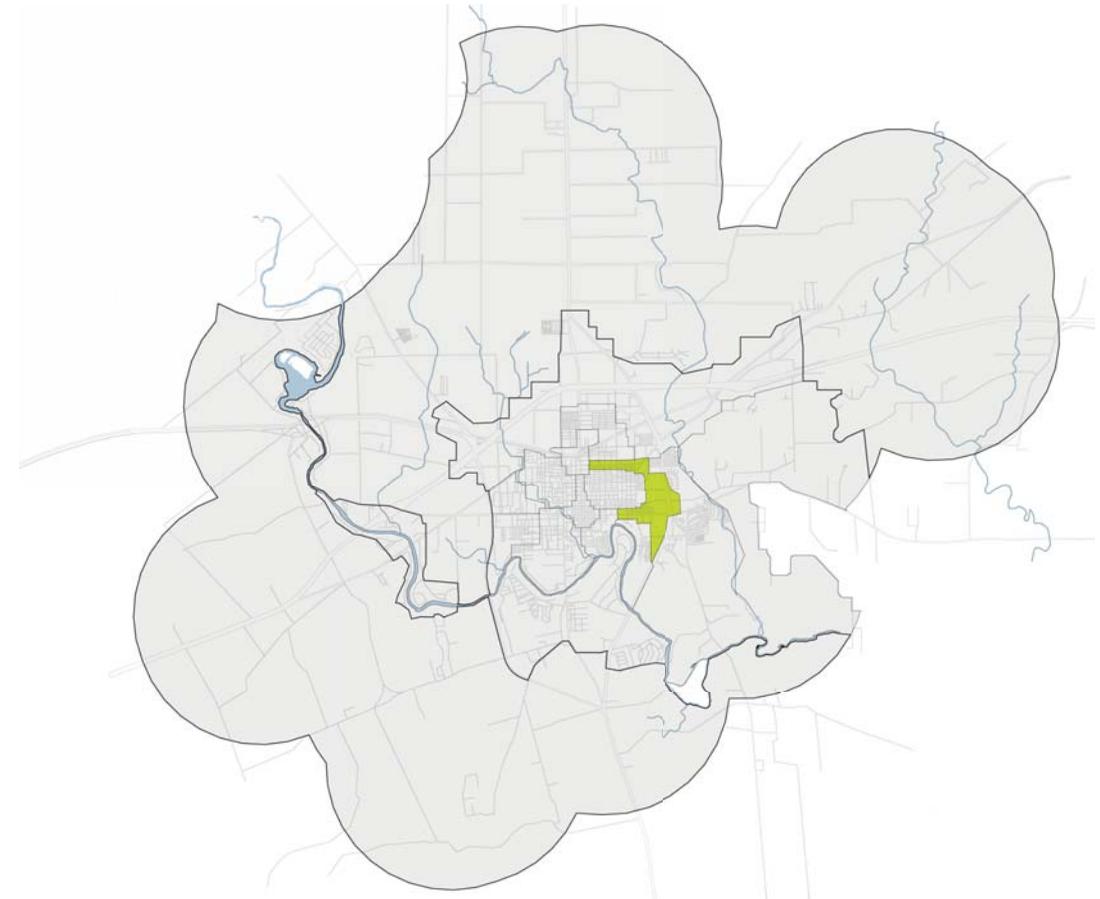


Figure 11. The Highway Commercial District.

DISTRICT 9: THE JEFFERSON DISTRICT

The Jefferson District lies north and south of the western segment of Jefferson Avenue and is bounded by Court Street, the Guadalupe River, Highway 46, and Moore Street. This area becomes its own district apart from Walnut Creek South because the block orientation west of Moore Street is square and/or east to west, while the block orientation west of Moore (within the Jefferson District) is north to south. This shift in orientation creates a dramatic change in district character. The randomness of the Walnut Creek District is replaced with a more uniform and orderly block frontage. This suggests a common developer and/or builder working under a development plan. The houses also have greater architectural commonality and are alley served. The blocks are longer than other nearby City districts, making even small scale repetition more visually significant. Consequently, there is a more prevalent physical/spatial fabric in the residential portion of this district. However, the residential area is only a small piece. Much of the Jefferson District is undeveloped (open) or sparse River-related lots. Existing uniform residential land use is a remnant of a development period influenced by an active City core. Future residential development may well be driven by the River's presence. This will lead to greater diversity within the Jefferson District and greater fragmentation of Seguin.

Therefore, the tendency of City fronted/River fronted districts (like the Jefferson District) to evolve with divergent and separate development patterns must be mitigated with a more coherent street organization that unites the City's many development conditions.

With the exception of Jefferson Street, there are no major streets within the Jefferson District. Jefferson Street is consistent in scale, edge definition, and all other visual characteristics with other district streets. As a result,

there is no street hierarchy and the overall street pattern is without coherent form. Each street conforms to its own condition. Where the River is present, the street is meandering, long, and circuitous. Where the older City grid is present, the street is straight and expressed in more uniform blocks. Where the landscape is open (more rural) the streets are long, straight, and laid out with typical rural efficiency. In addition, the public domain is weakly defined. Multiple curb conditions, no curb conditions, lack of street planting, sparse street lighting, etc., make the divergent residential image a dominant visual aspect of this area. Continuation of divergent spatial organization established by a weak and incremental street domain will contribute to greater internal conflicts within the Jefferson area.

Therefore, the public street domain must become more uniform, strongly expressed, and organized with greater hierarchy so that it can have a more ordering effect on the appearance of and continuity of development.

Jefferson Avenue is the strongest link to neighboring residential areas, but Jefferson Avenue itself does not serve as a destination. Instead it quickly comes to a dead end at Guadalupe Street. As a result, residential portions of the Jefferson District, like many other residential areas of Seguin, are isolated. Streets to the north are not continuous across Court Street and only Jefferson Street is continuous to the east. This is a prevalent condition that afflicts many older areas of Seguin and it makes movement within the City fabric difficult.

Therefore, greater continuity within the older street system needs to be established so those near City areas are not so segmented.

A significant component of the Jefferson District is Starcke Park (the ball field complex and the golf course). This is a major city attraction that should bring the Jefferson District some measure of amenity. However, the park's relationship to surrounding residential areas is defensive. Defensive means that service functions, storage buildings, and parking are located along the interface with Seguin's residential fabric. As a result, the park separates itself from the City and the City separates itself from the park. This is another aspect of functional segmentation and was seen earlier in the University District (as it touched the flood plain of Walnut Creek). Pedestrian movement from point of origin (typically residential areas) to destinations (typically parks and schools) is hindered when these land use types are situated so that trails cannot make the desired connections. The park is also one of the few places where the public has access to the River. At present that access can only be acquired by car. Current plans to create a broad pedestrian connection along Walnut Creek will do a great deal to change this current condition. This initiative should be expanded into a City wide trail system (both on street and off street) that will begin to link/integrate separated City functions.

Therefore, a City wide trail system is needed that will link separated City functions (residences, parks, schools, etc.) and extend the work being done along Walnut Creek.

There are some significant undeveloped tracts within the Jefferson District that could dramatically enhance this area. The most significant of these borders Highway 46 and the River. These undeveloped areas are important "value generators" for the future of this area. The Jefferson District's position adjacent to a major public amenity (Starcke Park) and its adjacency to the River are value generators that should benefit the general value of the whole area. However, the value of the River is being "captured" by private lots and thereby being held back from the more general district.





Value generators such as the park and the River must find their way into the pervasive public domain (trails, streets, smaller parks, and other open spaces) so that the value generator can have the greatest benefit to the City. Once a value generated is captured, it is effectively denied further influence on other valuations. This is why commercial development of a highway or a freeway tends to “strip” out, as the value created by the highway or freeway is captured by the parcels with direct frontage. The land behind the strip often experiences a depreciation in value because the value of location (relationship to the highway) has been captured.

Therefore, the value benefits of having a close relationship to the Guadalupe River and Starcke Park must be brought to properties throughout the Jefferson Area by extending the connection between these value creators and various public domains (including trails, streets, and other open spaces).

It is important that development of this area not contribute to the segmentation of its fabric. It is also important that future development not become an internally defined project, with one linkage to Highway 46 (or other form of gated entry). Further development of this type will only further fragment the district and greatly hinder any potential to create inter-connections within the fabric of Seguin (in general) and this area (specifically). Further fragmentation also results in further discontinuities within the area's/City's street system. If the major highways become the only “through” streets that make connection to desired destinations, then ultimately (at some future time) traffic becomes a dramatic problem that will affect Seguin's quality of life.

Therefore, future development within the Jefferson District must make connection to the existing street system and facilitate greater connection of other streets to major arterials.

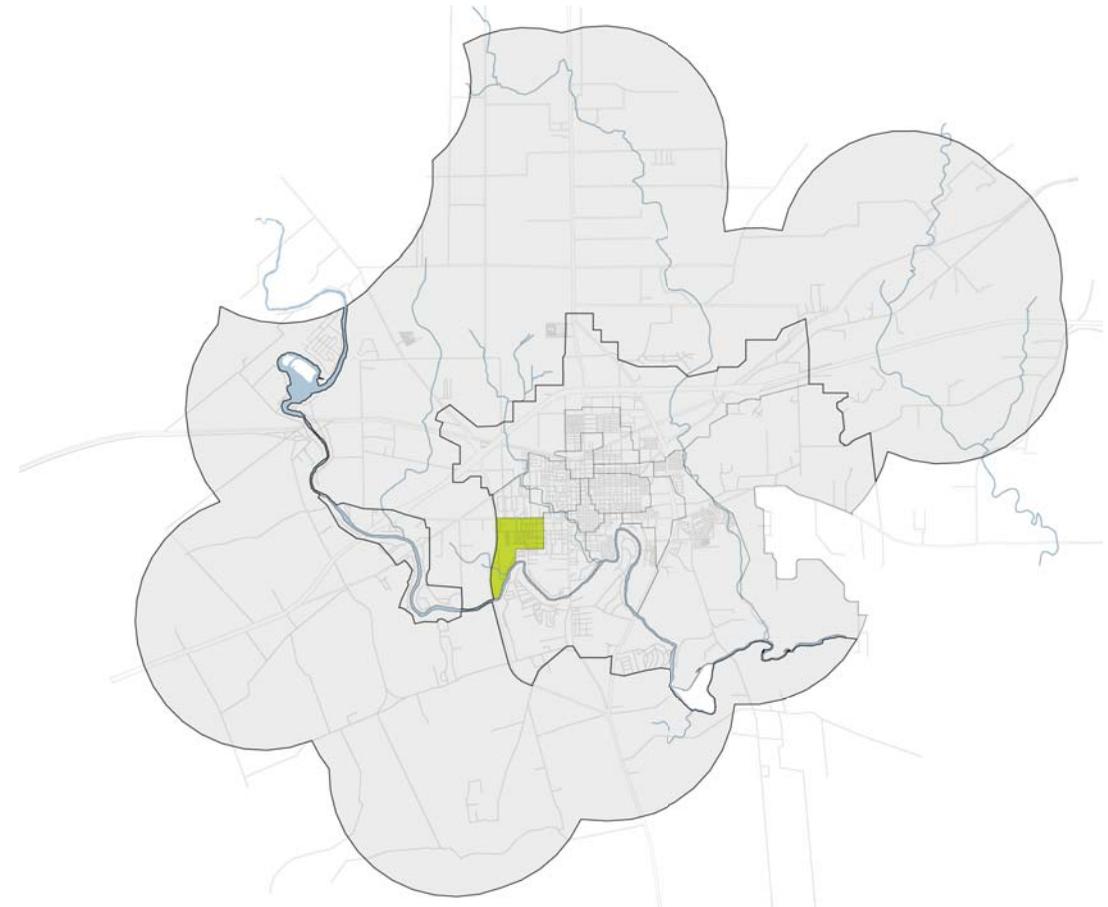


Figure 12. The Jefferson District.

DISTRICT 10: THE RIVER BEND DISTRICT

Of all the sub-districts in Seguin (described herein), the River Bend District is perhaps the most clearly defined because of its strong association with the Guadalupe River. The River is not always a boundary; here, it is sometimes an internal focus and yet the River is the defining element. Boundaries beyond the River are unclear (for the most part) and uncertain. To understand why this occurs, one must view the River as a “value generator” which has (and does) drive development within this area. The River drives development because it is the value establishing feature that underwrites the cost of that development. As a result development reaches to, and is organized by, the River. As development, so driven, fills the open land, it creates a “closed” form. Closed meaning that it does not:

- Integrate elements of the larger community (e.g. streets, value gradients, etc.)
- Connect traffic movement between those parts of Seguin north and south of the area
- Accommodate the overall form of the City by not becoming a barrier between parts of the city
- Facilitate future growth by creating potential for extensions of its assets to other areas

The greatest asset (the River) also holds the greatest potential to nurture a growth pattern that bifurcates Seguin. What the River recognizes naturally, it seems to be precipitating physically and socially. As the Guadalupe passes below Seguin’s downtown core, it marks a change in soil type, a change in vegetation, and a dramatic change in topographic relief. Interestingly, development along the River now establishes a change in street orientation, a change in street alignment pattern, a change in architecture, a change in housing type, and a change in socio-economic distribution. In all these ways, the River is being defined as an island of change within the broader



development of Seguin. As such it becomes more and more of a barrier and a bisector of the City. The value potential of the River and its association is not defining a value gradient, meaning a pattern of value within the City that stretches over a broad area. Instead, the River defines a narrow value corridor that once captured by private lot development is not available to the rest of the City. Even public development adjacent to the River has followed this pattern. Holding itself close to the River, it has not been extended into larger surrounding neighborhoods but has (instead) isolated itself from surrounding neighborhoods (see description in the Jefferson District text). This thereby prevents larger appreciation of its value creation potential.

Therefore, larger plans for Seguin must seek to extend the value influence of the River beyond its immediate frontage by placing more of the River’s presence in a public domain that reaches over the City.

Within the River Bend District streets follow the general River geometry but do not come close to its bank. Road and River are separated by an intervening strip of private land divided into lots for residential development. The River is thereby privatized and largely hidden from the public domain. Without a River association, the road network is formless because only the River (now invisible) could explain its rambling geometry. Lack of cognitive clarity in the street equates to lack of a sense of neighborhood within the area. The visual message of this area is “**stay out**” not “come in”. There is no celebration of the City as a larger place to be; there is only the River and the segment of it that a particular lot controls.

Often roads which follow rivers are celebrated as parkways (e.g. Turtle Creek Boulevard in Dallas). The value created by the river is thereby amplified by the traffic that moves along it and such areas become prime development zones for mixed use housing and retail projects. The River

roads in Seguin are limited in size, capacity, and design distinction. These roads are exclusively for the access/egress needs of individual River front lots. Also the River roads do not provide internal connectivity within the larger Seguin street system. Instead, they branch off a collector as long cul-de-sacs or circuitous loop road. This creates operational problems as well as form problems. Emergency access can be easily disrupted by traffic or a traffic accident within the labyrinth like road system. Future sewer service and other such services will be complicated by the inability to loop or create mains that feed other orderly road extensions.

Therefore, the emerging form of the River Bend District must not ultimately be one that isolates itself from the rest of the City. The plan must bring greater connectivity to this area and provide a public street network that includes the River collectors as part of the overall system that will support additional development.

The Riverscape is an important part of the natural setting of Seguin and an important part of its heritage as well as identity. Development of the River is changing that Riverscape, as the flood plain and the riparian corridor it supports are being “suburbanized” with turf and decorative/ornamental vegetation. With greater magnitude over time, the Riverscape will be transformed. Development within the River Bend District has started to realize the power of the River and its attendant natural systems. Houses set on piers and more naturalized landscape development of the open space is becoming more prevalent.

Therefore, future development of the River front must preserve both the hydrologic capacity of the corridor and the natural environment it supports.

Development of the River corridor is at present fairly mixed. Mixed in this case means a variety of house styles, size, cost, and site orientation that characterizes the built fabric of this district. The visual impact of such built diversity is to amplify the extent of privatization of the River edge and the extent to which the street system in place is meant to serve the individual lot owners. However, this diversity is not unique to the River Bend District and has been discussed as characteristic of many near city/older sub-districts of Seguin. Here, as in other districts, the lack of recognition of the street via normal continuities that characterize urban and suburban development (e.g. site orientation, common size and price point) prevents visual cohesion necessary to make this area a true district. The street becomes privatized by lack of street recognition (e.g. street landscaping, site orientation, curb, etc.), and the area becomes a collection of River oriented houses rather





than a district. This condition is mitigated by the power of the River, the presence of which transcends all else and provides the identity and visual fabric needed to define this as the River Bend District.

Therefore, the autonomous development of individual lots that fragments the River Bend District must be addressed by a more powerfully articulated streetscape and a more visible public continuity that expresses thematic characteristics of the larger City fabric.

Growth patterns of the River Bend District are as varied as the lot development (described above). Streets paralleling the River follow the geometry of the River. However, streets extending away from the River have no collective structure or organization. There is no apparent street hierarchy (collectors/arterials) and no common aspects of street orientation. A lack of structure will greatly hinder future growth options because it will be difficult to serve the traffic needs of such growth and because internal relationships that assign value are missing. Value is generally a function of "location" (or relative place). Without structure (place relationships), value is less certain. This will mean that the only real value determinant is placed with the River. Either a property is a River property or it is not. As a result, it will be hard to extend the tax base that the River frontage represents once that River frontage is gone. The River Bend District is one of the more active development areas within the City. Development of the district includes such projects as the Quails Gate Subdivision (200+ units), the Tor Village Subdivision (200+ units), the Nolte Farms (100-200 units), the Sky Valley Subdivision (100-200 units), and the Trost Subdivision (1-50 units). District amenities, such as the Chaparral Country Club, will enhance value, but are separated from the River. These types of amenities could have extended the River's economic benefits if they were connected to the River.

Therefore, future growth in the River Bend District must be anticipated and provision made within improvement of the streets and other infrastructure to anticipate that growth and thereby enhance its potential value.

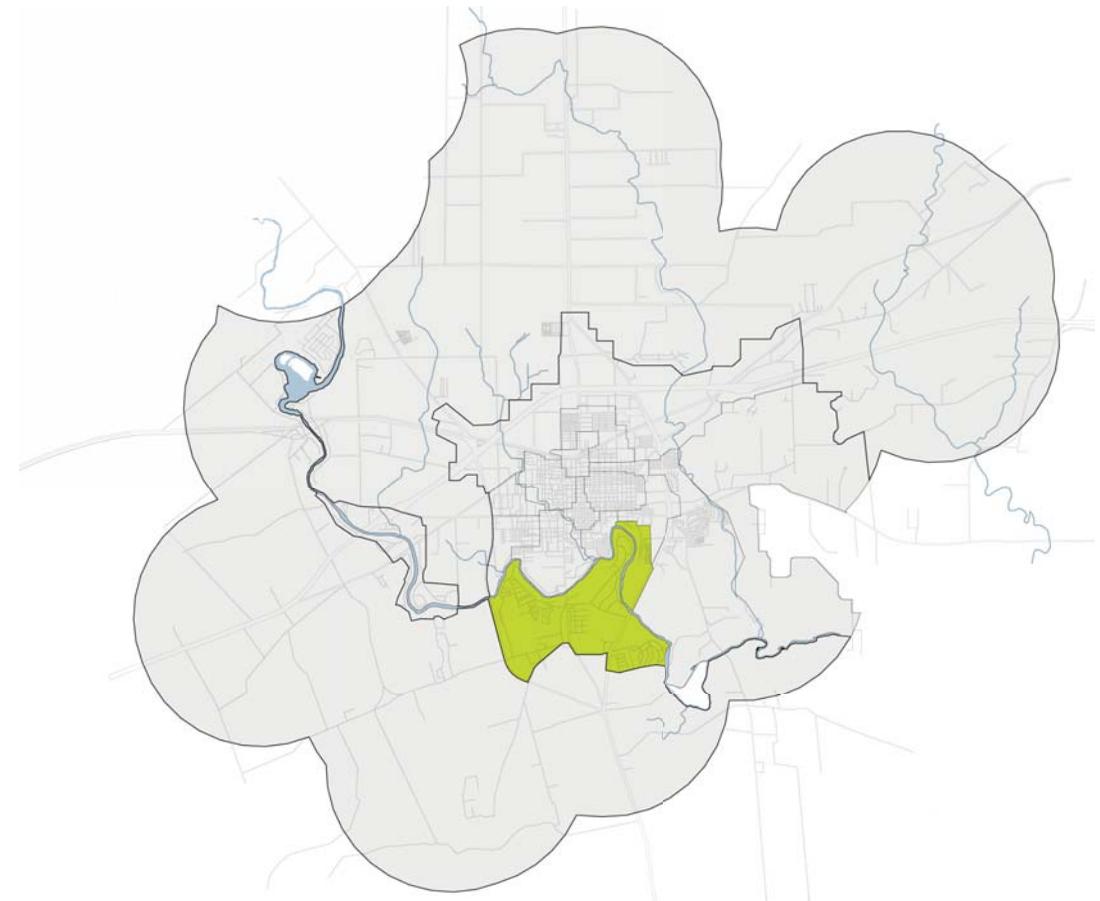


Figure 13. The River Bend District.

DISTRICT 11: THE NORTH SEGUIN DISTRICT

The North Seguin District is an area lying generally south of IH-10, north of Business 90, and east of Highway 46, with the railroad track cutting through its southern edge. This area includes mostly residential development caught between the industrialized Station District and the commercialized freeway corridor. Housing patterns here are more uniform with continuity in the street frontage and a clearer articulation of the street itself. At present, the residential portions of this district are protected by undeveloped land against the freeway frontage and areas of undeveloped land toward the railroad track. However, further development to the north or south (the only space available for expansion) will bring the residential fabric into contact with pre-existing non-residential development.

Therefore, the future adjacency of residential and non-residential development within the North Seguin District should be anticipated and measures put in place to make that adjacency livable.

The intensity of non-residential development outside the district makes it more likely that non-residential development will occur on undeveloped parcels within the district. If this should happen, the existing residential component of the North Seguin District will be dramatically isolated and the issue of land use transition becomes important. Land use transition suggests that the most appropriate development forms to occur between potentially conflicting land uses is a land use that embodies aspects of each (such as higher density housing or mixed use housing). In this way the conflicting uses can blend in a manner more suitable to living and thereby enhance the general quality of life.

Therefore, the appropriateness of land use transitions between residential and non-residential development should be considered for future development of undeveloped land within the North Seguin District.

It is important to note that much of the housing in this district is government housing. The design uniformity of these units and their regular spacing is more consistent than other areas of the City and suggests the public nature of housing development. Increasing isolation of this district will mean increasing isolation of these public housing projects and creation of a "project" area spatially disconnected from the larger City. This will result in disconnecting a specific segment of the City's population. It will become increasingly important to connect this district both physically and socially to the larger City by overcoming its growing isolation and encouraging mixed income (public and private) housing development.

Therefore, future development of the North Seguin District must seek to mix housing types (public and private), income of residents, and make stronger physical connections to other areas of Seguin.

There is a segment of the North Seguin District that lies south of the railroad track and north of Business 90. This area is more directly connected to areas south of Business 90 because internal streets extend south over the Highway and into the Transitional District. However, the intervention of strip retail development along the Business 90 and contiguous retail development creates a barrier that defines an edge. Within the edge (north of Business 90), residential patterns change from the small block and incremental infill of the Transitional District to longer blocks with more uniform housing (more

typical of other areas within the North Seguin District). Consequently, the railroad track is not an edge but an intrusion that creates small fragmented residential pockets ringed by commercial development and railroad track. This fragmentation reflects the unplanned imposition of infrastructure and commercial development at the cost of residential continuity within the City.

Therefore, plans for the North Seguin District must link and reconnect its fragmented residential pockets.



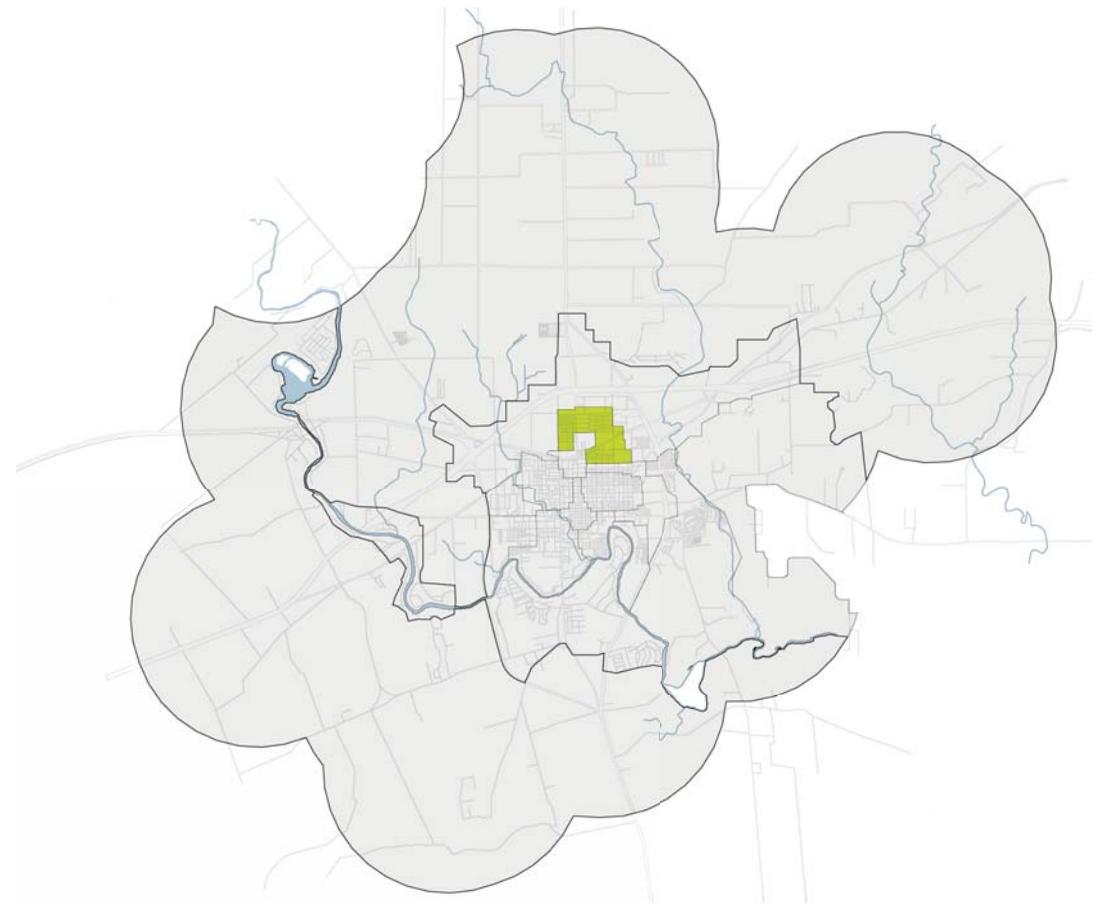


Figure 14. The North Seguin District.

DISTRICT 12: THE FREEWAY DISTRICT

The Freeway District is a broad zone that extends north and south of the east/west alignment of Interstate 10. Currently, this corridor is attracting a significant amount of development activity and speculation. The centers of this activity are at the intersection of IH-10 and Highway 46 and IH-10 and the Highway 123 Bypass, with some development between these two intersections along the south right of way of IH-10. Highway and freeway intersections are natural points of value concentration that attracts development. These concentrations of value should lead to a concentration of development so that the benefits of aggregation can be realized. These benefits include greater commercial diversity and specialization of retail activities. However, when these natural nodes are challenged by strip development (continuous development of the freeway frontage along service roads), the formation of those beneficial development concentrations is weakened. The creation of centers of commercial activity rather than strips allows streets and highways emanating from the core area to exchange value between the centers so connected. When that value is captured by strips, the centers (especially older centers) are weakened and older centers (such a downtown) lose in the competition.

Therefore, development within the Freeway District should reinforce nodal patterns that will bring the benefits of aggregation to commercial centers.

At the present time, a service road exists between the IH-10/Highway 123 Bypass and IH-10/Austin Road intersection. Typical of most frontage road conditions, commercial development has been attracted to the service road right of way. As mentioned earlier, this dissipates the power of the major

interchange intersections to form strong nodes and leads to a corridor that begins to economically dominate the City. As residential development continues, it will push the operational budget of the City ever higher as the City endeavors to serve that population. The ad-valorem tax base represented by that residential development generally runs from 40% to 55% of the tax base needed to meet general fund requirements. Therefore, non-residential development must fill in the gap (bringing enough ad-valorem tax base to support 85% to 95% of the general fund requirement (the balance being supplied by various fees, fines and City finances). If Seguin were to develop 58% of its combined City Limit and ETJ area, the residential ad valorem tax base would only provide about 51% of the needed tax revenue. Therefore, the non-residential tax base would have to account for up to 45% of this needed revenue. The 100% development of IH-10 frontage within Seguin's ETJ limits (approximately 9 miles) would barely meet this requirement. This means that dependence on the economic power of the freeway corridor by itself will not serve the tax base needs of a future population that exceeded approximately 58% of the City Limit and ETJ combined land area combined. Furthermore, as the economic power of the freeway grows, it challenges and truncates the ability of other parts of Seguin to experience commercial growth.

Therefore, a balanced growth strategy and land use plan is needed to prevent freeway corridors from dominating the commercial patterns of the City.

As the Freeway is currently developing, it provides little opportunity for proper transition to residential areas that will be developed north and south of the freeway as Seguin grows. This relationship is often confrontational with service roads and local streets clashing and land use changes

(commercial to residential) being made at the back side (most utilitarian side) of commercial development. Many cities require a wall at this line but walls have proven to be defensive in nature and offer the residential area little benefit. Because so much of Seguin is now undeveloped, plans can be made to anticipate this juxtaposition of land uses and design measures put in place to make the transition one that enriches both the commercial center and the abutting neighborhood.

Therefore, plans and initiatives should be set in place to anticipate future adjacency of residential and non-residential land uses along the freeway corridor.

When the now authorized SH 130 Bypass makes its connection with IH-10, a major nodal intersection will be formed and the traffic densities on IH-10 will be significantly increased. This will make the corridor more attractive for investment. The SH 130 Bypass/IH-10 connection will further disengage relationships between the City and the freeway. Everything about the corridor will be oriented to "through" movement and show less and less identity of place specific to Seguin. Many cities with a similar problem, such as Garland, Texas, are impacting the visual appearance of the freeway corridor with iconic monuments that celebrate the corridor's movement across their City. Monuments have attracted more nodal business concentrations. Streets that connect to the freeway at icon points become major approaches to the host city and more attractive to commercial investment that serves both freeway and local patrons. Seguin has several important connections to the freeway that will support strong nodes at major gateways to the city.





Therefore, increased regionalization of IH-10 should be mitigated by establishing Seguin Gateways at key nodal intersections that announce major approaches to the City core and express Seguin's identity within the freeway corridor.

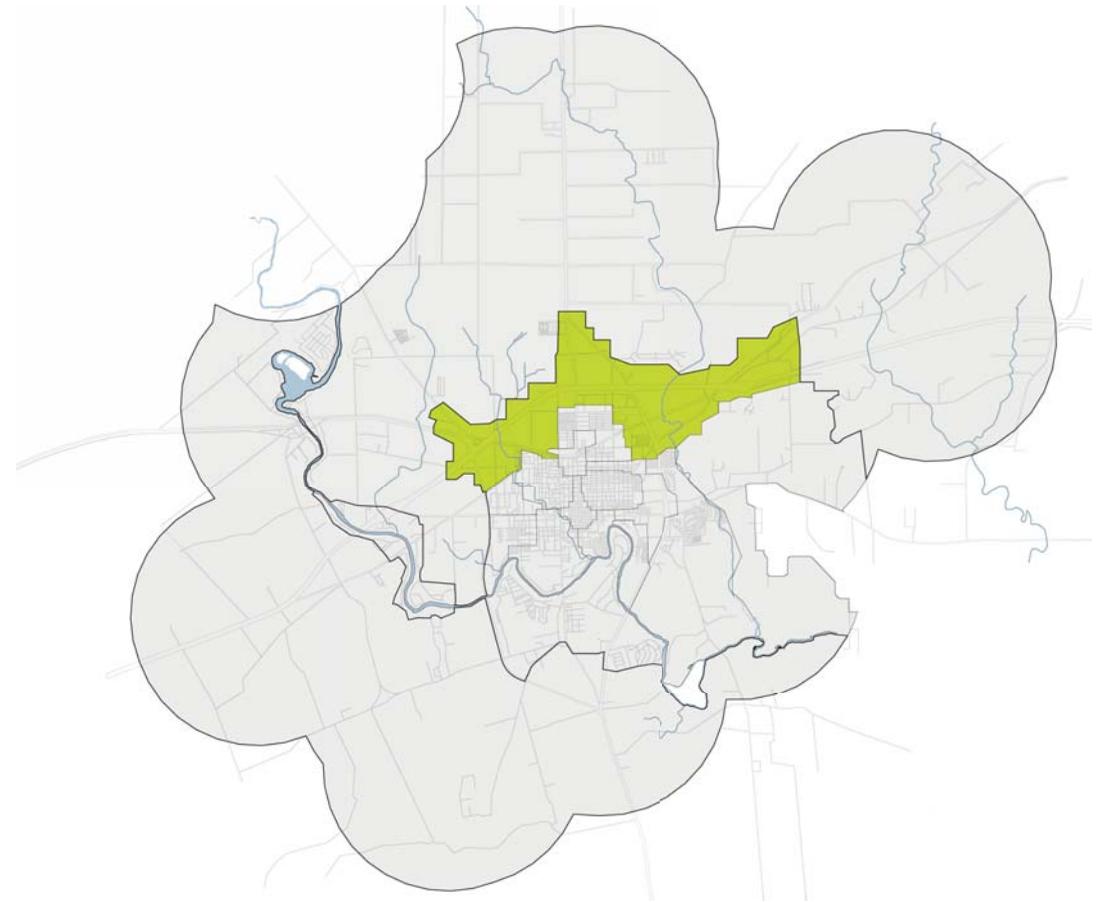


Figure 15. The Freeway District.

DISTRICT 13: THE GERONIMO CREEK DISTRICT

The Geronimo Creek District is a large area bounded by Geronimo Creek (east), the Guadalupe River (south), Highway 123 Bypass (west), and Business 90 (north). It is an area of contrast to much of Seguin due to its rolling (to steep) topography, heavy tree cover, and the existence of several exclusive neighborhoods. This area is also largely undeveloped. As a result, much of the ultimate character of this area is yet to be determined. However, it is clear that the Geronimo Creek District is becoming established in its emerging pattern of large lot development, hosting large homes set amid the rolling topography and umbrageous tree canopy characteristic of this area. At present, such residential areas are arrayed south of the east extension of Court Street or east of the Highway 123 Bypass. As a result, the through streets are becoming the arterials that ultimately organize residential developments and establish the interrelationships between them. Court Street is not a local collector; it is an approachway into downtown and an arterial connector that takes traffic out of and into the City. Dependence upon it as the major district street does not provide an organizing structure that reinforces the district form or identity. The same is true for the Highway 123 Bypass.

Using regional serving streets as the major arterial connectors to residential developments within an identifiable district means that projects become associated with the road way (e.g. the Highway 123 Bypass) and not the inherent character of the area in which they reside. One has to enter residential development east of the Highway 123 Bypass by penetrating the commercial development fronting the Highway 123 Bypass. The highway image defines the residential image. When the highway images differ, the residential images differ even though they share the same district association. This is another form of fragmentation. Areas of new development should be served by "area specific" arterials that reflect the identity and character of the

area they serve. In this way residential developments are tied together with common associations that make them collectively a community. Continued dependence on the highway system as the arterial and collector system will force ever greater traffic concentration at highway intersections (e.g. Highway 90 and Court Street). There must be a system of collectors and arterials that reflect transportation planning for future development needs.

Therefore, future residential development of the Geronimo Creek District must be anticipated by a thoroughfare plan that sets the template for local serving arterials that reflect the District's distinctive character.

The more regional importance of Court Street (Alternate 90) as it extends east of the Highway 123 Bypass will naturally attract non-residential land uses or higher density residential uses. If such development arises in response to Court Street, it will also tend to express the lineal form of Court Street and not reflect the character of the Geronimo Creek District. Lineal expression of corridor has already happened along the Highway 123 Bypass. If this should happen along Court Street, then Court Street will become an intrusion within the district and a barrier that divides its residents. Such division (should it occur) will physically express socio-economic differences as well as further fragment the City fabric.

Therefore, future development of Court Street must reinforce the district land use patterns and bring areas north and south of Court Street together.

As the waterways of Seguin become increasingly privatized, the City's rich landscape of Walnut Creek and Geronimo Creek are two waterways that are important to the City's storm water management system and important corridors for public use. Just as measures are now being taken to develop

Walnut Creek as a public corridor, similar measures should be taken to assure that Geronimo Creek will be available for public access when the residential population reaches that stage where such access is desired. Moving more of the natural drainage system into the public domain ultimately preserves the City's capability to accommodate its future storm water management needs. Most future development will be to the north and northwest of Business 90 because of the proximity of New Braunfels/San Marcos/Austin, Interstate 10, flatter land, and future SH 130. This means that most future development will be in the upper reaches of the Walnut Creek and Geronimo Creek watershed (up stream of current development). This will place greater burden on present development down stream. As a result, every measure should be taken now to assure that there is sufficient down stream capacity to accommodate future up stream development.

Therefore, future development within the Geronimo Creek District should anticipate upstream development within the Geronimo Creek watershed and make adequate provision for preservation of downstream waterways.

The growing density of non-residential development along the Highway 123 Bypass creates a greater need for the proper transition between these non-residential land uses and future residential land uses that will be developed within the district. At present, there is no transition. There is only an abrupt change from commercial to residential. Such relationships are not the result of an anticipated adjacency. The juxtaposition of land uses can be opportunity for proper transitions that will enrich both residential and commercial activity. Transitional uses like mixed residential/commercial or higher density residential can blend the environments of opposing land uses and there by make a more connected fabric. Also open spaces or public facilities offer transition that can benefit the environments of both living and shopping. Spaces and activities that enrich the quality of life are often those that combine residential and commercial activities with recognition of a local identity.

Therefore, future residential development within the Geronimo Creek District and commercial development within the Highway Commercial District should be directed by guidelines that address proper land use transition between commercial and residential activities.

The special natural features and distinctive residential development of the Geronimo Creek District creates a powerful internal identity that establishes this district. However, entry to the district, and movement within it, are not clearly understood. The change from highway to local road is abrupt and





occurs without visual introduction. Comprehension of Seguin (all of Seguin) as a place requires recognition of its internal components. However, the Geronimo Creek District (like the other districts discussed herein) is not clearly articulated within the City fabric. Elements of recognition are needed for recognition to take place. These elements of recognition include edges, portals, landmarks, nodes, and other such elements of cognitive structure.

Therefore, future residential and commercial within and around the Geronimo Creek District should be guided by guidelines, principles, policies, and regulations that establish portals, edges, landmarks, nodes, and other cognitive elements of structure that define a district/neighborhood.

Like the riverscape of the Guadalupe River, there is a distinctive creekscape of Geronimo Creek. Large trees growing in the deep alluvial soils of the creek bottom protect a ground plane of understory and ground cover plants that are indigenous to the creek corridor. As residential development moves to the creek edge, it domesticates much of this natural vegetative environment. Loss of the creek environment is essentially a loss of the creek (except for its basic transport function). This is also true of those portions of the Geronimo Creek District that front the Guadalupe River.

Therefore, future development within the Geronimo Creek or Guadalupe River corridor should respect and preserve the native “creekscape” and “riverscape”.

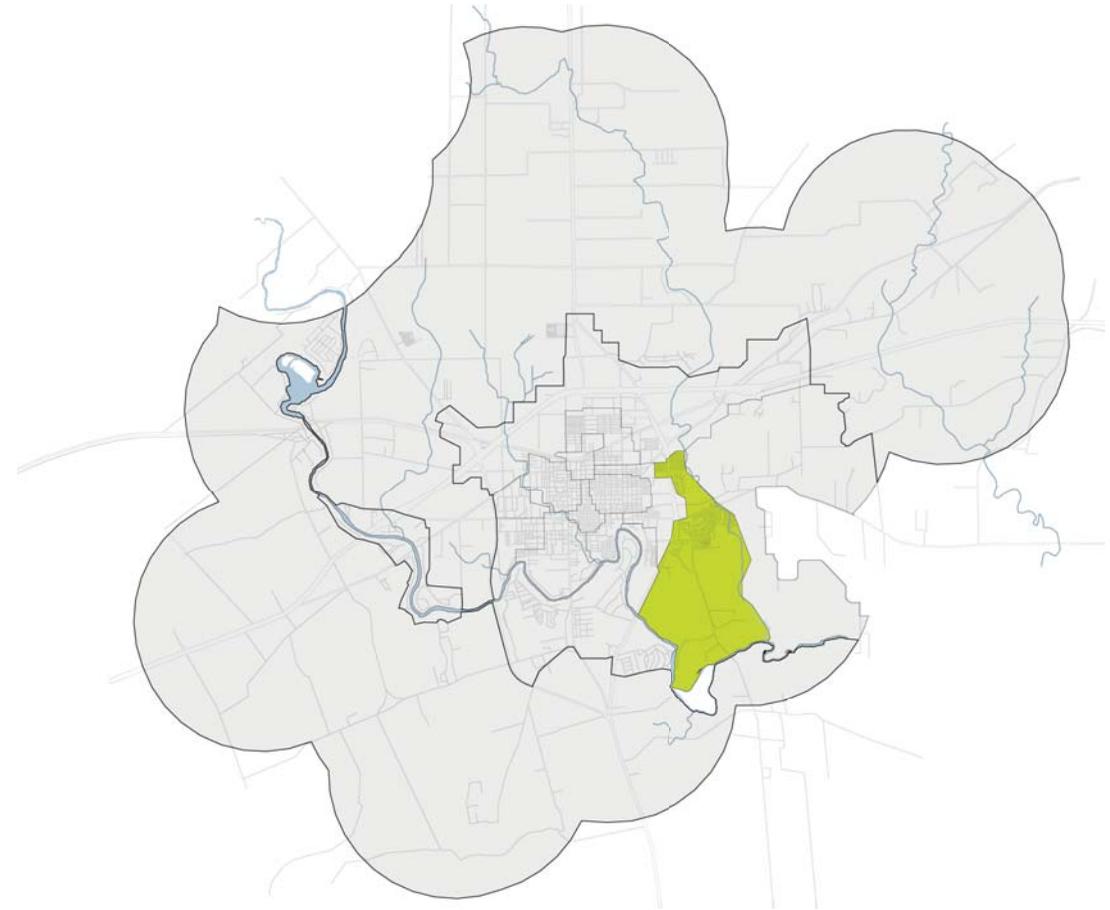


Figure 16. The Geronimo Creek District.

DISTRICT 14: THE AGRICULTURAL DISTRICT

The Agricultural District is that vast area of largely undeveloped land about the perimeter of the current City Limit but still within the area of Seguin's Extra Territorial Jurisdiction. It's the area of Seguin that will be the first to realize the effects of "regionalization". Regionalization means external influences generated by growth in neighboring communities/cities (e.g. Austin, New Braunfels, etc.) are beginning to manifest in the development of Seguin. As a result, Seguin is seeing increasing new development within the Agricultural District. New development includes such new residential communities as Mill Creek Crossing Subdivision Phase I (200+ units), Falcon Meadow Subdivision Unit 1 (200+ units), Rob Roy Estates (100-200 units), Northern Trails (50-100 units), and Huber Air Park. This development approaches Seguin driven by larger growth to the north and northeast. Consequently, it reflects a form and pattern related to the regional roads that serve it (e.g. Highway 46, Highway 123) and the regional influences that drive it. Because these regionally driven developments are extending from north to south (toward IH-10) they are conceived without reference to Seguin and thereby, place future burdens on Seguin's own development/growth policies. When southward moving developments do converge with the outward (northward) moving City of Seguin, the confluence could bring completion to the City form or once again contribute to fragmentation of the overall City fabric. Inward bound development can have the same effect as outward moving bypass highways and continue to compete with the orderly growth of the host City.

Certainly, this new growth will generate the need for retail and ultimately employment uses intended to serve the growing population. The City of Seguin must have a vision for the land use distribution and thoroughfare

pattern for these growing fringes that will mesh with a vision for the core City at some point in the future.

Therefore, continued growth within the outward reaches of the Agricultural District must conform to a larger vision for the current city limits and its ETJ area so the ultimate confluence of outer growth and near City growth can make a coherent urban form.

At present, there is a growing trend to place and facilitate industrial development within the western portions of the Agricultural District (specifically south of and along Highway 46). As such development increases, it poses a barrier to higher end residential development moving down Highway 46 toward Seguin. Placement of future industrial uses to the east, southeast, northeast, and north essentially opposes regionally driven development coming into the City. It is conceivable that nearby cities (New Braunfels, San Marcos, and Seguin) will merge (in terms of their residential fringes). For Seguin itself to capture a share of this higher income housing market, it must not separate itself from the regional dynamics that drive it.

Therefore, future non-residential/industrial development within the Agricultural District must not place barriers in the path of other beneficial residential development that is regionally driven.

At present, much of the growth in the Agricultural District is toward New Braunfels. However, that trend may change when the SH 130 Bypass begins to assert its influence in the north western part of this district. The first effects of the Bypass will be to attract non-residential development

(large retail or industrial land uses). This will place tension on existing designated areas for such land uses. The challenge to Seguin will be to prevent an oversupply of non-residential designated land that will dissipate the true demand for such land within the City. When the land is over supplied relative to demand it has the effect of:

- Causing competition within the limited demand available and spatially dispersing that demand.
- Depreciating the value of non-residential designated land or inviting great volatility in value determination.

Where IH-10 currently intersects with highways, significant retail development has occurred. When IH-10 intersects with another major freeway, the impact will be significant and it will compete with the non-residential land already designated. Dispersion of industrial development affects Seguin's ability to attract higher wage employers. Such industrial relocations are attracted to industrial communities and cities that offer a quality of life to the industry's employees. When the employment fabric is dispersed, it fails to establish an industrial community and the continued fragmentation of the City depreciates the quality of life attributes it offers.

Therefore, the Agricultural District must be envisioned through a growth management strategy that will seek to aggregate employment and retail land uses and thereby make shopping areas and employment districts part of the City fabric.

Future growth of the Agricultural District will be dominated by the economic power of IH-10 and the future SH 130 Bypass. This means that commercial land uses are increasingly dominated by regional retail venues serving the





needs of pass through traffic, and residential land uses are increasingly dominated by regionally driven residential development serving the outward expansion of neighboring growth centers. Greater economic power at the edge of Seguin operated independently of the City competes with the City itself. In addition, the freeway ultimately emerges as a barrier that separates existing City development (south of IH-10) from new development (north of IH-10). In this way it becomes like the River and traps the existing fragmented fabric of Seguin between two powerful corridors that attract higher income development.

Therefore, a growth management strategy is needed for the Agricultural District that addresses the tendency of IH-10 and the future SH 130 Bypass to ultimately bisect the City fabric, dividing new from old, large from small, higher income from lower income, and regional from local.

All the meaningful roadways that penetrate the Agricultural District (Highway 46 and Highway 123) from the north are approachways into Seguin's historic core. These Approachways provide opportunity to express the core throughout areas of new and emerging development. Proper monumentation and portal placement, as well as thematic streetscape, can begin to articulate a movement system that recognizes the City's center and thereby places new development in some relationship to it. Conceptions and nodes that are linked along those connections begin to create linkage and arrival associations that are meaningful to one's experience of place.

Therefore, highways leading to downtown and traversing the Agricultural District should be viewed as part of a Streetscape Design Plan that allows the City center to express itself throughout areas of new growth.

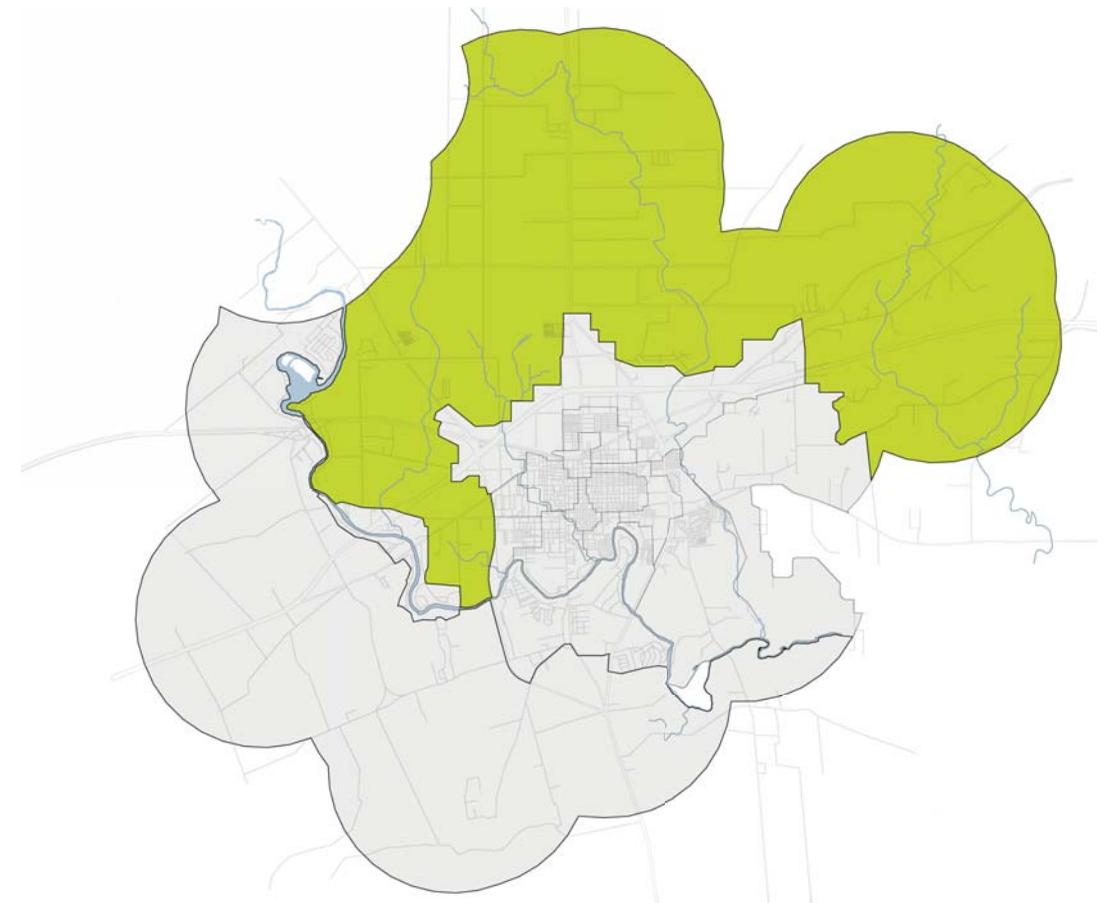


Figure 17. The Agricultural District.

DISTRICT 15: THE RANDOLPH DISTRICT

The Randolph District is that portion of Seguin lying east of Geronimo Creek and west of the Randolph Air Force Auxiliary Base. The presence of the air base very close to Geronimo Creek establishes it as a barrier to further eastward expansion of residential development (east of the Highway 123 Bypass and Court Street). The major runway aligns northwest to southeast and thereby imposes a flight path over potential future residential development northeast of Geronimo Creek. Given the extreme length of the runway, it is likely that large aircraft are using this facility and the noise generated within this flight path would be a great deterrent to future residential development. As a result, the presence of the Randolph Air Force limits residential development toward the east and southeast. Such a limitation makes residential development to the northeast, north, and northwest more important to the City in terms of having higher income residential areas to serve future wage and job growth. However (as mentioned in the discussion of the Agricultural District), Seguin has adopted a policy of moving its industrial land uses in that same north/northwest direction. If residential development is limited to the east and southeast, then the land use plan for Seguin and its ETJ must consider appropriate non-residential uses for these areas east of Geronimo Creek.

Therefore, a Land Use Plan for the Randolph District must consider the limiting effect of the present Randolph Air Force Auxiliary Base on future residential development in this area and consider appropriate non-residential uses east of Geronimo Creek.

The Randolph air strip is very long (in excess of 12,000 feet) and capable of accommodating aircraft that the present Geronimo Field and New



Braunfels Airport can not. Aircraft capability is an important aspect of public infrastructure that few smaller cities can hope to offer and Randolph Air Force Auxiliary Field presents an unusual opportunity should the U.S. Government ever consider decommissioning this facility. It is important that Seguin be in communication with federal representatives regarding potential decommissioning of Randolph Auxiliary and future plans for the Randolph District provide for making the most of this opportunity should it become available.

Therefore, future plans for the Randolph Air Force Auxiliary should consider the potential that the Randolph airstrip could be decommissioned and this facility become available to the economic development initiatives of the City of Seguin.

Without a connection to the air facility and with a limitation of the acceptability of future residential development, the Randolph District is outside existing generators for non-residential development. Major highways (Highway 90 to the north and the Highway 123 Bypass to the west) are separated from the Randolph District by an intervening zone of residential development. Consequently, the Randolph District is without the kind of value generators that would support non-residential land uses. Without external connection, there is nothing to pull development to the Randolph District unless the City develops links from Highway 90 to the Highway 123 Bypass that traverse this district and bring sufficient connection to support development.

Therefore, thoroughfare plans for southeast Seguin must consider the Randolph District and its need to be connected to the primary movement corridors of the City.



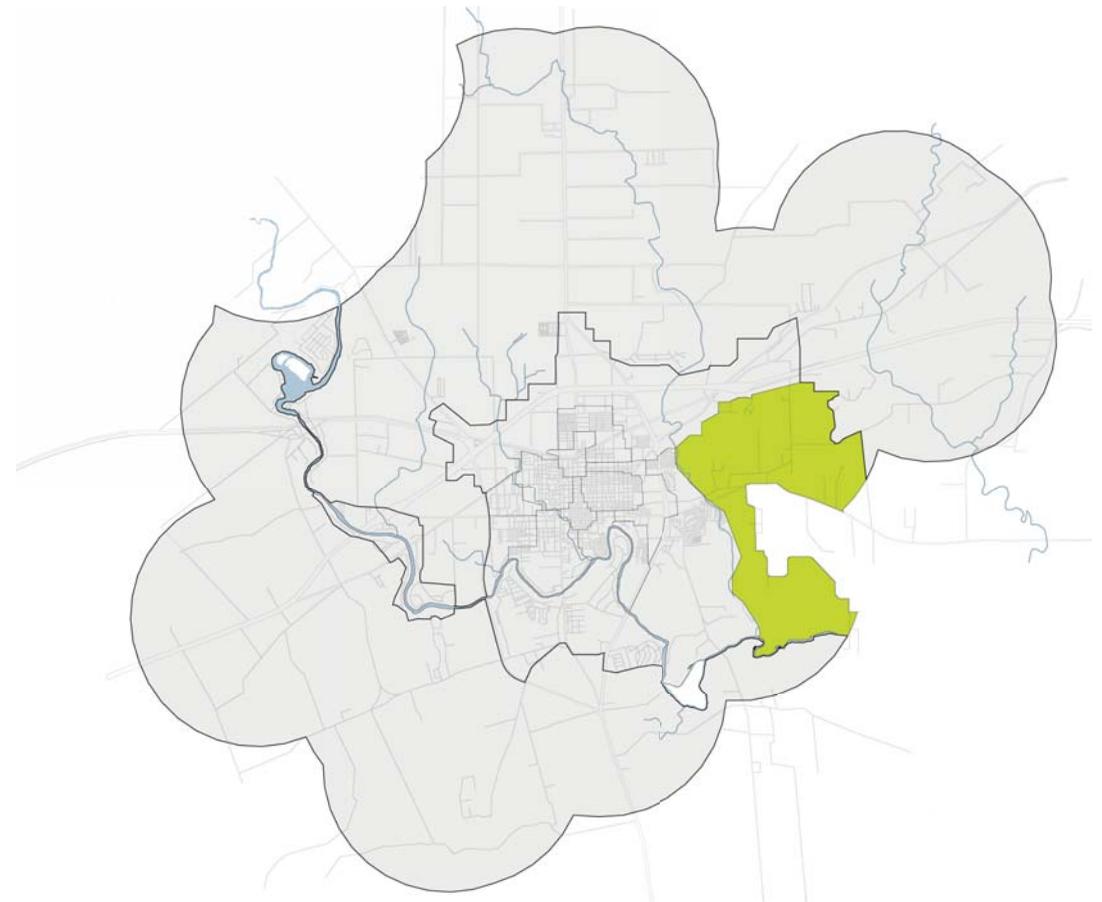


Figure 18. The Randolph District.

DISTRICT 16: THE GUADALUPE DISTRICT

The Guadalupe District is an expansive area that lies generally to the south and southeast of the Lake Placid District and abuts the south edge of the Guadalupe River. It is bisected by Interstate 10 and includes the point where IH-10 and Highway 90 converge. IH-10 is the primary connector to San Antonio but Seguin is still far from the outward push of this major metropolitan area. Consequently, commercial development along IH-10 is now occurring where Highway 46 from New Braunfels intersects with it (within the Agricultural District). However, as San Antonio expands its urban reach it will precipitate further commercial development along IH-10 within the Guadalupe District, meaning that IH-10 will have a powerful influence on the future of this area. In addition, residential development of the Guadalupe District will also likely start in the vicinity of IH-10 because other parts of this district are underserved with primary road access. This will amplify the power of the interstate over the future form of the Guadalupe District. Such dependence on a single value generator (IH-10) may not compliment or enhance the larger development of Seguin. If future development driven by the interstate is inconsistent with development of the City then the Guadalupe District will contribute to the continued fragmentation of Seguin. The City must anticipate development of the Guadalupe District as it envisions development of the overall City and prescribe proper placement of thoroughfares and other public facilities that will lead to a more balanced and complimentary growth.

Therefore, future plans for the Guadalupe District must look beyond the emerging influence of the IH-10 corridor and prescribe land uses, thoroughfares, and public

facilities that will balance development and integrate district growth with the rest of Seguin.

It is possible that FM 725 will emerge as a major collector corridor for the Guadalupe District. Currently it connects with New Braunfels and functions as an alternate route to IH-10. Continued growth toward New Braunfels could increase activity on this alternate route and attract commercial development to the IH-10/FM 725 intersection or the FM 725/FM 78 intersection. These intersections provide opportunity for nodal development that could justify areas of higher residential density. FM 725 between the two potential nodes will be an important entrance into areas of the Guadalupe District further south. Because development out of New Braunfels is now taking place, FM 725 becomes an important entry into the Guadalupe District. However, current policies that push industrial development in this direction and close to the river destroy FM 725 as an entrance to Seguin. Additionally, these policies place residential development of the Guadalupe District behind intervening industrial uses, which are strung out along FM 725 with no cohesive sense of industrial community or park in place.

The City of Seguin is currently on a path of placing industrial zoning in areas that are currently experiencing residential growth and will likely continue to see increasing residential development as New Braunfels, Austin, and San Antonio expand. The current pattern of industrial development constitutes industrial encroachment on this important future residential area. The same land characteristics that make the area well suited for larger residential development (flat land and good road access) also make it convenient for industrial development. However, a balanced land use plan must prevail that will prevent conflicts between these two incompatible land uses.

Therefore, future plans for the Guadalupe District must realize the emerging importance of FM 725 as an entrance to the district and set initiatives in place that will transform its industrial image into one that is more supportive of future balanced development.

Within the Guadalupe District there are still undeveloped portions of the Guadalupe River front. Herein lies a special opportunity to allow this important City asset to be more influential on the public domain and spread its potential to attract development over an area larger than the River front itself. The key to this will be a thoroughfare plan that places collectors and arterials in relation to development of the River so that such development is connected to the local street network.

Therefore, plans for the Guadalupe District should seize opportunities to bring the Guadalupe River into the public domain and encourage development plans that spread the value potential of the river over a wider area.

It is conceivable that the Guadalupe District could be divided into four development zones. These zones are divided by FM 78, IH-10, and the southern extension of FM 725 south of IH-10. The zones contain different relationships to the River and different topographic settings. Consequently development within each zone should be guided by principals that preserve these natural features and promote their ultimate interconnection as the City grows.





Therefore, future development management of the Guadalupe District should establish a planning framework that recognizes the varied landscape and varied development conditions present within this area and promote development guidelines designed to maximize these distinctions as well as integrate overall growth.

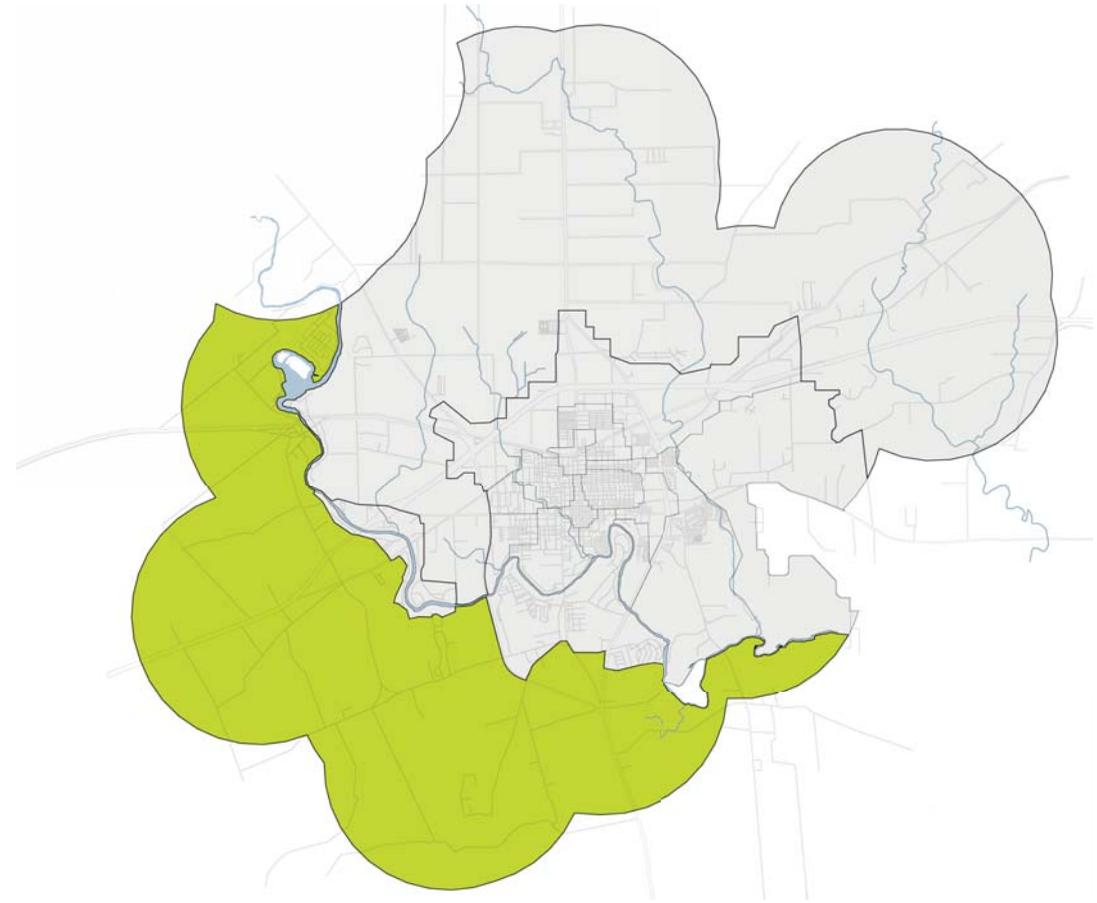


Figure 19. The Guadalupe District.

DISTRICT 17: THE LAKE PLACID DISTRICT

The Lake Placid District is a relatively small pocket of development along that section of the Guadalupe River (north and south) known as Lake Placid. The quiet River frontage attracted a cluster of second home buyers who are physically separated from the City core and closely tied to the River. The physical isolation of this area has contributed to its introverted and cloistered form. However, development reaching west along Court Street, Business 90, and even IH-10 is breaking down that isolation and engulfing the Lake Placid area. Some portions of the Lake Placid District are caught between Highway 90 and IH-10. The Lake Placid community can accommodate the presence of these normally intrusive corridors because land in the vicinity of Lake Placid is largely undeveloped. However, as freeway and highway development consumes the now vacant land, Lake Placid residents will find themselves in conflict with this expanding growth. This district has many of the qualities discussed earlier regarding the River Bend District. The focus of issues confronting both districts is that from their origins as River centered/River related developments, it will be difficult for the growing City to internalize their introverted forms. Streets serving River front lots are not sufficient to carry City traffic or allow future residential development in this area to grow from the River related roads. Instead, future residential development in this area will be separate and apart from the River. The challenge to future growth is the extent to which development that meets without connection only further isolates the Lake Placid Area.

Therefore, the confluence of City development moving west along Court Street and Business 90 and the existing River focused development of Lake Placid must be addressed in a Thoroughfare and Land Use Plan that

allows the Lake Placid Area to be an integrated part of Seguin without losing the benefits of its secluded condition.

Early development of the River edge means that high water levels set without anticipation of future development within the watershed will prove inadequate as time goes forward. Flooding is already a problem and houses are being lifted to higher floor elevations or built on stilts to remain out of present day flood waters. It is important that development within the entire watershed be managed relative to flooding and that measures are taken (such as on-site detention) to assure water elevations are not dramatically increased as a result of the significant amount of downstream development at this time. Current residents of the Lake Placid District and the River Bend District will be greatly influenced by City policies on this matter.

Therefore, development within the Lake Placid District and development within the Guadalupe flood plain must be considered together so that the flood implications of watershed development are understood and accounted for by City policy.

Streets serving Lake fronting lots create long blocks (in many cases over a mile between intersections) that present operational problems for assuring emergency services. Access to mid-block homes could be easily hindered or prevented by parked cars, an accident, or flooding. Streets serving River front lots are actually long cul-de-sacs accessed from Highway 90, which means that a local residential street is accessed directly from a regional arterial. When the regional highway traverses open and undeveloped land,

this structure of residential access roads is acceptable. However, when Highway 90 attracts more development, this structure will be detrimental to the identity and value of Lake Placid lots. As long as the main entry to the Lake Placid District is attained from Highway 90, it will not find its place in the residential fabric of Seguin.

Therefore, future development in the Lake Placid area must establish pathways of connection to the Lake fronting lots that link to locally serving collectors and arterials and improve the operation of district access/egress.

Like the River Bend District, the value potential of Lake Placid for an area of development rather than a spine of development has been largely lost because the value established by the lake has been fully captured by Lake fronting lots. However, some small flood plain areas still exists and these can be carefully incorporated into a larger network of open spaces that will allow the River associated benefits to be spread over a larger area and provide some public access to the River itself.

Therefore, a system of public open spaces must be envisioned for the Lake Placid District that will spread the value creation potential of the Lake to a larger development area and provide public access to the River.



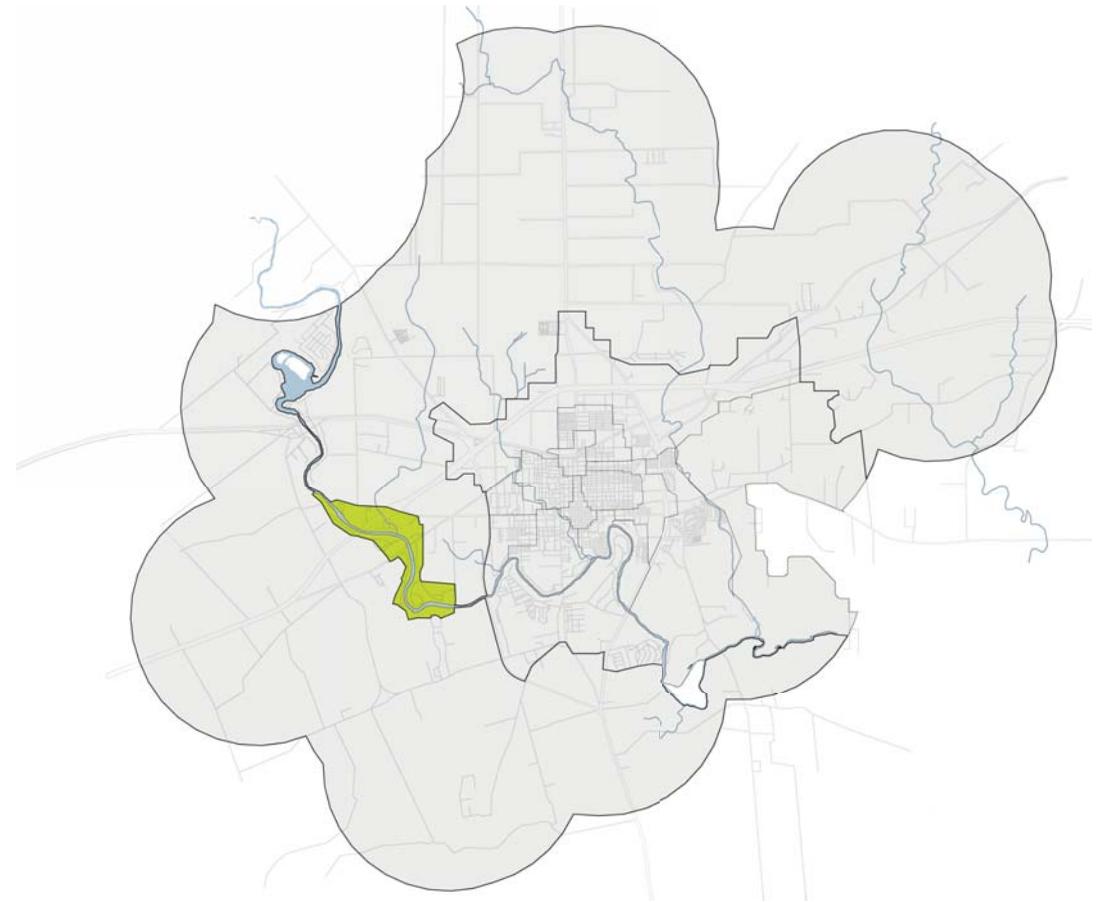


Figure 20. The Lake Placid District.

CONCLUSION

The above described Form Districts comprise the land area of the City Limit and Seguin's Extra Territorial Jurisdiction. The complex landscape of Seguin's unique setting has defined 17 districts with varied development conditions and future challenges. Each of these areas will be affected by growth energy from within and growth energy from without the City that is now driving development near downtown and away from downtown. The story of Seguin is the story of how it has dealt with the confluence of development pressures set upon it. Each bypass, the attraction of the Guadalupe River, and recently the pressures of growth in neighboring Cities has pulled and tugged at Seguin's distribution of development land uses. By understanding the process of change and the diverse development conditions that are now present, it is hoped that specific actions can be recommended that will unite Seguin about its historic core as a coherent and vibrant City.

