

NATIONAL BENCHMARKING STUDY FOR VIRGINIA BEACH

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While it is important to measure decennial census changes, benchmarking against similar communities is equally important. The City of Virginia Beach has chosen ten communities to benchmark. The benchmarks serve a threefold purpose. First, comparisons can be made; second, the benchmarks can be used to discover community similarities; and lastly, larger populated localities can forewarn of hazards or encourage policy decisions.

For eight of the ten benchmarks, two parameters were used for fitting purposes. They were local and metropolitan area population estimates; moreover, locality choices had to have a modestly larger population than Virginia Beach. Two of the ten localities were added later, because they had been traditionally used by the City's Public Safety departments. They were Raleigh, NC and Long Beach, CA.

Demographics Benchmarks: Population, Age, Race, and Education

The [Demographic Benchmarks](#) table is comprised of two sections. In the upper half, demographic data aligns with the ten benchmark communities and categorical measurements. The broad demographic categories include population, age, race, and education measurements.

The lower half uses a simplistic ranking system to determine similarities with the City of Virginia Beach. The rankings are a result of each locality's data measurement as compared with Virginia Beach. Low ranking numbers indicate strong similarity (i.e. 1 is the most similar, 2 second most similar, etc.). Higher rankings are progressively more dissimilar. With each categorical ranking complete, each locality's ranking row is summed to derive the cumulative Demographic Score. The locality with the lowest score is the most similar (Demographic Rank column).

For clarification, the ethnicity column measures the majority race, but the ranking is based upon Caucasians, African Americans, and the third highest race category (see the [Demographic Narrative](#)).

According to the rankings, Williamson County, TX is the most similar locality. On average, Williamson County scored a 4.00 per category. Anne Arundel County, MD was second in similarity, and on average, it scored 4.14 per category. Ramsey County, MN ranked third. Bristol County, MA was the least similar with an average categorical score of 6.43.

Demographic Benchmarks									
Locality	Population	Population Density	MSA Population Variance	Age Range Comparison	Ethnicity (Caucasians)	< High School Diploma	> Bachelor's Degree	Demographic Score	Demographic Rank
Williamson County, Texas	547,545	490	319,730	43	79.5%	8.3%	37.5%		
Johnson County, Kansas	591,178	1,250	446,085	26	62.1%	5.2%	52.3%		
Las Vegas, Nevada	641,708	4,718	431,576	30	62.7%	15.0%	23.1%		
Washington County, Oregon	588,957	813	232,205	32	75.8%	7.6%	42.0%		
Anne Arundel County, Maryland	573,235	1,381	1,111,190	33	71.9%	8.4%	37.7%		
Arapahoe County, Colorado	643,052	806	1,117,824	27	72.3%	8.4%	40.6%		
Ramsey County, Minnesota	547,974	3,605	1,716,921	22	66.2%	10.6%	39.1%		
Bristol County, Massachusetts	561,483	1,015	(59,738)	40	83.5%	14.4%	27.0%		
Long Beach, California	469,459	9,389	11,580,678	21	50.9%	18.5%	27.8%		
Raleigh, North Carolina	464,972	3,252	(406,875)	45	56.8%	9.3%	45.8%		
Williamson County, Texas	3	1	3	9	6	3	3	28	1
Johnson County, Kansas	8	10	6	3	5	2	10	44	9
Las Vegas, Nevada	10	7	5	5	3	6	7	43	8
Washington County, Oregon	7	6	2	6	9	1	7	38	4
Anne Arundel County, Maryland	6	2	7	7	2	4	1	29	2
Arapahoe County, Colorado	9	5	8	4	3	4	6	39	5
Ramsey County, Minnesota	4	4	9	2	1	8	5	33	3
Bristol County, Massachusetts	5	8	1	8	10	9	4	45	10
Long Beach, California	2	9	10	1	7	10	2	41	6
Raleigh, North Carolina	1	3	4	10	8	6	9	41	6
Virginia Beach	452,602	1,818	1,726,907		65.5%	6.5%	32.6%		

DEMOGRAPHIC NARRATIVE

The seven broad demographic categories for measuring similarity included population, age, ethnicity, and education. All data came from the 2017 American Community Survey (ACS). Localities slightly larger than Virginia Beach and chosen as benchmarks were Williamson County, TX, Johnson County, KS, Las Vegas, NV, Washington County, OR, Anne Arundel County, MD Arapahoe County, CO, Ramsey County, MN, Bristol County, MA, Long Beach, CA, and Raleigh, NC. Unintentionally, but beneficial, the localities chosen were spatially spread across the nation.



According to the Census Bureau, the 2017 Virginia Beach population was 450,000. The locality with the most similar population was Raleigh, NC. This reinforces the Public Safety departments’ use of it as a benchmark. Not far behind Raleigh was Long Beach CA (again substantiating Public Safety usage). In the adjacent table, similarity counts descend from most similar to least similar. The least similar locality was Arapahoe County, CO. Raleigh had a minimal difference of 14,000, and Arapahoe County had a large difference of 193,000.

Locality	Population
Virginia Beach, Virginia	450,435
Raleigh, North Carolina	464,972
Long Beach, California	469,459
Williamson County, Texas	547,545
Ramsey County, Minnesota	547,974
Bristol County, Massachusetts	561,483
Anne Arundel County, Maryland	573,235
Washington County, Oregon	588,957
Johnson County, Kansas	591,178
Las Vegas, Nevada	641,708
Arapahoe County, Colorado	643,052

Because metropolitan statistical areas (MSA) generate synergistic measurable economic factors encouraging population growth, it was another factor for consideration in choosing benchmark localities. The optimal window for consideration was 1.7 million – 3.5 million people. Under these MSA parameters, the Public Safety benchmarks of Raleigh, NC and Los Angeles-Long Beach, CA would not have qualified. Raleigh’s benchmark would have been too small to assist with policy decisions and Los Angeles-Long Beach would have been far too large.

The 2017 Virginia Beach-Norfolk-Newport News, VA-NC MSA had a population of 1.7 million (see the table below). The most similar regional population was the Providence-Warwick, RI-MA MSA. The difference was less than 60,000. The second most similar was the Portland-Vancouver-Hillsboro, OR-WA MSA. The difference was 230,000. The least similar MSA was Los Angeles-Long Beach, CA with a population of 13.3 million people. The difference was 11.6 million. This demonstrates the difficulty with choosing a one factor benchmark. A large megalopolis’ social and governmental dynamics differ from a metropolitan area.

MSA	Locality	MSA Population
Virginia Beach-Norfolk-Newport News, VA-NC	Virginia Beach, VA	1,680,860
Austin-Round Rock, TX	Williamson Co, TX	2,000,590
Kansas City, KS-MO	Johnson Co, KS	2,126,945
Las Vegas-Henderson-Paradise, NV	Las Vegas, NV	2,112,436
Portland-Vancouver-Hillsboro, OR-WA	Washington Co, OR	1,913,065
Baltimore-Columbia-Towson, MD	Anne Arundel Co, MD	2,792,050
Denver-Aurora-Lakewood, CO	Arapahoe Co, CO	2,798,684
Minneapolis-St Paul-Bloomington	Ramsey Co, MN	3,397,781
Providence-Warwick, RI-MA	Bristol Co, MA	1,621,122
Los Angeles-Long Beach, CA	Long Beach, CA	13,261,538
Raleigh, NC	Raleigh, NC	1,273,985

Because area and population can cause differing social dynamics, population density was also compared. High-density localities typically have urban issues and low-density localities suburban and rural concerns. In the table below, square mile measurements do not exclude military bases, roads, or business areas.

Virginia Beach has a population density of 1,800 people per square mile. The most similar locality is Anne Arundel County, MD with a density of 1,400. While Anne Arundel has 123,000 more people than Virginia Beach, it also covers a broader area; consequently, the two factors create similarity. Anne Arundel has a land area of 415 square miles. Virginia Beach's area is 249 square miles. Johnson County, KS has the second most similar density of 1,250. The least similar density is Long Beach, CA. With a density of 9,400 people per square mile, it is five times denser than Virginia Beach. This again illustrates the dynamic social differences of choosing a one factor benchmark.

Locality	Density
Williamson County, Texas	490
Arapahoe County, Colorado	806
Washington County, Oregon	813
Bristol County, Massachusetts	1,015
Johnson County, Kansas	1,250
Anne Arundel County, Maryland	1,381
Virginia Beach, Virginia	1,818
Raleigh, North Carolina	3,252
Ramsey County, Minnesota	3,605
Las Vegas, Nevada	4,718
Long Beach, California	9,389

Because age has a propensity to determine public service needs, this was used as a benchmark factor. The age categories were divided by generation. The ACS age ranges did not exactly match the generational years; consequently, the generational periods are approximate.

Traditionalists are the oldest living generation (≥ 70 years old). This generation represents 9.0% of Virginia Beach's population (see the table below). Johnson County, KS was the most similar, proportionally. Because its population is greater than Virginia Beach, the Traditionalist population count is higher. It was 53,000 compared to Virginia Beach's 41,000. Ramsey County, MN was the second most similar, proportionally. Bristol County, MA is the least similar, proportionally. 11.7% of the population are Traditionalists. From a numerical perspective, the most similar benchmark is Williamson County, TX. The locality has 44,000 Traditionalists, and the least numerically similar is Bristol County, MA. It has 66,000 Traditionalists.

Locality	~Traditionalists ≥ 70 years old	~Baby Boomers 50 - 69 year olds	~Generation X 40 - 49 year olds	~Generation Y 20 - 39 year olds	~Generation Z 5 - 19 year olds	< 5 years old	Total Score	Rank
Williamson County, Texas	8.0%	20.5%	15.3%	27.5%	22.0%	6.6%		
Johnson County, Kansas	8.9%	24.3%	13.6%	26.5%	20.3%	6.5%		
Las Vegas, Nevada	9.5%	23.9%	14.0%	26.8%	19.3%	6.5%		
Washington County, Oregon	8.3%	22.6%	14.3%	29.4%	19.3%	6.2%		
Anne Arundel County, Maryland	9.7%	25.1%	13.8%	27.2%	18.2%	6.1%		
Arapahoe County, Colorado	8.1%	23.2%	13.9%	28.8%	19.6%	6.5%		
Ramsey County, Minnesota	8.8%	23.4%	10.8%	30.9%	19.1%	7.0%		
Bristol County, Massachusetts	11.7%	26.4%	13.5%	25.1%	18.0%	5.2%		
Long Beach, California	7.4%	22.8%	13.5%	31.4%	18.2%	6.6%		
Raleigh, North Carolina	6.5%	18.9%	13.7%	36.1%	18.8%	6.0%		
Williamson County, Texas	6	8	10	5	10	4	43	9
Johnson County, Kansas	1	5	1	8	9	2	26	3
Las Vegas, Nevada	3	3	8	7	7	2	30	5
Washington County, Oregon	5	5	9	3	6	4	32	6
Anne Arundel County, Maryland	4	7	6	6	3	7	33	7
Arapahoe County, Colorado	6	2	6	4	8	1	27	4
Ramsey County, Minnesota	2	1	4	1	5	9	22	2
Bristol County, Massachusetts	10	8	1	10	1	10	40	8
Long Beach, California	8	4	1	2	2	4	21	1
Raleigh, North Carolina	9	10	5	9	4	8	45	10
Virginia Beach	9.0%	23.4%	12.2%	31.0%	17.9%	6.4%		

Baby Boomers (50 – 69 years old), once the largest generational cohort, is now the second largest. This generation represents 23.4% of Virginia Beach’s population. Ramsey County, MN was the most similar, proportionally. Arapahoe County, CO was the second most similar, proportionally. Raleigh, NC is the least similar, proportionally. 18.9% of the Raleigh population are Baby Boomers. From a numerical perspective, Virginia Beach has 106,000 Baby Boomers. The most similar is Long Beach, CA with 107,000, and the least similar is Las Vegas, NV. It has 153,000.

Sandwiched between the largest and second largest generation is Generation X (40 – 49 years old). This generation represents 12.2% of Virginia Beach’s population. Johnson County, KS, Bristol County, MA, and Long Beach, CA were the most similar, proportionally. Williamson County, TX is the least similar, proportionally. 15.3% of the population are Generation X. This is a generation prepared to take over leadership in various industries, and many localities aspire to attract and retain the generation. From a numerical perspective, Virginia Beach has 55,000 Generation X’ers. The most numerically similar is Ramsey County, MN with 59,000, and the least similar is Las Vegas, NV. It has 90,000, but recall, this locality has the second largest population of all benchmarks (642,000); consequently, the numerical count should be larger than Virginia Beach.

The largest generation is Generation Y (20 – 39 years old). This generation represents 31.0% of Virginia Beach's population. Ramsey County, MN was the most similar, proportionally. Bristol County, MA is the least similar. 25.1% of Bristol's population are Generation Y. From a numerical perspective, Virginia Beach has 139,000 Generation Y residents. The most similar is Bristol County, MA with 141,000; yet, the locality ranked last for this generation, because it is proportionally measured. The least similar is Arapahoe County, CO. It has 185,000 Generation Y residents.

Generation Z (5 – 19 years old) is the most recently designated generation. This generation represents 17.9% of Virginia Beach's population. Bristol County, MA was the most similar, proportionally. Williamson County, TX is the least similar. From a numerical perspective, Virginia Beach has 81,000 Generation Zs. The most similar is Long Beach, CA with 85,000, and the least similar is Arapahoe County, CO. It has 126,000.

Children < 5 years old are an undesignated and up-and-coming generation. This generation represents 6.4% of Virginia Beach's population. Arapahoe County, CO was the most similar, proportionally. Bristol County, MA is the least similar.

When the rankings per locality were summed, the locality with the most similar broad-based age demographic was Long Beach, CA. 50% of the benchmark rankings are either a one or two. The second most similar is Ramsey County, MN. Like long Beach, three of the six benchmarks are a one or two; and the third most similar is Johnson County, KS. It, too, had three of six one or two rankings. The least similar is Raleigh, NC. Three of the six rankings were nines and tens.

The ethnicity rankings were based upon the ratio of Caucasians, African Americans, and the highest ranked ethnicity excluding Caucasians and African Americans.

The City of Virginia Beach population is composed of 65.5% Caucasians, 19.0% African Americans, and 6.8% Asians (see the table below). The most similar ratio of Caucasians is Ramsey County, MN. Ramsey was followed by Las Vegas, NV and Johnson County KS. The most similar ratio of African Americans is Anne Arundel County, MD. Anne Arundel was followed by Long Beach, CA and Ramsey County. In addition to Caucasian and African American ethnicities, ACS identifies five other ethnicities. They are American Indian and Alaskan native, Asian, native Hawaiian and Pacific Islanders, other races, and two or more races. Because the City of Virginia Beach's largest other ethnicity was Asian, the rankings were based upon other localities with a third largest Asian ethnicity ratio. Any localities with other large ethnicities were given a ranking score of six.

There were five localities with large Asian communities. They are ranked one through five. The locality most resembling Virginia Beach's Asian community is Williamson County, TX. Williamson was followed by Arapahoe County, CO, and Johnson County, KS.

Overall, the locality most resembling Virginia Beach's ethnic dynamic is Ramsey County, MN. Ramsey was followed by Anne Arundel County, MD and Las Vegas, NV. For each category, Ramsey County scored an average of 3.0. The least similar ethnic locality was Bristol County, MA. The average score was 8.3.

Locality	Caucasians	African Americans	Top Other Ethnicity	Total Score	Rank
Williamson County, Texas	79.5%	5.9%	6.6% Asian		
Johnson County, Kansas	62.1%	5.0%	5.3% Asian		
Las Vegas, Nevada	62.7%	11.2%	14.2% Other races		
Washington County, Oregon	75.8%	2.1%	10.6% Asian		
Anne Arundel County, Maryland	71.9%	16.5%	4.1% Two or more		
Arapahoe County, Colorado	72.3%	10.8%	5.9% Asian		
Ramsey County, Minnesota	66.2%	12.2%	15.3% Asian		
Bristol County, Massachusetts	83.5%	4.6%	6.4% Other races		
Long Beach, California	50.9%	12.7%	18.0% Other races		
Raleigh, North Carolina	56.8%	29.2%	6.1% Other races		
Williamson County, Texas	8	7	1	16	6
Johnson County, Kansas	3	8	3	14	5
Las Vegas, Nevada	2	4	6	12	3
Washington County, Oregon	7	10	4	21	9
Anne Arundel County, Maryland	4	1	6	11	2
Arapahoe County, Colorado	5	5	2	12	3
Ramsey County, Minnesota	1	3	5	9	1
Bristol County, Massachusetts	10	9	6	25	10
Long Beach, California	9	2	6	17	7
Raleigh, North Carolina	6	6	6	18	8
Virginia Beach	65.5%	19.0%	6.8% Asian		

The education benchmark identified under-education of the populace and those with higher education degrees. The threshold for under-educated residents were those without a high school diploma. Those with a higher education degree had earn at least a bachelor’s degree.

In Virginia Beach, the number of residents 18 years old and older without a high school diploma was 6.5%. The most similar locality was Washington County, OR. The rate was 7.6%. It was followed by Johnson County, KS and Williamson County, TX. The locality least similar to Virginia Beach was Long Beach, CA. It has a high rate of residents without a high school diploma (18.5%).

In Virginia Beach, 32.6% of the residents had a bachelor’s degree or higher. The most similar benchmark locality was Anne Arundel County, MD. The rate was 37.7%. It was followed by Long Beach, CA and Williamson County, TX. The locality least similar benchmark to Virginia Beach was Johnson County, KS. It is a very highly educated benchmark. 52.3% had a bachelor’s degree or higher.

Overall, the locality most similar in education was Anne Arundel County, MD. It was followed by Williamson County, TX and Washington County, OR. The least similar locality was Raleigh, NC. The city had

a high rate of residents without a high school diploma and a high rate of residents with a bachelor's degree or higher. The higher education is likely attributable to the adjacent Research Triangle workforce and synergistic collegiate opportunities.

Households Benchmarks: Housing Occupancy, Density, Stock, Ownership, Valuation, Financial, Rent and In-migration Summary

The [Household Benchmarks](#) table is comprised of two sections. In the upper half, household data aligns with the ten benchmark communities and categorical measurements. The broad household categories include occupancy, density, stock, ownership, valuation, rent, and in-migration measurements.

The lower half uses a simplistic ranking system to determine similarities with the City of Virginia Beach. The rankings are a result of each locality's data measurement as compared with the City of Virginia Beach. Low ranking numbers indicate strong similarity (i.e. 1 is the most similar, 2 second most similar, etc.). Higher rankings are progressively more dissimilar. With each categorical ranking complete, each locality's ranking row is summed to derive the cumulative Household Score. The locality with the lowest score is the most similar (Household Rank column).

According to the rankings, Arapahoe County, CO is the most similar locality. On average, Arapahoe County scored 2.73 per category. Washington County, OR was second in similarity, and on average, it scored 4.55 per category. Bristol County, MA ranked third. Long Beach, CA was the least similar with an average categorical score of 7.82.

Household Benchmarks													
Locality	Housing Occupancy	Housing Density	Single Family Ratio	Housing Stock Age Comparison	Owner Occupation Ratio	Owner Occupied Value Rank	Median Owner Occupied Value Comparison	Homeowners with a Mortgage	Median Rent Comparison	Rent/Income Ratio > 30%	In-Migration	Hosehold Score	Hosehold Rank
Williamson County, Texas	88.5%	172	71.3%	29	68.9%	28	227,100	72.7%	1,172	44.8%	8.9%		
Johnson County, Kansas	92.9%	510	66.6%	31	68.9%	17	232,500	71.6%	1,020	40.4%	6.5%		
Las Vegas, Nevada	85.4%	1,907	61.3%	29	51.8%	28	209,700	71.6%	1,024	52.0%	5.3%		
Washington County, Oregon	92.6%	317	60.5%	16	60.8%	33	331,700	74.9%	1,183	48.5%	6.9%		
Anne Arundel County, Maryland	91.5%	541	61.5%	25	74.3%	36	346,000	75.2%	1,579	46.2%	7.1%		
Arapahoe County, Colorado	93.5%	315	56.3%	10	62.6%	18	292,900	76.6%	1,218	52.6%	10.5%		
Ramsey County, Minnesota	94.6%	1,450	53.3%	34	59.3%	37	208,700	67.5%	934	49.9%	8.8%		
Bristol County, Massachusetts	91.7%	426	54.7%	37	62.6%	15	280,400	68.8%	855	47.8%	5.0%		
Long Beach, California	93.9%	3,513	40.4%	38	40.0%	43	476,400	75.3%	1,198	54.3%	4.0%		
Raleigh, North Carolina	86.7%	1,426	46.9%	23	51.9%	18	225,000	79.1%	1,010	46.9%	7.2%		
Williamson County, Texas	4	6	10	5	5	5	4	6	3	9	1	58	5
Johnson County, Kansas	4	2	8	7	5	2	3	7	7	10	7	62	7
Las Vegas, Nevada	10	9	5	5	9	5	6	8	5	1	8	71	9
Washington County, Oregon	3	4	4	2	3	7	8	4	4	5	6	50	2
Anne Arundel County, Maryland	1	1	6	4	7	8	9	3	5	8	5	57	4
Arapahoe County, Colorado	6	5	3	1	1	3	2	1	2	2	4	30	1
Ramsey County, Minnesota	8	8	2	8	4	9	7	9	9	3	1	68	8
Bristol County, Massachusetts	2	3	3	9	1	1	1	10	10	6	9	55	3
Long Beach, California	7	10	9	10	10	10	10	5	1	4	10	86	10
Raleigh, North Carolina	8	7	7	3	8	3	5	2	8	7	3	61	6
Virginia Beach	90.7%	743	54.4%		63.8%		267,300	76.5%	1,296	51.5%	8.9%		

HOUSEHOLD NARRATIVE

Locality and MSA population were the two key factors for determining the benchmark localities. The objective was to find slightly larger localities within similar sized MSAs. By choosing slightly larger localities, the City of Virginia Beach would be able to see potential future obstacles for growth, and high impact growth initiatives by other localities could be researched. Benchmarks could identify strengths and weaknesses, and lead to proactive initiatives and problematic resolutions. While optimism was used in finding a similar locality, the number of factors considered made each locality unique; consequently, a measurement scaling system was developed.

The seven broad household categories for measuring similarity included occupancy, density, stock, ownership, valuation, rent, and in-migration. All data came from the 2017 American Community Survey (ACS). The localities slightly larger than Virginia Beach and chosen as benchmarks were Williamson County, TX, Johnson County, KS, Las Vegas, NV, Washington County, OR, Anne Arundel County, MD, Arapahoe County, CO, Ramsey County, MN, Bristol County, MA, Long Beach, CA, and Raleigh, NC. Unintentionally, but beneficial, the localities chosen were spatially spread across the nation.

Occupancy rates are useful to measure potential rental properties and population growth possibilities. To determine the occupancy rate, the ACS housing unit count and number of housing units occupied were tabulated (see table below). The number of 2017 Virginia Beach housing units was 185,000 (see the table above). The locality most similar to Virginia Beach's housing units was Williamson County, TX. With more units than Virginia Beach, it had 192,000 units. The second most similar locality was Long Beach, CA. Remarkably, the locality is significantly land constrained. In total, Long Beach is comprised of 50 square

miles. In comparison, Virginia Beach has 743; yet, Long Beach has a similar number of housing units. This implies the housing units are more densely consolidated within the city boundaries. This could be one substantiating Public Safety benchmark usage factor. Long Beach has 176,000 housing units. The least similar locality was Las Vegas, NV. It had 259,000 housing units and exceeded Virginia Beach by 74,000.

To calculate the occupancy ratio, the 2017 ACS housing occupancy unit tally was used. The number of Virginia Beach occupied housing units was 168,000. Correlating highly with the number of housing units, the locality with the most similar occupancy number was Williamson County, TX. It had 170,000 housing units. The second most similar was Long Beach, CA (again, substantiating Public Safety’s usage and correlating strongly with the number of units). It had 165,000 occupied housing units. The least similar locality was Arapahoe County, CO. It had 235,000 occupied housing units and exceeded Virginia Beach by 67,000.

Using these two factors, the housing occupancy rate was derived. The 2017 Virginia Beach housing occupancy rate was 90.7%. The locality with the most similar ratio was Anne Arundel County, MD. It had a ratio of

91.5%. While the number of housing and occupied units were not highly similar with Virginia Beach, the occupancy rate was. Depending upon the benchmark need, the occupancy table demonstrates its trifold usefulness. The second most similar locality was Bristol County, MA. It had a ratio of 91.7%. The least similar locality was Las Vegas, NV. Its ratio was 85.4% and is likely attributable to the owner occupancy ratio. For instance, Virginia Beach’s owner occupancy ratio is 63.8% and Las Vegas’ ratio is the lowest amongst the benchmarks at 51.8%. When the Great Recession occurred, Las Vegas was one of the hardest hit localities in the nation. The housing market collapsed, and unemployment peaked at 14.8%. Las Vegas’ unemployment peak was the highest amongst all the benchmarks, and it took 7 years to recover to a pre-recession unemployment rate of 7.3. Foreclosures and out-migration likely caused the lowest occupancy rate amongst the benchmarks.

<i>Locality</i>	Housing Units	Occupied Housing Units	Occupancy Rate
Williamson County, Texas	192,242	170,051	88.5%
Johnson County, Kansas	241,416	224,228	92.9%
Las Vegas, Nevada	259,374	221,584	85.4%
Washington County, Oregon	229,687	212,778	92.6%
Anne Arundel County, Maryland	224,549	205,395	91.5%
Arapahoe County, Colorado	251,714	235,263	93.5%
Ramsey County, Minnesota	220,442	208,504	94.6%
Bristol County, Massachusetts	235,474	215,903	91.7%
Long Beach, California	175,632	165,001	93.9%
Raleigh, North Carolina	203,936	176,870	86.7%
Williamson County, Texas			4
Johnson County, Kansas			4
Las Vegas, Nevada			10
Washington County, Oregon			3
Anne Arundel County, Maryland			1
Arapahoe County, Colorado			6
Ramsey County, Minnesota			8
Bristol County, Massachusetts			2
Long Beach, California			7
Raleigh, North Carolina			8
Virginia Beach	184,999	167,731	90.7%

The median ratio is 90.7% and belongs to Virginia Beach.

As described in the occupancy rate narrative above, housing density can disguise statistical inferences; moreover, housing density can create unique socio-economic conditions. To determine housing density, the ACS housing unit count and locality square mileage were tabulated. Virginia Beach’s geographic land size is 249 square miles (see the table below). The locality with the most similar square mileage is Ramsey County, MN. It has 159 square miles and is 90 square miles smaller than Virginia Beach. Second most similar is Raleigh, NC (again, substantiating Public Safety’s usage). It has 143 square miles and is 106 square miles smaller than Virginia Beach. The least similar locality is Williamson County, TX. It’s very large at 1,118 square miles exceeding Virginia Beach by 869 square miles or 4.5 times larger.

Using the housing units and the locality’s square mileage, average housing density was derived. In 2017, Virginia Beach’s housing density was 743 housing units per square mile (see the adjacent table). The locality with the most similar ratio was Anne Arundel County, MD. Its density was smaller at 541 units per square mile. The second most similar was Johnson County, KS. It too was smaller and was 510 units per square mile. The least similar locality was Long Beach, CA (demonstrating Public Safety’s divergence of housing unit similarity and density dissimilarity). It has 3,513 units per square mile and is defined by its constrained land mass (50 square miles).

The median housing density is 541 per square mile and belongs to Anne Arundel County, MD. Recall, Anne Arundel County, MD had the most similar density configuration. While density similarity exists, Virginia Beach has 202 more homes per square mile than the median. While the similarity ranking is defined by measuring the factor and comparing to determine the closeness of the measurements, this demonstrates similarity rankings don’t necessarily mean close measurement similarity.

<i>Locality</i>	Housing Units	Geographic land size (square miles)	Housing Density (square mile)
Williamson County, Texas	192,242	1,118	172
Johnson County, Kansas	241,416	473	510
Las Vegas, Nevada	259,374	136	1,907
Washington County, Oregon	229,687	724	317
Anne Arundel County, Maryland	224,549	415	541
Arapahoe County, Colorado	251,714	798	315
Ramsey County, Minnesota	220,442	152	1,450
Bristol County, Massachusetts	235,474	553	426
Long Beach, California	175,632	50	3,513
Raleigh, North Carolina	203,936	143	1,426
Williamson County, Texas			6
Johnson County, Kansas			2
Las Vegas, Nevada			9
Washington County, Oregon			4
Anne Arundel County, Maryland			1
Arapahoe County, Colorado			5
Ramsey County, Minnesota			8
Bristol County, Massachusetts			3
Long Beach, California			10
Raleigh, North Carolina			7
Virginia Beach	184,999	249	743

To determine housing stock type, the ratio of single-family units was benchmarked. To calculate the multifamily ratio, simply subtract the single-family ratio from one. The number of 2017 Virginia Beach single family units was 101,000 (see the table below). The locality with the most similar number of single-family units is Raleigh, NC (again, substantiating Public Safety’s usage). It had 96,000 single-family units

and has 5,000 fewer homes than Virginia Beach. Second most similar was Ramsey County, MN. It had 117,000 units and exceeded Virginia Beach by 16,000. The least similar locality was Johnson County, KS. It was larger and had 161,000 units. The contributing factor for the difference is likely the size of the county. It has 473 square miles and is nearly twice the size of Virginia Beach (249 square miles). More land enables housing sprawl; moreover, Virginia Beach’s green line hinders sprawl.

Using total housing units and single-family units, the single-family ratio was derived. The 2017 Virginia Beach single family ratio was 54.4%. This implies 45.6% of units are multifamily. The locality with the most similar ratio is Bristol County, MA. Its ratio is slightly higher at 54.7%. The second most similar is Ramsey County, MN. Its ratio is smaller than Virginia Beach at 53.3%. The least similar locality is Williamson County, TX. Its ratio is 71.3% and is likely attributable to the availability of land and lower valuations. Williamson County’s median home value is \$227,000 and is enabled by the low density and available land. This causes home prices to be less expensive and enables more single-family homeowners. In Virginia Beach, land availability is constrained causing higher valuations. The median home value in Virginia Beach is \$267,300

The median single-family ratio is 56.3% and belongs to Arapahoe County, CO. Virginia Beach is 1.9

percentage points below the median and is the fourth lowest rate. This indicates the City has a higher ratio of multifamily units than seven other localities.

The age composition of homes assists with evaluating the housing stock. For instance, if the housing stock is older and programs have been developed to maintain older units, benchmark policy and program reviews can render potential solutions for mitigating blight.

To derive the housing stock age comparison, the ratio of single-family detached housing units for each two decennial period was benchmarked. Two periods deviate from the time period. All houses built in

<i>Locality</i>	<i>Housing Units</i>	<i>Single Family</i>	<i>Single Family Ratio</i>
Williamson County, Texas	192,242	137,068	71.3%
Johnson County, Kansas	241,416	160,783	66.6%
Las Vegas, Nevada	259,374	158,996	61.3%
Washington County, Oregon	229,687	138,961	60.5%
Anne Arundel County, Maryland	224,549	138,098	61.5%
Arapahoe County, Colorado	251,714	141,715	56.3%
Ramsey County, Minnesota	220,442	117,496	53.3%
Bristol County, Massachusetts	235,474	128,804	54.7%
Long Beach, California	175,632	70,955	40.4%
Raleigh, North Carolina	203,936	95,646	46.9%
Williamson County, Texas			10
Johnson County, Kansas			8
Las Vegas, Nevada			5
Washington County, Oregon			4
Anne Arundel County, Maryland			6
Arapahoe County, Colorado			3
Ramsey County, Minnesota			2
Bristol County, Massachusetts			1
Long Beach, California			9
Raleigh, North Carolina			7
Virginia Beach	184,999	100,639	54.4%

2000 and onward represent a 17-year period, and the period prior to 1940 is indefinite. Between 2000 and 2017, Virginia Beach built 25,000 single-family detached homes (see the table below). The locality with the most similar number of housing units built during this period is Ramsey County, MN. It had 19,000 units 6,000 fewer units than Virginia Beach. Second most similar was Bristol County, MA. It too had fewer units. It has 18,000 units which is 7,000 fewer than Virginia Beach. The least similar locality is Williamson County, TX. It is larger and had 88,000 units. This locality has already surpassed its peak building period and has three statistical years to add more units.

Locality	Built ≥ 2000	Built ≥ 2000 Ratio	Built 1980 - 1999	Built 1980 - 1999 Ratio	Built 1960 - 1979	Built 1960 - 1979 Ratio	Built 1940 - 1959	Built 1940 - 1959 Ratio	Built ≤ 1939	Built ≤ 1939 Ratio	Housing Stock Age Comparison	Housing Stock Age Rank
Williamson County, Texas	87,730	48.4%	70,143	38.7%	16,724	9.2%	3,844	2.1%	2,822	1.6%		
Johnson County, Kansas	86,110	36.5%	86,110	36.5%	60,687	25.7%	30,900	13.1%	6,906	2.9%		
Las Vegas, Nevada	68,954	27.3%	124,738	49.3%	44,164	17.5%	13,993	5.5%	1,063	0.4%		
Washington County, Oregon	49,303	22.1%	86,417	38.7%	66,562	29.8%	15,568	7.0%	5,544	2.5%		
Anne Arundel County, Maryland	38,343	17.4%	74,744	33.9%	62,671	28.4%	33,661	15.3%	11,222	5.1%		
Arapahoe County, Colorado	46,853	19.0%	93,685	38.1%	80,972	32.9%	20,199	8.2%	4,302	1.7%		
Ramsey County, Minnesota	18,666	8.5%	42,850	19.6%	56,824	26.0%	43,022	19.7%	57,566	26.3%		
Bristol County, Massachusetts	17,762	7.5%	46,159	19.6%	49,397	21.0%	36,675	15.6%	80,993	34.4%		
Long Beach, California	6,938	4.0%	23,341	13.4%	46,601	26.8%	63,772	36.7%	33,089	19.0%		
Raleigh, North Carolina	64,781	33.3%	73,059	37.5%	37,077	19.0%	13,913	7.1%	1,997	1.0%		
Williamson County, Texas		10		1		10		6		2	29	5
Johnson County, Kansas		9		5		6		5		6	31	7
Las Vegas, Nevada		7		6		9		4		3	29	5
Washington County, Oregon		5		1		2		3		5	16	2
Anne Arundel County, Maryland		1		7		3		7		7	25	4
Arapahoe County, Colorado		2		3		1		1		3	10	1
Ramsey County, Minnesota		3		8		5		9		9	34	8
Bristol County, Massachusetts		4		8		7		8		10	37	9
Long Beach, California		6		10		4		10		8	38	10
Raleigh, North Carolina		8		4		8		2		1	23	3
Virginia Beach	25,468	13.9%	77,056	42.2%	63,512	34.8%	14,690	8.0%	1,997	1.1%		

Using the number of housing units built in 2000 or later and total single-family detached units over the entire time horizon, the single-family detached ratio for the period was derived. The 2017 Virginia Beach ratio was 13.9%. The locality with the most similar ratio was Anne Arundel County, MD. Its ratio was higher than Virginia Beach at 17.4%. The second most similar was Arapahoe County, CO. Its ratio of 19.0% was also higher than Virginia Beach. As anticipated, the least similar locality was Williamson County, TX. Its ratio was 48.4% sustaining the notion of high contemporary growth.

For the two-decennial period between 1980 and 1999, Virginia Beach new single-family detached housing unit construction peaked at 77,000. The locality with the most similar number of housing units built was Anne Arundel County, MD. Like Virginia Beach, this was Anne Arundel's peak construction period. 75,000 units were built. Second most similar was Raleigh, NC. It too experienced its construction peak. 73,000 units were built. The least similar locality was Long Beach, CA. It was much smaller at 23,000. Given the high density discussed earlier, this indicates land availability may have hindered new construction.

For this period, the ratio of new Virginia Beach single-family detached homes was 42.2%. The localities with the most similar ratios were Washington County, OR and Williamson County, TX. The ratios were both 38.7%. The least similar locality was anticipatedly Long Beach, CA. Its ratio was 13.4% indicating low contemporary growth subject to land constraints.

For the two-decennial period between 1960 and 1979, Virginia Beach had another robust construction period for new single-family detached housing at 63,500. The locality with the most similar number of housing units was Anne Arundel County, MD. Interestingly, Anne Arundel's two most robust construction periods are the same as Virginia Beach (1960 – 1999). It had slightly fewer units than Virginia Beach with 62,700. Second most similar was Johnson County, KS. It added 61,600 units. Since 1940, this locality has experienced good steady growth for eight decades. The least similar locality was Williamson County, TX. It was much smaller at 17,000, but this would be Williamson's catalyst for its high growth period between 1980 and 2017.

For this period, the ratio of new Virginia Beach single-family detached homes was 34.8%. The localities with the most similar ratio was Arapahoe County, CO. The ratio was 32.9%. Like Virginia Beach and Anne Arundel, Arapahoe County began its most robust two period growth between 1960 and 1999. The second most similar locality ratio was Washington County, OR at 29.8. Washington's six decennial growth was initiated in this two-decennial period. The least similar locality was Williamson County, TX. Its ratio was 9.2%.

For the two-decennial period between 1940 and 1959, Princess Anne County welcomed its first subdivision. Aragona Village would become the catalyst for the next forty years of robust residential development. During this period, Princess Anne experienced an influx of 15,000 new single-family detached homes. The locality with the most similar number of housing units built was Las Vegas, NV. It had slightly fewer units than Virginia Beach with 15,000. Second most similar was Raleigh, NC. It too had fewer units than Princess Anne. The least similar locality was Long Beach, CA. Its growth was much larger at 81,000. This was Long Beach's most robust growth period.

For the period, the ratio of new Princess Anne County single-family detached homes was 8.0%. The locality with the most similar ratio was Arapahoe County, CO. The ratio was slightly higher than Virginia Beach at 8.2%. The second most similar locality ratio was Raleigh, NC at 7.1. Anticipatedly, the least similar locality was Long Beach, CA. During its growth period, its ratio was 36.7%.

For the period prior to 1940, Princess Anne County unsuspectedly awaited its future World War II military presence and its invigorating demand for housing. The county was largely comprised of farms and a small developing oceanfront resort. Princess Anne constructed 2,000 new single-family detached homes. The locality with the most similar number of new housing units was Raleigh, NC. A rarity in the benchmark study, it had the same number of new units as Princess Anne. Second most similar was Williamson County, TX. It had more units than Princess Anne (3,000). The least similar locality was Bristol County, MA. It was much larger at 81,000. An older locality, this was Bristol County's most robust growth period.

The ratio of new Princess Anne single-family detached homes was 1.1%. The locality with the most similar ratio was Raleigh, NC. The ratio was slightly lower than Virginia Beach at 1.0%. The second most similar locality ratio was Washington County, OR at 2.5. As expected, the least similar locality was Bristol County, MA. During its growth period, its ratio was 34.4%.

Over the entire time horizon, the locality most similar to Virginia Beach was Arapahoe County, CO. Its average rank per time period was 2.0. The construction time cycle follows Virginia Beach closely. The peak construction period was between 1980 and 1999; the preceding period was robust; the period between 1904 and 1959 began to show signs of; prior to 1940, very modest growth occurred; and after 2000, construction showed signs of growth decline. The second most similar locality was Washington County, OR. Its average rank per time period was 3.2. It too followed the same construction trend. The most dissimilar locality was Long Beach, CA. Its average rank per time period was 7.6. Its most robust growth periods were prior to 1960 and declined at increasing rates between 1960 and 2017.

The City of Virginia Beach owner occupation ratio is 63.8% (see the adjacent table). The two most similar benchmark ratios are Bristol County, MA and Arapahoe County, CO. Both ratios are 62.6 and is lower than Virginia Beach. The least similar locality is Long Beach, CA. Its ratio was 40.0% indicating a high ratio of rentals/vacancies.

To determine the ratio of homeowner occupation, the ACS data was used. While the table exhibits owner occupation of single-family homes (see the adjacent table), the residual ratio represents renter occupation and vacancies.

It's useful to analyze the owner occupation ratios. Counterintuitively, it helps the City of Virginia Beach identify the number of single-family rentals. While there are many conscientious landlords willing to invest in their properties, there are also some willing to rent without maintenance or with minimal upkeep investments. In Virginia Beach, 63.8% of homes are owner occupied and implies 36.2% are a combination of rental properties and vacancies. The most similar localities are Arapahoe County, CO and Bristol County, MA. Because Arapahoe is also very similar in its new construction cycle, there appears to be a good correlation with Virginia Beach. The least similar locality is Long Beach, CA. Because Long Beach's median home value is the highest of the benchmarks (\$476,400) and the rent to income ratio greatly exceeds the 30% threshold (54.3%), the market seems to be conducive for rental investments. Residents likely cannot afford to purchase and are forced to rent; consequently, housing has probably evolved into a renter's market.

<i>Locality</i>	Owner Occupation Ratio
Williamson County, Texas	68.9%
Johnson County, Kansas	68.9%
Las Vegas, Nevada	51.8%
Washington County, Oregon	60.8%
Anne Arundel County, Maryland	74.3%
Arapahoe County, Colorado	62.6%
Ramsey County, Minnesota	59.3%
Bristol County, Massachusetts	62.6%
Long Beach, California	40.0%
Raleigh, North Carolina	51.9%
Williamson County, Texas	5
Johnson County, Kansas	5
Las Vegas, Nevada	9
Washington County, Oregon	3
Anne Arundel County, Maryland	7
Arapahoe County, Colorado	1
Ramsey County, Minnesota	4
Bristol County, Massachusetts	1
Long Beach, California	10
Raleigh, North Carolina	8
Virginia Beach	63.8%

Owner occupied home valuation benchmarks aid in determining affordability dynamics. The valuation ranges are provided by the ACS.

In Virginia Beach, the number of owner-occupied homes with a value less than \$150,000 is 11,000 (see the table below). The most similar locality is Bristol County, MA. It has 12,000 homes. The second most similar locality is Washington County, OR. It has 10,000 homes. The least similar locality is Las Vegas, NV.

It has 32,000 homes. This is likely an outcome associated with the Great Recession’s effect upon the locality’s housing market.

Locality	Owner Occupied Value < \$150,000	Owner Occupied Value < \$150,000 Ratio	Owner Occupied Value \$150,000 - \$299,999	Owner Occupied Value \$150,000 - \$299,999 Ratio	Owner Occupied Value \$300,000 - \$499,999	Owner Occupied Value \$300,000 - \$499,999 Ratio	Owner Occupied Value \$500,000 - \$999,999	Owner Occupied Value \$500,000 - \$999,999 Ratio	Owner Occupied Value > \$999,999	Owner Occupied Value > \$999,999 Ratio	Owner Occupied Value Score	Owner Occupied Value Rank
Williamson County, Texas	22,221	19.0%	63,139	53.9%	26,752	22.8%	4,538	3.9%	560	0.5%		
Johnson County, Kansas	26,269	17.0%	79,961	51.7%	34,276	22.2%	11,694	7.6%	2,375	1.5%		
Las Vegas, Nevada	31,856	27.8%	53,411	46.6%	21,870	19.1%	5,945	5.2%	1,626	1.4%		
Washington County, Oregon	10,407	8.0%	43,944	34.0%	53,024	41.0%	20,255	15.7%	1,746	1.3%		
Anne Arundel County, Maryland	10,139	6.6%	49,737	32.6%	55,549	36.4%	31,957	20.9%	5,194	3.4%		
Arapahoe County, Colorado	17,091	11.6%	59,587	40.4%	48,020	32.6%	17,953	12.2%	4,729	3.2%		
Ramsey County, Minnesota	31,109	25.1%	64,334	52.0%	20,999	17.0%	6,671	0.6%	609	0.5%		
Bristol County, Massachusetts	12,340	9.1%	64,986	48.1%	45,296	33.5%	11,027	8.2%	1,495	1.1%		
Long Beach, California	3,401	5.2%	8,208	12.4%	24,117	36.5%	25,931	39.3%	4,342	6.6%		
Raleigh, North Carolina	19,736	21.5%	43,381	47.2%	19,067	20.8%	8,370	9.1%	1,313	1.4%		
Williamson County, Texas				7			1		7		28	5
Johnson County, Kansas				6			3		4		17	2
Las Vegas, Nevada				10			6		5		28	5
Washington County, Oregon				3			10		6		33	7
Anne Arundel County, Maryland				4			7		9		36	8
Arapahoe County, Colorado				1			2		2		18	3
Ramsey County, Minnesota				9			9		8		37	9
Bristol County, Massachusetts				2			4		3		15	1
Long Beach, California				5			10		10		43	10
Raleigh, North Carolina				8			5		1		18	3
Virginia Beach	11,495	10.7%	52,970	49.5%	29,604	27.6%	10,941	10.2%	2,086	1.9%		

The benchmark ranks are based upon the ratio of homes within the price range. Virginia Beach’s ratio of homes valued less than \$150,000 is 10.7%. The most similar locality is Arapahoe County, CO. Its ratio is 11.6%. The second most similar locality is Bristol County, MA and is an unexpected occurrence, because the anticipated rate was for it to be a lower ratio. Typically, northeastern locality cost of living and house values greatly exceed southern and midwestern localities. Its ratio is 9.1%. The least similar locality is Las Vegas. Its ratio is 27.8%. Again, this is likely attributable to the housing collapse during the Great Recession.

In Virginia Beach, the number of owner-occupied homes with a value greater than \$150,000 and less than \$300,000 is 53,000. The most similar locality is Las Vegas, NV. It has 53,400 homes. The second most similar locality is Anne Arundel County, MD. It has 50,000 homes. The least similar locality is Long Beach, CA. It has 8,000 homes. Affordable houses are not abundant in this locality, and as discussed above, the median housing price is the highest of any of the benchmark communities.

Virginia Beach’s ratio of homes valued in this range is 49.5% and represents the City’s highest ratio. The most similar locality ratio is Bristol County, MA, and like Virginia Beach, it represents its largest valuation category. Its ratio is 48.1%. The second most similar locality is Raleigh, NC. Its ratio is 47.2%. This is also the locality’s largest valuation category. The least similar locality is again Long Beach, CA. Its ratio is 12.4%.

In Virginia Beach, the number of owner-occupied homes with a value greater than \$299,999 and less than \$500,000 is 30,000. The most similar locality is Williamson County, TX. It has 27,000 homes. The second most similar locality is Long Beach, CA. The price range represents the lower end of more common

valuations within the locality. It has 24,000 homes. The least similar locality is Anne Arundel County, MD. It has 55,000 homes. This is likely similar to Long Beach, CA and its juxtaposition to Washington, DC and the high cost of living dynamics.

Virginia Beach's ratio of homes valued in this range is 27.6%. The most similar locality is Williamson County, TX. Its ratio is 22.8%. The second most similar locality is Arapahoe County, CO. Its ratio is 32.6%. The least similar locality is Washington County, OR. Its ratio is 41.0% and is the highest ratio for the county. Again, the least similar localities seem to correlate with a high cost of living.

In Virginia Beach, the number of owner-occupied homes with a value greater than \$499,999 and less than \$1,00,000 is 10,900. The most similar locality is Bristol County, MA. It has 11,000 homes. The second most similar locality is Johnson County, KS. It has 11,700 homes. The least similar locality is Anne Arundel County, MD. It has 32,000 homes.

Virginia Beach's ratio of homes valued in this range is 10.2%. The most similar locality is Raleigh, NC. Its ratio is 9.1%. The second most similar locality is Arapahoe County, CO. Its ratio is 12.2%. The least similar locality is Long Beach, CA. Its ratio is 39.3% and is the highest ratio for the city.

In Virginia Beach, the number of owner-occupied homes with a value greater than \$999,999 is 2,100 and represents the smallest categorical value. The most similar locality is Johnson County, KS. It has 2,400 homes and also represents the locality's smallest category. The second most similar locality is Washington County, OR representing its smallest category. It has 1,700 homes. The least similar locality is Anne Arundel County, MD. It has 5,000 homes.

Virginia Beach's ratio of homes valued in this range is 1.9%. The most similar locality is Johnson County, KS. Its ratio is 1.5%. The second most similar localities are Las Vegas, NV and Raleigh, NC. The ratio is 1.4%. The least similar locality is Long Beach, CA. Its ratio is 6.6%. Interestingly, it has more +\$1.0 million homes than affordable ones.

Overall, the most similar valuation locality is Bristol County, MA. On average, Bristol scored 3.0 per valuation category. Its valuation trend matches Virginia Beach. The valuation maximizes within the \$150,000 to \$299,999 category and trends downward to the \$1.0 million homes. The second most similar locality is Johnson County, KS. Its average valuation score per category is 3.4. It, too, trends like Virginia Beach and Bristol. The least similar locality is Long Beach, CA. Its trend is very different. Its peak valuation category is between \$500,000 and \$999,999 and descends to more affordable homes. Its average rank per category is 8.6.

As an additional measure to legitimize the home value ratio categories, owner-occupied median values were benchmarked. The median value in Virginia Beach is 267,300 (see the table below). This correlates with the largest cohort price range of \$150,000 - \$299,999 which represented 49.5% of all owner-occupied homes. The most similar locality is Bristol County, MA. Its median value is 280,400. Like Virginia Beach, the median value is within the largest value range cohort (49.1%). In addition, this locality ranked most similar to Virginia Beach's valuation categories. The second most similar median value is Arapahoe County, CO. Its median value is \$292,900. Again, this falls within the county's largest value range cohort. The least similar locality is Long Beach, CA. Its median value is \$476,400. This is attributable to the number of homes valuations above \$300,000. 82.4% of Long Beach's homes are valued above \$300,000.

In a review of the median benchmark value, it is \$267,300 and belongs to Virginia Beach.

Measuring homeowner indebtedness reflects a large financial component for determining resident discretionary spending capabilities and retirement security dynamics. In Virginia Beach, 76.5% of homeowners have a mortgage (see the table below). The locality most similar to Virginia Beach is Arapahoe County, CO. 76.6% of homeowners have a mortgage. This locality continued to trend with Virginia Beach's housing dynamics. The second most similar locality is Raleigh, NC. It had a rate of 79.1%. The least similar locality is Bristol County, MA. Its rate is 68.8%. It was 7.7 percentage points below Virginia Beach.

Locality	Homeowners with a Mortgage
Williamson County, Texas	72.7%
Johnson County, Kansas	71.6%
Las Vegas, Nevada	71.6%
Washington County, Oregon	74.9%
Anne Arundel County, Maryland	75.2%
Arapahoe County, Colorado	76.6%
Ramsey County, Minnesota	67.5%
Bristol County, Massachusetts	68.8%
Long Beach, California	75.3%
Raleigh, North Carolina	79.1%
Williamson County, Texas	6
Johnson County, Kansas	7
Las Vegas, Nevada	8
Washington County, Oregon	4
Anne Arundel County, Maryland	3
Arapahoe County, Colorado	1
Ramsey County, Minnesota	9
Bristol County, Massachusetts	10
Long Beach, California	5
Raleigh, North Carolina	2
Virginia Beach	76.5%

Locality	Median Owner Occupied Home Value
Williamson County, Texas	227,100
Johnson County, Kansas	232,500
Las Vegas, Nevada	209,700
Washington County, Oregon	331,700
Anne Arundel County, Maryland	346,000
Arapahoe County, Colorado	292,900
Ramsey County, Minnesota	208,700
Bristol County, Massachusetts	280,400
Long Beach, California	476,400
Raleigh, North Carolina	225,000
Williamson County, Texas	4
Johnson County, Kansas	3
Las Vegas, Nevada	6
Washington County, Oregon	8
Anne Arundel County, Maryland	9
Arapahoe County, Colorado	2
Ramsey County, Minnesota	7
Bristol County, Massachusetts	1
Long Beach, California	10
Raleigh, North Carolina	5
Virginia Beach	267,300

The median ratio is 74.9% and belongs to Washington County, OR. Virginia Beach is 1.6 percentage points above the median and the third highest rate. This indicates Virginia Beach residents carry more housing debt and have less discretionary spending capabilities.

Like homeowners with mortgages, rental rates also affect the cost of living and domicile choices. The median rental rates were benchmarked to address this basic need. In Virginia Beach, the 2017 median rental rate was \$1,296 (see the table below). Given the home valuations in Long Beach, CA, it is surprising to find it to be the most similar locality. Its rental rate is \$1,198 and lower than Virginia Beach. Because the cost of living is less in Virginia Beach, and rental rates are higher than Long Beach's high home values, questions arise. Are the Virginia Beach rates sustainable? Are the Long Beach high home value rental rates undervalued? Or, are rental rates subject to other factors? In a review of Long Beach and Virginia Beach's median household incomes, income is

likely the factor affecting rents. Long Beach’s median income is more than \$10,000 below Virginia Beach and likely determines the demand for rental property. Landholders choose between vacancy properties and revenue generation opportunities. Most will choose revenue generation. When incomes are low, price (rent) becomes the determining factor for demand.

The second most similar locality is Arapahoe County, CO. Its rental rate is \$1,218. The least similar locality is Bristol County, MA. Again, this is a surprise finding, because the cost of living is typically higher in this area of the country. Its rate is \$855, the lowest of all benchmarks, and is \$441 less than Virginia Beach. Like the Virginia Beach-Long Beach relationship, Bristol’s median household income is about \$10,000 less than Virginia Beach.

The median benchmark rental rate is \$1,172 and belongs to Williamson County, TX. Virginia Beach is \$124 higher than the median and the second highest rate. Of interest, Williamson’s median household income is higher than Virginia Beach. Returning to the earlier question of rental rates, are Virginia Beach’s rental rates sustainable, or are Williamson’s rates underpriced?

Locality	Median Rent
Williamson County, Texas	1,172
Johnson County, Kansas	1,020
Las Vegas, Nevada	1,024
Washington County, Oregon	1,183
Anne Arundel County, Maryland	1,579
Arapahoe County, Colorado	1,218
Ramsey County, Minnesota	934
Bristol County, Massachusetts	855
Long Beach, California	1,198
Raleigh, North Carolina	1,010
Williamson County, Texas	3
Johnson County, Kansas	7
Las Vegas, Nevada	5
Washington County, Oregon	4
Anne Arundel County, Maryland	5
Arapahoe County, Colorado	2
Ramsey County, Minnesota	9
Bristol County, Massachusetts	10
Long Beach, California	1
Raleigh, North Carolina	8
Virginia Beach	1,296

As stated above, while some localities may have high rents, this may be mitigated by high income. To ensure individuals and families do not have to sacrifice other basic needs, the federally determined ratio of 30% or less of income dedicated to rent is considered a financially healthy household. Ratios greater

Locality	Rent/Income Ratio > 30%
Williamson County, Texas	44.8%
Johnson County, Kansas	40.4%
Las Vegas, Nevada	52.0%
Washington County, Oregon	48.5%
Anne Arundel County, Maryland	46.2%
Arapahoe County, Colorado	52.6%
Ramsey County, Minnesota	49.9%
Bristol County, Massachusetts	47.8%
Long Beach, California	54.3%
Raleigh, North Carolina	46.9%
Williamson County, Texas	9
Johnson County, Kansas	10
Las Vegas, Nevada	1
Washington County, Oregon	5
Anne Arundel County, Maryland	8
Arapahoe County, Colorado	2
Ramsey County, Minnesota	3
Bristol County, Massachusetts	6
Long Beach, California	4
Raleigh, North Carolina	7
Virginia Beach	51.5%

than 30% indicate household sacrifices are occurring to meet shelter needs.

In Virginia Beach, the ratio is 51.5% (see the adjacent table). This indicates more than half of Virginia Beach residents are financially distressed. Financial distress can have an adverse effect upon a locality.

The most similar locality is Las Vegas, NV. This locality is an example of financially distressed residents turning to crime. Its crime rate is extremely high but greatly surpasses Virginia Beach. Again, questions arise. If the financially distressed ratio of residents persist, will this increase crime?

The second most similar locality is Arapahoe County, CO. Its ratio is 52.6%. The least similar locality is Johnson County, KS. Its rate (40.4%) is lower than Virginia Beach and is the lowest amongst all benchmarked localities. Despite this, it exceeds the federal standard. In fact, all benchmarks exceed the ratio indicating a national trend may be occurring. Interestingly, Johnson County’s crime rate is lower than Virginia Beach and the other benchmarks. There seems to be a relationship between financial distress and crime.

Locality	In-Migration
Williamson County, Texas	8.9%
Johnson County, Kansas	6.5%
Las Vegas, Nevada	5.3%
Washington County, Oregon	6.9%
Anne Arundel County, Maryland	7.1%
Arapahoe County, Colorado	10.5%
Ramsey County, Minnesota	8.8%
Bristol County, Massachusetts	5.0%
Long Beach, California	4.0%
Raleigh, North Carolina	7.2%
Williamson County, Texas	1
Johnson County, Kansas	7
Las Vegas, Nevada	8
Washington County, Oregon	6
Anne Arundel County, Maryland	5
Arapahoe County, Colorado	4
Ramsey County, Minnesota	1
Bristol County, Massachusetts	9
Long Beach, California	10
Raleigh, North Carolina	3
Virginia Beach	8.9%

The median rent/income ratio is 47.8% and belongs to Bristol County, MA. Virginia Beach is 3.7 percentage points above the median and the fourth highest rate.

Lastly, in-migration of new residents is influenced by several factors including the housing stock, age, valuation, and rental rates. In-migration offsets the natural death rate and supplements the natural birth rate. In Virginia Beach, the decennial in-migration rate was 8.851% or .8851% per annum (see the adjacent table). The most similar locality in-migration rate is in Ramsey County, MN. Its rate is 8.825%. The second most similar locality is Williamson County, TX. Its rate is 8.927%. The least similar locality is Long Beach, CA. Its rate was 4.0%. This is likely attributable to the high cost of living.

The median rate is 7.1% and belongs to Anne Arundel County, MD. Virginia Beach is 1.8 percentage points above the median and has the second highest rate. This indicates the Virginia Beach in-migration rate is higher than nine of the other localities.

Employment Benchmark: Income and Employment Summary

The [Employment](#) table is comprised of two sections. In the upper half employment data aligns with the ten benchmark communities and categorical measurements. The broad employment categories include employment and income measurements.

The lower half uses a simplistic ranking system to determine similarities with the City of Virginia Beach. The rankings are a result of each locality’s data measurement as compared with the City of Virginia Beach. Low ranking numbers indicate strong similarity (i.e. 1 is the most similar, 2 second most similar, etc.). Higher rankings are progressively more dissimilar. With each categorical ranking complete, each locality’s ranking row is summed to derive the cumulative Employment Score. The locality with the lowest score is the most similar (Employment Rank column).

According to the rankings, Arapahoe County, CO is the most similar locality. On average, Arapahoe County scored 2.83 per category. Williamson County, TX was second in similarity, and on average, it scored 3.67 per category. Washington County, OR ranked third. Long Beach, CA was the least similar with an average categorical score of 7.00.



<i>Employment</i>								
<i>Locality</i>	Median Household Income	Income < Poverty Level Ratio	Retail Occupations	Professional Occupations	Military Employment	Labor Participation Rate	Employment Score	Employment Rank
Williamson County, Texas	\$ 79,123	7.0%	11.5%	15.1%	0.2%	69.3%		
Johnson County, Kansas	\$ 81,121	5.6%	10.6%	16.7%	0.05%	72.1%		
Las Vegas, Nevada	\$ 53,159	16.2%	12.0%	12.6%	0.4%	63.6%		
Washington County, Oregon	\$ 74,033	10.3%	11.1%	13.2%	0.05%	68.9%		
Anne Arundel County, Maryland	\$ 94,502	6.1%	10.0%	15.9%	2.7%	70.6%		
Arapahoe County, Colorado	\$ 69,553	9.9%	11.3%	14.7%	0.3%	71.3%		
Ramsey County, Minnesota	\$ 60,301	15.0%	9.9%	11.4%	0.05%	69.3%		
Bristol County, Massachusetts	\$ 62,514	12.2%	12.9%	8.8%	0.05%	65.9%		
Long Beach, California	\$ 58,314	19.1%	9.7%	12.1%	0.1%	65.9%		
Raleigh, North Carolina	\$ 61,505	14.0%	10.5%	17.9%	0.1%	71.2%		
Williamson County, Texas	5	1	2	6	4	4	22	2
Johnson County, Kansas	3	5	6	9	9	4	36	6
Las Vegas, Nevada	9	9	1	2	2	10	33	5
Washington County, Oregon	2	4	4	4	8	7	29	3
Anne Arundel County, Maryland	10	2	8	8	1	1	30	4
Arapahoe County, Colorado	1	2	3	5	3	3	17	1
Ramsey County, Minnesota	7	8	9	3	7	4	38	8
Bristol County, Massachusetts	4	6	4	7	10	8	39	9
Long Beach, California	8	10	10	1	5	8	42	10
Raleigh, North Carolina	6	7	7	10	5	2	37	7
Virginia Beach	\$ 70,500	8.0%	12.0%	12.2%	6.2%	70.7%		

HOUSEHOLD NARRATIVE

The two broad employment categories for measuring similarity include employment and income. All data came from the 2017 American Community Survey (ACS). The localities slightly larger than Virginia Beach and chosen as benchmarks were Williamson County, TX, Johnson County, KS, Las Vegas, NV, Washington County, OR, Anne Arundel County, MD, Arapahoe County, CO, Ramsey County, MN, Bristol County, MA, Long Beach, CA, and Raleigh, NC. Unintentionally, but beneficial, the localities chosen were spatially spread across the nation.

Median household income is useful for determining financial distress, disposable income, and cost of living dynamics. The 2017 Virginia Beach median household income was \$70,000 (see the adjacent table). The locality most similar to Virginia Beach's median household income is Arapahoe County, CO. In the Household narrative, when all eleven categories were considered, Arapahoe was overall the most similar locality; consequently, this similarity was anticipated, because housing dynamics and income typically correlate. Arapahoe's median household income was slightly less than Virginia Beach at \$69,000. The second most similar locality was Washington County, OR. This was a surprise. Washington County is known as Silicon Forest and has several large technology companies and usually offer high wages; however, the higher wages could be offset by lower wage jobs (GINI index measuring wage gap disparity). This could be the case with Washington County. The tech companies include Intel, Pixelworks, Hewlett-Packard, Xerox, and Epson. With these high-tech companies presiding, the expectation was for the locality to have a larger median income. The least similar locality was Anne Arundel County, MD. It had a median income of \$94,000. Given its proximity to Washington, DC, this was expected. Of all the benchmarks, Anne Arundel had the highest median income.

The median household income is \$69,553, and it belongs to Arapahoe County, CO. Virginia Beach is \$947 above the median and is the closest to the median.

Locality	Income < Poverty Level Ratio
Williamson County, Texas	7.0%
Johnson County, Kansas	5.6%
Las Vegas, Nevada	16.2%
Washington County, Oregon	10.3%
Anne Arundel County, Maryland	6.1%
Arapahoe County, Colorado	9.9%
Ramsey County, Minnesota	15.0%
Bristol County, Massachusetts	12.2%
Long Beach, California	19.1%
Raleigh, North Carolina	14.0%
Williamson County, Texas	1
Johnson County, Kansas	5
Las Vegas, Nevada	9
Washington County, Oregon	4
Anne Arundel County, Maryland	2
Arapahoe County, Colorado	2
Ramsey County, Minnesota	8
Bristol County, Massachusetts	6
Long Beach, California	10
Raleigh, North Carolina	7
Virginia Beach	8.0%

Another measure of importance is a locality’s poverty rate. As described above, all benchmarks share good median incomes, but at the lower end of the spectrum are individuals living below the poverty line. The number of 2017 Virginia Beach residents with incomes less than the poverty rate is 36,000. While the number of residents living in poverty is high, it is the third lowest amongst the benchmarks. The most similar locality is Anne Arundel County, MD. The number of impoverished individuals is 35,000. The second most similar locality is Williamson County, TX. It has 38,000 impoverished. The least similar locality is Las Vegas, NV. It has 123,000 impoverished.

Virginia Beach’s poverty rate is 8.0% and is the fourth lowest. The most similar locality is Williamson County, TX. Its poverty rate is 7.0% and is the third lowest amongst the benchmarks. The second most similar localities are Anne Arundel County, MD and Arapahoe County, CO. Anne Arundel had a poverty rate of 6.1% and Arapahoe 9.9%. Anne Arundel had the second lowest poverty rate. The least similar locality was Long Beach, CA. It had a poverty rate of 19.1%. Of the ten benchmarks, this locality had the second lowest median household income, and as discussed in the housing section, a very high cost for sheltering. With a high poverty rate, one would assume public safety needs would be greater and would imply this locality may not be a good benchmark for public safety departments.

The median rate for households with incomes below the poverty rate is 12.2% and belongs to Bristol County, MA.

Virginia Beach is 4.2 percentage points below the median.

There are three occupations of importance in Virginia Beach. They are retail, professionals, and the military. The Virginia Beach retail sector employs the third most people; the professionals earn high wages; and the military are a staple for the locality.

Retail jobs support a diverse product line, generate significant tax revenues, and cater to consumers. For all the good retail employees bring to the locality, the wage is the third lowest amongst all NAICS categories. Excluding management staff, this workforce requires a low skill level and usually receives industry specific education within the organization. Because the skill level and wages are low, the retail sector requires a pool of workers willing to accept lower wages. For this reason, retail occupation ratios are benchmarked with the other localities.

In Virginia Beach, there are 26,200 retail workers. The most similar locality is Raleigh, NC. It has 25,600. The second most similar benchmark is Ramsey County, MN. It has 27,000. The least similar locality is Arapahoe County, CO. It has 37,000.

Because retail employment is dependent upon locality and metropolitan population size, it's more useful to review the proportion of retail employment as compared to the total workforce. In Virginia Beach, retail employment represents 12.0% of the locality's workforce (see the adjacent table). The most similar locality is Las Vegas, NV. Its ratio of retail workers is the same as Virginia Beach (12.0%). The second most similar locality is Williamson County, TX. Its ratio is slightly smaller at 11.5%. The most dissimilar locality is Long Beach, CA. While retail exists within the locality, land is constrained and limits the ability to have large retail centers. The locality's square mileage is small and most of the land is utilized as residential. Its land mass (50 square miles) is 1/5 the size of Virginia Beach (249 square miles); moreover, its housing density (3,513) is five times greater than Virginia Beach (743). Long Beach's retail employment ratio is 9.7%.

The median benchmarked retail occupation ratio is 11.1%, and it belongs to Washington County, OR. Virginia Beach is 0.9 percentage points above this and is the eighth highest ratio.

The City of Virginia Beach encourages professionals to reside and work within the locality. Professionals earn high wages, expend regularly within the City, and create occupational synergy. Wages are approximately three times higher than retail, earnings typically go back into the local economy to generate tax revenues, and professionals tend to create employment clusters and attract other like-minded professionals.

<i>Locality</i>	Retail Occupations
Williamson County, Texas	11.5%
Johnson County, Kansas	10.6%
Las Vegas, Nevada	12.0%
Washington County, Oregon	11.1%
Anne Arundel County, Maryland	10.0%
Arapahoe County, Colorado	11.3%
Ramsey County, Minnesota	9.9%
Bristol County, Massachusetts	12.9%
Long Beach, California	9.7%
Raleigh, North Carolina	10.5%
Williamson County, Texas	2
Johnson County, Kansas	6
Las Vegas, Nevada	1
Washington County, Oregon	4
Anne Arundel County, Maryland	8
Arapahoe County, Colorado	3
Ramsey County, Minnesota	9
Bristol County, Massachusetts	4
Long Beach, California	10
Raleigh, North Carolina	7
Virginia Beach	12.0%

In Virginia Beach, there are 26,700 professional workers. The most similar locality is Long Beach, CA. It has 27,300. The second most similar benchmark is Bristol County, MA. It has 25,000. The least similar locality is Johnson County, KS. It nearly doubles Virginia Beach and has 52,000.

In Virginia Beach, 26,700 professionals represent 12.2% of the labor force (see the adjacent table). The most similar locality is Long Beach, CA. It has a ratio of 12.1%. About ten miles north of Long Beach, an area designated as Silicon Beach, hosts a number of tech companies. Escaping the high cost of Silicon Valley, the companies have settled in the Santa Monica, Venice Beach, and Marina del Rey area. Business spillover into neighboring localities is taking place. Some of the spillover is likely affecting Long Beach's professional sector and bolstering professional jobs. The second most similar locality is Las Vegas, NV. Its ratio is 12.6%. The least similar locality is Raleigh, NC. Its ratio is 17.9% and is 5.7 percentage points larger than Virginia Beach. The Research Triangle has a very positive effect upon Raleigh.

The median benchmarked professional occupation ratio is 12.6%, and it belongs to Las Vegas, NV. Virginia Beach is 0.4 percentage points below this and is the most similar to the median.

Locality	Professional Occupations
Williamson County, Texas	15.1%
Johnson County, Kansas	16.7%
Las Vegas, Nevada	12.6%
Washington County, Oregon	13.2%
Anne Arundel County, Maryland	15.9%
Arapahoe County, Colorado	14.7%
Ramsey County, Minnesota	11.4%
Bristol County, Massachusetts	8.8%
Long Beach, California	12.1%
Raleigh, North Carolina	17.9%
Williamson County, Texas	6
Johnson County, Kansas	9
Las Vegas, Nevada	2
Washington County, Oregon	4
Anne Arundel County, Maryland	8
Arapahoe County, Colorado	5
Ramsey County, Minnesota	3
Bristol County, Massachusetts	7
Long Beach, California	1
Raleigh, North Carolina	10
Virginia Beach	12.2%

A few months prior to World War I, Princess Anne County welcomed its first military members. Soldiers settled in the Cape Henry section of the City and developed the Ft Story Army base. During World War II, three additional Naval auxiliary air bases, and two training centers were established. Once the war ended,

Locality	Military Employment
Williamson County, Texas	0.2%
Johnson County, Kansas	0.05%
Las Vegas, Nevada	0.4%
Washington County, Oregon	0.05%
Anne Arundel County, Maryland	2.7%
Arapahoe County, Colorado	0.3%
Ramsey County, Minnesota	0.05%
Bristol County, Massachusetts	0.05%
Long Beach, California	0.1%
Raleigh, North Carolina	0.1%
Williamson County, Texas	4
Johnson County, Kansas	9
Las Vegas, Nevada	2
Washington County, Oregon	8
Anne Arundel County, Maryland	1
Arapahoe County, Colorado	3
Ramsey County, Minnesota	7
Bristol County, Massachusetts	10
Long Beach, California	5
Raleigh, North Carolina	5
Virginia Beach	6.2%

the number of facilities were reduced. Two of the three auxiliary air stations were shuttered (Pungo and Creeds), but the remaining Naval facilities continued to grow in size and scope. In 2017, Virginia Beach hosted 22,000 military members at NAS Oceana, JEB Little Creek-Ft Story, and the Dam Neck Annex. The most similar locality has slightly more than half of Virginia Beach's military presence. It is Anne Arundel County, MD. It has 12,000 military members. The second most similar is Las Vegas, NV. It has 2,000 military members. The least similar locality is Long Beach, CA. It only has 200 military members.

The 22,000 Virginia Beach military members represent 6.2% of the City's total employment (see the adjacent table). The most similar locality is Anne Arundel County, MD. Its ratio is 2.7% and is host to the Naval Academy and Ft Meade. The second most similar locality is Las Vegas, NV. Its ratio is 0.4% and supports Nellis AFB. The least similar locality is Bristol County, MA. Its ratio is a minimal .05%.

To determine these occupational ratios, the labor participation rate is necessary. In addition, the number of residents in the labor force can help determine the type of community benchmarked. For instance, if the number and ratio are low, this could indicate the locality is a haven for

retirees, an impoverished community, or a higher education cluster, where students pursue academic studies.

In Virginia Beach, there are 254,000 residents in the labor force. The most similar labor force is Raleigh, NC. It has 258,000. The second most similar is Long Beach, CA. It has 245,000. The least similar locality is Arapahoe County, CO. It has 350,000.

254,000 Virginia Beach working residents in the labor force yield a labor participation rate of 70.7% (see the adjacent table). The most similar locality is Anne Arundel County, MD. It has a labor participation rate of 70.6%. The second most similar locality is Raleigh, NC. Its rate is 71.2%. The least similar locality is Las Vegas, NV. Its rate is 63.6% and is 7.1 percentage points lower than Virginia Beach.

The median benchmarked labor participation rate is 69.3%, and it belongs to Williamson, TX and Ramsey County, MN. Virginia Beach is 1.4 percentage points above this and has the fourth highest labor participation rate.

Locality	Labor Participation Rate
Williamson County, Texas	69.3%
Johnson County, Kansas	72.1%
Las Vegas, Nevada	63.6%
Washington County, Oregon	68.9%
Anne Arundel County, Maryland	70.6%
Arapahoe County, Colorado	71.3%
Ramsey County, Minnesota	69.3%
Bristol County, Massachusetts	65.9%
Long Beach, California	65.9%
Raleigh, North Carolina	71.2%
Williamson County, Texas	4
Johnson County, Kansas	4
Las Vegas, Nevada	10
Washington County, Oregon	7
Anne Arundel County, Maryland	1
Arapahoe County, Colorado	3
Ramsey County, Minnesota	4
Bristol County, Massachusetts	8
Long Beach, California	8
Raleigh, North Carolina	2
Virginia Beach	70.7%

Mobility Benchmark

The [Mobility](#) table is comprised of two sections. In the upper half mobility data aligns with the ten benchmark communities and categorical measurements. The broad mobility categories include public transit, roadways, and worker vehicle measurements.

The lower half uses a simplistic ranking system to determine similarities with the City of Virginia Beach. The rankings are a result of each locality’s data measurement as compared with the City of Virginia Beach. Low ranking numbers indicate strong similarity (i.e. 1 is the most similar, 2 second most similar, etc.). Higher rankings are progressively more dissimilar. The fixed guideway benefit column is the exception. If the locality had a fixed guideway transit system, it was dissimilar and scored a two versus a one. With each categorical ranking complete, each locality’s ranking row is summed to derive the cumulative Mobility Score. The locality with the lowest score is the most similar (Mobility Rank column).

According to the rankings, Bristol County, MA is the most similar locality. On average, Bristol County scored 2.40 per category. Williamson County, TX was second in similarity, and on average, it scored 2.80 per category. Anne Arundel County, MD ranked third. Long Beach, CA was the least similar with an average categorical score of 8.00.



<i>Mobility</i>							
<i>Locality</i>	Public Transportation Commuters	Fixed Guideway Benefit	Vehicle per Worker Score	Lane Mile Score	VMT Score	Mobility Score	Mobility Rank
Williamson County, Texas	0.8%	No	14	29	26		
Johnson County, Kansas	0.3%	No	22	46	38		
Las Vegas, Nevada	4.2%	No	31	34	38		
Washington County, Oregon	6.4%	No	21	23	14		
Anne Arundel County, Maryland	3.6%	Yes	12	21	29		
Arapahoe County, Colorado	4.4%	Yes	9	28	31		
Ramsey County, Minnesota	6.6%	Yes	28	49	47		
Bristol County, Massachusetts	2.8%	No	14	18	26		
Long Beach, California	6.3%	Yes	37	59	60		
Raleigh, North Carolina	2.0%	No	30	23	21		
Williamson County, Texas	1	1	3	6	3	14	2
Johnson County, Kansas	2	1	6	8	7	24	7
Las Vegas, Nevada	6	1	9	7	7	30	8
Washington County, Oregon	9	1	5	3	1	19	5
Anne Arundel County, Maryland	5	2	2	2	5	16	3
Arapahoe County, Colorado	7	2	1	5	6	21	6
Ramsey County, Minnesota	10	2	7	9	9	37	9
Bristol County, Massachusetts	4	1	3	1	3	12	1
Long Beach, California	8	2	10	10	10	40	10
Raleigh, North Carolina	3	1	8	3	2	17	4
Virginia Beach	0.9%	No					

The three broad mobility categories for measuring similarity include public transit, roadways, and worker vehicle measurements. Some data came from the 2017 American Community Survey (ACS), other data came from localities and state Departments of Transportation. The localities slightly larger than Virginia Beach and chosen as benchmarks were Williamson County, TX, Johnson County, KS, Las Vegas, NV, Washington County, OR, Anne Arundel County, MD, Arapahoe County, CO, Ramsey County, MN, Bristol County, MA, Long Beach, CA, and Raleigh, NC. Unintentionally, but beneficial, the localities chosen were spatially spread across the nation.

Public transportation commuting is useful for determining multi-modal transportation demand, transit dependency, and roadway congestion mitigation policies. The 2017 Virginia Beach transit usage ratio was a very modest 0.9% (see the adjacent table). The locality most similar to Virginia Beach’s usage ratio is Williamson County, TX. It had a ratio of 0.8%. The second most similar locality was Johnson County, KS. Like Virginia Beach, both similar localities do not have a fixed guideway transit system. The least similar locality was Ramsey County, MN. It has a ratio of 6.6%. Given the northern locality’s climactic conditions and the availability of light rail, the expectation for high ridership exists.

The median public transit usage rate is 3.6%, and it belongs to Anne Arundel County, MD. Virginia Beach is 0.9 percentage points below the median and is the third lowest.

Another measure of importance is the number of vehicles available for worker use. It is a determining factor for using public transit. To derive this, the number of workers ≥ 16 years old is needed. In the City of Virginia Beach, the 2017 number of workers was 230,000 (see the table below). The most similar locality with workers is Raleigh, NC. It has 240,000. The second most similar locality is Long Beach, CA. The least similar locality is Arapahoe County, CO. It has 330,000 workers and represents the locality with the most workers.

Locality	Workers ≥ 16 years old	Workers without a Vehicle	Ratio of Workers without a Vehicle	Workers with one Vehicle	Ratio of Workers with one Vehicle	Workers with two Vehicles	Ratio of Workers with two Vehicles	Workers with three or more Vehicles	Ratio of Workers with three or more Vehicles	Vehicles per Worker Score	Vehicle per Worker Rank
Williamson County, Texas	251,021	3,012	1.2%	41,921	16.7%	120,239	47.9%	86,100	34.3%		
Johnson County, Kansas	306,411	3,064	1.0%	50,864	16.6%	151,673	49.5%	100,809	32.9%		
Las Vegas, Nevada	278,365	11,413	4.1%	68,478	24.6%	113,851	40.9%	84,623	30.4%		
Washington County, Oregon	285,954	8,007	2.8%	61,194	21.4%	128,679	45.0%	88,074	30.8%		
Anne Arundel County, Maryland	290,957	4,364	1.5%	46,262	15.9%	126,566	43.5%	113,764	39.1%		
Arapahoe County, Colorado	325,995	7,498	2.3%	64,221	19.7%	144,416	44.3%	109,860	33.7%		
Ramsey County, Minnesota	267,073	10,683	4.0%	63,296	23.7%	120,984	45.3%	72,110	27.0%		
Bristol County, Massachusetts	268,239	9,657	3.6%	51,770	19.3%	113,197	42.2%	93,615	34.9%		
Long Beach, California	217,842	10,456	4.8%	58,817	27.0%	84,958	39.0%	63,392	29.1%		
Raleigh, North Carolina	239,637	5,991	2.5%	62,785	26.2%	111,192	46.4%	59,670	24.9%		
Williamson County, Texas			2		2		8		2	14	3
Johnson County, Kansas			4		4		10		4	22	6
Las Vegas, Nevada			9		8		7		7	31	9
Washington County, Oregon			6		6		3		6	21	5
Anne Arundel County, Maryland			1		5		2		4	12	2
Arapahoe County, Colorado			3		2		1		3	9	1
Ramsey County, Minnesota			8		7		4		9	28	7
Bristol County, Massachusetts			7		1		5		1	14	3
Long Beach, California			10		10		9		8	37	10
Raleigh, North Carolina			5		9		6		10	30	8
Virginia Beach	230,409	3,917	1.7%	41,934	18.2%	101,610	44.1%	82,947	36.0%		

The smallest of Virginia Beach's category of workers and vehicles are workers without a vehicle. In 2017, the number of workers without a vehicle was 3,900. This identifies workers using alternative means of transportation. Half the number of workers with no vehicle use public transit (2,000). This implies the other half may walk, bicycle, carpool, or work from home. The most similar locality with workers and no vehicle is Anne Arundel County, MD. It has 4,400 workers without a vehicle. The second most similar locality is Johnson County, KS. The least similar locality is Las Vegas, NV. It has 11,400 workers without a vehicle.

Because populations differ and unproportionally affect the counts, the rankings are based upon locality ratios. In 2017, the ratio of Virginia Beach workers without a vehicle is 1.7%. The most similar locality is Anne Arundel County, MD. It has a ratio of 1.5%. The second most similar locality is Williamson County, TX. The least similar locality is Long Beach, CA. It has a ratio of 4.8%. Given its low median household income (\$58,000), in comparison with the other benchmarks, and high rent/income ratio above 30% (54.3% of residents), the high no vehicle ratio is corroborating the measurement.

The median ratio for workers without a vehicle is 2.5% and belongs to Raleigh, NC. Virginia Beach is 0.8 percentage points below the median and is the third lowest rate. Given the low ratio and low public transit ridership, Virginia Beach can be considered a private vehicle commuting locality.

The second smallest Virginia Beach category of workers and vehicles are workers with one vehicle. The number of workers with one vehicle is 42,000. The most similar locality is Williamson County, TX. It too has 42,000 workers with one vehicle. The second most similar locality is Anne Arundel County, MD. The least similar locality is Las Vegas, NV. It has 68,000 workers with one vehicle.

The Virginia Beach ratio of workers with one vehicle is 18.2%. The most similar locality is Bristol County, MA. It has a ratio of 19.3%. The second most similar locality is Arapahoe County, CO. The least similar locality again is Long Beach, CA. It has a ratio of 27.0%.

The median ratio for workers with one vehicle is 19.7% and belongs to Arapahoe County, CO. Virginia Beach is 1.5 percentage points below the median and has the fourth lowest rate.

The largest Virginia Beach category of workers and vehicles are workers with two vehicles. The number of workers with two vehicles is 102,000. The most similar locality is Raleigh, NC. It has 111,000 workers with two vehicles. The second most similar locality is Bristol County, MA. The least similar locality is Johnson County, KS. It has 152,000 workers with two vehicles.

The Virginia Beach ratio of workers with two vehicles is 44.1%. The most similar locality is Arapahoe County, CO. It has a ratio of 44.3%. The second most similar locality is Anne Arundel County, MD. The least similar locality is Johnson County, KS. It has a ratio of 49.5%.

The median ratio for workers with two vehicles is 44.3% and belongs to Arapahoe County, CO. Virginia Beach is 0.7 percentage points below the median and is the second closest to the median.

The final category of workers and vehicles are workers with three or more vehicles. The number of Virginia Beach workers with three or more vehicles is 83,000. The most similar locality is Las Vegas, NV. It has 85,000 workers with three or more vehicles. The second most similar locality is Williamson County, TX. The least similar locality is Anne Arundel County, MD. It has 114,000 workers with three or more vehicles.

The Virginia Beach ratio of workers with three or more vehicles is 36.0%. The most similar locality is Bristol County, MA. It has a ratio of 34.9%. The second most similar locality is Williamson County, TX. The least similar locality is Raleigh, NC. It has a ratio of 24.9%.

The median rate for workers with three or more vehicles is 32.9% and belongs to Johnson County, KS. Virginia Beach is 3.1 percentage points above the median and is the second highest ratio.

If the number of workers with three or more vehicles represents an average ratio of 3.5 vehicles, this implies the number of Virginia Beach worker vehicles is 535,000. The most similar locality is Ramsey County MN. It has 558,000 vehicles. The second most similar is Raleigh, NC. The least similar is Arapahoe County, CO. It has 738,000 vehicles.

Overall, the most similar vehicle locality is Arapahoe County, CO. It has an average score per category of 2.25, and the average number of vehicles per worker is 2.3. The second most similar is Anne Arundel County, MD. It has an average score per category of 3.00, and the average number of vehicles per worker is 2.4. The least similar locality is Long Beach, CA. It has an average score per category of 9.25, and the average number of vehicles per worker is 2.1. Virginia Beach's average number of vehicles per worker is 2.3.

As important as the number of vehicles owned is the number of lane miles available to the drivers. The data displayed below is either from each benchmarked state Department of Transportation or the locality. The lane mile categories are broken down into five categories.

Locality	Interstate, Freeway, and Expressway Lane Miles	Principal Arterial (Hwys) Lane Miles	Minor Arterial Lane Miles	Major Collector Lane Miles	Local Lane Miles	Total Lane Miles	Total Lane Mile Score	Lane Mile Rank
Williamson County, Texas	385	527	496	1,191	4,828	7,427		
Johnson County, Kansas	243	3	1,007	825	7,449	9,902		
Las Vegas, Nevada	67	167	532	3	3,813	5,205		
Washington County, Oregon	97	328	616	900	5,161	7,307		
Anne Arundel County, Maryland	154	400	678	775	4,916	7,092		
Arapahoe County, Colorado	126	500	663	740	6,973	9,162		
Ramsey County, Minnesota	219	221	1,783	1,330	9,691	13,389		
Bristol County, Massachusetts	57	371	517	687	4,229	5,973		
Long Beach, California	340	2,408	3,121	2,618	16,397	25,211		
Raleigh, North Carolina	82	171	470	436	3,928	5,142		
Williamson County, Texas	10	4	2	8	1	4	29	6
Johnson County, Kansas	8	9	8	5	8	8	46	8
Las Vegas, Nevada	4	8	4	7	6	5	34	7
Washington County, Oregon	1	5	5	6	3	3	23	3
Anne Arundel County, Maryland	5	1	7	4	2	2	21	2
Arapahoe County, Colorado	2	3	6	3	7	7	28	5
Ramsey County, Minnesota	7	6	9	9	9	9	49	9
Bristol County, Massachusetts	6	2	3	2	4	1	18	1
Long Beach, California	9	10	10	10	10	10	59	10
Raleigh, North Carolina	3	7	1	1	5	6	23	3
Virginia Beach	110	434	425	536	4,773	6,405		

The smallest Virginia Beach road category is interstates, freeways, and expressways. The number of Virginia Beach lane miles is 110. The most similar locality is Washington County, OR. It has 97 lane miles. The second most similar locality is Arapahoe County, CO. The least similar locality is Williamson County, TX. It has 385 lane miles. This is largely attributed to the county size. The square mileage for Williamson County is 1,100 and is more than four times the size of Virginia Beach (249 square miles).

Virginia Beach has 434 principal arterial (highway) lane miles. The most similar locality is Anne Arundel County, MD. It has 400 lane miles. The second most similar locality is Bristol County, MA. The least similar locality is Long Beach, CA. It has 2,400 lane miles.

Virginia Beach has 425 minor arterial lane miles. The most similar locality is Raleigh, NC. It has 470 lane miles. The second most similar locality is Williamson County, TX. The least similar locality is Long Beach, CA. It has 3,100 lane miles.

Virginia Beach has 536 major collector lane miles. The most similar locality is Raleigh, NC. It has 436 lane miles. The second most similar locality is Bristol County, MA. The least similar locality is Long Beach, CA. It has 2,600 lane miles.

Virginia Beach has a total of 6,400 lane miles. The most similar locality is Bristol County, MA. It has 6,000 total lane miles. The second most similar locality is Anne Arundel County, MD. The least similar locality is Long Beach, CA. It has 25,000 lane miles.

Overall, the locality with the most similar lane miles is Bristol County, MA. It has an average rank score of 3.0. The second most similar locality is Anne Arundel County, MD. Its average rank score is 3.5. The least similar locality is Long Beach, CA with an average rank score of 9.83.

Virginia Beach's average number of lane miles per vehicle is 2,800. Bristol County, MA is the most similar locality. It has 2,600 lane miles per vehicle. The least similar locality is Long Beach, CA. It has 12,200 lane miles per vehicle.

Another perspective for measuring locality mobility is the number of vehicle miles travelled (VMT) per road type. Using the same lane mile categories, VMT was benchmarked.

The number of Virginia Beach interstate, freeway, and expressway VMT is 10.5 million miles (see table below) and is the largest VMT road type category. Recall, this category has also the smallest category of lane miles (110). This implies congestion. The most similar locality is Washington County, OR. It has 10.7 million VMTs. The second most similar locality is Las Vegas, NV. The least similar locality is Long Beach, CA. It has 78.4 million VMTs. This is largely attributed to the MSA population. The Los Angeles MSA population is 13.3 million versus Virginia Beach's 1.7 million.

Virginia Beach's principal arterial VMTs are 10.1 million. The most similar locality is Anne Arundel County, MD. It has 10.7 million. The second most similar locality is Williamson County, TX. The least similar locality is Long Beach, CA. It has 63.6 million.

Virginia Beach's minor arterial VMTs are 5.8 million. The most similar locality is Raleigh, NC. It has 6.8 million. The second most similar locality is Washington County, OR. The least similar locality is Long Beach, CA. It has 49.6 million.

Virginia Beach's minor arterial VMTs are 5.8 million. The most similar locality is Raleigh, NC. It has 6.8 million VMTs. The second most similar locality is Washington County, OR. The least similar locality is Long Beach, CA. It has 49.6 million.

Virginia Beach's major collector VMTs are 2.3 million. The most similar locality is Bristol County, MA. It has 2.2 million VMTs. The second most similar locality is Johnson County, KS. The least similar locality is Long Beach, CA. It has 15.5 million.

<i>Locality</i>	Interstate, Freeway, and Expressway VMT (1,000s)	Principal Arterial (Hwys) VMT (1,000s)	Minor Arterial VMT (1,000s)	Major Collector VMT (1,000s)	Local VMT (1,000s)	Total VMT (1,000s)	Total VMT Score	VMT Rank
Williamson County, Texas	7,119	8,756	4,678	7,492	2,265	38,900		
Johnson County, Kansas	17,259	3,661	9,733	2,972	8,267	47,894		
Las Vegas, Nevada	8,175	5,231	9,918	9	12,673	43,844		
Washington County, Oregon	10,736	7,672	6,794	4,286	3,413	36,979		
Anne Arundel County, Maryland	19,355	10,719	8,823	4,499	3,879	56,982		
Arapahoe County, Colorado	16,024	14,642	7,832	3,844	5,752	57,524		
Ramsey County, Minnesota	21,165	6,939	19,019	4,922	8,533	69,542		
Bristol County, Massachusetts	5,312	5,399	4,223	2,158	2,288	22,835		
Long Beach, California	78,395	63,636	49,650	15,527	14,072	275,567		
Raleigh, North Carolina	7,841	5,413	6,769	3,225	6,396	31,739		
Williamson County, Texas	4	2	3	9	5	3	26	3
Johnson County, Kansas	7	9	7	2	7	6	38	7
Las Vegas, Nevada	2	8	8	7	9	4	38	7
Washington County, Oregon	1	3	2	5	2	1	14	1
Anne Arundel County, Maryland	8	1	6	6	1	7	29	5
Arapahoe County, Colorado	6	5	5	4	3	8	31	6
Ramsey County, Minnesota	9	4	9	8	8	9	47	9
Bristol County, Massachusetts	5	7	4	1	4	5	26	3
Long Beach, California	10	10	10	10	10	10	60	10
Raleigh, North Carolina	3	6	1	3	6	2	21	2
Virginia Beach	10,553	10,146	5,789	2,282	4,258	34,981		

Virginia Beach’s local VMTs are 4.3 million. The most similar locality is Anne Arundel County, MD. It has 3.9 million VMTs. The second most similar locality is Washington County, OR. The least similar locality is Long Beach, CA. It has 14.1 million.

Virginia Beach’s total VMTs are 35.0 million. The most similar locality is Washington County, OR. It has 36.9 million VMTs. The second most similar locality is Raleigh, NC. The least similar locality is Long Beach, CA. It has 275.6 million.

Overall, the locality with the most similar road system and VMTs is Washington County, OR. It has an average rank score of 2.33. The second most similar locality is Raleigh, NC. Its average rank score is 3.5. The least similar locality is Long Beach, CA with an average rank score of 10.0. It consistently ranked the lowest for all categories.

While it is important to measure decennial census changes, benchmarking against similar communities is equally important. The City of Virginia Beach has chosen ten communities to benchmark. The benchmarks serve a threefold purpose. First, comparisons can be made; second, the benchmarks can be used to

discover community similarities; and lastly, larger populated localities can forewarn of hazards or encourage policy decisions.

CRIME BENCHMARK

The two broad crime categories for measuring similarity include violent and property crimes. Because not all localities report aggregate crime numbers to the Federal Bureau of Investigation's (FBI) National Incident Based Reporting System (NIBRS), some data came directly from localities. The localities slightly larger than Virginia Beach and chosen as benchmarks were Williamson County, TX, Johnson County, KS, Las Vegas, NV, Washington County, OR, Anne Arundel County, MD, Arapahoe County, CO, Ramsey County, MN, Bristol County, MA, Long Beach, CA, and Raleigh, NC. Unintentionally, but beneficial, the localities chosen were spatially spread across the nation.

Violent crimes are physical incidents committed against individuals. The categories include murder (homicide), manslaughter, rape, and aggravated assault. In Virginia Beach, seventeen murders, homicides or manslaughter cases were recorded (see table below). The most similar locality was Ramsey County, MN. It has 15. The second most similar locality is Bristol County, MA. The least similar locality is Las Vegas, NV. It has 205. Of note, this locality's largest industrial cluster includes tourism, gaming, and conventions. All localities have a tourism industry and many have conventions; however, Las Vegas is prominent in the gaming industry. This could imply a relationship between gaming and crime. Long Beach, CA had the ninth most cases, but it was nearly seven times smaller than Las Vegas. Another crime factor to consider is population. Las Vegas has 42% more people than Virginia Beach. Las Vegas' murder per capita rate is one in every 3,100 residents. If Virginia Beach were on par with Las Vegas, Virginia Beach would have recorded 144 cases. This reinforces Las Vegas' dissimilarity.

Locality	Violent Crimes						Property Crimes						
	Murder and Manslaughter	Rape	Robbery	Aggravated Assault	Violent Score	Violent Rank	Burglary	Larceny-Theft	Vehicle Theft	Property Score	Property Total	Total Crime Score	Crime Rank
Williamson County, Texas	0	19	10	46			91	1206	44				
Johnson County, Kansas	0	7	1	54			34	302	29				
Las Vegas, Nevada	205	1,296	3,436	5,134			13,102	26,608	8,186				
Washington County, Oregon	6	93	39	233			366	3,364	294				
Anne Arundel County, Maryland	13	89	567	1,399			1,975	9,884	638				
Arapahoe County, Colorado	4	48	34	254			328	2,726	312				
Ramsey County, Minnesota	15	277	560	1,089			1,909	5,877	2,296				
Bristol County, Massachusetts	14	304	355	1,721			1,416	11,676	616				
Long Beach, California	30	212	979	1,366			3,965	3,972	2,253				
Raleigh, North Carolina	29	190	760	1,600			3,871	14,719	11,330				
Williamson County, Texas	8	5	4	4	21	5	6	8	5	19	6	11	6
Johnson County, Kansas	8	7	5	3	23	7	7	9	6	22	8	15	7
Las Vegas, Nevada	10	10	10	10	40	10	10	10	9	29	10	20	10
Washington County, Oregon	4	1	2	2	9	1	2	5	2	9	2	3	1
Anne Arundel County, Maryland	3	2	7	7	19	3	5	1	4	10	3	6	3
Arapahoe County, Colorado	6	3	3	1	13	2	3	6	1	10	3	5	2
Ramsey County, Minnesota	1	8	6	5	20	4	4	2	8	14	5	9	5
Bristol County, Massachusetts	2	9	1	9	21	5	1	3	3	7	1	6	3
Long Beach, California	6	6	9	6	27	9	9	4	7	20	7	16	8
Raleigh, North Carolina	5	4	8	8	25	8	8	7	10	25	9	17	9
Virginia Beach	17	115	250	285			1,051	8,448	366				

Virginia Beach had 115 rapes. The most similar locality is Washington County, OR. It has 93 cases. The second most similar locality is Anne Arundel County, MD. The least similar locality, again, is Las Vegas, NV. It has 3,436 cases. For Virginia Beach to be on par with this locality, the per capita rate would be one rape per 495 people or 910 rapes.

Virginia Beach had 250 robberies. The most similar locality is Bristol County, MA. It has 355. The second most similar locality is Washington County, OR. The least similar locality is Las Vegas, NV. It has 5,134 cases. For Virginia Beach to be on par, the per capita rate would need to be one robbery per 187 people or 2,409 robberies.

Virginia Beach had 285 aggravated assaults. The most similar locality is Arapahoe County, CO. It has 254. The second most similar locality is Washington County, OR. The least similar locality is Las Vegas, NV. It has 5,134. For Virginia Beach to be on par, the per capita rate would need to be one aggravated assault per 125 people or 3,603 aggravated assaults.

To determine the locality with the most similar violent crimes rate, the violent crime rankings are summed for each locality. The most similar locality is Washington County, OR. The average ranking per category is

2.25. The second most similar locality is Arapahoe County, CO. It has an average rank of 3.25. The least similar is Las Vegas, NV. It had an average ranking of 10.0.

Property crimes are incidents involving the disposition of property. The categories include burglary, larceny-theft, and vehicle theft. In Virginia Beach, there is 1,051 burglaries recorded. The most similar locality was Bristol County, MA. It has 1,416. The second most similar locality is Washington County, OR. The least similar locality is Las Vegas, NV. It has 13,102 cases. Long Beach, CA has the ninth most cases, but it is over three times smaller. Las Vegas' burglary per capita rate is one in every 49 residents. If Virginia Beach were on par with Las Vegas, Virginia Beach would have had 9,192 cases. Again, Las Vegas burglaries reinforce the dissimilarity.

Virginia Beach's largest crime category is larceny-theft. It has 8,448 cases. The most similar locality is Anne Arundel County, MD. It had 9,884. The second most similar locality is Ramsey County, MN. The least similar locality is Las Vegas, NV. It has 26,608 cases. For Virginia Beach to be on par, the per capita rate would need to be one theft per 24 people or 18,768 larceny cases.

Virginia Beach has 366 auto theft cases. The most similar locality is Arapahoe County, CO. It has 312. The second most similar locality is Washington County, OR. The least similar locality is Raleigh, NC. It has 11,330. This is the only dissimilar crime category to displace Las Vegas as the least similar.

To determine the locality with the most similar property crimes, the rankings are summed for each locality. The most similar locality for property crimes is Bristol County, MA. The average ranking per category was 2.33. The second most similar locality is Washington County, OR. It has an average rank of 3.00. The least similar is Las Vegas, NV. It had an average ranking of 9.67.

To determine the locality with the most similar overall crime ranking, each locality's violent and property crime rankings are summed. The most similar locality overall is Washington County, OR. The average ranking is 1.5. The second most similar locality is Arapahoe County, CO. It has an average rank of 2.5. The least similar is Las Vegas, NV. It had an average ranking of 10.0.

BEST FIT SUMMARY

The [Best Fit](#) table is comprised of all major categorical rankings. The rankings align with the ten benchmark communities. The breakout data for the major categories can be viewed within the [Benchmark](#) dropdown menu. Breakout crime data can be found within the [Crime Narrative](#).

The best fit rankings are based upon a simplistic ranking system for determining similarities with the City of Virginia Beach. The rankings are a result of each locality's total data measurement per major category as compared with the City of Virginia Beach. Low ranking numbers indicate strong similarity (i.e. 1 is the most similar, 2 second most similar, etc.). Higher rankings are progressively more dissimilar. Using the major categorical rankings, each locality's ranking row is summed to derive the cumulative Best Fit Score and rank. The locality with the lowest score is the most similar (Best Fit Rank column).

According to the rankings, Washington County, OR and Arapahoe County, CO are the most similar localities. It's not a perfect fit, but each is the most similar. On average, each scored 3.00 per category. Anne Arundel County, MD and Williamson County, TX were second in similarity and on average scored 3.20 per category. Long Beach, CA was the least similar with an average rank score of 8.80.



<i>Best Fit Benchmarks</i>							
<i>Locality</i>	Demographic Rank	Hosehold Rank	Employment Rank	Mobility Rank	Crime Rank	Best Fit Score	Best Fit Rank
Williamson County, Texas	1	5	2	2	6	16	3
Johnson County, Kansas	9	7	6	7	7	36	8
Las Vegas, Nevada	8	9	5	8	10	40	9
Washington County, Oregon	4	2	3	5	1	15	1
Anne Arundel County, Maryland	2	4	4	3	3	16	3
Arapahoe County, Colorado	5	1	1	6	2	15	1
Ramsey County, Minnesota	3	8	8	9	5	33	7
Bristol County, Massachusetts	10	3	9	1	3	26	5
Long Beach, California	6	10	10	10	8	44	10
Raleigh, North Carolina	6	6	7	4	9	32	6