



# 3 POPULATION + GROWTH

## INTRODUCTION

Understanding population trends in a community offers innumerable benefits to a community. It helps a community ensure they have enough housing, commercial areas, parks/recreation, and jobs to accommodate the increase. It helps them plan for new schools, fire stations, and libraries. These type of investments require significant funding and so proper planning is key.

## DEMOGRAPHIC AND POPULATION TRENDS

The population between the years 1910 and 2016 have been charted on the next page in Figure 3.1. In 1910, there were 445 people living in Ankeny. By 2015, there were over 56,000 as the community experienced significant growth in population in the past century. Ankeny had its greatest percent increase between 1960 and 1970 where it grew by 208.7%. In the new millennia, Ankeny has had large increases in actual population with an estimated increase of 11,182 between 2010 and 2015 alone. If the rate of growth experienced between 2010 and

2015 continues until 2040, Ankeny will have a total population of approximately 162,000 to 164,000.<sup>1</sup> This is likely an unrealistic scenario for Ankeny. For a community to sustain this type of growth levels, it would require an extensive investment in resources and time. When determining population projections for a fast-growing community it is important to look for more nuanced trends to identify a growth rate not as heavily swayed by the short-term large spurts in growth. It is also important to continue to reevaluate population trends in high-growth rate areas.

One important aspect to review in assessing population of an area is the age breakdown of the community. Age groups, generally referred to as age cohorts, are generally evaluated at a Census-level in five-year groupings (i.e. 0-4, 5-9 etc.). The estimated age cohort composition of Ankeny for the years 2000, 2005, 2010, and 2015 were evaluated as part of this analysis. Detailed numbers shown in Figure 3.6. The results show the percent change over time between these time frames.

In 2015, the largest representative age cohorts

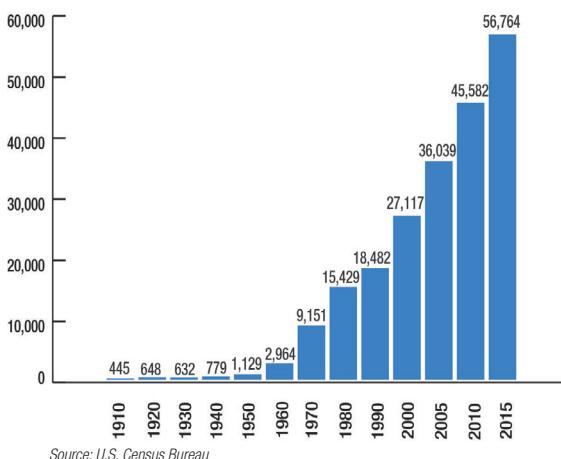
were, in order: ages 30-34, 25-29, 0-4, and 5-9. These correspond to prime child-rearing years and children. While this is not surprising information, it does suggest young adults are choosing to either move or stay in Ankeny to raise their children.

In 2015, the smallest representative age cohorts were those of retirement ages 60 and above. Together, those aged 60 or older only account for around 11% of the total estimated population. This indicates that unless demographics begin to change significantly, there will not likely be an aging out of the current population for quite some time.

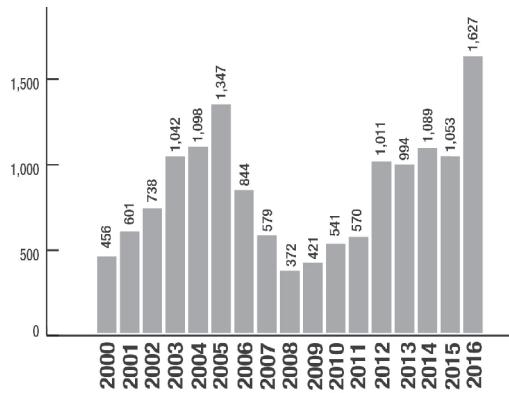
While overall Ankeny is a young community, the age cohort breakdown does suggest some changing demographics. In reviewing the age cohorts in Ankeny between 2000 and 2015, the age cohorts that experienced the highest percent increase in representation were ages 60-64, 65-69, and 55-59, respectively.

<sup>1</sup> Using 2010-2015 Annual Average Percent Change of 4.3% and 2010-2015 5-Year Percent Change of 23.7%.

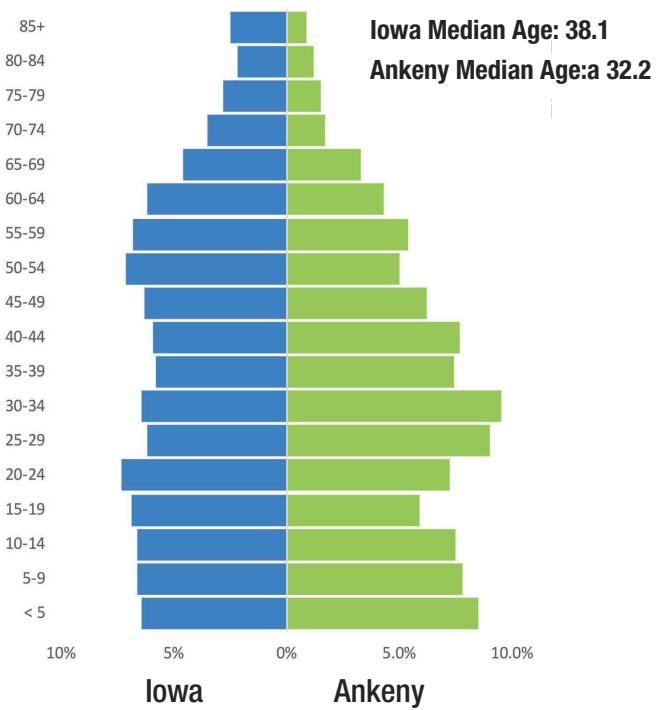
**FIGURE 3.1** Ankeny Population 1910-2015



**FIGURE 3.2** Residential Building Permits 2000-2016



**FIGURE 3.3** Age Composition: Iowa + Ankeny (2015)



However, these age cohorts collectively still represent only a small percent of Ankeny's total population in 2015, around 13%. The young age cohorts with the largest percent gains between 2000-2015 were 25-29, 10-14, and 30-34. This group of ages make up a far greater percent of Ankeny's total 2015 estimated population, around 26%. While overall Ankeny remains young, there is some aging of the population occurring which is something Ankeny may need to consider over the next decade.

Figure 3.3 shows Ankeny's estimated age cohort composition in 2015 compared to Iowa's estimated age cohort composition in 2015. Overall, Ankeny is younger than the state. In almost all cohorts between 0-4 and 40-44, excluding ages 15-19, Ankeny has either a higher percentage than Iowa or around the same as Iowa. The State has more older adults in the categories 45-49 through to 85+.

Overall demographic characteristics of Ankeny versus Iowa were compared using 2010 Census data. The large majority of residents

in Ankeny are White, non Latino. Ankeny has a slightly larger percent of their population identifying as White than Iowa. They have an estimated African-American population of 1.2%, below the state average, and an Asian population of 2%, above the state average.

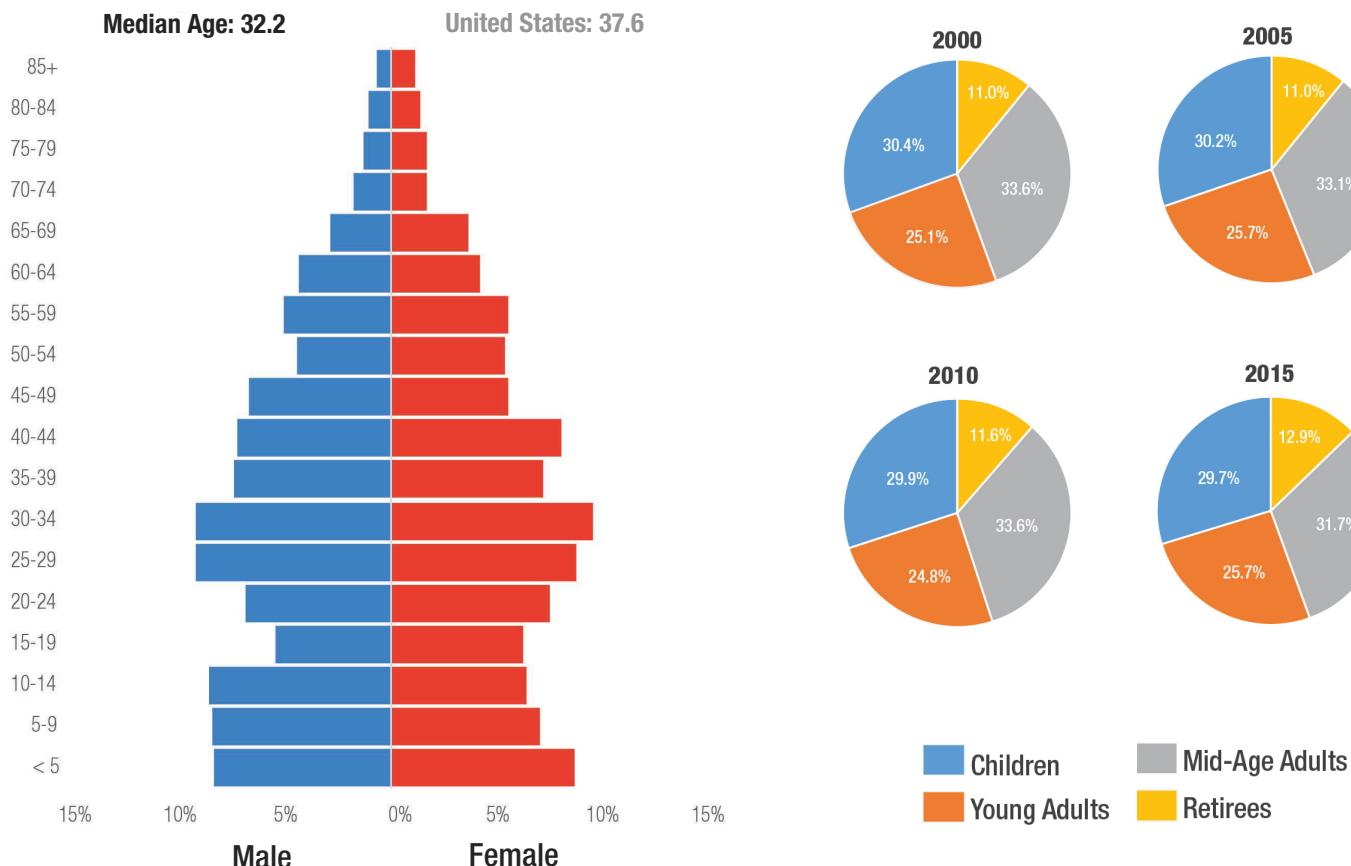
Using U.S. Census data, life categories for Ankeny in the years 2000, 2005, 2010, and 2015 were calculated, shown in Figure 3.5. The Life Categories divide the population into Children (Under 19), Young Adult (20-34), Mid-Age Adult (35-59), and Retirees (Over 60). While all life category groups are increasing in their overall population, it is obvious the larger life categories are children and mid-age adults. Young Adults are beginning to catch up with the Children and Mid-Age Adult categories.

According to the U.S. Census Bureau, the average age of residents in Ankeny in 2015 is estimated to be 32.2. The State of Iowa's median age in 2015 is estimated to be 38.1. The 2010 median age estimates for Ankeny and Iowa was slightly younger at 32 and 38, respectively.

Dependency Ratios are an indicator of the potential burden of the dependent population, those under 18 years and those 65 and older, on those in the working-age population.<sup>2</sup> It is calculated by determining the ratio of the younger dependents (0-18) and the older dependents (65 and over) by the total working-age population (18-64) and then multiplying by 100. The ratio ranges from 0-100. The higher the ratio, the larger the burden on the working-age population to care for the dependent population. In 2015, Ankeny's age dependency ratio was estimated to be 56.9. In 2010, it was 56.3. Overall, this suggests a healthy dependency ratio. This may be due to the lower number of retired-age people (around 11%) in Ankeny and high number of people ages 25-34 (around 25%). While the percent of population under 18 is quite high in Ankeny they will eventually enter the workforce and replace the working age population as opposed to the retirees who will likely not reenter the working population.

<sup>2</sup> U.S. Census Bureau, "Projections of the Size and Composition of the U.S. Population: 2014 to 2060," (2014).

**FIGURE 3.4 Ankeny Age by Sex (2015)**



**FIGURE 3.5 Ankeny Life Categories 2000-2015**

Tracking residential construction growth rates is an important indicator in understanding one of the driving forces behind population change. If there is not housing for people to move into, it will be harder for the population to increase. Figure 3.2 shows the number of construction permits issued for residential units between 1999 and 2016. Ankeny had a record breaking number of residential permits in 2016. The average number of residential dwelling unit permits issued between 2010 and 2016 is 983.9. The majority of building permits issued during 1999-2016 is Single-Family Detached Units, accounting for 57.2% of all permits issued. Multi-family units accounted for 22.6% of all units. The number of dwelling unit permits issued appears to fluctuate over time with peaks every seven years, which is in line with the 7 to 11-year economic growth cycles.

## POPULATION PROJECTIONS

Given the demographic data, it is likely Ankeny will continue to grow, but the rate of growth will depend on several factors including Ankeny's ability to keep attracting residents of child-rearing years. The City can help achieve this

by maintaining an excellent school district and providing other amenities necessary to attract families. Other factors that will impact future growth include the national/regional economy.

If only recent annual growth rates are considered, with average 5-year annual rate of 4.3%, the total estimated population for 2040 will be high, hovering around 162,600 residents. However, to be more modest in the assessment of growth, several alternative growth rates and trends have been identified as it is unlikely for Ankeny to continue to grow by around 23% every five years through 2040.

## AVERAGE ACTUAL ANNUAL CHANGE BY AGE COHORT 2000-2015

Using U.S. Census Bureau data, the estimated change in population by age cohort between the years 2000, 2005, 2010, and 2014 was determined. Then, the average actual change by age cohort in population Ankeny experienced between those five-year increments was calculated. This average actual change by age cohort was used to forecast estimated population by age cohort for the years 2020, 2025, 2030 2035, and 2040. This method

produced a 2040 population estimate of 92,109 residents.

## AVERAGE ACTUAL ANNUAL CHANGE 2000 DATA USING TOTAL POPULATION

Using U.S. Census Bureau data, the actual total change in estimated total population between the years 2000-2016 was determined. The average actual change in population was calculated. Then, this number was used to calculate the total estimated population for the years 2016-2040. Under this methodology, the total estimated population for 2040 was 105,397.

## 3% GROWTH RATE 2015

This growth rate was identified and used by the *2010 Ankeny Comprehensive Plan* as the average rate of growth based on 750 dwelling units per year added between the years 1998 and 2008. This method took a straightforward approach and applied a standard 3.0% growth rate from 2010 to 2040. Under this growth rate, using the U.S. Census Bureau's 2015 population estimate, the 2040 total population is estimated to be 111,392.

**FIGURE 3.6 Ankeny, Iowa Age Composition 2000-2015**

Age Cohort	2000		2005		2010		2015		Change 00-15	Growth 2000-2015
	Count	Share	Count	Share	Count	Share	Count	Share		
0-4	2,274	8.4%	3,243	9.0%	3,883	9.2%	4,377	8.5%	2,103	92.5%
5-9	2,045	7.5%	2,865	7.9%	3,419	8.1%	4,016	7.8%	1,971	96.4%
10-14	1,877	6.9%	2,428	6.7%	2,913	6.9%	3,862	7.5%	1,985	105.7%
15-19	2,046	7.5%	2,373	6.6%	2,406	5.7%	3,038	5.9%	992	48.5%
20-24	2,215	8.2%	2,794	7.7%	3,039	7.2%	3,707	7.2%	1,492	67.4%
25-29	2,185	8.1%	3,128	8.7%	3,968	9.4%	4,634	9.0%	2,449	112.1%
30-34	2,396	8.8%	3,388	9.4%	3,461	8.2%	4,891	9.5%	2,495	104.2%
35-39	2,363	8.7%	3,052	8.4%	3,841	9.1%	3,810	7.4%	1,447	61.2%
40-44	2,109	7.8%	2,706	7.5%	3,124	7.4%	3,965	7.7%	1,856	88.0%
45-49	1,908	7.0%	2,377	6.6%	2,744	6.5%	3,192	6.2%	1,284	67.3%
50-54	1,625	6.0%	2,025	5.6%	2,279	5.4%	2,574	5.0%	949	58.4%
55-59	1,093	4.0%	1,797	5.0%	2,195	5.2%	2,780	5.4%	1,687	154.4%
60-64	821	3.0%	1,182	3.3%	1,477	3.5%	2,214	4.3%	1,393	169.7%
65-69	639	2.4%	894	2.5%	1,013	2.4%	1,699	3.3%	1,060	165.9%
70-74	510	1.9%	702	1.9%	886	2.1%	875	1.7%	365	71.6%
75-79	372	1.4%	464	1.3%	507	1.2%	772	1.5%	400	107.6%
80-84	323	1.2%	395	1.1%	591	1.4%	618	1.2%	295	91.3%
85+	316	1.2%	348	1.0%	422	1.0%	463	0.9%	147	46.6%
<b>Total</b>	27,117	100.0%	36,161	100.0%	42,169	100.0%	51,489	100.0%	24,372	89.9%

Source: American Community Survey 2011-2015 5-Year Estimates, U.S. Census Bureau 2000

## RATIO IOWA-POLK-ANKENY

The State of Iowa calculates population projections through 2040 for the State and County level. By assessing the percentage of Polk County living in Ankeny, State and County population projections can be applied as a ratio to Ankeny. The percentage of Polk County population in Ankeny and the percentage of Iowa's total population in Polk County was determined for the years 2000, 2005, 2010, and 2015. Overtime, both Ankeny and Polk County have increased their overall percentage of total population. The average percent increase occurring every 5 years in the representative population was determined. Then, the average percent increase for Ankeny and Polk County was identified for the years 2020, 2025, 2030, 2035, and 2040. By using the State of Iowa total population projections, the predicted percent of the population held by Polk County was calculated. Then, the predicted percentage of population living in Ankeny was calculated. Under this method, the estimated 2040 population for Ankeny is 130,165.

## 3.6% 2010 DATA

The 2010 Ankeny Comprehensive Plan identified 3.6% as the growth rate for the Des Moines MPO. This method took a straightforward approach and applied a standard 3.6 % growth rate from 2010 to 2040. Under this growth rate, the 2040 total population is estimated to be 132,596.

## 4% 2010 DATA

The 2010 Ankeny Comprehensive Plan used this number because it represented the average annual percent growth 1990-2000, approximately 4.0%. This method took a straightforward approach and applied a standard 4.0% growth rate from 2010 to 2040. Under this growth rate, the 2040 total population is estimated to be 148,846.

## MEDIAN AVERAGE ANNUAL PERCENT @ 4.3%

Using U.S. Census Bureau data, the average annual percent change from the total estimated population of Ankeny between the years 2000-2015 was calculated and the

median of the annual percent change numbers was identified as 4.3%. This annual percent change number was used to calculate estimated total population for the years 2016-2040. Under this methodology, the 2040 estimated total population was 162,412.

## AGE COHORT PERCENT CHANGE 2000-2015

Using U.S. Census Bureau data, the estimated percent change in population by age cohort between 2000, 2005, 2010, and 2015 was determined. Then, the average percent change of the five-year period was calculated. The average percent change in population by age cohort was used to calculate the estimated population by age cohort for the years 2020, 2025, 2030, 2035, and 2040. This method took into consideration the percentage change rather than just actual change to adjust for the increase in population experienced every five-years. Under this method, the estimated 2040 population was 162,753.

## AGE COHORT 2010 NUMBERS FROM ACS 2006-2010 % 5-YEAR ESTIMATES

Using U.S. Census Bureau data, the estimated percent change in population by age cohort

**FIGURE 3.7 Ankeny Population Projections 2020-2040**

Method	2015	2020	2025	2030	2035	2040
Average Actual Change by Age Cohort 2000-2015**	51,489	59,613	67,737	75,861	83,985	92,109
Total Average Actual Change 2000 Data	56,764	66,491	76,217	85,944	95,671	105,397
Average Residential Permit 2006-2016	56,764	67,522	78,280	89,038	99,796	110,554
3% Growth Rate from 2015	56,764	61,675	71,498	82,886	96,088	111,392
Average Residential Permit 2006-2016	56,764	67,764	78,765	89,765	100,765	111,765
Average Residential Permit 2010-2016	56,764	69,554	82,344	95,134	107,925	120,715
Ratio Iowa-Polk-Ankeny	56,764	68,344	81,719	96,440	112,563	130,165
Average Residential Permit 2012-2016	56,764	71,782	86,799	101,817	116,834	131,852
3.6% 2010 Data	56,764	65,363	78,007	93,096	111,104	132,596
4% 2010 Data	56,764	67,931	82,649	100,555	122,341	148,846
Median Average Annual Percent @ 4.3%	56,764	70,046	86,435	106,660	131,616	162,412
Age Cohort Percent Change 2000-2015**	51,489	64,405	80,811	101,720	128,455	162,753
Age Cohort 2010 2006-2010 5-Yr Estimates	56,764	64,427	80,868	101,827	128,634	163,035
<b>Average</b>	<b>56,764</b>	<b>66,532</b>	<b>79,395</b>	<b>93,903</b>	<b>110,444</b>	<b>129,507</b>

Source: Confluence, with data inputs from U.S. Census Bureau, City of Ankeny

\*\*The 2015 Special Census did not provide detailed age cohort breakdown estimates, so age cohort numbers were calculated using 2015 ACS 5-year estimate numbers which had a lower total estimated population than the special census

between the years 2000, 2005, 2010, and 2015 was determined. Then, the average percent change of the five-year period was calculated. The average percent change in population by age cohort was used to calculate the estimated population by age cohort for the years 2020, 2025, 2030, 2035, and 2040. This method took into consideration the percentage change rather than just actual change to adjust for the increase in population experienced every five-years. Under this method, the estimated 2040 population was 163,035.

#### AVERAGE RESIDENTIAL BUILDING PERMITS

Using data from the City of Ankeny, the average number of residential building permits issued in Ankeny between years in 2000-2016 was calculated to analyze four possible growth scenarios. The average number of residential permits issued between 2000-2016 was 846.2 permits. The average number of residential permits between 2006-2016 was 827.5. The average number of residential permits issued between 2010-2016 was 983.9. The average number of residential building permits issued between 2012-2016 was 1,115.2. Under the assumption of an average 2.6 people per unit, the average annual increase in population per year was calculated for each growth scenario through 2040. Under these growth scenarios, the 2040 population was determined to be 111,765, 110,554, 120,715, and 131,852.

#### AVERAGE

The overall average for each year was calculated and for 2040 the average estimate was 129,507. The average estimate provides an idea of the projection taking into consideration the lowest and highest numbers.

**FIGURE 3.8 Building Permit Issues 2000-2016**

Years	Average Permits Issued
2000-2016	846.2
2006-2016	827.5
2010-2016	983.9
2012-2016	1,115.2

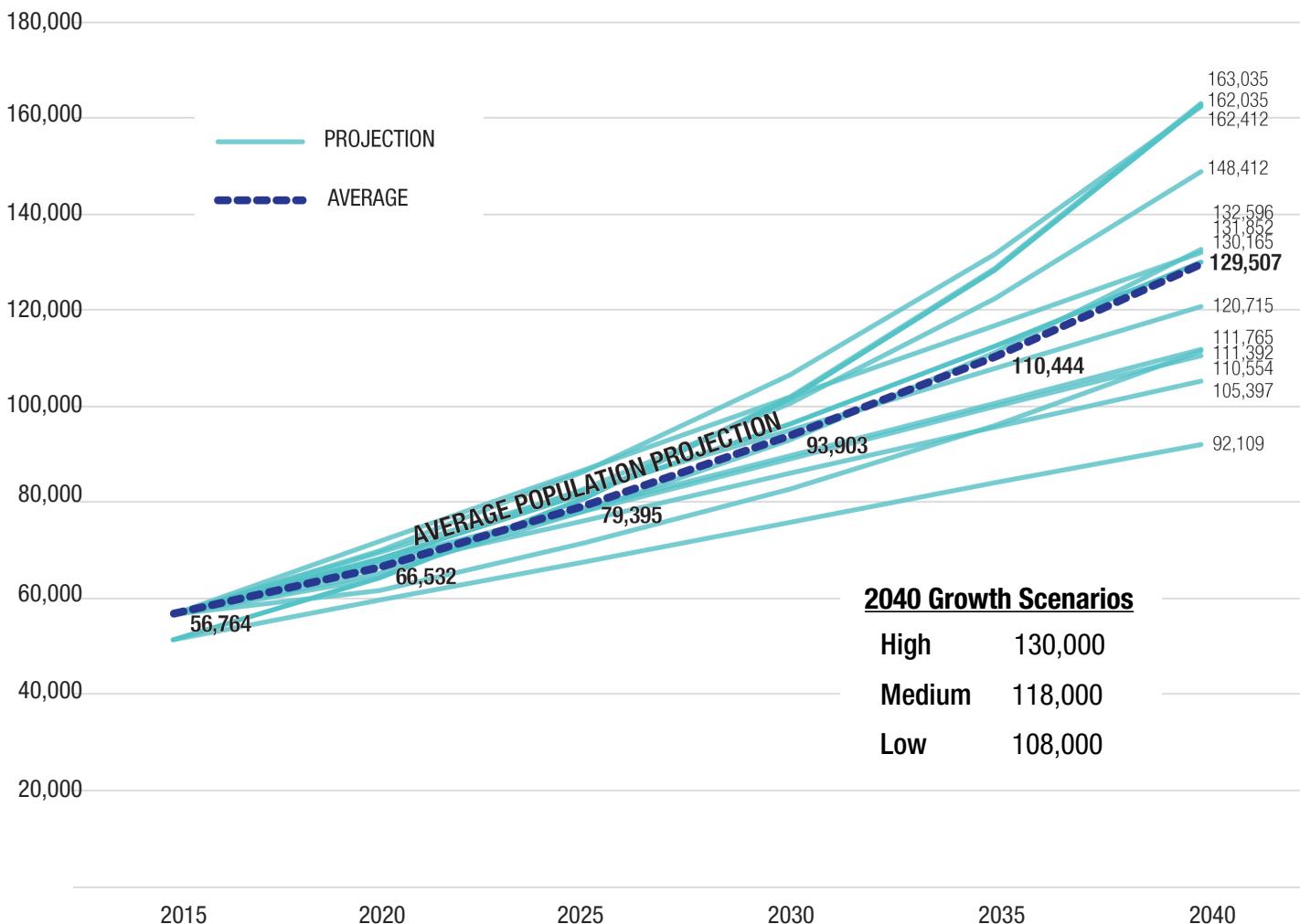
Source: Confluence, with inputs from City of Ankeny

**FIGURE 3.9 Building Permit Projections 2020-2040**

Year	2000-16	2006-16	2010-16	2012-16
2015	56,764	56,764	56,764	56,764
2020	67,522	67,764	69,554	71,782
2025	78,280	78,765	82,344	86,799
2030	89,038	89,765	95,134	101,817
2035	99,796	100,765	107,925	116,834
2040	110,554	111,765	120,715	131,852

Source: Confluence, with inputs from City of Ankeny

**FIGURE 3.10** Ankeny 2020-2040 Population Projection Scenarios



## CONCLUSIONS

Overall, Ankeny is likely facing some significant growth by 2040. There are few limits to growth in the Ankeny area as the terrain is flat, there is an ability to provide adequate public infrastructure, and there are significant development opportunities associated with the potential Northeast Beltway expansion. All of these factors will influence the growth Ankeny will see between 2018 and 2040. These projections represent possible growth scenarios and are not guarantees. In fast growing communities such as Ankeny, projections should be updated periodically because growth rates can change and the long-term numbers might need to be reconsidered based on newer trends.

Based on recent trends in actual population growth, the number of residential building permits issued, and the projections made at a state and county-level, the 2040 population in Ankeny will likely fall somewhere between 92,00 and 163,00 with an average estimate of 129,507. While there is considerable room between these scenarios, there is also a significant number of unknown variables including the national/local economy, Des Moines metro growth, business cycles, and the decision to build or not build the proposed Northeast Beltway. All of these factors and more will impact the actual population of Ankeny in 2040. These projections can be used to make informed decisions about future land use, infrastructure, and transportation demands and needs. Historically in Ankeny, building permit-based projections have been effective predictors of future population growth. For this reason, building permit projections were given additional weight when determining likely low, medium, and high projection scenarios. Based on these projections, a low growth estimate for 2040 population might be 108,000, a medium growth scenario estimate 118,00, and a high-growth estimate of 130,000. These three growth scenarios will be used in the comprehensive plan to estimate demand for a number of amenities.