



Chapter 1

Tall City Today



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- » Environmental Character
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- » Economic Conditions
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Population History and Character

Major Themes

- » *Historic Growth.* For many there has been a perception that Midland's population has experienced cycles of boom and bust. However, this is not fully accurate. While the city did experience significant boom periods during the 1920s, 1950s, and 1980s, significant declines in population did not follow these booms. On the contrary, the city experienced strong but stable growth during the intervening decades. This is important to note because it tells community leaders that growth will continue to occur and that planning for that growth is important to ensure that the city's historic quality of life is not lost.
- » *Young and Active.* The city's population remains young and will continue to look for quality education, housing, and recreation opportunities. Growth within the energy industry has attracted young professionals and young Baby Boomers, both groups tend to be very mobile and look for vibrant places to work and play. These populations will likely look for continued investments in the schools and recreation offerings like trails and parks. They will continue to attract commercial developments that are family friendly and vibrant with activity.

INTRODUCTION

Midland evolved from a small community to a regional city through decades of steady growth, punctuated by booms in the 1930s and 1960s. The trend of population change echoes the ebb and flow of the economy with rapid gains during the boom times and stabilization during recessions. With current population increases being fueled by expansions in the energy industry, it is difficult to forecast with certainty how quickly Midland will grow to reach the 200,000 milestone—however, based on current and historic population growth, this is a question of when, not if.

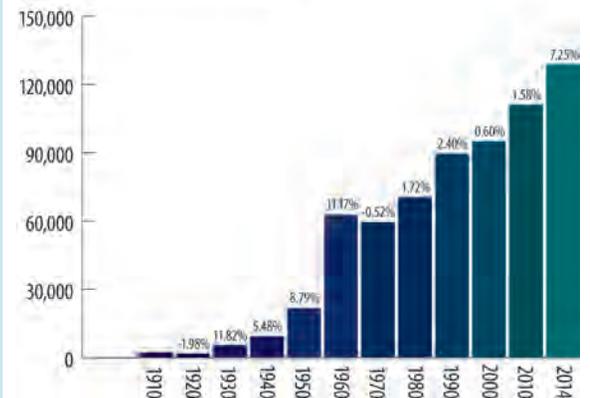
To provide insight into population growth, this section considers the demographics of the current population, analyzes growth patterns, and provides a range of population projections to reflect high, moderate, and low growth scenarios.

KEY TRENDS

Population

- » Midland's population grew by 31% between 2000 and 2014, a change of 29,898 residents. The majority of increase came from in-migration of residents drawn by the abundance of jobs and the strong local economy.
- » In 2010, Midland was the 28th most populous city in Texas with a population of 111,147. Based on the 2014 population estimate of 124,894, Midland has become the 26th most populous city in Texas - a change of 13,747 residents between 2010 and 2014.
- » The Midland Independent School District has an enrollment of 22,749 students across its 24 elementary schools, four junior high schools, two freshman campuses, four high schools; and one head start program. Since the 2010-2011 school year the district has grown by 8%, much of this growth in the elementary ages,

Figure 1.1: Historic Change



reflecting Midland’s growth among young families. It is also interesting to note that the 2014 graduating class had lost over 450 students over a four year period.

Population Projections

- » Due to uncertainties in the economy, it can be challenging to predict Midland’s population growth. Therefore, future population is forecasted based on a range of scenarios: a high growth scenario reflective of population change since 2010; a low growth scenario similar to population change between 2000 and 2010; and a moderate growth scenario between the low and high.
- » The scenario approach reflects the understanding that the city cannot rely solely on the assumption that the recent population growth will continue in perpetuity.



Figure 1.2: MISD Enrollment 2010-2014 School Years

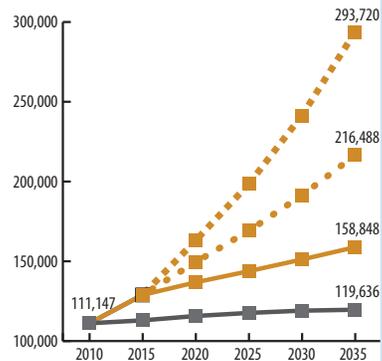
Grade Level	Student Count		
	2010-2011	2013-2014	Difference
Early Education	105	113	8
Pre-K	707	698	-9
Kindergarten	1,765	1,978	213
Grade 1	1,708	2,040	332
Grade 2	1,685	1,874	189
Grade 3	1,604	1,830	226
Grade 4	1,687	1,790	103
Grade 5	1,608	1,827	219
Grade 6	1,578	1,680	102
Grade 7	1,614	1,796	182
Grade 8	1,583	1,687	104
Grade 9	1,708	1,855	147
Grade 10	1,647	1,690	43
Grade 11	1,423	1,451	28
Grade 12	1,314	1,251	-63
Total	20,924	22,749	1,825

Population Projection Scenarios

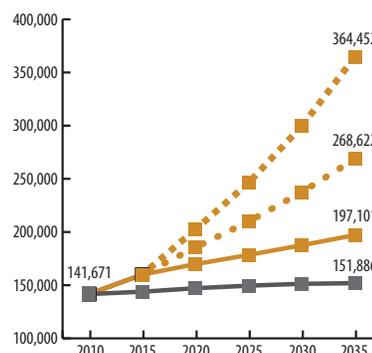
- 4.0% AGR (2010-2014)
- 2.5% AGR
- 1.0% AGR (1990-2010)
- 0% migration



Midland City



Midland Metro Area



Midland +Odessa Metro Area Total

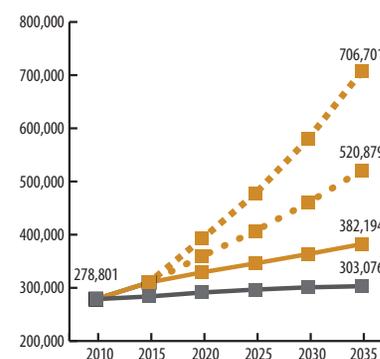
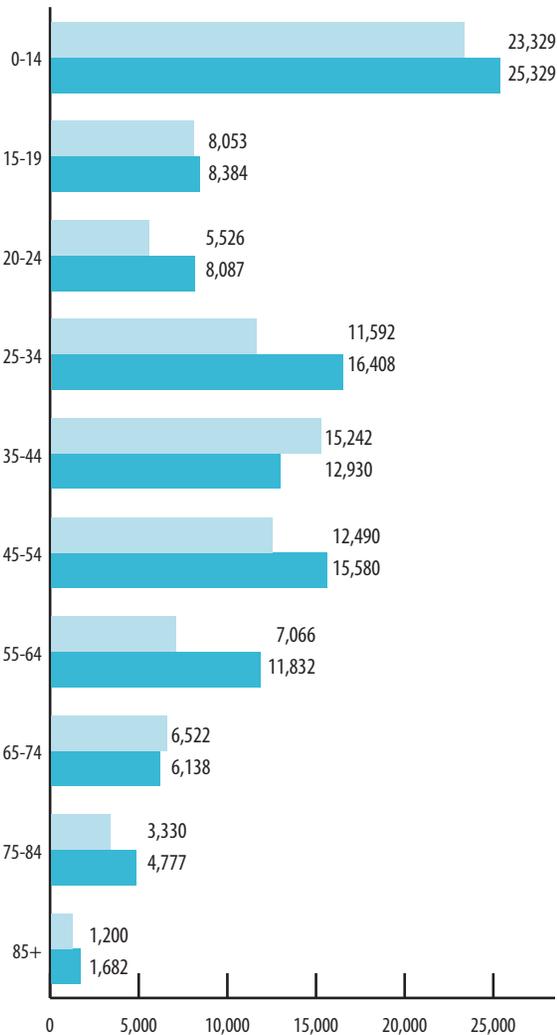


Figure 1.4: Midland Age Composition

Total Population		Median Age	
2000	2010	2000	2010
94,350	111,147	34	33



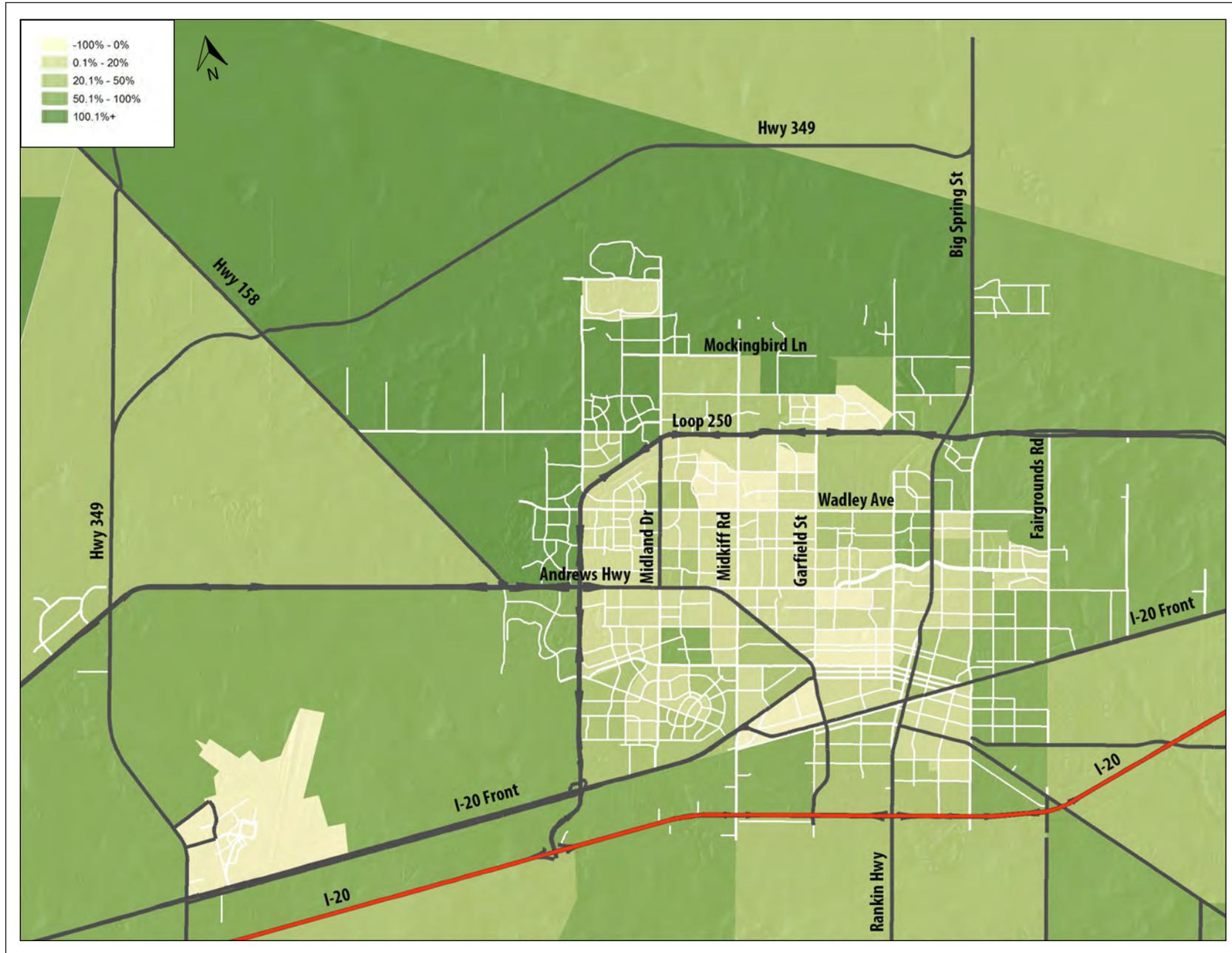
Age

- » Job growth over the last decade has attracted residents both at the beginning of their careers and those well established in the workforce. The migration of young professionals to the area has also increased the number of young children which, four years after the Census, is reflected in the growing number of school enrollments.
- » A growing school population and their young parents mean that over 50% of the city’s population was under the age of 35 in 2010. The amenities and features that this population seeks could play a significant role in the direction of community investments in the coming years.

Race and Ethnicity

- » Caucasian (77%) and African American (8%) comprised the two largest racial groups in the city, with no significant change between 2000 and 2010 in the city’s racial make-up.
- » Like much of Texas and the nation as a whole, residents identifying their ethnic heritage as Hispanic grew from 29% of the total population in 2000 to 37.6% in 2010.

Map 1.1: Population Change 2000 - 2014



TALL CITY TODAY

Land Use Character

Major Themes

» **Growth Areas.** Over the years a number of large annexations have added to the city's total area. These annexations have allowed the city to continue to grow in an incremental fashion. Residential growth, historically, grew in a contiguous manner radiating to the north, west and east out of the downtown. Over the past several years this growth has moved beyond the 250 Loop. The challenge for the city in the coming years is to ensure that this future growth remains connected to the balance of the city and is supplied with the services necessary to create vibrant and stable neighborhoods.

» **Reinvestment.** As noted in Figure 1.6, residential land uses comprise the single largest investment in the city and established business districts reflect significant investment by the business community. Like any wise enterprise, the city and business community will need to continue to invest in the maintenance and improvement of these major capital assets and resources.

» **Community Design and Appearance.** Site design, buffering, and land use separations all play important roles in the appearance and character of what makes Midland. Ultimately a balance must be found between maintaining high standards for quality development and the desire to protect private property rights and personal preferences.

INTRODUCTION

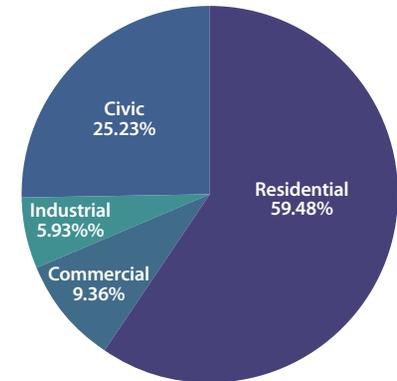
Midland's existing land use and development patterns provide the foundation for the development of a future land use vision. The city's physical growth over time has mirrored its population growth with periods of rapid expansion. The previous section reviewed historic population trends and future population growth. This growth will need to be supported by new housing, additional commercial space, office and job centers, and expanded recreation options. To plan for this new growth an understanding of the city's current land use mix must be intertwined with future needs.

Figure 1.5: Midland Land Use Composition

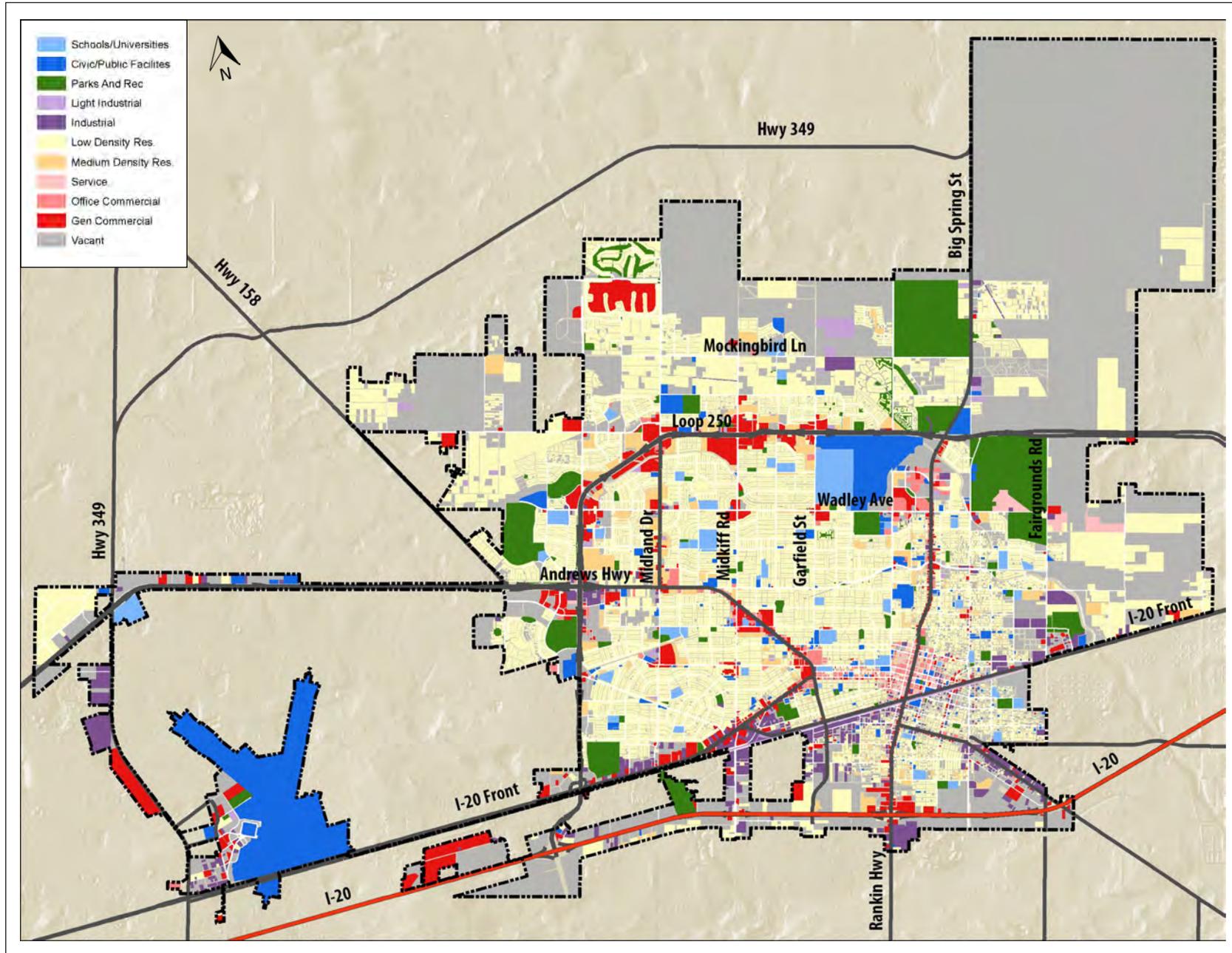
Land Use Category	Acres	% of Land	Acres per 100 People
Residential	12,295.88	59.48%	9.85
Single Family	11,332.26	92.16%	9.07
Duplex	202.71	1.65%	0.16
Multi-Family	760.92	6.19%	0.61
Commercial	1,935.58	9.36%	1.55
General Commercial	1,401.49	72.41%	1.12
Service	141.45	7.31%	0.11
Office Commercial	392.64	20.29%	0.31
Industrial	1,225.99	5.93%	0.98
Light Industry	116.77	9.52%	0.09
Industry	1,109.22	90.48%	0.89
Civic	5,216.14	25.23%	4.18
Civic	594.60	11.40%	0.48
Schools	984.69	18.88%	0.79
Airport	1,061.34	20.35%	0.85
Parks and Rec.	2,575.51	49.38%	2.06
Total Developed Land	20,673.59	100.00%	16.55
Vacant & Open Land	15,500.56	32.68%	12.41
Right of Way	11,262.96	23.74%	9.02
Total Area	47,437.11		36.8

Source: City of Midland & RDG Planning & Design; 2014

Figure 1.6: Midland Land Use Composition



Map 1.2: Current Land Use





KEY TRENDS

In 2012, the population of Midland was 128,894 across 74 square miles of developed land. The community has expanded not only in terms of its overall population but also the size of its footprint. This growth has generally been contiguous and focused within a core area inside the 250 Loop. Map 1.3: Annexation by Decade and Figure 1.7: Historic Population Change, illustrates this evolution.

Residential

- » Midland’s homes account for the single largest use and therefore investment in the community.
- » The unit mix in Midland is roughly 65% owner-occupied and 35% renter-occupied, while 92% of the city’s residential land is single-family use only. A number of the city’s rental units are likely in single-family units but overall the city’s renter stock consumes a very small portion of the city’s overall residential land use pattern.
- » The 2005 Comprehensive Plan identified that the city had 9.32 acres of residential land per 100 people, comparable to the 2014 data illustrated in Figure 1.5. Larger lot sizes and dispersion of development is an important issue when considering the impact on affordable housing options.
- » Over the past ten years much of the city’s residential development has been outside of the 250 Loop.

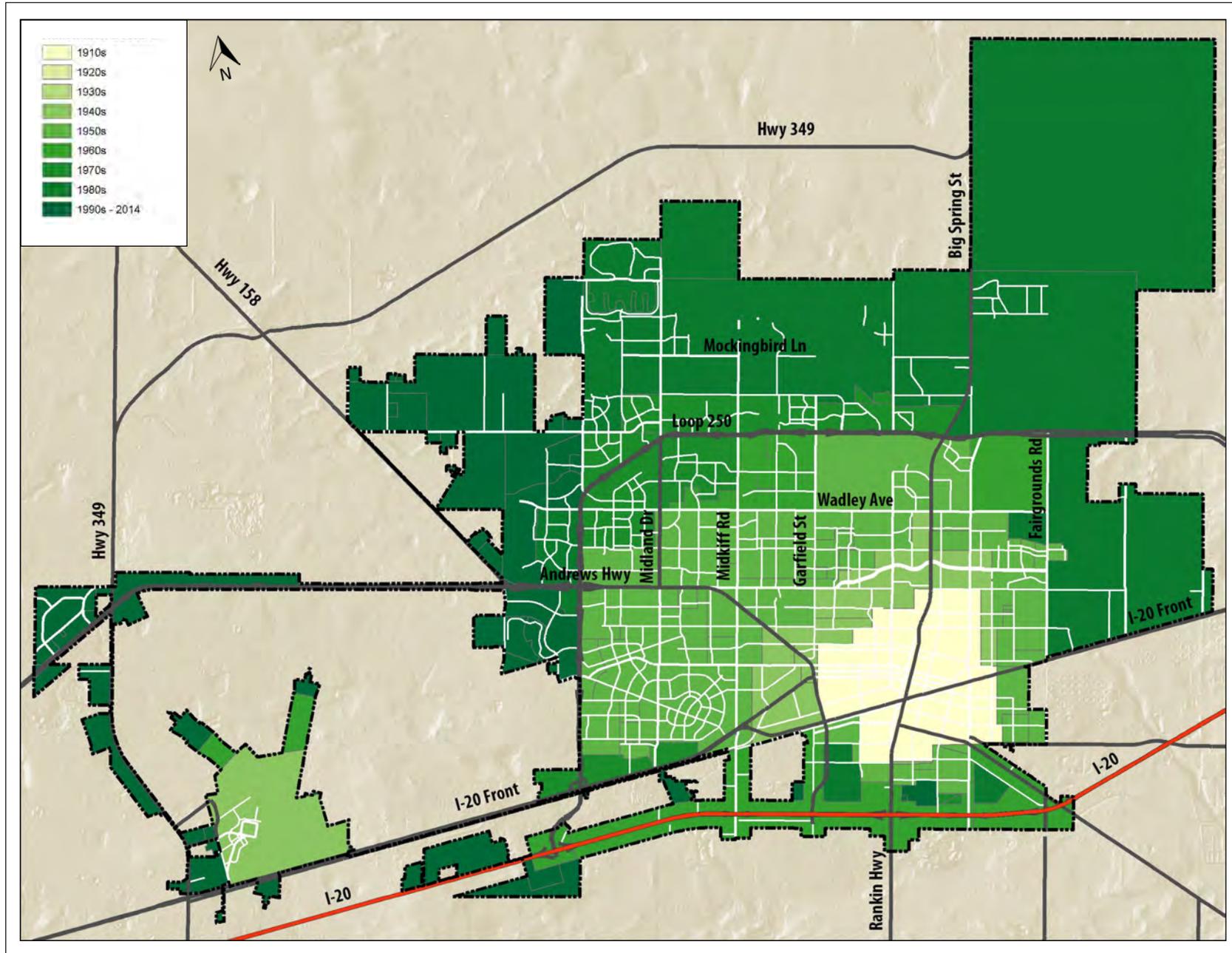


Figure 1.7: Geographic and Population Change

	Population Change	Pop Change %	Total Land Area (square miles)	City Area Change %
1910	2,192	-	-	-
1920	1,795	-1.98%	3.95	-
1930	5,484	11.82%	3.95	-
1940	9,352	5.48%	3.95	-
1950	21,713	8.79%	9.11	130.89%
1960	62,625	11.17%	22.72	149.29%
1970	59,463	-0.52%	29.06	27.91%
1980	70,525	1.72%	34.04	17.12%
1990	89,443	2.40%	63.63	86.93%
2000	94,996	0.60%	64.49	1.36%
2010	111,147	1.58%	71.33	10.60%
2014	128,894	7.25%	74.13	3.93%

Source: City of Midland & RDG Planning & Design; 2014

Map 1.3: Annexation by Decade





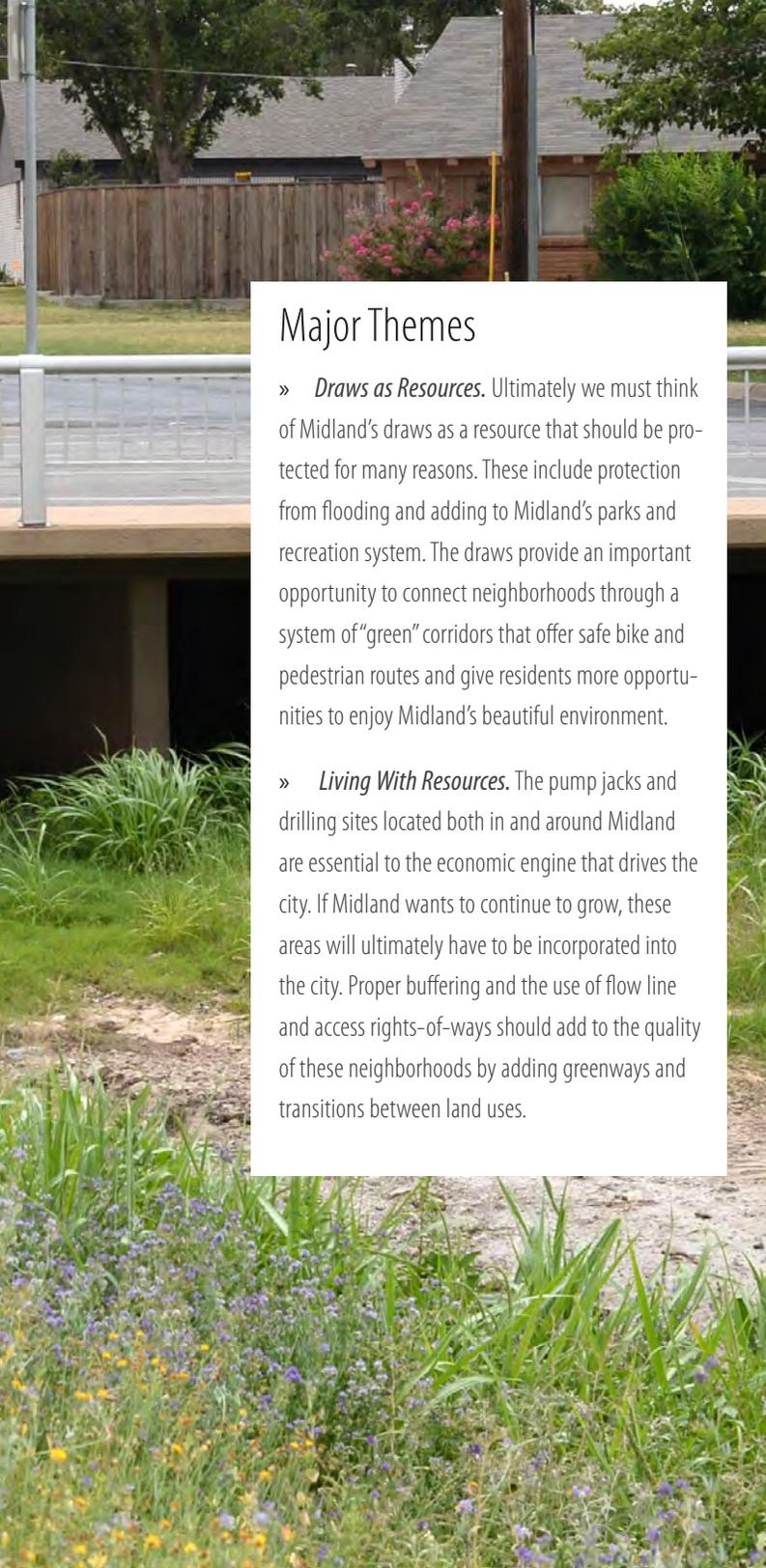
Commercial

- » In Midland, commercial uses have traditionally gravitated to major corridors and highways in order to maximize access and visibility and to reduce impact on residential neighborhoods. These commercial corridors include the 250 Loop; Andrews Highway; West Wall Street; and Big Spring Street.
- » Office and service businesses share many of the same corridors as general commercial uses. While the downtown has been the traditional center of office development, growth has also been seen north in the Claydesta area and west in the area of the Sports Complex.
- » Like most communities, Midland’s commercial land use is dominated by general commercial uses but the city’s role as a corporate center is seen in the percentage of office uses.

Industrial

- » The intensity, and therefore impact, of industrial uses can vary greatly but these uses are essential to a healthy and vibrant economy in many ways.
- » Local oil and gas industries are heavily dependent on these sites and account for the majority of the city’s industrial land uses.
- » The majority of industrial land is located along the southern edge of the city, along West Wall Street, Highway 20, and at the Midland International Air & Space Port.





Major Themes

- » *Draws as Resources.* Ultimately we must think of Midland's draws as a resource that should be protected for many reasons. These include protection from flooding and adding to Midland's parks and recreation system. The draws provide an important opportunity to connect neighborhoods through a system of "green" corridors that offer safe bike and pedestrian routes and give residents more opportunities to enjoy Midland's beautiful environment.
- » *Living With Resources.* The pump jacks and drilling sites located both in and around Midland are essential to the economic engine that drives the city. If Midland wants to continue to grow, these areas will ultimately have to be incorporated into the city. Proper buffering and the use of flow line and access rights-of-ways should add to the quality of these neighborhoods by adding greenways and transitions between land uses.

TALL CITY TODAY

Environmental Character

INTRODUCTION

Midland lies within a large flat region or high plain that is intermittently broken by draws and covered by sparse vegetation. These draws and the oil resources that lie below the surface are the region's biggest environmental features. Identifying these features and acknowledging their impact on the direction of development is important to creating a comprehensive plan and land use vision that meets Midland's future needs.

FLOOD PLAINS

In the past several decades, local, state, and federal agencies have become more aware of the impact that development can have on stormwater erosions and water quality. The management of stormwater and the impact that development has on the city's system of draws should be closely monitored. Development that increases both the volume and velocity of water runoff can create significant flooding and erosion issues both on site and downstream. Although Midland is generally very flat, there are areas where water settles during rain events. These flat depressions, or playas, fill with water during a rain event and hold the water until it either filters through or evaporates.

DRAINAGE AREAS

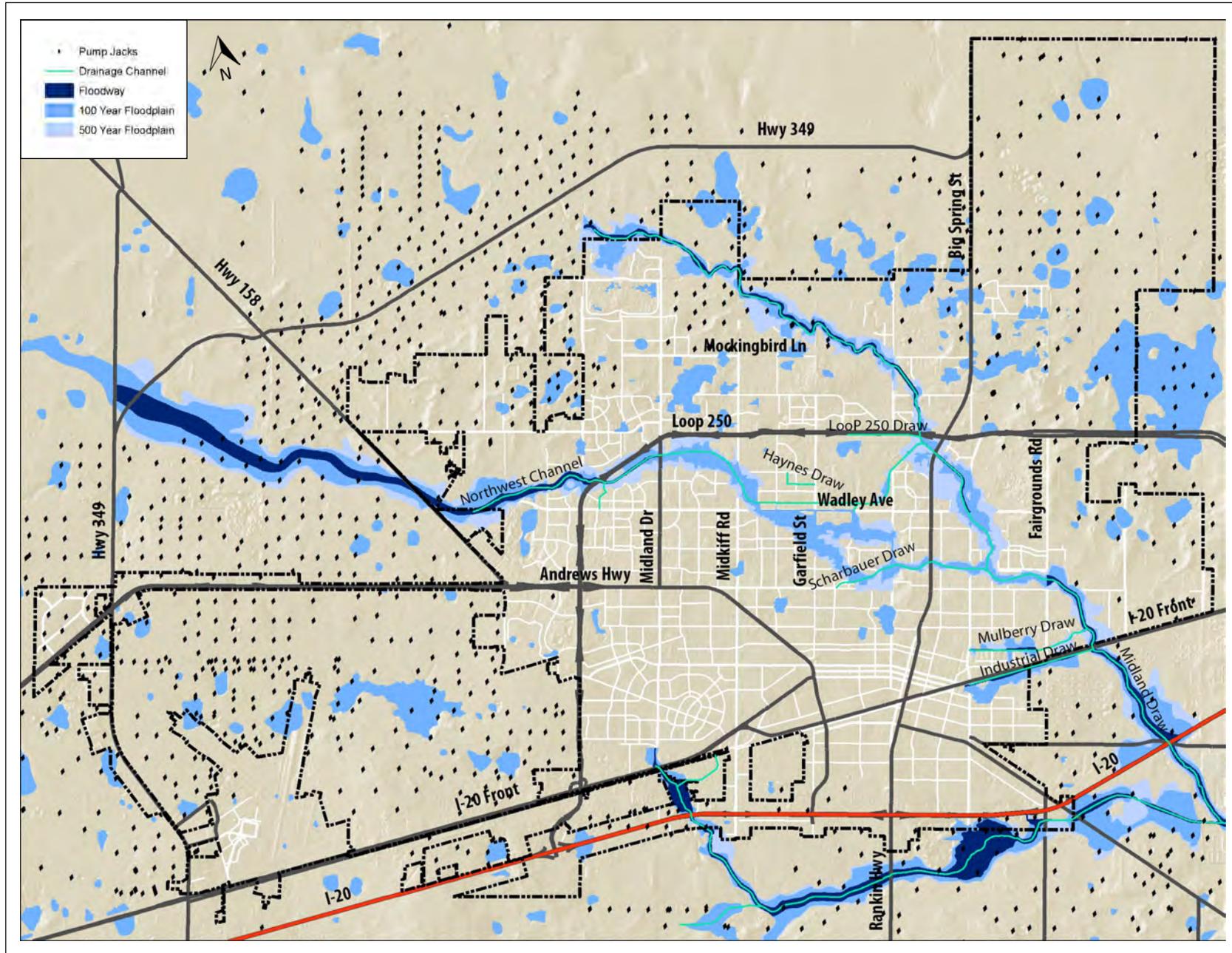
The region's drainage areas, or draws, have a substantial impact on development directions but can also be a vital resource for the city. The draw system includes:

MIDLAND DRAW JAL DRAW JOHNSON DRAW
MONAHANS DRAW SCHARBAUER DRAW

Construction in or within the flood zone of these draws should be avoided.

- » Development within the system of draws has impact on the width of the draws and the occurrence of flooding at key points. Hydrologic and hydraulic studies have been completed on the draws, including a comprehensive assessment in 1996 and a more recent study on the Midland and Jal draws.
- » While development practices that do not assess the larger impact on the community can have serious negative effects, the draws can also be important assets. These areas can function as natural corridors that add to the character and quality of Midland.

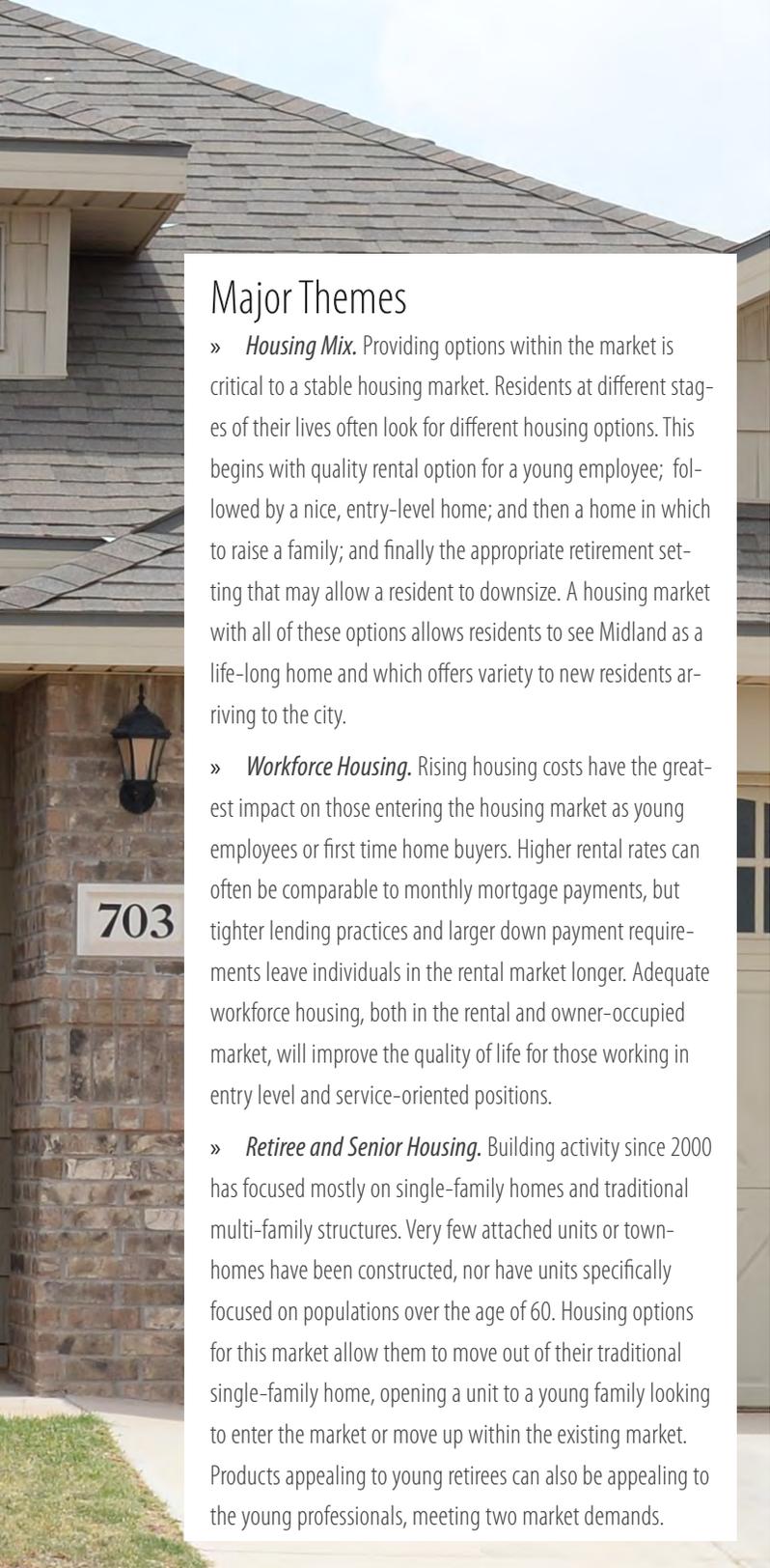
Map 1.4: Environmental Features





OIL AND GAS RESOURCES

- » Oil and gas resources are natural features that ultimately create man-made barriers to development. As a resource that has both local and national significance there is a need to both protect and accommodate these sites.
- » Current regulations require a 500-foot buffer around all existing drilling or extraction sites. This can be reduced to 135 feet with necessary approvals from all parties.
- » The number of existing pump jacks around the city and especially to the north and west will have an impact on development. Ultimately a strategy for incorporating these sites into the city's development pattern will be necessary.



Housing & Neighborhood Character

Major Themes

- » **Housing Mix.** Providing options within the market is critical to a stable housing market. Residents at different stages of their lives often look for different housing options. This begins with quality rental option for a young employee; followed by a nice, entry-level home; and then a home in which to raise a family; and finally the appropriate retirement setting that may allow a resident to downsize. A housing market with all of these options allows residents to see Midland as a life-long home and which offers variety to new residents arriving to the city.
- » **Workforce Housing.** Rising housing costs have the greatest impact on those entering the housing market as young employees or first time home buyers. Higher rental rates can often be comparable to monthly mortgage payments, but tighter lending practices and larger down payment requirements leave individuals in the rental market longer. Adequate workforce housing, both in the rental and owner-occupied market, will improve the quality of life for those working in entry level and service-oriented positions.
- » **Retiree and Senior Housing.** Building activity since 2000 has focused mostly on single-family homes and traditional multi-family structures. Very few attached units or townhomes have been constructed, nor have units specifically focused on populations over the age of 60. Housing options for this market allow them to move out of their traditional single-family home, opening a unit to a young family looking to enter the market or move up within the existing market. Products appealing to young retirees can also be appealing to the young professionals, meeting two market demands.

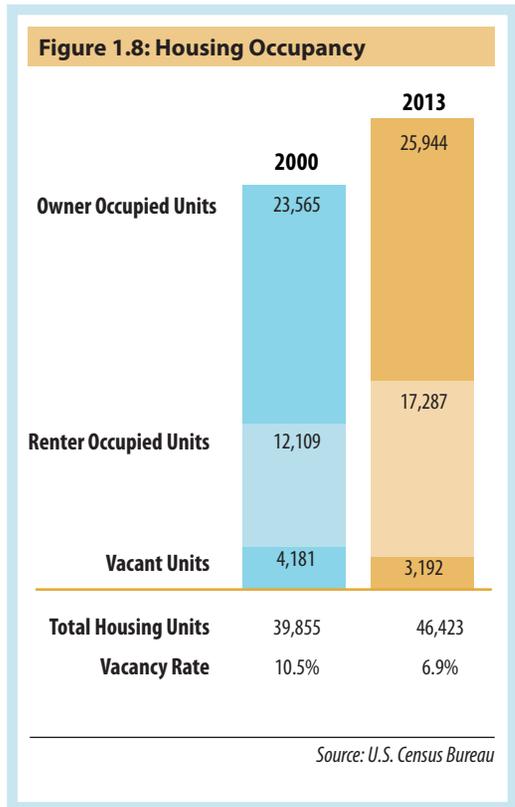
INTRODUCTION

The expense, nature, and disposition of a community's housing stock are some of its defining characteristics. As part of a comprehensive planning process, it is important to consider whether the existing housing stock is adequately meeting the needs of the community. Additionally, tracking data on housing tenure, median value/rent, and price relative to income can help reveal important information about a community's current economic trajectory.

KEY TRENDS

Housing Occupancy

- » New residents to a community often look to rent before buying a home, desiring to understand the community and its neighborhoods first. Midland's recent rapid growth has resulted in an increase in the number of overall units but especially the number of renter occupied units, which in 2013 now make up 40% of the city's occupied housing units.
- » Over the past 13 years the city's population grew by 36%, while the number of housing units in the city increased by 16%. If an average of 2.5 people per household were applied to the population increase, the city should have added over 13,500 units, over double what has been added to the city's housing stock.
- » The tighter housing market has resulted in a lowering of the city's overall vacancy rate. While not dangerously low, maintaining a stock of available units prevents housing inflation, provides a variety of options for residents, and encourages housing in the worst condition to be brought up to code.



Housing Affordability

- » Figure 1.10 presents a comparison of housing value to income. Affordable housing units should not cost more than 30% of a household’s income. Based on household incomes and the number of affordable units available to those income ranges, Midland has a shortage of units for households making less than \$50,000 and more than \$150,000 per year.
 - A shortage of housing in the lowest income brackets forces residents to either live in less affordable housing or to double up with other households. The 2010 Consolidate Plan for Community Development and Housing Funds found an increasing trend of “doubling-up” and/or overcrowding.
 - A shortage of move-up options for households in the highest income brackets results in greater competition for lower priced units and can even drive up the cost of housing in an highly desirable neighborhood.
- » The cost of housing is generally comparable to other cities. Housing is slightly more affordable in Odessa, but Midland is more affordable than Denton or El Paso. The comparison is demonstrated in Figure 1.9.
- » Rental housing tends to be more expensive than the Odessa, Amarillo, El Paso, and Denton markets but comparable to Carrollton. High rental housing costs can have the greatest impact on the city’s service industry employees, young professionals new to the community, and residents in the lowest income brackets.

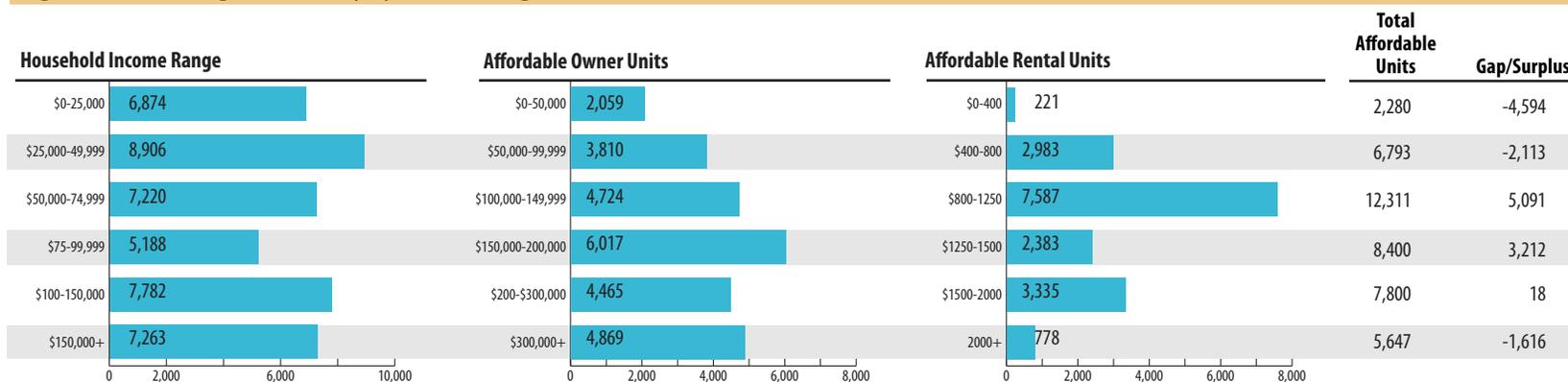
Figure 1.9: Housing Affordability

Value to Income (2010)	Median Rent	Median HH	Median Value	V/I Ratio
Midland, Texas	\$960	\$62,665	\$154,300	2.46
Midland County, Texas	\$950	\$62,993	\$148,600	2.36
Odessa, Texas	\$821	\$52,158	\$103,200	1.98
Amarillo	\$723	\$45,984	\$114,200	2.48
El Paso	\$724	\$41,406	\$117,300	2.83
McKinney	\$1,080	\$81,118	\$187,100	2.31
Denton	\$858	\$48,182	\$148,100	3.07
Carrollton	\$986	\$68,811	\$167,700	2.44

Source: 2009-2013 American Community Survey 5-Year Estimates

An affordable, self-sustaining housing market, with adequate value and revenues to support market-rate new construction, will typically have a value to income ratio between 2.5 to 3.0. Ratios above 3.0 exhibit significant affordability issues while ratios below 2.0 are significantly undervalued relative to income. Owner-occupied housing that costs between 2.0 and 2.5 times a household’s yearly income is considered affordable. Homes priced above this range can mean that housing costs are greater than what many in the market can afford.

Figure 1.10: Housing Affordability by Income Range



Source: 2013 American Community Survey; RDG Planning & Design, 2015

Figure 1.11: Residential Building Permit Activity

Year	Permits	Monthly Ave.	% Change
2001	175	14.58	13.00%
2002	242	20.17	38.29%
2003	266	22.17	9.92%
2004	295	24.58	10.90%
2005	392	32.67	32.88%
2006	470	39.17	19.90%
2007	514	42.83	9.36%
2008	485	40.42	-5.64%
2009	331	27.58	-31.75%
2010	391	32.58	18.13%
2011	558	46.50	42.71%
2012	598	49.83	7.17%
2013	732	61.00	22.41%
2014	920	76.67	25.68%
Total	6,369	490	

Source: City of Midland & RDG Planning & Design; 2014



Demand

- » The city's single-family building permit activity remained steady during the 2000s as the city grew at a reasonable rate. Beginning in 2011, the housing recovery was beginning and the city was seeing accelerated growth, resulting in a jump of 161 units annually.
- » Based on a strong but stable 1% annual growth rate the city will reach a population of over 158,800 by 2035. To support this growth the city will need to add approximately 622 units annually. These units include both single-family, townhomes, and multi-family units.
- » The demand model is based on the assumption that the city's vacancy rate will remain at approximately 6.5% and that the number of people per household will remain close to 2.63. It also assumes that the city will need to replace 20 units annually due to demolition or conversion to other uses.

HOUSING PRIORITIES

Midland's Consolidated Plan for Community Development and Housing Funds (2010) identified the following housing priorities:

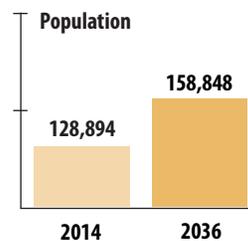
Non-elderly households with incomes from 31% to 50% of Median Family Income (MFI)

Special needs households with income from 0% to 80% of MFI

Owner households with income from 0% to 30% of MFI

Medium priority was given to renter households in the 51% to 80% income groups and all elderly income groups.

Figure 1.12: Housing Demand at 1% Annual Growth Rate



420 Replaced Units
 12,851 Total New Housing Units
 622 Average Annual Construction*



*Average PPH: 2.63 *Projected Vacancy Rate: 6.50%

Source: RDG Planning & Design; 2014

TALL CITY TODAY

Economic Conditions

Major Themes

- » **Leveraging Local Assets.** Midland has several assets that the economic development community should continue to leverage. These assets include the obvious oil and gas industry but also the new Spaceport, the airport, a strong regional medical community, and Midland College to name a few. These resources should be leveraged to help diversify the city's economy and expand job opportunities.
- » **Recruitment and Retention.** In many market sectors there are more jobs than people to fill those jobs. The city and business community must continue to identify resources and amenities that will ensure continued attraction and retention of a stable workforce, beginning with past graduates of the Midland area who likely have a greater commitment and passion to the region.

INTRODUCTION

Midland's economy is often a hard driving force in the community that can generate substantial job growth or create times of constriction. The oil and gas industry, possibly more than most industries, cycles through periods of boom and bust. Midland has weathered these periods and avoided significant population losses and economic crisis.

KEY TRENDS

Employment

- » Midland has an extremely low unemployment rate, creating a high demand for additional employees and the necessary amenities to bring them to Midland.
- » Demand for employees is found across all sectors from oil industry professionals to service and support staff.
- » The largest industries include oil and gas extraction and transportation-related businesses, illustrating the city's dependency on narrow industry sectors.
- » The city's largest employers service local residents and support the oil and gas industry.

Cost of Living

- » The Figure 1.15 Cost of Living measures the difference in the price of goods and services in one location from another. Using a base of \$100,000, this index calculates the income Midland residents would need to make to purchase the same goods and services as the city of origin.

Figure 1.13: Midland Labor Force, August 2014

Labor Force	August 2014
Civilian Labor Force (1)	102.2
Employment (1)	99.5
Unemployment (1)	2.8
Unemployment Rate (2)	2.7
Nonfarm Wage & Salary Employment	
Total Nonfarm (3)	96.4
Mining, Logging, and Construction (3)	29.5
Manufacturing (3)	4
Trade, Transportation, and Utilities (3)	19.6
Information (3)	0.9
Financial Activities (3)	4.5
Professional and Business Services (3)	9.7
Education and Health Services (3)	6.9
Leisure and Hospitality (3)	9.2
Other Services (3)	3.2
Government (3)	8.9

Footnotes:

(1) Number of persons, in thousands, not seasonally adjusted

(2) In percent, not seasonally adjusted

(3) Number of jobs, in thousands, not seasonally adjusted

Source: Bureau of Labor Statistics http://www.bls.gov/eag/eag.tx_midland_msa.htm

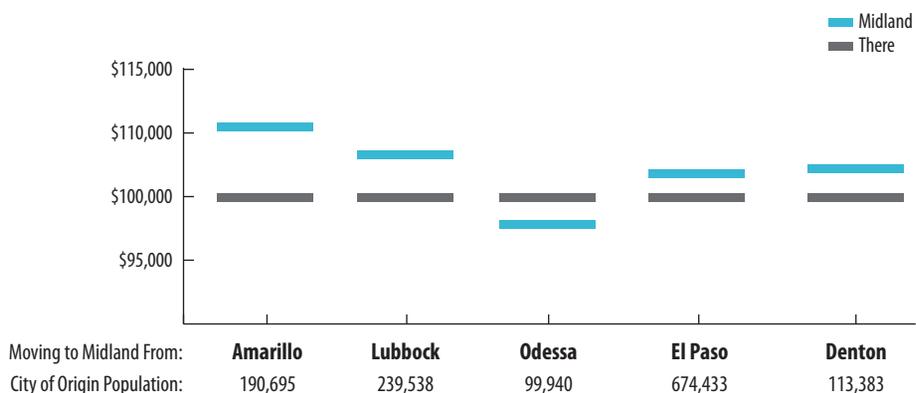
- » The higher cost of living in Midland tends to be driven by higher housing costs. Excluding Odessa, where the cost of living is comparable, housing costs range between 11% and 28% higher in Midland than other communities identified in Figure 1.15.

Commuting Patterns

- » The number of employees coming to Midland on a daily basis is only slightly higher than the number of residents leaving Midland each day. This likely reflects Midland and Odessa’s close economic relationship and Midland’s slightly larger employment base.
- » Travel time to work for Midland residents averages 17.8 minutes. This is comparable to Amarillo, Lubbock, and Odessa, and better than El Paso and Denton where travel times are over 20 minutes.



Figure 1.15: Cost of Living



Source: <http://midlandtxedc.com/cost-living>

Figure 1.14: Major Employers

Company Name	No. Employees
Midland Independent School District	200
Warren Equipment Companies	100
Midland Memorial Hospital and Medical Center	100
Dawson Geophysical	100
Midland College	100
City of Midland	80
Patterson Drilling UTI	70
AT&T Wireless	50
Midland County	50
Key Energy Services	40

1 person icon = 100 employees

Source: 2009-2013 American Community Survey 5-Year Estimates

Additional detailed economic data can be found at the Midland Development Corporation website:

<http://midlandtxedc.com/midland-economy>

Park & Recreation Amenities

Major Themes

- » **System Expansion.** Over the years, the city's population has grown but with little growth in the park system. Since the 1980s the city has only built two new neighborhood parks. Offering all residents high quality parks is important to their quality of life. Partnerships and funding sources must be leveraged to assist in expansion of the system while maintaining existing parks.
- » **Draws as resources.** One way to expand and connect the city's recreation system is through the use of the system of draws. This system can function as linear parks and trails that safely connect major destinations and recreation features.
- » **Park Dedication.** Park expansion should follow new development and the residents that will benefit most from the development. The city should work with developers in partnership to ensure residents' park needs are met and to create highly marketable and quality developments.

INTRODUCTION

Midland's park and recreation system offers a high level of service and a wide range of recreational options to its residents. Parks and recreation are a substantial part of a city's quality of life. The early founders of many cities saw both the recreational and economic benefits of parks. By championing the development of marquee parks, founders understood the importance of quality of life for residents living in the community but also for the businesses they were trying to recruit to their cities.

Figure 1.16: Comparison of Park Land Acreage

Classification	Midland	Odessa	El Paso	McKinney	Amarillo	Carrollton
Mini Park	5.9	5.24				
Neighborhood	151.9	109.90	477.00	214.00	147.20	127.20
Community	355	257.50	852.00	295.00	222.00	274.30
Metropolitan	620					268
Regional	186		312.00	409.00	605.30	150.00
Specialty	28.1	181.36		212.00	3.00	464.00
Public Open Space		190.00	940.00			
Linear Parks				521.00	53.00	258.00
Nature Areas				859.00		
School Joint Use Parks					259.40	
Total	1346.9	744.0	2581.0	2510.0	1289.9	1541.5

** Categories are not always consistent from community to community but public golf courses are not included by comparison cities.*

KEY TRENDS

- » The 2012 Parks, Recreation, and Open Space Master Plan Update offers the foundation for the following section. That document included a needs assessment and implementation plan for 10 years based on existing facilities, population projections, and communities surveys.
- » Midland's park and recreation system includes 31 neighborhood parks, four specialty parks, four community parks, one metropolitan park, and one regional park totaling 1,172 acres, as well as the 23,000 square-foot Martin Luther King Jr. Community Center. The city's park and recreation system also includes Hogan

Map 1.5: Park and Trail System

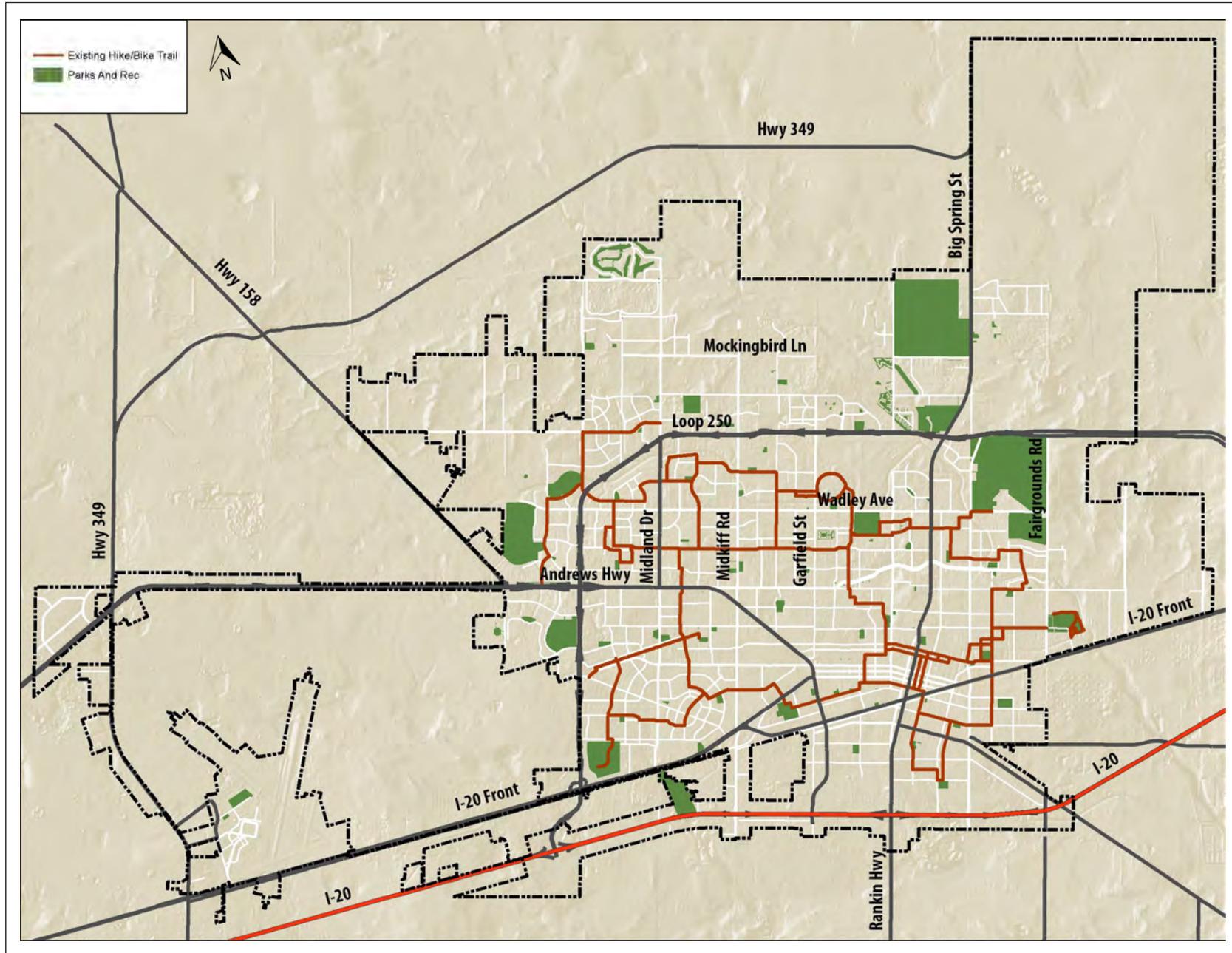


Figure 1.17: Future Parkland Needs

Classification	Existing Acres Per 1000 Residents	Existing Acreage	Add Parkland	2035 Total Parkland Needed
Mini Park	0.05	5.9	+ 1.37	7.27
Neighborhood	1.18	151.9	+ 35.30	187.20
Community	2.75	355	+ 439.24	437.5 / 794.24*
Metropolitan	4.81	620	+ 144.08	764.08
Regional	1.44	186	+ Varies	Varies
Specialty	0.24	28.1	+ Varies	Varies

* Community Park Standard based on 2.75 and 5 acres per 1000 residents

Golf Course and other private recreation facilities that are not traditionally included in a park service analysis. This analysis will consider only those facilities that are open and free to the public.

- » The city currently has 21 miles of trails and is in the process of completing a trails master plan. Trails play an important role in both recreation and transportation. Additional detail on trails, along with bike and pedestrian facilities, is located in the Tall City Today Transportation section.

Geographic Distribution

- » Map 1.6 illustrates the geographic distribution of parks. It is assumed that most residents are comfortable with a half-mile walking distance to a park. This traditionally is the comfortable distance a mother with a stroller would walk to the local playground.
- » Midland’s geographic distribution of park resources is generally strong and the system provides convenient access for many of the neighborhoods within the 250 Loop. The areas outside of the loop are experiencing the highest level of residential development and are underserved by neighborhood and community parks.

Figure 1.18: Park Facility Needs

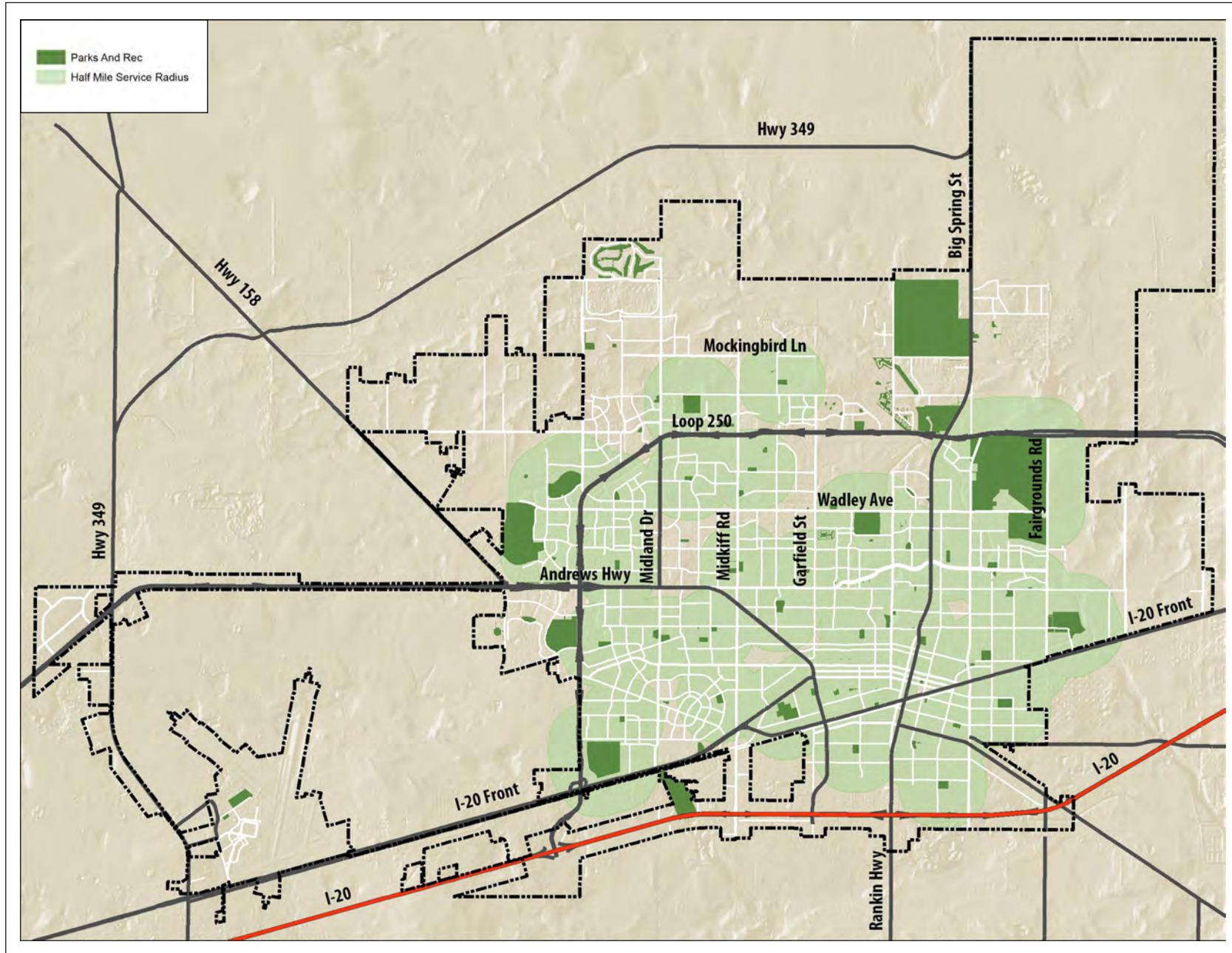
Facility Type	Recommended Facilities Per Population*	2012 Existing Facilities	Recommended Facilities for 2035 Population
Basketball Courts	1 / 5,000	13	32
Football Fields	1 / 20,000	2	8
Pavilion/Picnic Shelters	1 / 2,000	25	79
Playgrounds	1 / 1,000	40	159
Recreation Center	1 / 25,000	1	6
Swimming Pools	1 / 20,000	2	8
Tennis Courts	1 / 2,000	21	79
Trails	1 mile / 10000	4	16
Volleyball Areas	1 / 5,000	16	32

* National Park and Recreation Standards

Level of Service

- » Public parks in the United States are generally classified by type. A standard number of acres per 1,000 people has been developed by the National Recreation and Park Association for each of these types. Midland meets or exceeds these standards except for community parks, for which the NRPA recommends five-to-eight acres per 1,000 residents; Midland has 2.75 acres per 1,000.
- » Based on the forecasted population growth and existing levels of service, Midland’s park system will need to add 263 acres of park land. If the city wishes to strive to reach the higher NRPA standard for community park land, the city will need to add 620 acres.

Map 1.6: Park Distribution



2012 High-Priority Elements identified by residents in the Park, Recreation, and Open Space Master Plan:

- Hike/Bike/Jogging Trails
- Nature Areas
- Picnic Shelters
- Indoor Recreation Center
- Senior Citizens Center
- Lighted Basketball Courts
- Public Swimming Pools
- Outdoor Basketball Courts
- Playgrounds
- Botanic/Flower Gardens



- » NRPA standards can also be applied to facilities within a system. Figure 1.18 summarizes the most common types of park facilities and projected need based on NRPA standards. The popularity of certain types of recreation have grown and waned over the years; for example, the popularity of tennis courts in the 1970s compared to soccer fields today. Features like picnic shelters and playgrounds are items that generally remain in high demand and will need to be added to the system to support the city's growing population. Partnerships with MISD and other organizations should also be explored when addressing future park needs.

2012 Park Master Plan Observations and Findings

- » The plan identified a shortage of neighborhood parks outside of the 250 Loop and recommended additional parks be developed to serve new development areas.
- » The plan recommended reinvestment and revitalization of aging park facilities, such as Dennis the Menace Park, to improve the overall level of service of the park system.
- » The plan, based on community input, recommends the creation of linear recreation trails which link parks, neighborhoods, and community destinations.
- » As a mechanism to expand the park system to serve new residential neighborhoods, the plan recommends the city adopt a Park Land Dedication Ordinance to require new residential developments to create neighborhood parks or to set aside land for a larger community park to be developed by the city.



TALL CITY TODAY

Transportation

Major Themes

- » **Traffic Congestion and Calming.** Midland's transportation system has had to evolve over the past century to a rapidly growing economy and population. The system has grown but not always at the same rate or with the same level of connectedness necessary to create an effective transportation system that balances transportation flow with the development of safe and welcoming places accessible to pedestrians and bicyclists.
- » **Access/Connectivity.** Piecemeal development often limits accessibility and connectivity for even the shortest errand. Improving access and connectivity in Midland relates to future development and also reinvestment in existing neighborhoods and commercial areas.
- » **Maintenance.** As any system expands, so does the maintenance burden, and Midland's transportation network is no exception. Beyond the obvious impacts on the efficiency of transportation, the street network and rights-of-way also represent the largest component of the public realm and a vital first impression for visitors and new residents. The challenge is to balance the extension of the network with maintenance and improvements to the existing infrastructure.

INTRODUCTION

Midland's transportation system, like most cities in the southwestern United States, grew with the onset of the automobile. Large population growth in Midland in the 1950s coincides with the "heyday" of automobiles becoming the predominant mode of transportation in America. This single point has had the largest impact on the way Midland's street system and transportation planning has evolved. In general, the City of Midland has long planned for roadways, with the first comprehensive thoroughfare plan prepared in 1969.

Midland's most recent thoroughfare plan was prepared in 2005. Since then, three primary factors continue to impact the plan for a transportation system. First, the introduction of oil and gas development in such large numbers within, and adjacent to the city limits has created demands on the transportation plan. This is particularly evident in the northern and western parts of the city and extraterritorial jurisdiction, where growth has been focused. Second, the growth itself has put pressure on the existing roadway grid, creating more congestion and mobility issues than the city has experienced in the past. Finally, the recent introduction of the spaceport license and associated zoning restrictions may have a significant impact on where roads in the western portion of the transportation plan can be located or what they will specifically serve.

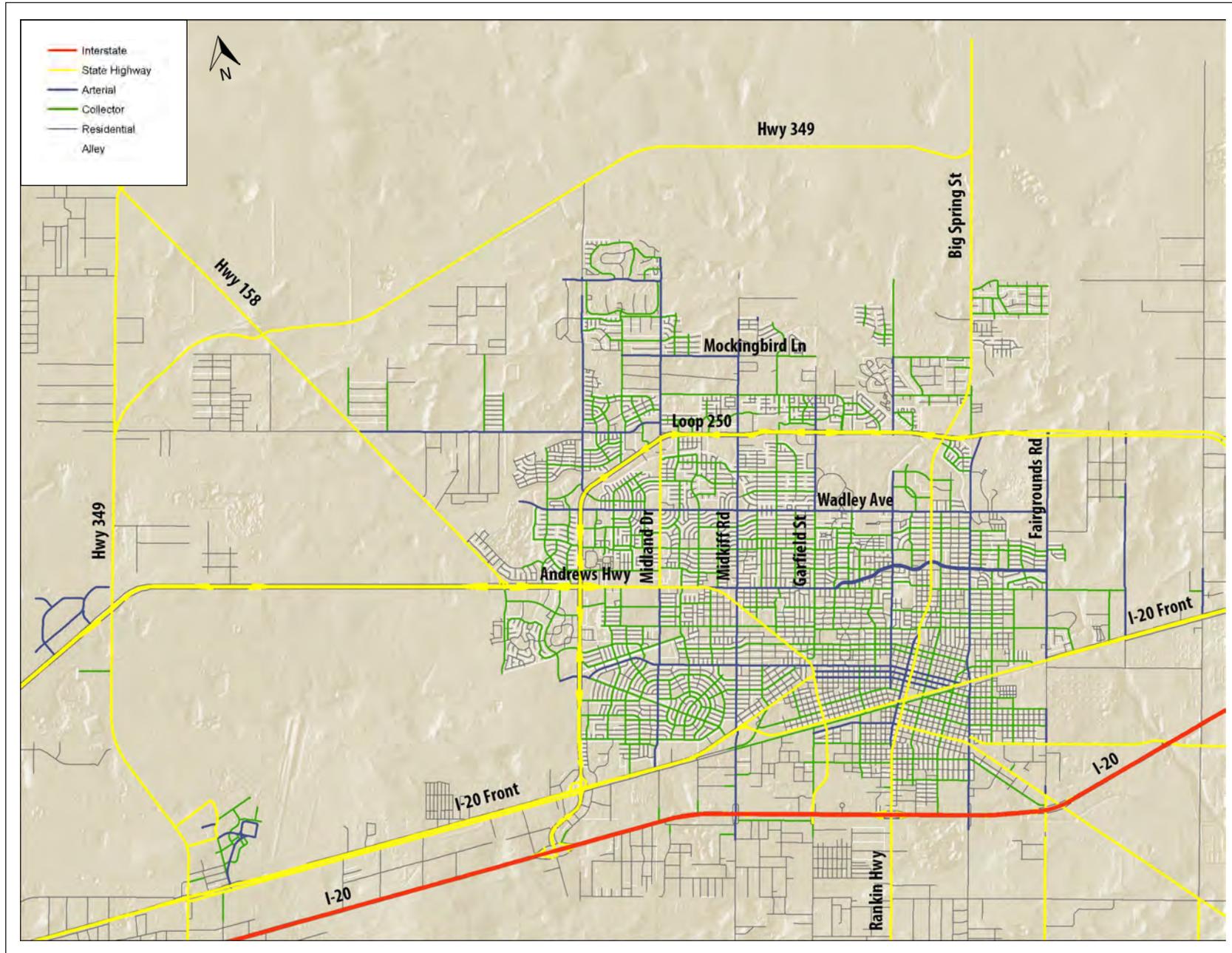
KEY TRENDS

Partners in Transportation Planning

Midland continues to have partners in planning the transportation system both regionally and locally. These include the Midland Odessa Transportation Organization (MOTOR MPO), Texas Department of Transportation (TxDOT), and the Midland-Odessa Transportation Alliance (MOTRAN). The MOTOR MPO functions as the Metropolitan Planning Organization, providing leadership to the region in planning, funding, and developing the transportation system, in all its forms. TxDOT is the state governmental agency tasked with providing safe and reliable transportation solutions for Texas. MOTRAN is a non-profit organization that



Map 1.7: Functional Street Classification



Over 80% of survey respondents agreed or strongly agreed that they would like to see trails developed as an alternative way to commute.

2015 Hike and Bike Trail Master Plan



promotes transportation infrastructure and economic development in the Permian Basin. Each entity interacts with and supports the goals of developing Midland's transportation infrastructure.

Function Classifications

Midland continues to use a classification system based on their function to describe roadways within the city. Highway, arterial roadways, collector streets, and local roads are the primary designations. In reverse order, these classifications provide increasing mobility and decreasing access.

Regional System

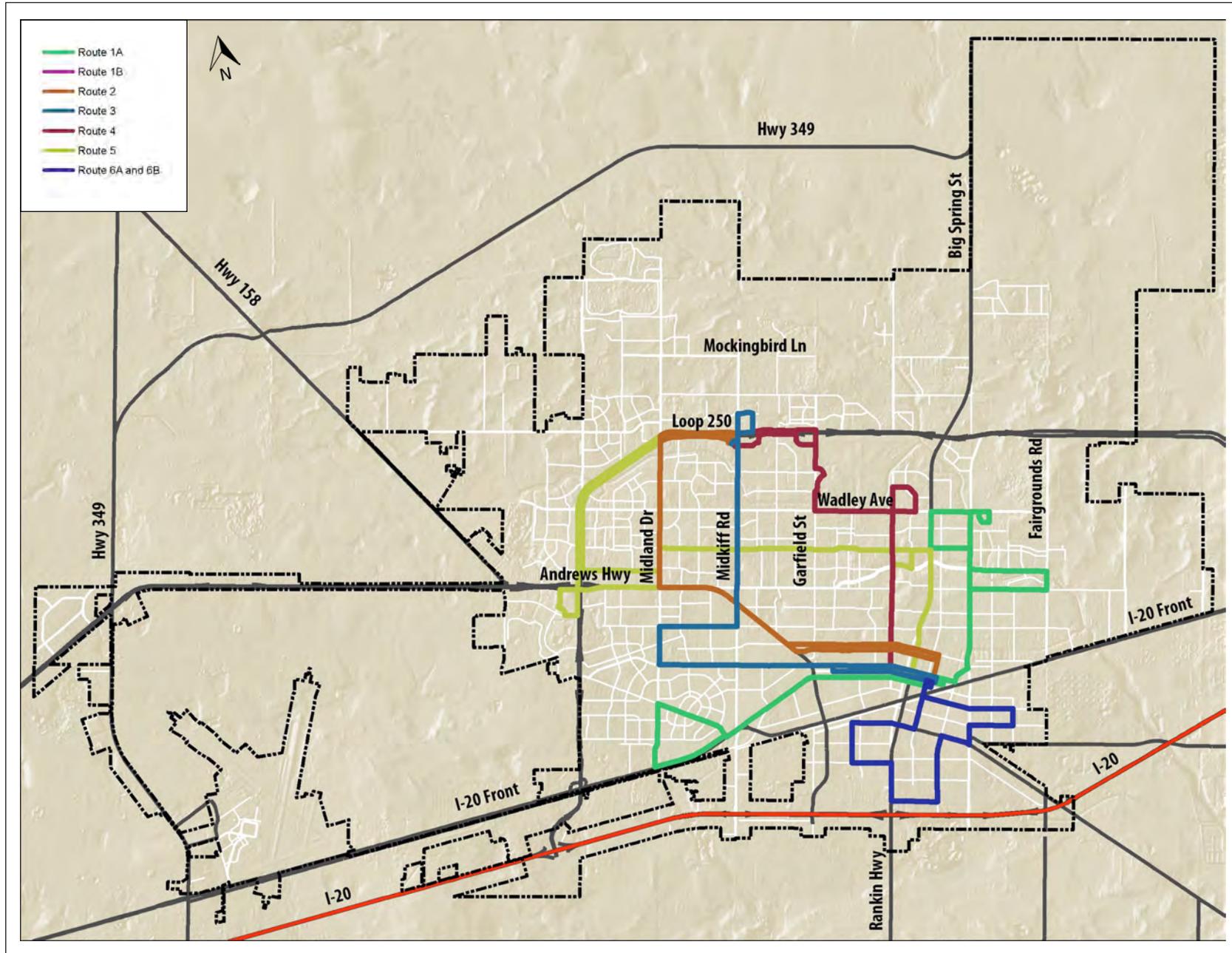
The City of Midland's regional transportation system is primarily concerned with mobility throughout the Permian Basin, with particular importance on service through and around Midland. Roadways that serve in this manner are:

- Interstate 20
- Business 20 (Old Highway 80)
- State Highway 191
- State Highway 158
- State Highway 349 (including the new Craddick Highway portion)
- Farm to Market Road 1788
- Loop 250

Local System

The local transportation system for Midland includes the arterials, collectors, and local streets that provide access to housing, businesses, and public gathering spaces. Arterials within the City of Midland have typically been spaced on the one-mile section lines, but more recent planning is pushing those to potentially 1.5 mile spacing. Collectors in the older portions of Midland are continuous ½ mile connections, narrower than arterials, designed to collect traffic from neighborhoods and offer access to neighborhood destinations. Newer areas of town have fewer primary collectors, and more secondary collectors that are not continuous, but function to move traffic into and out of the section, not necessarily through it. This often forces more traffic onto already busy arterial streets.

Map 1.8: Bus Transit Routes





Trails and Bike Routes

Midland has 21 miles of trails, or approximately one mile for every 5,950 residents. Most trails are in parks except for three disconnected links in the southwest, west, and northern portions of the city. In an effort to create a more connected system, the Hike and Bile Trail Master Plan calls for one mile for every 5,000 residents. To achieve this, the Master Plan calls for seven miles of additional trails in the next five to ten years as a starting goal.

In addition to the trails, the city has 46.4 miles of bike routes that follow existing streets to connect major destinations. Another 11.3 miles are designated running routes throughout the city. The Hike and Bike Trail Master Plan calls for safety improvements to these streets that offer additional buffering and warnings.

Transit

Midland's transit system is part of the Midland Odessa EZRider transit network. The bus system provides services within and between each community. In Midland, the system is comprised of six loops based out of the Downtown Transfer Plaza at Texas and Fort Worth. Buses run along these loops from 6:15 a.m. to 6:10 p.m. on weekdays and from 8:15 a.m. to 4:10 p.m. on Saturdays. The system is an important service to residents, and connections to the hike and bike system along with bike racks on the buses could extend the reach of this system for many residents.

TALL CITY TODAY

Infrastructure

INTRODUCTION

Midland's infrastructure system is a combination of water, wastewater, and stormwater systems designed to serve Midland's needs. These include:

- Water supply resources, treatment systems, and a distribution system, with elevated and ground storage.
- Wastewater collection, treatment methods, and disposal techniques, including reuse opportunities.
- Stormwater and flood control systems, including privately owned and municipally owned detention basins, draw down pipes, storm sewer systems, open channels, natural draws, culverts, and bridges.

KEY TRENDS

Water Supply

Midland's water supply has traditionally come from two sources.

1. Colorado River Municipal Water District (CRMWD). The CRMWD maintains three surface water sources and several well fields, from which they provide raw water to three member municipalities and several customer municipalities, of which Midland is one. Currently the City receives up to 30 million gallons per day (MGD) from the CRMWD, with one contract for a portion of that amount set to expire in 2029.
2. City owned well fields. The Paul Davis Well Field is 30 miles north of town, and has been operating since the 1950's. The T-Bar Ranch Well Field and Clear Water Ranch, about 70 miles west of town, have been recently developed to deliver water to the City of Midland. The City also maintains nine wells near the Midland International Airport for a separate public water system surrounding the airport.

Water Treatment

The Water Purification Plant for the City of Midland is located in northwest Midland, at the corner of Midland Drive and Bluebird Lane. The plant has recently undergone significant upgrades and has the capability to treat 32 MGD as well as to blend with well field sources to meet peak demands while still meeting drinking water quality standards.

Water Distribution

The water distribution system for the City of Midland serves over 40,000 customers by providing potable water through pump stations, storage tanks (both elevated and ground level), and over 830 miles of waterlines. The system contains three current pressure planes over an elevation change of 150 feet. Two new elevated storage

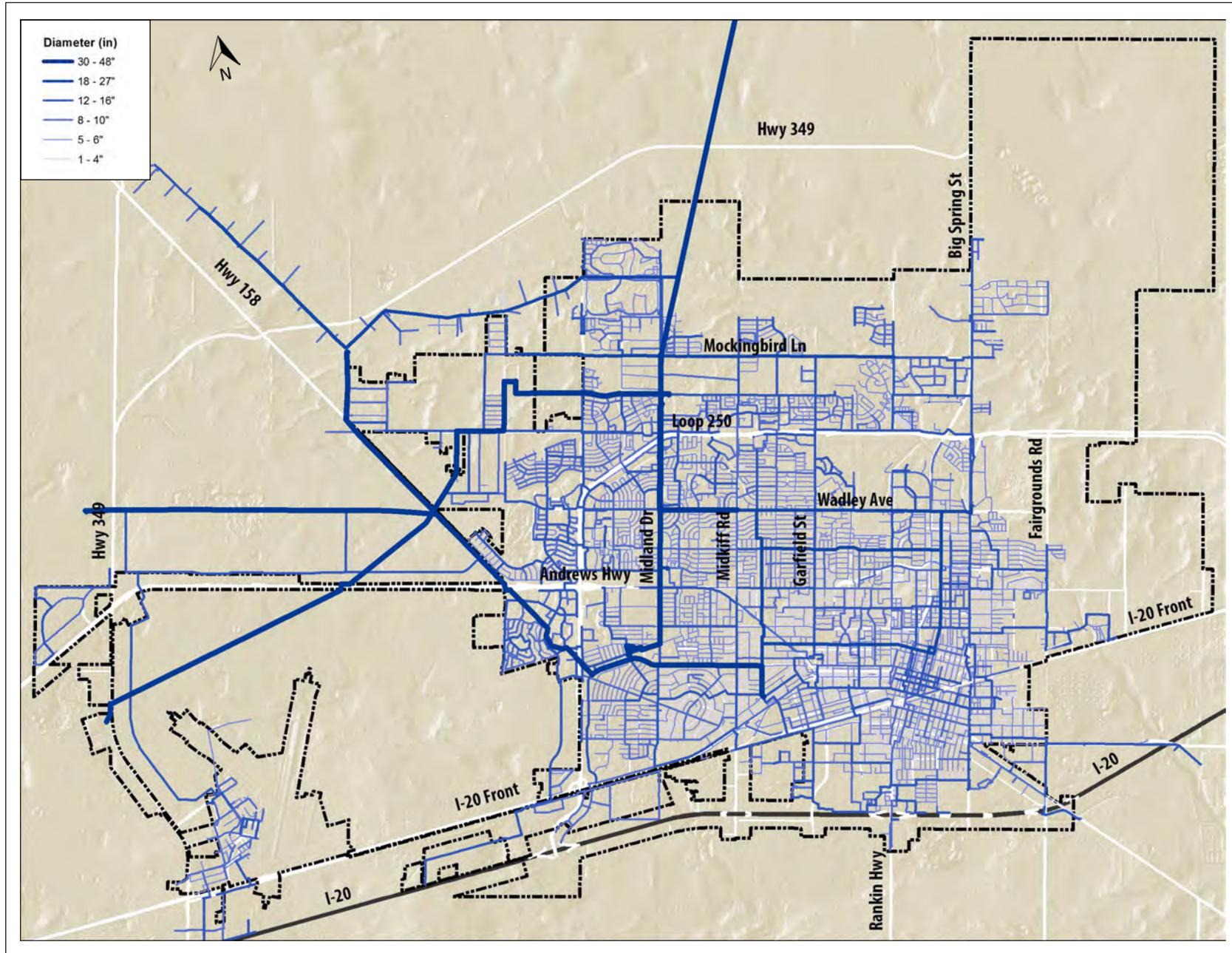
Major Themes

» *Reuse – Stewards of Our Water.* Residents of west Texas understand the importance of water, an often limited resource. The capture and reuse of rainwater, along with the use of wastewater, has many benefits. These include alleviating some flash flooding and being able to irrigate areas during dry periods.

» *Extensions for Growth.* Whether fast or steady, the city will continue to experience growth. Meeting those demands through proper and efficient extension of services will ensure a system that can be supported and maintained by future generations.

» *Multi-purposing.* In life, true win-win scenarios are a rare thing but Midland has captured this opportunity through multi-purposing its stormwater infrastructure. From the creation of parks around ponds that store stormwater to the use of streets for both transportation and drainage, Midland has been successful in turning essential infrastructure facilities into community and neighborhood assets. This idea should be extended to the draw system for both stormwater management and recreation.

Map 1.9: Water Mains





tanks have been constructed within the last few years, as well as the rehabilitation of the four existing elevated tanks. Fire protection is provided at a Class 1 ISO rating through this system.

Wastewater Collection

Wastewater collection for the City of Midland contains over 630 miles of sewer lines, collecting wastewater and delivering it to the water pollution control plant (WPCP). The flow is routed to the plant with a portion diverted through a satellite reuse plant in Windlands/Tumbleweed Park, prior to the WPCP.

Wastewater Treatment

The Water Pollution Control Plant is located on the southeast side of the city, south of Interstate 20, near FM 307. Originally built in 1952, the plant has been expanded to provide primary treatment of up to 21 MGD. In 2014, the city opened a satellite reuse plant in the central/north part of the city, pulling wastewater from the trunk system and treating to a reuse standard for irrigation. This Type I water is provided to Midland College for irrigation purposes. A total capacity of 200,000 GPD is available from this new plant.

Wastewater Disposal

The City of Midland's current method of wastewater disposal is land application. All effluent from the Water Pollution Control Plant is applied to the irrigation of farms near the treatment plant and at Spraberry. These farms total 5,050 acres of non-public access, City-owned pasture and cultivated land. The farm operations handle all treated effluent from the plant, after detention in the Springberry ponds. Sludge is disposed through beneficial land application on 725 acres near the plant. Additionally with the new satellite reuse plant, Type I treated effluent is provided to Midland College for irrigation.



Flood Control

The City of Midland was built just downstream of the confluence of two major draws, Midland Draw and Jal Draw. The watersheds of these two draws make up 363 square miles of the 412 total square miles of contributing basin for the city's runoff. Four other watersheds contribute the remainder. The vast majority of this area is north and west of the city. Published in 1993, the City's Storm Drainage Design Manual outlines the policy for the planning, design, and installation of stormwater conveyance, detention, and storage facilities. In 1996, the Master Drainage Plan was adopted by the city to outline a long-range plan for drainage improvements, which allow upstream watersheds to develop while minimizing increased flood damage potential in other areas, and to reduce existing flood potential where possible within the city. Recently, the city has developed an update to the Midland and Jal Draw studies. The City owns and maintains detentions basins (some of which double as parks), channels, culverts, and storm sewers as part of their flood control system.

Map 1.10: Sewer Mains

