



Russell Township

Comprehensive Land Use Guide Plan

2035



EXECUTIVE SUMMARY

Summary and Land Use Recommendations

This document is the updated comprehensive Land Use Guide Plan for Russell Township. In 2012, the Trustees of Russell Township directed the township's Zoning Commission to update the township's 1995 Land Use Guide Plan. This plan is a result of that effort.

The information and recommendations in the 1995 plan needed to be reviewed and updated. This was to ensure that the environmental capabilities of the land and the wants and needs of Russell residents were still adequately addressed by the plan. As a matter of course, guide plans are usually reviewed and updated approximately every 20 years.

The Zoning Commission hired professionals to survey Russell's residents, and collected and analyzed demographic, environmental, and geographical data with the help of the Geauga County Planning Commission, the Chagrin River Watershed Partners, and others. Based upon these results, as well as input from members of the community and the Trustees, the 2035 Land Use Guide Plan's zoning recommendations are:

- A. Ensure that future zoning preserves the character of Russell as a low-density residential community with ample open space and a distinct rural and natural character.**
- B. Ensure that future zoning protects and enhances the quality of the natural resources, including groundwater, wetlands, aquifer recharge areas, river corridors, surface water quality, woodlands, wildlife habitats, soils, and natural ecosystems.**
- C. Seek to preserve the township's environmental infrastructure and rural nature by encouraging the use of conservation easements, designating additional parcels as Passive Park District, and working with residents, the Western Reserve Land Conservancy, and other regional partners to secure additional lands for preservation.**
- D. Ensure that future residential development respects the township's large-lot zoning and is properly regulated to be consistent with the other plan recommendations.**
- E. Ensure adequate ground water supply and room for septic systems when recommending minimum lot sizes for residential development.**
- F. Consider requiring the setting aside and maintenance of additional green or open space as a condition for future development.**

- G. Ensure that future commercial development takes place only within the physical boundaries of the present commercial districts, is highly regulated, and is otherwise consistent with the other plan recommendations.**
- H. To the extent permitted by state law, exercise local control over oil and gas drilling within the township and ensure that any zoning regulations concerning drilling are consistent with the other plan recommendations.**
- I. Consider a zoning resolution concerning in-home in-law suites, given the aging population of the Township as well as residents' support of in-home in-law suites and opposition to other senior housing within the Township.**
- J. Oppose the installation of centralized water or sewer systems, or any expansion of existing sewer systems, and ensure that future zoning regulations and development do not make any such expansion or installation necessary or more likely to occur.**
- K. Endeavor to keep future decisions about Russell Township zoning in the control of the Trustees, their appointed representatives on the Zoning Commission, and, ultimately, the residents as a whole.**
- L. Ensure that Russell Township looks much the same in 20 years as it does today.**

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CHAPTER I

THE LAND USE GUIDE PLAN: A HISTORY

1. INTRODUCTION

Russell Township, located on the eastern fringe of the Greater Cleveland Metropolitan Region, is a picturesque rural community that has worked hard over the years to maintain its character and environmental quality.

Like other communities located on the outskirts of an expanding metropolitan area, Russell has seen much of its original farmland converted to residential development. Early development consisted of an occasional lot subdivided from a farm. By the mid-1960s, several suburban residential subdivisions were being constructed in and around the township. As fields gave way to homes, residents began to fear that suburban development would not only destroy the character of the township, but would cause the natural environmental carrying capacity of the land to be exceeded. This would lead to dry wells, failed septic systems, and air and water pollution.

Russell has continuously operated with a Zoning Resolution originally approved by its Board of Trustees and residents in 1948, then amended and supplemented in the following years. Zoning amendments after 1948 were adopted with the primary goal of controlling growth to protect the groundwater supply.

Witnessing effects that uncontrolled suburban growth was having on neighboring communities, the Russell Trustees met with a group of concerned citizens to ensure that the future growth of the township would take place according to sound planning and environmental criteria. As a result, the Zoning Commission and Board of Trustees undertook a series of planning and environmental studies that led to the creation of the Land Use Guide Plan, adopted by the Trustees in 1975 (the "1975 Land Use Guide Plan"). The introduction to the 1975 Land Use Guide Plan described the accelerating pace of urban expansion that was taking place in the region:

- A. The ever-expanding Cleveland Metropolitan and Northeast Ohio Regions have caused increasing need and demand for new developable lands. Western Geauga County, and specifically Russell Township, are directly in the path of this expansion.
- B. The township, with its nineteen and a half square miles of land – characterized by exceptional natural beauty, large undeveloped parcels, good ground water supply, and fresh air – combined with its relative close proximity to the downtown Cleveland Central Business District and the emerging Satellite Business Districts of Euclid, Cleveland Heights, Mentor and Solon – will be a natural choice for developers seeking new lands for residential and/or commercial-industrial development in the near future.

In preparing the 1975 Land Use Guide Plan, township officials held public meetings that revealed the majority of residents wanted the residential rural character of the township maintained and the natural environment protected. The plan set out land use recommendations to guide the township toward that vision while at the same time guarding against rapid and premature land development.

Today, thanks to the foresight of these efforts, Russell is a green oasis, no longer located beyond the fringe of an expanding urban area, but now within its boundaries. The township has grown over the past forty years, but the growth has taken place according to the goals and objectives set out in the 1975 Land Use Guide Plan and the updated and expanded 1995 Land Use Guide Plan that followed.

Both the 1975 and 1995 Land Use Guide Plans were intended to serve Russell Township for approximately 20 years. As the 20-year date approached, the township again began the process of putting together an updated Land Use Guide Plan, which has culminated in the publication of this document, the 2035 Russell Township Land Use Guide Plan. With this document, we hope to guide Russell Township over the next 20 years with an eye toward protecting that which makes Russell a special place to live.

Because of the visionary work done by our predecessors, and because the residents of Russell continue to embrace the same values and attitudes toward the environment and development, substantial similarities remain between the 1975, 1995, and 2035 Land Use Guide Plans, although some essential new data has been added.

The updated 2035 Russell Township Land Use Guide Plan was adopted by the Russell Trustees on December 1, 2017.

2. THE NEED FOR PLANNING

Ohio laws require basing township zoning upon a comprehensive plan. This Land Use Guide Plan is primarily intended to provide the planning basis for township zoning and land use control, but there are several additional reasons why townships choose to create a land use plan:

- A. The planning process allows citizens to play an active role in the long-range growth of their community by helping to articulate a vision of what the community should be in the future. In most ex-urban areas, growth is inevitable. It can take place in a piecemeal fashion dictated by private development interests, or it can be guided by the agreed common vision of the community residents. Townships that take the time to create a guide plan have the advantage of controlling the physical development of their community, dictating where development should occur, its general character and density, and at what pace it should proceed.
- B. Through careful planning, townships can avoid the problems of rapid population growth and haphazard land development such as demand for expanded public

services, traffic congestion, air, water, and soil pollution, health and sanitation problems, and general decline in the health of the ecosystem.

- C. A Land Use Guide Plan aids in the preparation and/or revision of township zoning and other land use resolutions. In Ohio, townships are granted zoning power by statute (Ohio Revised Code/ORC Chapter 519 - Township Zoning). The ORC does not set out specific standards for guide plans; however, the courts have increasingly looked for a rationale behind local Zoning Resolutions that can be used to understand the benefits of zoning and to weigh the public good against the rights of landowners.
- D. A Land Use Guide Plan articulates long-range development goals for measuring shorter-term zoning legislative and administrative decisions. The Land Use Guide Plan identifies the desired land use development patterns. The Zoning Resolution specifies the range and conditions of use that can occur on parcels of land.
- E. Once land use policies are adopted, township trustees, zoning and other officials can evaluate all development plans as they compare them with the township's overall development and environmental vision.

3. THE FUNCTIONS OF A LAND USE GUIDE PLAN

- A. The Land Use Guide Plan is an expression of what a community wants. It is a statement of goals, a listing of objectives, and a vision of what might be.
- B. The Land Use Guide Plan is fundamentally a guide to the physical development of the community, although it also reflects social and economic values. It describes physical features and constraints which must be taken into account in zoning decisions. It identifies the valuable natural resources, scenic areas, and ecosystems which must be protected for the long-term benefit of the community. It translates values into a scheme that describes how, why, when, and where to build, rebuild or preserve the community.
- C. The Land Use Guide Plan is long range, covering a 20-year time period. It is not a snapshot or rigid image of what the community will look like in 20 years. Rather, it is an expression of current policies that will shape the future. The plan is intended to challenge and inspire with a vision of what might be while providing how to achieve the vision.
- D. The Land Use Guide Plan, once adopted, serves as a guide to decision making by the Township Zoning Commission, Board of Zoning Appeals, and Trustees as well as the County Planning Commission for the many public decisions that affect land use.
- E. The Land Use Guide Plan is not the zoning resolution or the subdivision regulations. It can and should be used as the primary foundation in the preparation of these important land use regulations.

4. PURPOSE OF THE LAND USE GUIDE PLAN UPDATE

The Land Use Guide Plan update process, as its name suggests, is focused on updating and revising the 1995 Land Use Guide Plan, not replacing it. The intent was to examine those areas of the 1995 Land Use Guide Plan that were no longer current and revise them so as to reflect more closely existing conditions and attitudes. The overall organization and the core policies found in the 1995 Land Use Guide Plan remain the same.

There are three reasons to update a Land Use Guide Plan periodically:

- A. The planning period expires
 - B. Data becomes outdated
 - C. The goals of township residents may change. Each of these reasons is examined further below
1. *Planning Period.* Long-range plans are visionary documents that are intended to guide development over a period of time—usually from five to 20 years. The end of the time period is not a target date for the completion of the planning policies. Rather, Land Use Guide Plans set policies for development decisions over the life of the plan. A Land Use Guide Plan is a work in progress and is meant to be adaptable and flexible in order to meet the demands of changing needs and circumstances.
 2. *Outdated Data.* During the life of a plan, the demographic makeup of a township and its land use patterns change. The existing residents age or leave, while new residents arrive. Land is developed for residential and other uses. The longer the planning period, the more likely it is that the changes in population and land use will be significant and the planning policies based on original data will no longer be valid. It is therefore advisable to update the demographic and Land Use Guide Plan data periodically and to formulate policies that accurately reflect the new demographic and physical character of the township.
 3. *Changing Goals.* Not only does the demographic and land use profile of the township change, but often there is a corresponding change in the goals of the residents. As an example, as a township's population increases or decreases or as the percentage of school age children increases or decreases, there is sometimes a reordering of priorities for land use and development issues.

5. RUSSELL TOWNSHIP

A. History: From founding until 1950

Russell Township's first settler was Gideon Russell, who with his wife and five children, arrived in 1818 from the east coast. The family cleared an area of land south of State Routes 306 and 87 where they built their house.

The Russell's were followed by Simon Norton with a wife and daughter and by the John C. Bell family. Clark Robinson came from Newbury and built a log cabin about

1825, then a frame house, which his son replaced about 1867 with a large brick house, still existing as a spacious home on Kinsman Road. Early Trustee meetings were held on the top floor. Much later, this property was to become the home of the American Society for Metals.¹

These settlers were quickly joined by other families who made similar journeys from Connecticut and Massachusetts. At first, Russell was known as the "West Woods" of Newbury; but in 1827 the first Township Trustees were elected and Russell Township was established. There were 12 electors, males over 21, including four Russell's, Clark Robinson, John Lowry, Jonathan Rathbone, John C. Bell, Thomas Manchester, and James M. Smith. They elected three Trustees, a Treasurer, two Overseers of the Poor, two Fence Viewers, a Supervisor of Highways, and a Constable. Clark Robinson was elected Trustee and Constable.

The township at this time was divided into three tracts: the northern one in the name of the Coit heirs, a strip one mile wide running east and west through the center in the name of the Kinsmans, and the southern tract or Champion tract. Thomas and Frederick Kinsman constructed a road, now Kinsman Road or State Route 87, from the Pennsylvania border to the Cuyahoga River, and sold lots on both sides.

A large branch of the Chagrin River runs from the northeast corner to the southwest corner, and has two major tributaries. Griswold Creek runs from the north border which joins the river near the southwest corner, and Silver Creek, which provides extensive and scenic wetlands in the southeast corner, joining the river near the center of the township.

Russell lost its southwest corner to Chagrin Falls and Cuyahoga County in 1841 when Dr. Justin Vincent secured passage of an act in the Ohio Legislature, transferring 900 acres in Russell to Cuyahoga County. This was rich land and heavily populated next to Chagrin Falls Village. Offered in exchange were 900 acres from Orange Township, which had many gullies, no roads, and few people. The land in Orange was turned down as unsuitable for farming.

As the number of residents in Russell grew, so did the township's needs and by 1848, the township had created the Briar Hill Cemetery, located on the south side of Fairmount Road, west of Chillicothe Road. The cemetery serves as the final resting place for many of Russell's Civil War veterans and is the site of Russell's annual Memorial Day celebrations. In addition to Briar Hill, a Town Hall was added to

¹ Sixteen successive owners purchased and sold this parcel of land until William Eisenmann bought the 136 acres of land and saved the house from demolition. In 1956, Mr. Eisenmann donated 100 acres of land to the American Society for Metals. The ASM is headquartered there, and its landmark geodesic dome, designed by Buckminster Fuller, attracts visitors from around the world to the rolling wooded landscape so characteristic of Russell. In 1995, the Geauga Park District purchased over 500 acres of the ASM land, including the original 100 acres donated to ASM by Mr. Eisenmann.

Russell's landscape in 1850 and was later used as a Union soldier meeting house during the Civil War.

Russell became mainly an agricultural community, noted for potato farming, grains, milk, and cheese. Blacksmiths, grist mills, saw mills, and distilleries were common.

In 1899, when it came time to establish a Post Office in Russell Township, there was already another Ohio community in existence with the name Russell. The name of the Interurban Railroad Stop, Novelty, was therefore adopted as the Post Office name. Although there are many stories regarding the origin of the name Novelty, legend has it that it seemed a "novelty" in 1898 to have the Interurban Railroad from Cleveland pick up milk as well as passengers from the Belle Vernon Dairy Farm. Today, many of the original dairy buildings still stand near Belle Vernon Drive.

By the 1920s the character of the township was changing. What was an agricultural community started to become a "bedroom community" for increasing numbers of Russell residents who boarded the red trolley cars of the Interurban Line for jobs in Cleveland. Russell had become a desirable residential location for families seeking a rural lifestyle with access to the City.

There were 10 one-room schools in Russell until 1923 when there was a dispute about centralization of schools in the township, especially as to where the new school would be located. As a result, South Russell, with its 104 residents, was incorporated as a separate Village with its students transferring to the Chagrin Falls School District. The other schools consolidated in 1925 into Russell School on Chillicothe Road just north of Kinsman Road.

B. The Changing Township: Russell from 1950 - 1995

In 1950, there were 1,246 persons living in Russell, a population density of approximately one person per 10 acres. By 1960, the population had increased to 3,368 persons - a growth rate of 170 percent - and the population density had increased to one person per 3.7 acres. It was during this period that the 176-lot Hemlock Hills subdivision was approved. At a density of one house per 1½ acres, the development caused concern among some Russell residents who saw the beginning of the suburbanization of the township.

During the 1960s, the population continued to grow but at a reduced rate. By 1970, Russell Township had a population of 4,669 persons, an increase of 38% within a decade, much less than the rapid growth of the fifties. Population density also increased to one person per 2.7 acres.

Changes were also taking place at the county level. In 1970, Geauga County commissioned a Comprehensive Master Plan which recommended the introduction and implementation of a growth-oriented and urbanized land use development program to be supported by regional sewage treatment plants and public water

supply. This program was particularly directed toward the western portion of Geauga County where Russell is located. The sewer and water proposals were rejected by the County Planning Commission's Citizen Advisory Council and, to date, this plan has not been adopted.

During the 1970's, in an effort to protect the environment and to control the location, timing, and character of development in the township, Russell adopted its Land Use Guide Plan. The Plan led to new 3- and 5-acre residential zoning districts over most areas of the township. The township continued to grow and by 1980 the population increased to 5,363, an increase of 14.9% in 10 years. The population density by 1980 was one person per 2.3 acres. By 1990 there were 5,614 people living in Russell at a population density of one person per 2.2 acres. In the first decade of the 2000s, the population of Russell Township decreased for the first time. The population as counted by the U.S. Census Bureau in 2010 was 5,190 persons, a population density of one person per 2.4 acres.

While most of the commercial farms and farm roads have disappeared from the township, there remains some part-time and hobby farming. The network of roads has remained "rural" in character. This has helped preserve the look of Russell as a rural community and natural environment.

One key to maintaining the quality of the environment has been Russell Township's ability to preserve a great deal of its natural resources – its rivers, streams, wetlands, and woodlands.

C. Natural Features and the Environment

Just as in 1975 and 1995, today the majority of residents want to keep Russell green. In the 2013 township Land Use Survey, residents were asked what they liked most about Russell Township, and the vast majority stated that the wildlife/nature/environment, peace and quiet, and large lots and open spaces, were three of the things that they treasure the most and are defining characteristics of the township. Moreover, survey results determined that Russell residents think Russell should remain green over the coming decades. The results of the land use survey are set forth in detail in Chapter 2.

CHAPTER II

THE LAND USE GUIDE PLAN: METHODOLOGY

1. INTRODUCTION

The Zoning Commission began the update of the 1995 Land Use Guide Plan in 2012 upon direction from the Trustees of the township. The process began by retaining the Center for Community Planning & Development at the Maxine Goodman Levin College of Urban Affairs, Cleveland State University (CSU), to conduct a survey of Russell residents on various land-use issues. The plan-update process involved distilling the results of the public opinion survey, various other external sources, and the participation of interested individuals from the community in fashioning the actual 2016 Land Use Guide Plan.

2. PUBLIC-OPINION SURVEY AND ANALYSIS

A Land Use Guide Plan is meant to reflect the goals of the community. An important step was to determine the opinions of township citizens with respect to land use and growth management issues.

The public opinion process began in 2012. The Zoning Commission asked questions that it believed were relevant to the issues of land use, using the 1994 public opinion survey as a starting point, but adding in questions about issues that have arisen since then, such as issues relating to drilling and local control.

Once the general scope of the questions was identified, the Zoning Commission retained the Center for Community Planning & Development at the Maxine Goodman Levin College of Urban Affairs, Cleveland State University, to conduct a public opinion survey of Russell residents.

A similar survey was conducted in 1994, in preparation for the 1995 update. The 2012 survey was based on the 1994 survey so that attitudes and opinions could be compared over time, although the two surveys were not identical. Some of the questions from the 1994 survey were updated, and several questions were added by the CSU research team with input from the Zoning Commission members.

The 2012 survey was designed to address the following:

- A. What are residents' perceptions of the quality of life in Russell Township and how do they think the quality of life might be affected in the future by different land use policies?
- B. Why did residents choose to move to Russell Township and what are their expectations about land use issues in the future?

- C. What are residents' opinions with regard to general land use considerations; specific land use considerations with regard to green space and recreation, residential, commercial, fiscal and other emerging issues such as oil and gas drilling?
- D. What are residents' opinions with regard to environmental issues including quality and quantity of water supply, sewage systems and noise?
- E. How have opinions on these issues changed since 1994?
- F. How do opinions vary based on demographic or geographic differences?

In October 2012, a 12-page survey was mailed to every address located within Russell Township. The survey was mailed by CSU using mailing labels supplied by Russell Township personnel. The survey packet included a cover letter signed by the chair of the zoning commission and a postage-paid return envelope addressed to the research team at CSU. The cover letter included the following instructions:

- A. *Who should fill out the survey?* The survey must be filled out by an adult, 18 years of age or older, living in the household. If more than one adult lives in your household, the adult who has the very next birthday should answer the survey. This will assure that all age groups as well as both genders are fairly represented.
- B. *How will my privacy be protected?* All respondents will remain anonymous. There are no identifying numbers or names on the survey. Only the aggregate results and final analysis will be provided to Russell Township officials. No Russell Township residents or officials will ever see the actual completed surveys.
- C. *Is the survey voluntary?* Participation is completely voluntary and you may withdraw at any time. There is no reward for participating or consequence for not participating.

To help increase the response rate, the Zoning Commission developed a communication plan that included letting residents know that the survey would be forthcoming, legitimizing the survey and emphasizing its importance, and reminding residents to complete the survey and return it to CSU.

Response Rate

The 2012 land use survey was mailed to 2,205 households. Of these surveys, 117 were returned as undeliverable, reducing the universe of households to 2,088. In all, 612 completed surveys were returned, yielding a response rate of 29% (612/2088) and providing a 95% confidence level with a 3.3% margin of error.

Data Entry and Management

All returned surveys were numbered consecutively upon receipt and a “double-blind” data entry system was used to enter the responses. In double-blind data entry, two individuals independently enter all of the survey data for every survey. This method of quality control is very useful in catching and correcting random miss keyed strokes. All data was analyzed using Statistical Analysis Software (SAS).

3. PUBLIC SURVEY FINDINGS

CSU completed its analysis of the survey results on May 31, 2013. A copy of the survey results is attached as Appendix A.

A. Demographics of Survey Respondents

The demographic characteristics of survey respondents match closely with the U.S. Census Bureau’s American Community Survey data for Russell Township. (See Appendix B for comparison table). Survey respondents are representative of the Russell Township general population but there are some differences:

1. A higher percentage of survey respondents were male.² This was also the case with the 1994 survey.
2. Survey respondents were older than the general population and older than the 1994 survey respondents.

Survey respondents exhibited the following demographic characteristics:

1. Respondents were almost exclusively homeowners. They are highly educated with 34% reporting a graduate degree.
2. 42% of respondents were age 65 and over; 9% were under age 44, and 33% identified themselves as retired.
3. On average, respondents lived in Russell Township for 23.8 years, an increase of 5 years from the 1994 land use survey.
4. 40% moved to Russell within the last 20 years and 38% of older respondents (65 and over) lived in Russell Township for more than 40 years.
5. 80% of respondents are married and 29% reported having one or more children under the age of 18 in their household. Of those who have children, 2 out of 3 have two children.

² Despite the overrepresentation of male respondents, the research team made the decision not to weight the data, because the 1994 survey data which had a similar overrepresentation was not weighted, and it was important to be able to compare the two sets of responses.

6. The average age of respondents' homes is 51 years old.
7. On average, respondents commute 14.3 miles to work. A significant percentage (36%) of respondents did not answer the question about distance traveled to work. This could be a function of the high percentage of respondents who identified themselves as retired.
8. 60% of respondents live south of Dines Road/Pekin Road in the southern sections of the township. 33% live in a development, which is an increase of 8% from 1994.
9. Household incomes were higher than those reported in 1994 with 36% reporting a household income of \$125,000 or higher.
10. Compared to the 1994 study, Russell Township is attracting slightly more residents who previously lived in rural areas and slightly fewer who previously lived in suburban areas.
11. The vast majority of respondents (67%) moved to Russell Township from another county in Ohio, which is slightly less than the 1994 responses (75%). The percentage that moved to Russell Township from another Geauga County community increased from 9% to 18%. About 12% moved to Russell Township from another state.
12. The majority (58%) of respondents moved to Russell Township for the rural country atmosphere. There was a slight increase in respondents (from 7% to 13%) who cited access to better schools in the 2012 land use survey.
13. Most (87%) plan to stay in Russell Township for at least 5 years. The most frequently mentioned reason for a possible move is retirement. The percentage of respondents who cited retirement was higher in 2012 than in 1994, reflecting the aging of the population. In 2012, "other" was the second most mentioned reason for moving. Of those who cited other, 17 specified downsizing, while 8 specified weather.

B. Quality of Life

Five questions on the land use survey asked about how respondents perceive the quality of life in Russell Township.

Q1: In general, what do you like most about Russell Township? (This was an open-ended question.)

Respondents overwhelmingly like the rural lifestyle with all that that entails including wildlife/nature/environment, quiet, large lots and open spaces, coupled with access to urban areas. This response has not changed much since 1994.

Q2: What is the most important land use issue facing Russell Township?

By a wide margin, the most important land use issue facing Russell Township in 2012 is oil and gas drilling. This issue was not even on the radar in 1994. The respondents' second-most important issue is general concern about development, which was also the second-rated issue in 1994.

Q3: On a scale of 1 to 10, where 1 means very poor and 10 means very good, how would you rate the following aspects of life in Russell Township?

Respondents are very satisfied with their overall quality of life, air quality, open space and parks. They feel positively about all aspects of Russell Township.

1. In 1994 and in 2012; the overall quality of life and air quality were at the top of respondent ratings of attributes of Russell Township.
2. By 2012 parks and open green space were rated very highly by respondents. Compared with 1994, parks had the largest increase in mean ratings, followed by recreational facilities.

Both the township and the county made significant additions to the parks system between 1994 and 2012, possibly accounting for the increase in ratings for parks. Between 1994 and 2012 the Geauga County Park District opened the 902-acre West Woods Park in southeast Russell and Newbury Townships and the 1545 Park Commission added to the community's open space with the purchase of 130 acres of land between Kinsman Road and Russell Road in 2005, now known as the Russell Uplands Preserve.

Q4 & 5: Quality of life in Russell Township compared with elsewhere in Geauga County and compared to when resident moved to Russell Township.

More than three-quarters of Russell Township respondents (78%) perceive their quality of life as better than elsewhere in Geauga County. This is 5% lower than in 1994.

There is a slight increase in the percentage of respondents who perceive Russell Township's overall quality of life as about the same as in other places in Geauga County.

Perceptions of the quality of life in Russell Township have not changed much since 1994, with slightly more than 2/3 of respondents in 2012 who report that their quality of life is about the same as when they moved to the township.

C. Land Use Considerations

Many questions in the survey were devoted to land use issues, including general land use, residential, commercial, parks and open space, and fiscal considerations.

1. In 1994, a series of focus groups were held to identify land use issues of concern to residents. Concerns expressed in those focus groups were tested in the 1994 land use survey and again, with some slight modification, in the 2012 land use survey:
 - a. The opinions of respondents on policy-related questions regarding land use issues have not changed significantly since 1994. Residents continue to favor the status quo with the strongest agreement around two issues: they hope Russell Township will look the same in 20 years as it does today, and they think there is no need for more housing options.
 - (1.) Respondents disagreed with the following statements:
 - There is a need for more shopping and professional services.
 - People who own large parcels of land should have a right to develop it for profit.
 - There is a need for more affordable housing.
 - (2.) Respondents do not feel strongly that more housing options are needed for young families or seniors but at the same time, they may be supportive of programs that help elderly residents care for their homes as long as this is managed properly.
2. The survey asked respondents to rank the most important issues that need to be considered in the update of the Land Use Guide Plan:
 - a. The two most important considerations for the Russell Township Land Use Guide Plan update remain virtually unchanged from 1994: environmental capabilities of the land and desires of residents.
 - (1.) The least important consideration was the desires of developers and commercial interest groups.
3. The survey asked respondents what conditions there should be for future development:
 - a. The strongest support was for additional green or open space to be set aside and maintained as a condition for future development.
 - (1.) There was moderate support for additional trails for bikes, horses and other uses. 44% favored more parks and recreation areas, possibly because there are already a significant number of park and recreation areas.
4. The survey asked respondents whether they used Russell's park and recreation areas:

- a. In 2012, respondents reported much greater usage of parks and recreation, and green and open areas than in 1994. The percentage of respondents using these areas at least once a week more than doubled. The vast majority of respondents (86%) use the parks for walking or hiking.
5. Respondents were asked what types of future housing the Land Use Guide Plan should recommend:
 - a. Respondents have a strong preference for single-family homes as the recommended type of residential development (81%), but some are open to considering more housing options for seniors.
6. The survey asked whether in-law suites (secondary housing for family members) should be permitted in the township:
 - a. Respondents answered (89%) that in-law suites should be permitted, but only in an existing house, not a separate building.
7. Respondents were asked what the most important consideration should be in deciding what the minimum lot sizes should be for future development:
 - a. There was a clear consensus (70%) that the need to ensure adequate ground water supply and room for septic systems is the most important consideration for recommending minimum lot sizes for residential development.
8. The survey asked whether the guide plan should be directed to facilitating additional commercial development:
 - a. A little over half of respondents (53%) preferred no additional commercial development, while 35%, including younger respondents. All respondents would like any additional commercial development to be regulated, especially in the location of this development.
 - b. 79% of respondents also favored “a lot” of regulation of commercial development in the future, with an additional 16% favoring “some” regulation of commercial development.
9. Respondents were asked whether they would favor additional tax increases, and for what purpose:
 - a. 42% of respondents would favor a permanent tax increase and another 30% would favor a temporary tax increase to keep Russell Township rural.

D. Environmental Issues

The final set of questions on the survey asked about issues related to water quantity and quality, oil and gas drilling, particularly in relationship to water quality, septic systems, waste water disposal, and noise.

Studies of water resources in the township have determined that lot sizes of three to five acres are the minimum needed to protect groundwater availability and quality. Nearly all homes have on-site wells to provide water for drinking and household uses, and septic systems for sanitary waste. The exceptions are two small developments in the southwest corner of the township that are connected to the Chagrin Falls Village public water system, with another connected to the Chagrin Falls Village sewage treatment system. A few other subdivisions within the Township have package treatment plants.

The land use survey revealed:

1. The availability of water is not an issue for most residents. 90% of respondents have an adequate supply of water all the time, comparable to the finding of 89% in 1994.
2. The majority of respondents are opposed to the installation of centralized water or sewer systems over the next 20 years, regardless of how it would be paid.
3. Respondents are moderately satisfied with water quality. In 2012, 55% of respondents reported they are very satisfied with their water quality, while 23% are somewhat satisfied.
4. Respondents were satisfied overall with their wastewater disposal (septic or package plants), with 63% reporting they were very satisfied, and 24% reporting they were somewhat satisfied.
5. Problems with septic systems are declining. In 2012, only 16% responded that they had problems with their system, comparable to 23% reported problems in 1994.
6. Noise is not a problem for 2/3 of respondents, but became more of a problem by 2012. Respondents who reported frequently being bothered by noise increased from 6% in 1994 to 11% in 2012.
7. Respondents (62%) are very concerned about the possible impacts of oil and gas drilling on water quality. If local control is returned, 77% would favor regulation. Additionally, respondents see possible negative impacts from drilling across the board on water quality, property value, and quality of life.

CHAPTER III

GOALS AND OBJECTIVES: SUMMARY OF PLAN INITIATIVES

Based upon the results of the public opinion survey and input from members of the community, the primary goals of the 2035 Land Use Guide Plan were formed as follows:

1. Maintain the character of Russell as a low-density residential community with ample open space and a distinct rural and natural character.
2. Protect and enhance the quality of the natural resources, including groundwater, wetlands, aquifer recharge areas, river corridors, surface water quality, woodlands, wildlife habitats, soils, and natural ecosystems. These resources are the basis for the biogeochemical systems and living ecosystems that provide waste assimilation, supply of drinking water, erosion and flood control, and food production. They are also the foundation for the unique and high quality natural beauty of the township.
3. Ensure that future residential development of Russell Township respects the township's large-lot zoning, and is otherwise consistent with the first two goals.
4. Ensure that future commercial development of Russell Township takes place only within the physical boundaries of the present commercial districts, and is otherwise consistent with the first two goals.
5. Ensure that Russell residents and township officials retain control over future decisions about Russell zoning.

Not surprisingly, these goals mirror in many respects the goals of Russell's last two guide plans, as it is those plans and the comprehensive zoning resolution that embodied those plans that ensured that Russell Township is the community it is today.

CHAPTER IV

DEMOGRAPHIC TRENDS AND PROJECTIONS

The land use efforts of Russell Township, intended to maintain its semi-rural character, have been successful in creating a community that is in high demand and that reflects the values of its residents and their perceived needs. This has resulted in a slower growth rate, which has, in turn, contributed to the aging of Russell Township. Indeed, the population of the township is aging in place, and Russell has the oldest population of any township in Geauga County.

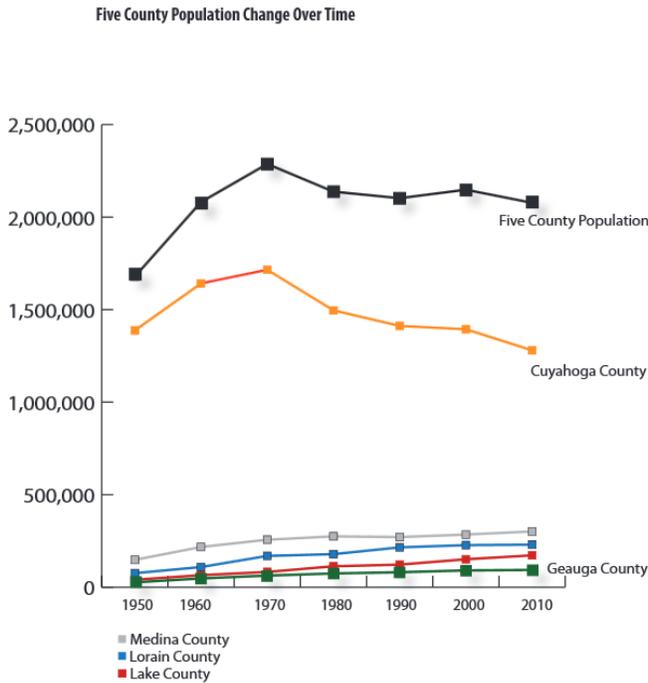
Many of the statistics from which this section draws its conclusions were gathered during the “Great Recession,” the worst economic downturn since the Great Depression, making their accuracy, and thus their relevance to current conditions, possibly less reliable than in the past. For example, although this report uses the best statistics available, the accuracy of housing occupancy rates and income figures may be slightly impacted. However, the broad trends that the statistics illuminate, such as the continuing weakness by historic measures in the housing market, including a higher than normal vacancy rate as well as a small drop in median inflation adjusted income— possibly due to the current low returns on the investments many seniors rely on— suggest that we may have a high level of confidence in the general trends that these statistics represent, and at least a reasonable degree of confidence in the statistics themselves.

1. POPULATION

An evaluation of population trends and characteristics enables the township to identify its existing population, and to predict future trends and needs. Russell Township, relying on septic systems and well water, and facing low or zero growth largely due to a population aging in place, must be able to sustainably address issues, including:

- Protection of air, water, and soil quality
- Maintenance of aquifers and natural areas
- A modest but continued increase in the number of housing units
- Changing open space, greenway, and park use, reflecting the needs of an aging population
- Continued demand for utilities and roads
- Limited demand for commercial development
- Higher demand for government services

Chart 1



A. General Growth Comparisons: 1970-2010

Russell Township is part of the Seven County (Cleveland Metropolitan) Region and is directly affected by population shifts and trends within the region. Geauga County, in which Russell Township is located, experienced population growth over this time period, while both Cuyahoga County and the Five County Region lost population. (Chart 1)

B. Regional Population Change

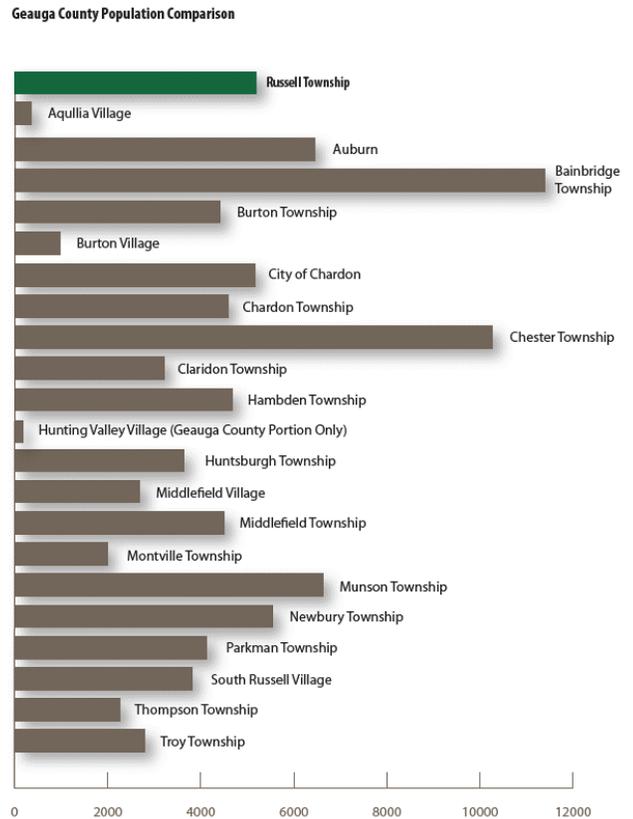
Regional shifts in population are part of a continuing national trend where residents of large metropolitan regions leave the real and perceived problems of

the built-up urban core for outlying suburban and rural areas. Within the Cleveland region, the general movement has been out of Cuyahoga County into the surrounding counties. Russell Township and its immediate neighbors in Geauga County are located directly in the path of the easterly expansion of the region, and much of the population growth of the county that has taken place in the last 40 years is due to this movement.

Chart 2 compares the population of Geauga County's townships and villages. Five of them are larger than Russell Township, with the largest being Bainbridge Township, followed by neighboring Chester Township.

Russell's growth rate during the last three decades of the 20th century slowed below the growth rates of Geauga County and most of its neighboring townships, reversing a trend found in the 1950s and 1960s during which Russell's growth was among the

Chart 2



highest. In the first decade of this century, the township experienced its first population decline in 80 years.

C. Russell Township's Growth to 2000

Russell's population growth was characterized by moderate growth during the 1940s, 1970s and 1980s, and rapid growth in the 1950s and 1960s.

A regional, as well as national trend toward suburbanization began to take hold, even before the automobile, as street cars and interurban rail pushed the urban envelope outward. The result was a moderate rate of growth for Russell Township and rapid growth for the inner suburbs surrounding Cleveland. In the 1950s, with little housing having been constructed during the Depression and World War II, this trend continued. It was fueled by the post-war growth of the middle class which permitted near universal auto ownership and consequential support for better roads. Russell Township experienced an explosive growth rate of 170% during the 1950s and a high growth rate of 38% in the 1960s. During the 1970s, however, the growth rate slowed to 14.9%, and in the 1980s it was just 4.7%.

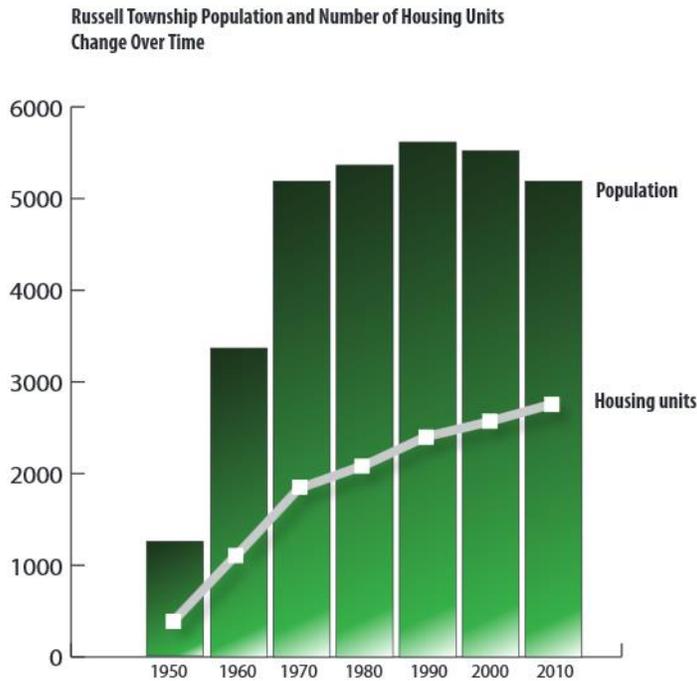
The dramatic slowdown in growth that began in the 1970s is the result of self-imposed growth management by the township, the basis of which was a land-capability analysis of the township's ability to support various densities of land development. This program was introduced at the "grass roots" level by township residents, and was implemented through the election and appointment of governmental officials who believed in controlled growth based upon comprehensive long-range planning, environmental stewardship and responsible zoning.

D. Russell Township's Population Growth Stops after Eight Decades

The township experienced its first population decline during the first decade of the 21st century. There are many potential factors that may have contributed to the decline.

Although the number of single family homes in Russell Township has increased in each decade, and homes continue to be built, the number of persons in each household is declining, as it is nationally. Household size has decreased due to children leaving the home and establishment of more single-person households, largely a result of mortality.

Chart 3



Another possible contribution to the population decline may be the recent national real-estate crisis, when a precipitous drop in single-family home prices, due in part to a surge in foreclosures, created an oversupply of distressed properties that lingered on the market, and resulted in owners allowing their homes to remain vacant rather than take a substantial loss on the sale of those properties.

The aging population may also be a factor by putting on the market an unusual number of estate homes, which, factoring in that such homes are generally vacant before they are put on the market, are often in need of

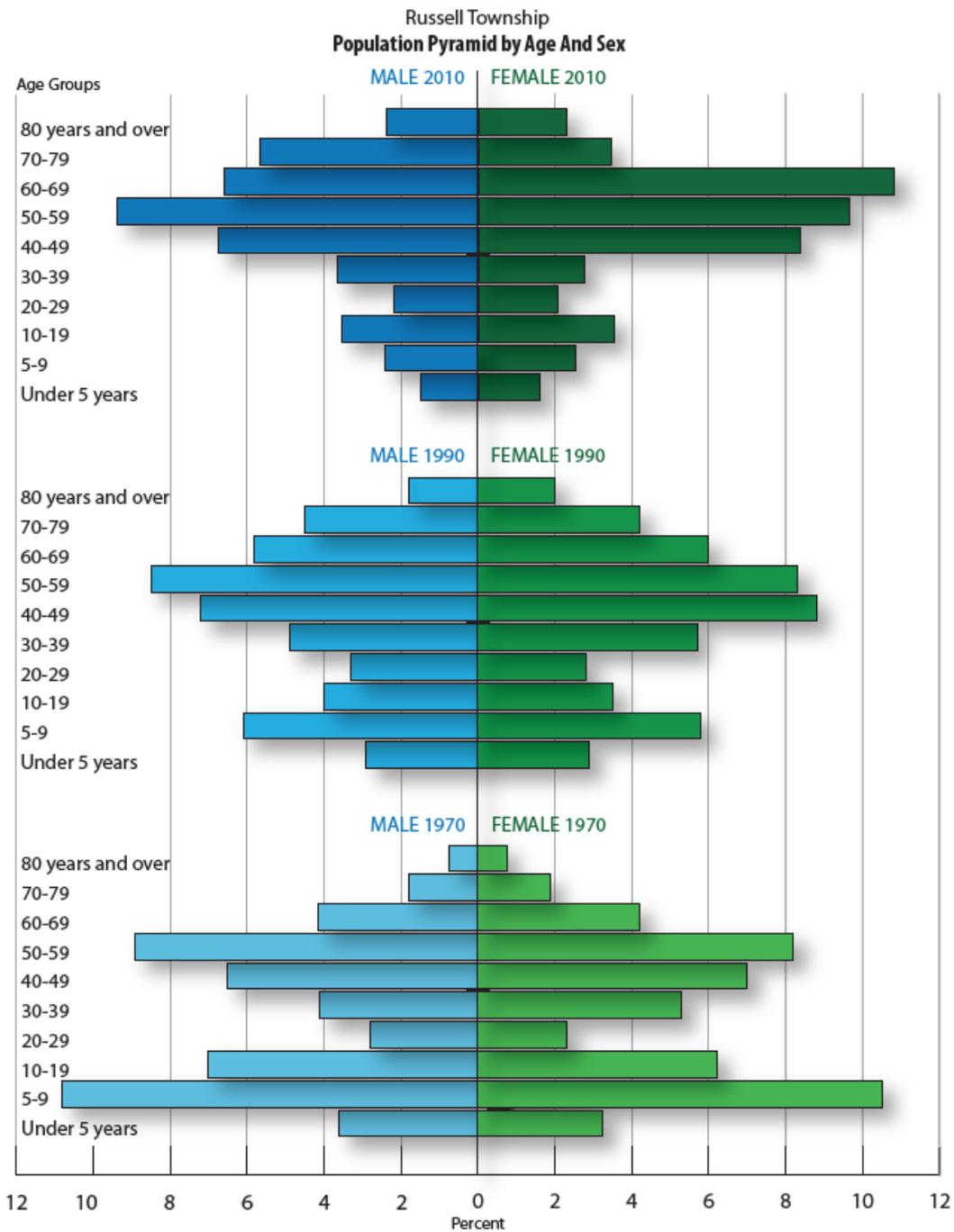
repair, and many times are tied up in a lengthy probate. This means that such homes typically take longer to find new occupants. Both this and the oversupply of houses caused by the real-estate crisis may have accentuated the statistical representation of a very real national trend.

Another possible reason for the decrease in growth is that, as the 1995 Guide Plan noted, construction slowed in the township following the adoption of larger lot sizes.

Yet another potential factor in the decrease in population may be the reduction in the national birth rate below replacement levels for those who identify themselves as white. The township is presently approximately 97% white.

Moreover, population reduction may also reflect the general loss of population in the region. Indeed, recent research suggests that the Greater Cleveland area saw one of the nation's steepest drops in the number of children under 15, with a loss of about 14% between 2000 and 2010. (Study in *New Geography*). Northeast Ohio also has shown an overall decrease in population over the last several decades (Chart 3). Should this trend continue, the township's current population trends could persist for this reason as well.

Chart 4



Sources: Top: 2010 U.S. Census, as reported in NOACA Five County Profile, April, 2013. Middle, and bottom: U.S. Census, as reported in 1995 Russell Township Land Use Guide plan.

E. Population Projection in Earlier Guide Plans

The population as counted by the U.S. Census Bureau in 2010 was 5,190 persons, living in 2,189 housing units. For planning purposes, it is important to predict future population growth, since the size of the population directly impacts the level

of services that the township government must provide. One of the most common methods of determining how the township's population will change in the future is to estimate the number of houses likely to be constructed and to multiply this by the number of persons per household. This method involves multiplying projected building starts (based on past trends) by the number of persons per household (based on current estimates).

The 1975 Guide Plan used this method, assuming that housing starts would continue at the then current levels. Although the number of housing starts met expectations, an error in estimated household size led to population projections for 1990 falling short by about 50%.

The 1995 Guide Plan used this method as well, making predictions about how housing units and household size would change over time in order to estimate future population figures. The analysis assumed that the number of residential building new constructions would continue at the same rate as they did in the late 1980's and 1990's—approximately 17 units per year—while household size would continue to decline in accordance with national trends and predictions for suburban areas to 2.5 by the year 2000, and leveling off at 2.4 after that. Based on this analysis, the 1995 Guide Plan predicted that the population of the township would level off by 2015.

This projected decline in population growth did, in fact, occur. But the projection that population would level off by 2015 shows no clear signs of occurring (although the projections could not have anticipated the Great Recession, which decimated the housing market from 2008 to 2013).

F. Current Projections

Another method of projecting future population uses the township's district map to predict the maximum number of houses permitted by zoning, multiplied by number of persons per household. This method, a variation of that which was used in 1995, has been adopted for this Guide Plan. It involves analyzing the township's land use and zoning in order to calculate the maximum number of residential parcels that can be developed, but without a timeline as to when that growth is expected to occur. The number of potential developable residential lots, multiplied by average household size, will then yield an estimated population figure.

This analysis examined all properties, and then estimated population growth based on different household size figures, the highest being the national average of 2.58, the middle being the 2010 Russell Township average of 2.37, and the lowest 2.21, which assumes a continuation of the current aging-in-place trend, to provide a range of possible future population growth. The figures used in 1995 were 2.7, 2.5, and 2.4 respectively.

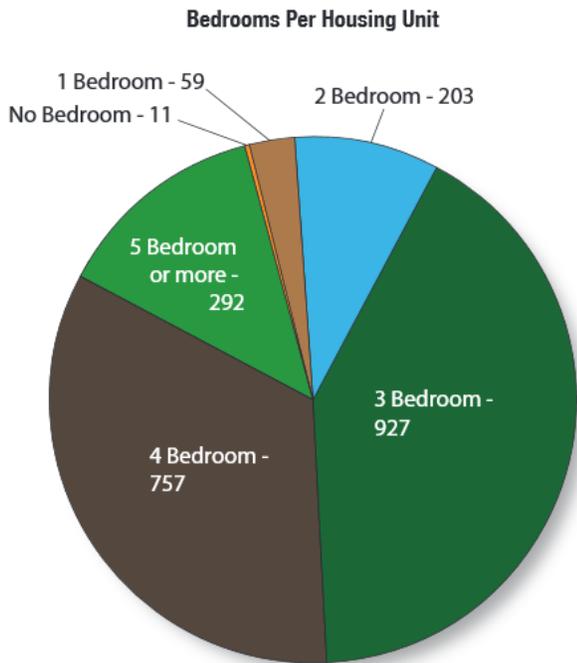
This methodology also differs from 1995 in that it also includes platted lots that are

nonconforming, but may be developable. The 2016 estimate does not include property that cannot be developed because of frontage requirements, and that would require consolidation of property from multiple owners to yield lots that could be developed.

Using this method, 438 developable lots were identified. This can be regarded as the approximate maximum practical build out of the township, and does not take into account the economic viability of developing the properties or the market demand for them. There is no time factor attached to this projection method.

While the 1995 projection was based on the assumption that all of the lots 10 acres or greater in residential districts would eventually be subdivided into their permitted minimum lot sizes, the 2016 projection also includes all properties that could currently, under existing zoning and without aggregation of additional parcels, be developed. While it is unlikely that all of Russell vacant land will be developed, this is nonetheless a useful exercise, in that it provides a picture of what is possible under current zoning.

Chart 5



Source: U.S.Census, American Community Survey, 2008-12.

the minimum full build-out population of 8,473 projected in 1995, or the minimum practical build-out population projected by the above model 6,158, for even the lower number would require the construction of 24 homes a year, a rate of activity not seen in Russell Township in 40 years. Also, the projections assume no demolition or other loss of existing housing. Therefore, assumptions of Russell Township's

G. 2016 Population Projection Assumptions

A. Number of members in a household in the United States, 2010

@ 2.58 per unit x 438 lots = 1,112 additional persons = 6,302 population

B. Number of members in a household, Russell Township, 2010

@ 2.37 per unit x 438 lots = 1,039 additional persons = 6,229 population

C. Number of members in a household, continued aging in place

@ 2.21 per unit x 438 lots = 968 additional persons = 6,158 population

There is no reason to assume that Russell Township could, in the next 20 years, reach the minimum full build-out population of 8,473 projected in 1995, or the minimum practical build-out population projected by the above model 6,158, for even the lower number would require the construction of 24 homes a year, a rate of activity not seen in Russell Township in 40 years. Also, the projections assume no demolition or other loss of existing housing. Therefore, assumptions of Russell Township's

future population for the purposes of this Land Use Guide Plan will not assume the township reaches full build out.

A reasonable but still optimistic population projection for 2035 would be to postulate a high, but not an unimaginable, level of construction at 12 units per year, multiplied by the current average individual household size in the United States. This methodology yields what could be termed the highest probable population of Russell Township in 2035, which would be 5,809. That would represent an increase of 12%, or 619, over the 2010 census figure of 5,190.

2. COMMUNITY COMPOSITION AND HOUSING

The characteristics of the residents of Russell Township are important in understanding the needs, goals, and objectives of the Township. For example, a township with a high proportion of children and below average family income will require different governmental services than a township having a large proportion of affluent retirees with no children. The primary elements used to analyze the township's population characteristics are age-sex distribution, occupation, and income. Other elements include education, minority and ethnic composition, length of residency, and persons per household.

The characteristics of the township's housing stock has a direct impact on the delivery of government services and the ability of the ground water recharge and waste water discharge capabilities to support the population over the long run. Elements relevant to these objectives include home ownership rates, size of homes, age and rate of new construction.

A. An Aging Population

Russell's senior population has largely chosen to age in place, resulting in the average age of residents growing steadily older over the past four decades (Chart 4). The majority of homes, over 88%, have three bedrooms or more.

As household size has decreased, an oversupply of multi-bedroom houses relative to household size has emerged (there are now over 1.5 bedrooms per resident).

This "over housing" might be expected to generate support for the facilities that serve the elderly. In spite of this, there is not significant support in the township among any age group for zoning changes that would allow concentrated senior-independent, assisted-living or nursing-care housing. This suggests that although seniors desiring those services would need to take advantage of facilities outside the township in places such as in eastern Geauga County, western Lake County, adjacent eastern Cuyahoga County, and northern Portage and Summit Counties, they are comfortable with that choice.

Facilities in these areas are providing care for the township's elderly who can no

longer care for themselves or who choose to live with a partner whom they can longer care for. These facilities, because of the density of population required to provide services needed by the elderly, require an infrastructure that Russell Township does not possess.

Elderly residents who need care unavailable in the township are well supplied with options near their places of worship, familial services, and social connections, with the average distance from central Russell Township being just 6.5 miles for the ten Geauga County facilities surveyed, and an overall average distance of 10.9 miles for all of the 43 facilities surveyed. The facilities surveyed provide a full range of services ranging from independent living to full-service long-term nursing and medical care.

An aging population might suggest a lack of interest in open space, but the land use survey indicates strong continuing support among all age groups for “keeping Russell green.”

Russell Township’s aging-in-place population could place an additional burden on government services provided by the township in the future, including police, fire and EMS, and with it, a shift in priority in township expenditures.

Chart 6

County	Providers Surveyed	Distance from Russell Twp.*
Geauga County	10	6.5
Cuyahoga County (Eastern)	17	10.5
Lake County (Western)	9	15.3
Portage County (Northern)	4	10.5
Summit County (Northern)	4	16.2
Total Surveyed	42	Average* All 10.9

*Miles from the intersection of Ohio Rt 306 and Rt 87

3. HOUSING AND INDIVIDUAL DEMOGRAPHICS

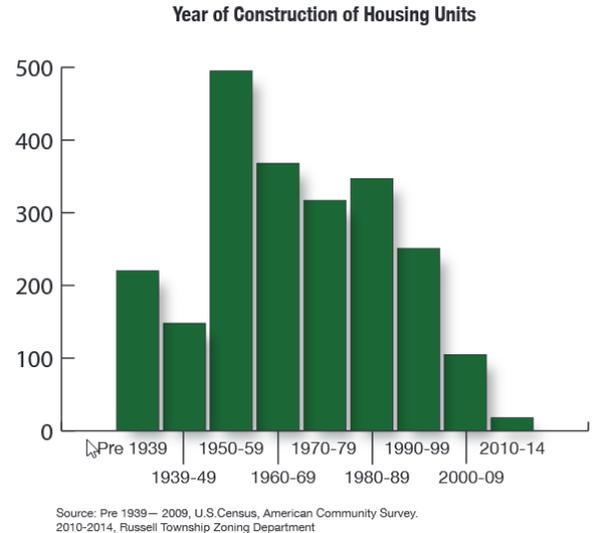
A. Income

Russell Township had a mean household income of \$141,395 in 2012. This is substantially above Geauga County’s mean household income of \$92,566, or neighboring Cuyahoga County, with a mean household income of \$63,037. Russell

Township’s income distribution reveals a high percentage of residents who are receiving Social Security and many who also receive pension benefits. Because of the high retiree population in the township, 36.5% of residents receive either Social Security or Supplemental Security Income, which generally correlates with a lower income than the earned income the recipient enjoyed when employed.

It appears that the mean household income in Russell Township, adjusted for inflation, may have slightly declined since 1989. However, as the township does not have an income tax, income statistics are only estimates, and not reliable enough to draw firm conclusions about township income. They are used in this guide plan only as a general indication of the economic state of township residents.

Chart 7



Source: Pre 1939— 2009, U.S.Census, American Community Survey. 2010-2014, Russell Township Zoning Department

B. Housing

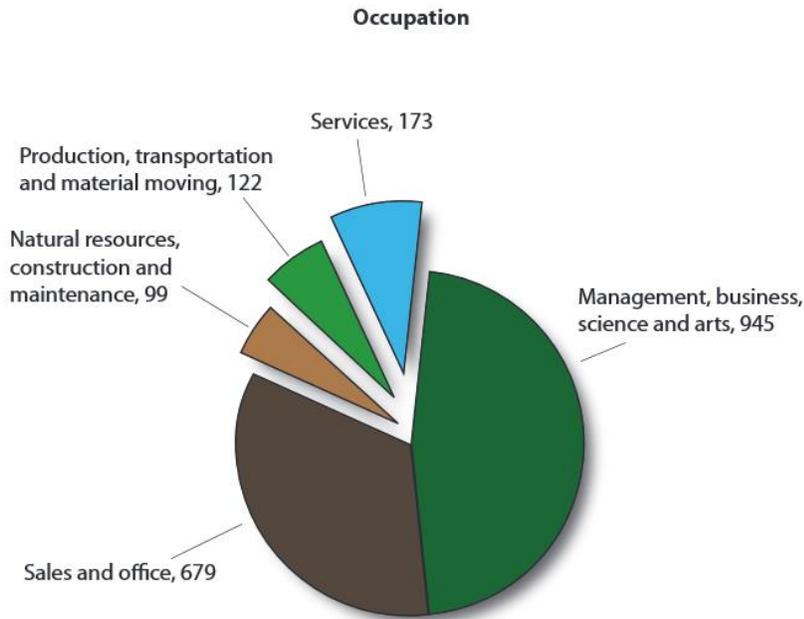
Even as population growth stalls, the number of housing units in the township continues to increase. (Chart 7) There were, pre-housing crisis, typically between eight and 12 homes constructed each year. Even working under the assumption that the current low rate of construction will rebound to the levels of the last decade, Russell Township has at least a 40-year supply of lots and sub-dividable land that conform to current zoning. Coupled with properties that could be consolidated into conforming lots, the supply would increase substantially.

Chart 8



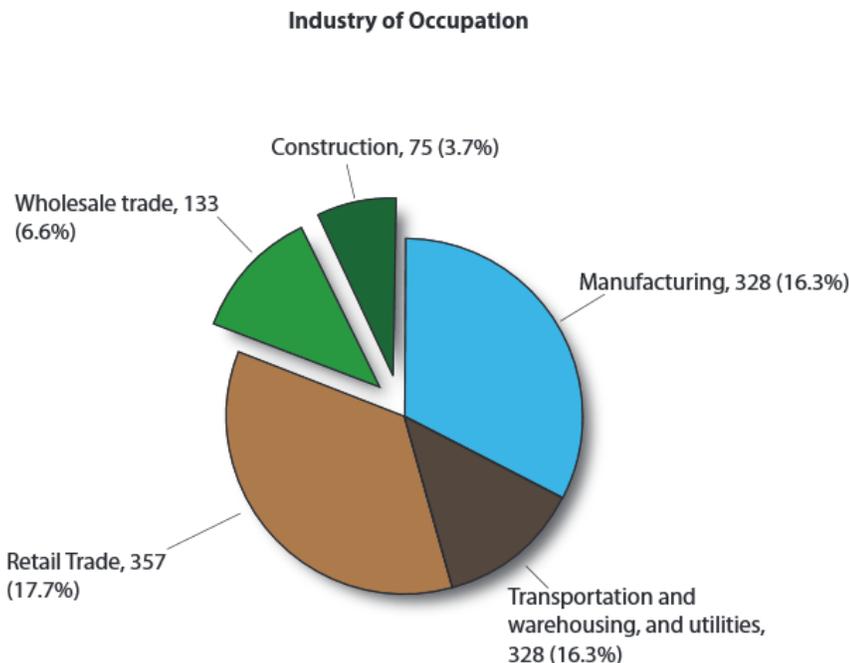
Source: 2000 U.S.Census, 2010 American Community Survey.

Chart 9



Source: U.S.Census, American Community Survey, 2008-12.

Chart 10



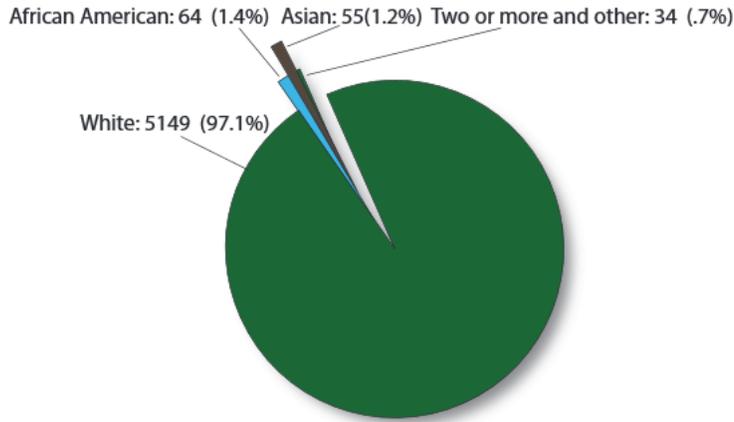
One reason for the slow rate of new construction is that little of the land left in the township is in large parcels. With Zoning Regulations requiring three- to five-acre lots, what might be substantial parcels in a suburb with sewers and public water yields would limit developable home sites in Russell Township. Most homes constructed in Russell, particularly since the 1970's, are larger, and they tend to be custom-built, restricting the market for new construction to upper-mid and upper-priced homes (Chart 7).

C. Occupations

By occupation, Russell Township would be described as white-collar, with 80.4% of the working population falling into two census job classifications, "Management, Business, Science and Arts" (46.8%), and "Sales and Office" (33.6%). After those, the next largest remaining job classification was "Services" (8.6%), which includes some white-collar jobs. Two other classifications, "Production, Transportation and Materials Moving" and "Natural Resources, Construction and Maintenance," generally considered blue-collar occupations, together comprise about 11% of working township residents.

Chart 11

Racial Characteristics



Source: U.S.Census, American Community Survey, 2008-12.

D. Race and Ethnicity

Russell Township is just over 97% White, 1.2% African-American, and 1.04% Asian, with 0.64% identifying as mixed race or other (Chart 11). The state of Ohio has a racial composition that is 82.7% White, 12.2% African-American, 1.7% Asian, and 2.8% Hispanic.

CHAPTER V

ENVIRONMENTAL INFRASTRUCTURE

1. INTRODUCTION

The majority of township residents surveyed in 2012 rated environmental infrastructure as the most important factor to consider when updating Russell's Land Use Guide Plan, and the vast majority—73%—rated the environmental capabilities of the land as the first or second most important factor when updating the Land Use Guide Plan. Their environmental concerns were focused on three areas: the preservation of the valuable woodlands, rivers, streams, wetlands, and natural habitats of the township; the carrying capacity of the ground and water resources to support and sustain additional residential development; and the potential impact of oil and gas drilling.

Other than the potential impact of oil and gas drilling, a recent development, these concerns date back to the 1970s when the citizens and Trustees of Russell Township drew up the first Land Use Guide Plan, a pioneering document. The 1975 Land Use Guide Plan was a generation ahead of its time in linking development feasibility to the full range of environmental issues. "Sustainable development," a current popular term for the environmental thrust in township and municipal planning practice, is the kind of planning the 1975 Land Use Guide Plan articulated.

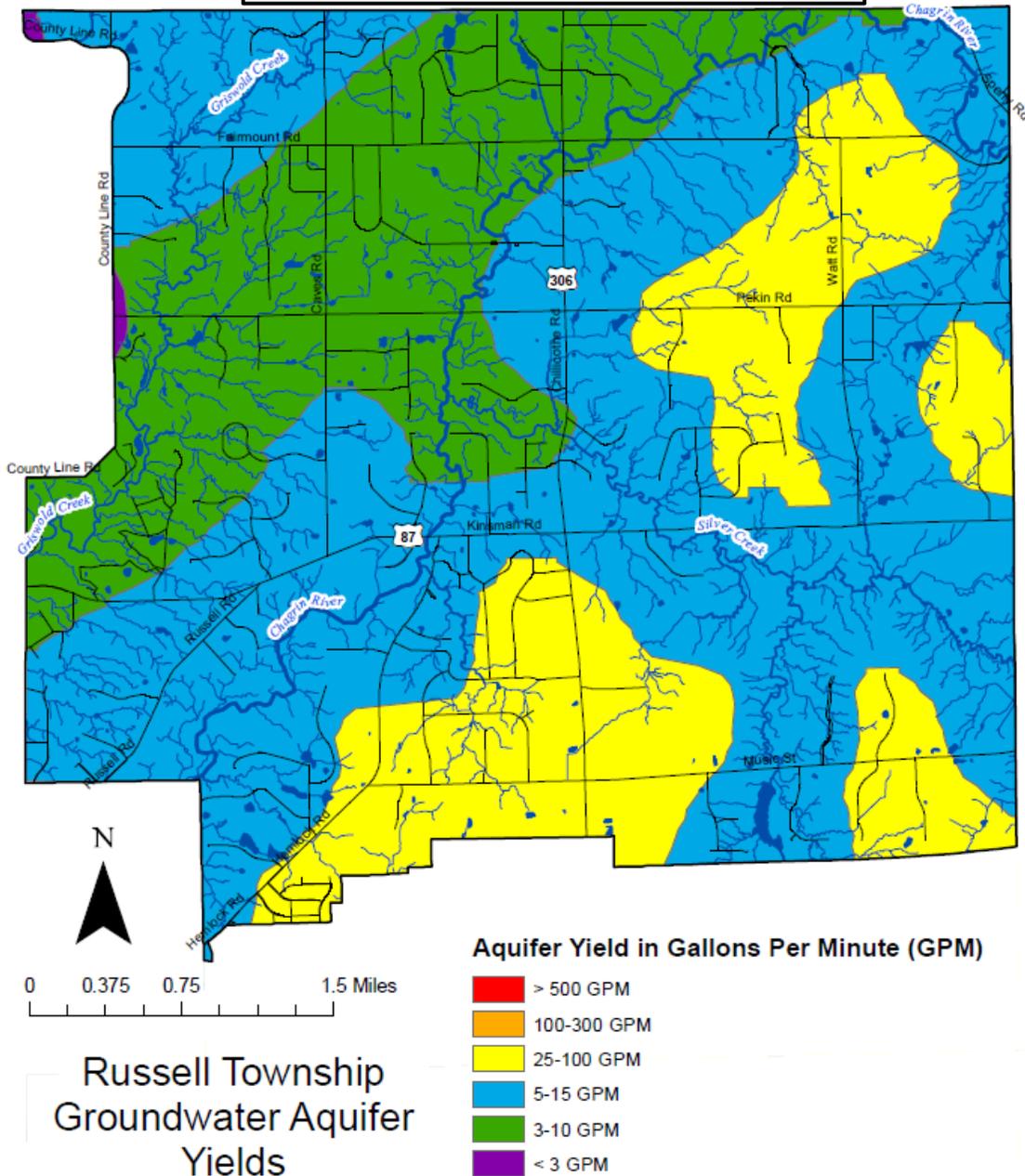
Residents saw what was occurring in other rural townships where unplanned growth was permitted without regard to the carrying capacity of the environment. Wells went dry, septic fields failed, storm water runoff caused flooding and erosion, and increased traffic caused congestion and air pollution. Furthermore, the cutting of the woodlands and the draining of wetlands destroyed the rural character and reduced the natural habitats for indigenous wildlife. These issues continue to be a major concern of the present-day citizens and Trustees of Russell Township.

2. THE 1975 LAND USE GUIDE PLAN ENVIRONMENTAL STUDIES AND RECOMMENDATIONS

Environmental studies were conducted in 1975 to determine the natural carrying capacity of the land in Russell Township. Studies included water table depth and capacity, aquifer locations, bedrock geology, soil types, soil drainage properties, surface runoff patterns, and wetland locations. These studies gave a scientific basis for determining residential lot sizes throughout the township.

The studies revealed that Russell Township is underlain by a massive bedrock formation. The subsoil above the bedrock consists of four soil types of varying carrying capacities. Water table depth and flow vary in different parts of the township.

Figure 1: Groundwater Aquifer Yields

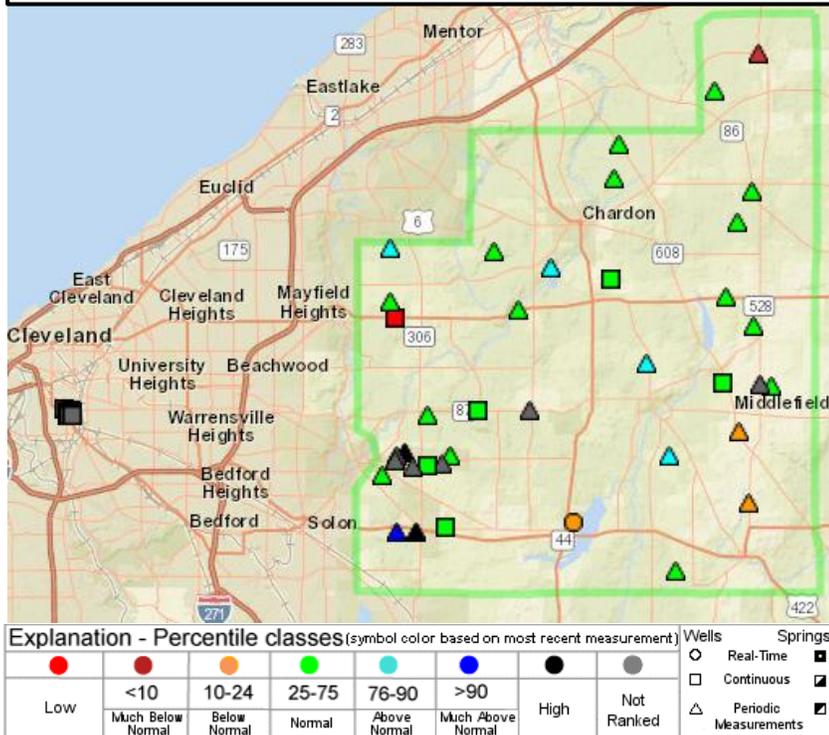


The 1975 environmental studies were summarized in Chapter IV of the 1975 Russell Township Land Use Guide Plan:

- A. The environmental infrastructure of the township reveals that Russell is uniquely formed to provide for the creation and establishment of an open space, low density, residential community. Its basic geologic formation of coarse and fine sandstones and shales provides distinct landforms capable of supporting only specific low-density forms of development.

- B. The sandstone and sand/gravel formations provide the best ground water supplies. But if the land is overdeveloped, these water supplies will be greatly depleted. The shale formations have little or no potential for water supply. As a result, land development density here must be very low.
- C. The soil formations forming the over-burden of these bedrock formations vary from lean clays to sand-silt mixtures to gravel and sand. The first two of these formations have limited capabilities for the development of on-site waste water treatment on small lots. When lot size is increased to a minimum of 3 acres, however, on-site waste water treatment can be accomplished through proper design of an on-site treatment system.
- D. In the case of coarse-grain soils, gravel and sand, the treatment of on-site waste water results is little or no problem. However, these areas in the township are located generally within ground water recharge areas, which are essential to a continued water supply. Because of the rapid movement of water through soils of this type, it is essential that the low density be maintained in these areas as well so that pollution of the underground aquifers does not occur.
- E. The Chagrin River runs through Russell, and Russell has numerous small streams and three major streams: Griswold Creek, Silver Creek, and McFarland Creek. There are also extensive wetlands in the township. To ensure that these areas remain for the control of storm water run-off and the control of flooding, it is essential that land development does not interrupt these natural areas. It is also essential that these areas be protected from development so that they will not be polluted. Low density land development is the best means of achieving less runoff.

Figure 2: Well Program



F. As a result of these considerations, land use districts based upon 3- and 5-acre zones were recommended.

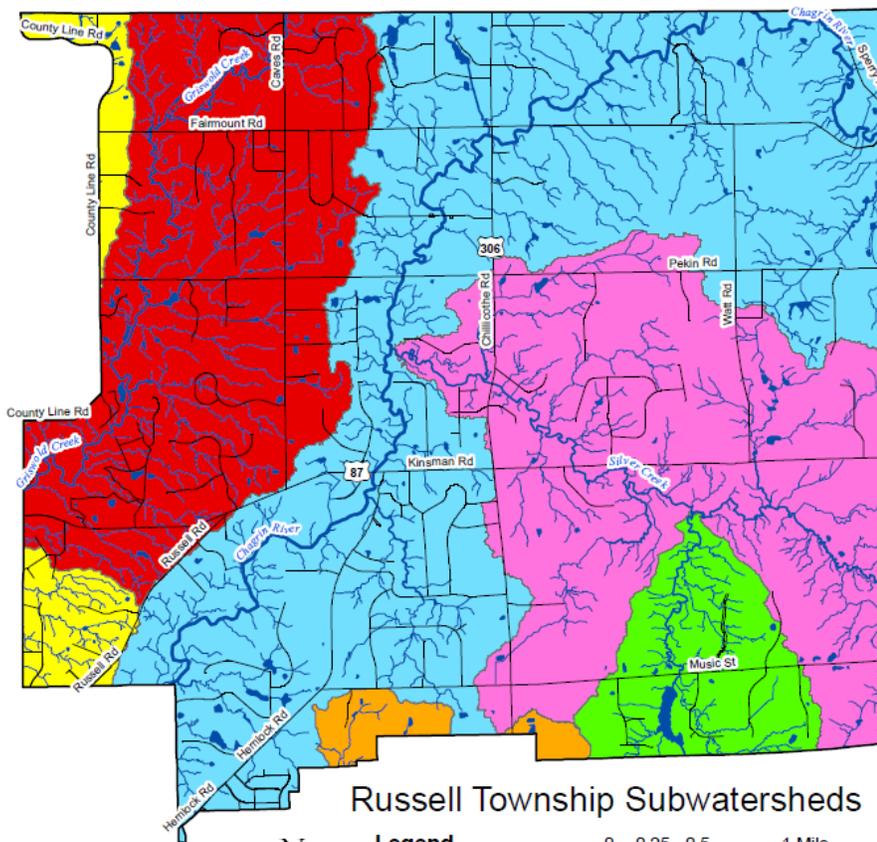
G. U.S. Geological Survey well program in the county is shown in the figure 2.

3. 1986 GROUND WATER STUDY BY DR. YORUM ECKSTEIN

In July 1985, the Russell Township Zoning Commission retained Dr. Yoram Eckstein, Kent State University Professor of Hydrogeology, to study the water resources of the township in two areas of inquiry:

- A. What is the minimum residential lot size in various sections of the township that will allow adequate well water supply without adversely affecting ground water for adjacent lots?

Figure 3: Subwatersheds



Russell Township Subwatersheds

- Legend**
- Rivers & Streams
 - Subwatershed**
 - Griswold Creek
 - McFarland Creek
 - Silver Creek
 - South Branch Silver Creek
 - Upper Main Branch
 - Main Branch

Note: Russell Township is located entirely within the Chagrin River watershed.



Map prepared by:
 Chagrin River Watershed Partners, Inc.
 PO Box 229
 Willoughby, OH 44096
 (440) 975-3870 www.crwpp.org

- B. What is the minimum residential lot size in various sections of the township which will accommodate individual septic systems and still protect the quality of the ground water resources?

Echoing the 1975 findings, Dr. Eckstein found that groundwater in Russell Township is particularly susceptible to contamination because of the proximity of the groundwater table to the surface and the relative absence of intermediate low permeability layers, such as clay and shale, which normally provide protection to the aquifer from surface contamination. Dr. Eckstein concluded that the township should implement groundwater management practices by limiting residential lot sizes to a minimum of two to five acres, depending on location in the township.

4. THE 1995 LAND USE GUIDE PLAN AND THE 1996 ACRT, INC. REPORT

Twenty years after the first Land Use Guide Plan, the Trustees issued their second Land Use Guide Plan. The 1995 Land Use Guide Plan incorporated the findings of the earlier guide plan. Dr. Eckstein was asked to review his 1986 findings for the 1995 Land Use Guide Plan, and he found that his prior conclusions remained valid, so those findings were incorporated as well. Finally, the environmental consulting firm of ACRT, Inc., Cuyahoga Falls, Ohio, was commissioned to review and evaluate existing environmental data. Its 51-page report analyzed environmental overlay data and provided recommendations for Zoning Regulations and protection regulations to preserve or manage the environmental resources. The report was adopted by the township in its entirety in the 1995 Land Use Guide Plan.

5. THE ACRT, INC. REPORT'S RECOMMENDATIONS AND THE CURRENT ENVIRONMENTAL INFRASTRUCTURE

The 1996 ACRT, Inc. report found that many of the provisions for protecting the ecosystem components of the township—groundwater, surface water, floodplains, wetlands, vegetated buffer zones, tree canopy/vegetation, and wildlife habitat—have considerable overlap. The benefits derived from any single protective measure, it noted, were likely to be a positive influence on the other ecosystem components.

The ACRT, Inc. report reviewed data and made recommendations for the following ecosystem components:

- A. Groundwater
- B. Surface water
- C. Vegetated buffer zones
- D. Floodplains
- E. Wetlands
- F. Tree canopy/vegetation
- G. Wildlife habitat

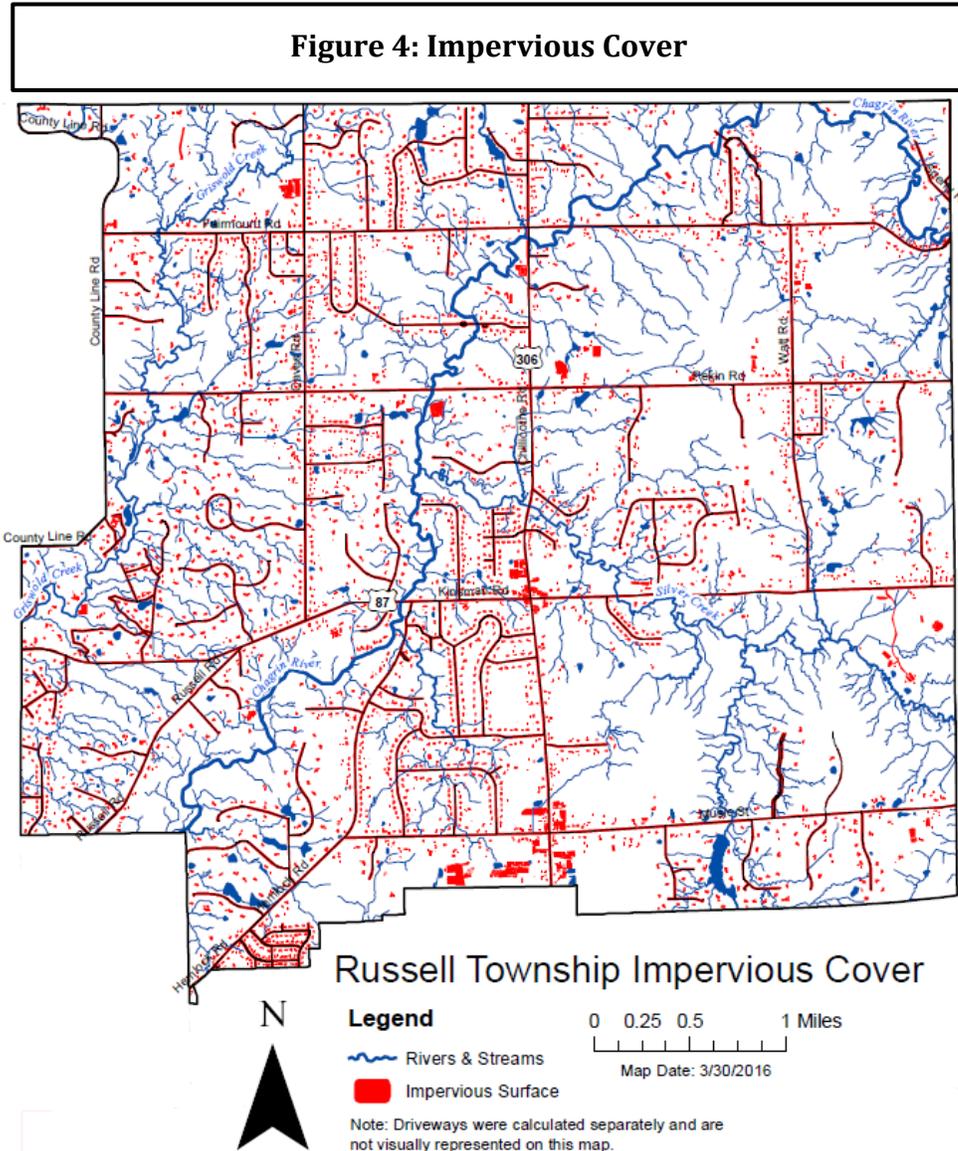
The more comprehensive protective measures recommended by ACRT, Inc. included: a community education program; the enactment of vegetated buffer zone protection regulation; provisions to protect open space (cluster development; tree preservation regulation); and the initiation of a more stringent site design review process that strongly considers the ecology of a site. ACRT, Inc. concluded that a highly effective way to protect the quality of the township's natural resources would be to create a natural resource overlay district that protects the community's most important environmental values.

Many of the recommendations that ACRT, Inc. made were taken into account by the township over the following two decades. These included the implementation of conservation easements, the development of regulations concerning impervious surfaces and lot coverage, regulations concerning water management and sediment control, the regulation of riparian setbacks, and developing educational programs organized by the

Zoning Commission, and later and currently by the Geauga Soil and Water Conservation District. Moreover, and perhaps most importantly, the township has maintained the large-lot zoning to protect the township’s environmental infrastructure.

In connection with the 2035 Land Use Guide Plan, the Chagrin River Watershed Partners, Inc. was commissioned to provide a set of environmental maps that detail many of the aspects of the current environmental infrastructure of the township. In addition, the Trustees considered the results of the 2012 land use survey as it related to environmental infrastructure.

Figure 4: Impervious Cover



A. Groundwater

The ACRT, Inc. report noted that the protection of drinking water quality and quantity is a significant environmental value. The shallow groundwater table and the bedrock geology make the groundwater resources of Russell Township, which originate 90% from one aquifer, vulnerable to surface contamination. Groundwater is also limited in supply, which requires certain minimum lot sizes to ensure availability.

Since the report, the township has made continued strides toward protecting the township’s groundwater. It has placed conservation easements on a number of lots in the township and designated other parcels as passive park districts. In 2002, the

township established regulations on the maximum amount of lot coverage with impervious surfaces. In 2004, the township issued regulations dealing with water management and sediment control, which were updated in 2007. In 2008, the

township issued regulations governing riparian setbacks within the township.

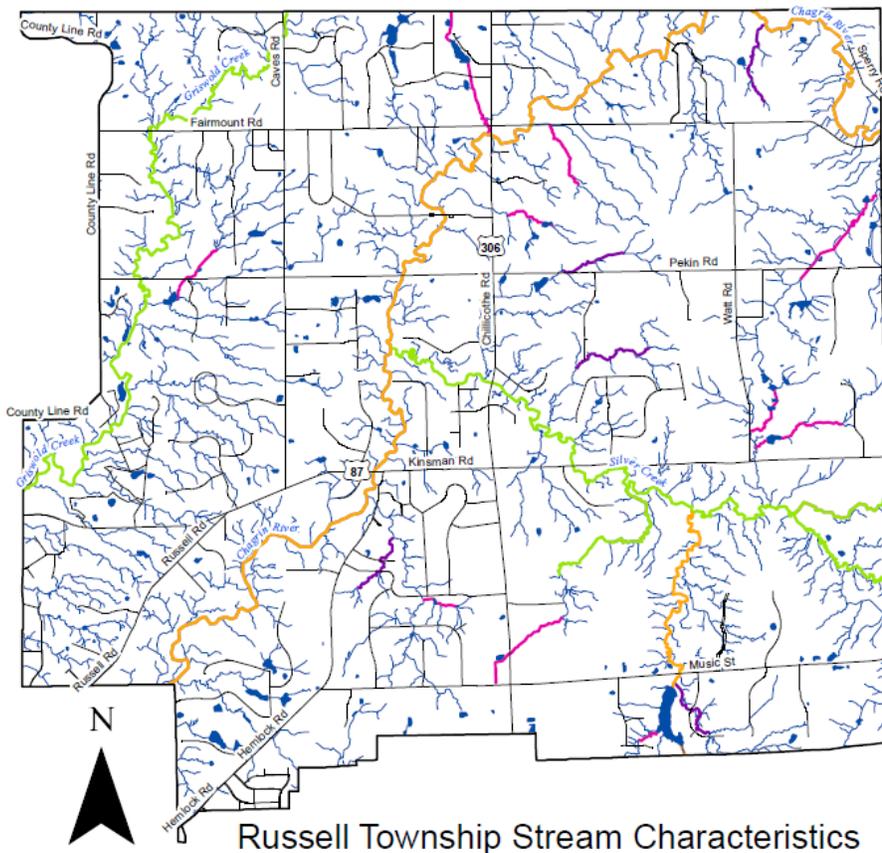
98% of surveyed townships residents reported in the 2012 land use survey that they have an adequate supply of water all or most of the time. 78% of those residents were very or somewhat satisfied with the quality of that water, down from 84% in 1994.

Some of the ACRT, Inc. groundwater recommendations should be considered for the future, including an underground storage tank management program and a pollution source inventory. In addition, further and expanded baseline testing of wells and water supplies (Geauga County has conducted some in the past few years and is expected to in the future) should be considered. The township needs to be

continually vigilant to protect the quality and quantity of groundwater, particularly given the fact that a lower percent of residents is satisfied with the township's water than in decades past.

Moreover, based on the 2012 land use survey, 77% of respondents stated that they would prefer local control over oil and gas drilling. Accordingly, an additional recommended protective measure is exploring ways to use existing general Zoning Regulations to limit oil and gas drilling, where drilling would be inconsistent with the township's Zoning Regulations and the general welfare of the township.

Figure 5: Stream Characteristics



Legend

- | | |
|--------------------------------|----------------------------------|
| Aquatic Use Designation | Primary Headwater Streams |
| Coldwater Habitat | Class II |
| Warmwater Habitat | Class III |
| Not Assessed | |

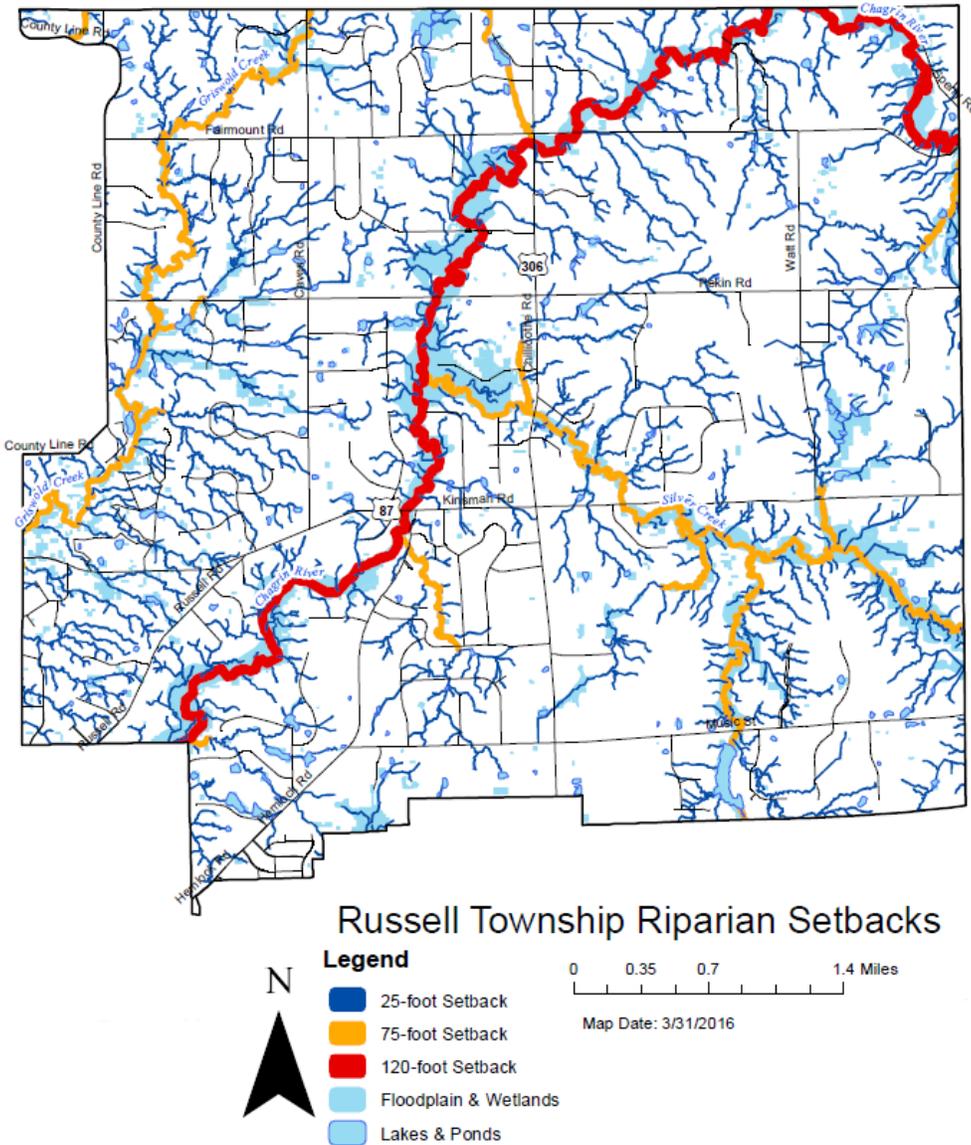
Source: Ohio EPA water quality monitoring data.
 For more information on Aquatic Life Use designations, see Ohio EPA's site at <http://www.epa.state.oh.us/dsw/wqs/index.aspx#123033406-beneficial-use-designations>
 For more information on PHWH streams, see Ohio EPA's site at <http://www.epa.ohio.gov/dsw/wqs/headwaters/index.aspx#123356694-questions--answers>

Map prepared by:
 Chagrin River Watershed Partners, Inc.
 PO Box 229
 Willoughby, OH 44096
 (440) 975-3870 www.crwpp.org

B. Surface Water

The ACRT, Inc. report noted that the health of an aquatic ecosystem is a strong indicator of a

Figure 6: Riparian Setbacks



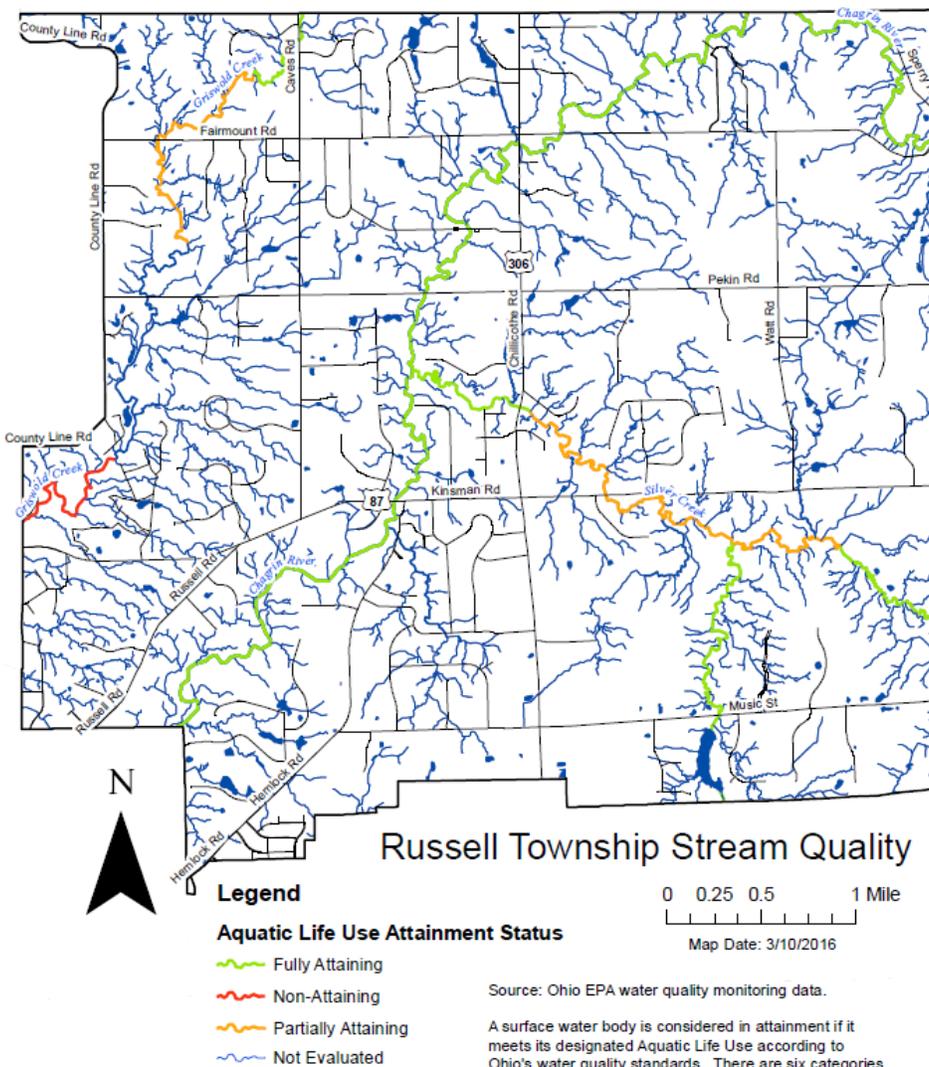
watershed’s ecological quality. The Chagrin River and its three Russell Township tributaries (Griswold Creek, Silver Creek, and McFarland Creek) have excellent water quality, but are vulnerable to upstream pollution beyond the township boundaries and to contamination within the township. Sanitary wastes are a prime source of pollution in streams. Point sources of pollution, such as centralized sewage treatment facilities and industrial discharges are regulated by state and federal Clean Water Acts. Non-point sources of pollution, such as septic systems, landfill leachates, road salt, and eroded silt are more difficult to identify or regulate.

The best way to reduce non-point pollution is to educate citizens about proper management practices.

As with groundwater, the township has acted to protect its surface water since the ACRT, Inc. report through conservation easements, regulations concerning lot coverage of impervious surfaces, the regulation of riparian setbacks, regulations concerning water management and sediment control, and educational programs organized by the Zoning Commission and later and currently by the Geauga Soil and Water Conservation District. The township has also created a waste treatment management plan (a “208 Plan”) in compliance with state and federal law to protect surface water from sanitary waste. Ditches off of township roads further act as a storm water control system.

In 2012, residents were surveyed about their septic or package systems and remain generally pleased with waste water disposal in the township. 87% of residents surveyed in 2012 had no issues with their waste water systems, and only 16% reported issues with septic system odors, down from 23% in 1994. Surveyed residents were also asked to consider the installation of centralized water and a sewer system in Russell Township in the next 20 years. The majority of respondents were opposed to the installation of a centralized water or sewer system within the next 20 years, regardless of whether or how the township would pay for it.

Figure 7: Stream Quality



Source: Ohio EPA water quality monitoring data.

A surface water body is considered in attainment if it meets its designated Aquatic Life Use according to Ohio's water quality standards. There are six categories of aquatic life use: coldwater habitat, seasonal salmonid habitat, exceptional warmwater habitat, warmwater habitat, modified warmwater habitat, and limited resource waters.

Streams not in attainment or in partial attainment should be prioritized for mitigation of sources of stream degradation, with the goal of restoration of its designated aquatic life use.

In addition, 82% of Russell residents surveyed in 2012 were either very or somewhat concerned about the potential effect on water quality from oil and gas drilling in Russell or in adjacent communities. Contamination could either arise from surface contamination or, if a well were to leak, from contamination of the aquifer. 77% of Russell residents surveyed stated that they would prefer local control over oil and gas drilling.

The township should consider additional surface water protection measures including stormwater pollution protection, winter road management, limitations on new development, water quality protection regulations, and further educational programs.

Map prepared by:
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C. Vegetated Buffer Zones

The ACRT, Inc. report noted that vegetated buffer zones adjacent to rivers, lakes, and wetlands offer significant protection of water quality by serving as biological filters for water-borne pollutants from surface water runoff. ACRT, Inc. analyzed the river corridor buffer zones in the township. Of the 36 miles of rivers and streams in Russell Township, 83% were forested riparian corridors in 1996. It found that an additional study was needed for the 17% which is non-forested to determine if some level of scrub-shrub vegetation exists or if it is primarily landscaped lawn (which offers the least protection of water quality). In addition to the filtering function of vegetated buffer zones, they also reduce streambank erosion, provide food and habitat for wildlife, enhance property values, and provide a framework for future conservation corridors and trail greenways.

ACRT, Inc. recommended that the township should consider adopting riparian buffer zone regulations. The setbacks limit streambank erosion, reduce flood size flows, filter and settle out pollutants, and protect aquatic and terrestrial habitat. It found the regulations should have flexible-width buffer zones to take into account the variety of site conditions which are present in the township, and that an official riparian setback map should be prepared, which is available for public view and use.

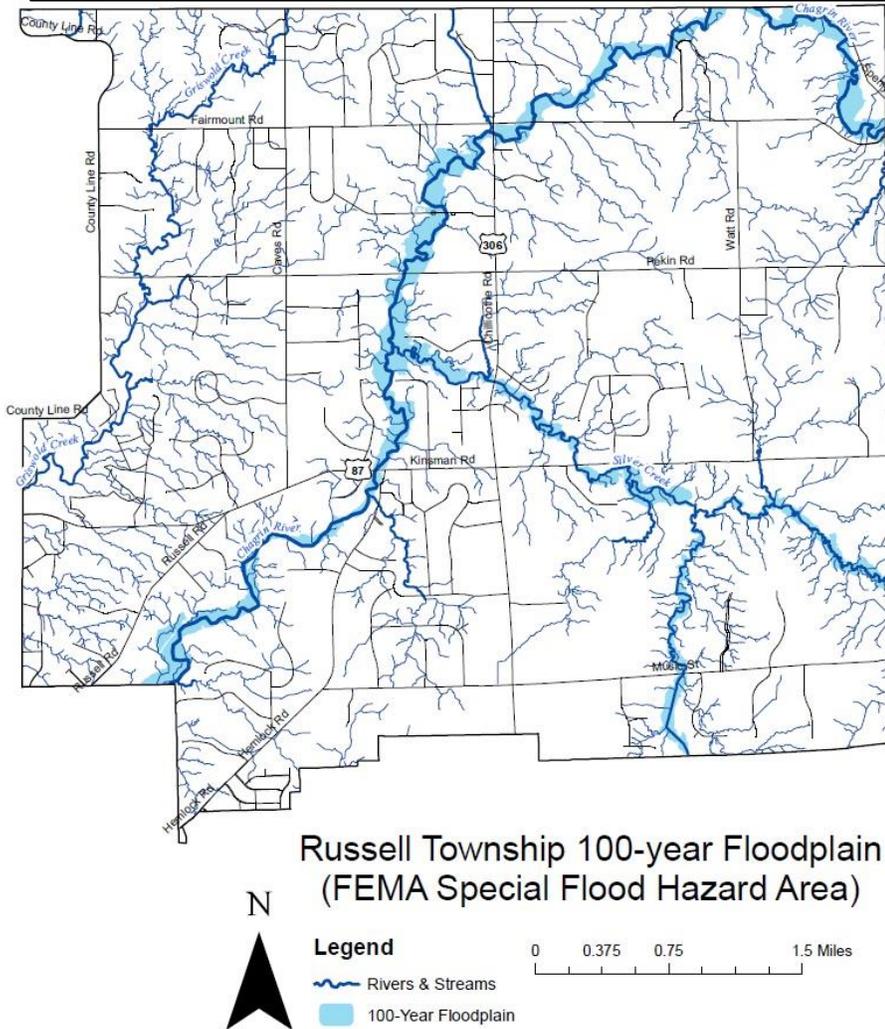
Since that time, the township has implemented the recommendation. In 2008, the township created riparian setback regulations for the township, and created an official riparian setback guide map as well for public view and use. The purpose of these regulations is to regulate the location of buildings, structures, uses, and related soil-disturbing activities within areas next to rivers and streams. Enforcement of this regulation preserves and conserves the quality and free-flowing condition of the rivers and streams, reduces flood impacts, stabilizes their banks, reduces pollutants, reduces the presence of aquatic nuisance species, and provides the riparian habitats with shade and food as well as a wide array of wildlife by maintaining diverse and connected riparian vegetation. These regulations apply to all zoning districts. The township also created a public riparian setback guide map, which it incorporated into the Zoning Resolution, for the township to use as a guide in determining where the riparian setback is enforced.

The township should consider creating a comprehensive “environmental overlay district” in the future, to set zoning regulations that apply across zoning districts. These districts set forth restrictions on development and use, such as the riparian setback regulations, where it is appropriate to preserve and protect the environmental infrastructure of the township.

D. Floodplains

The 50- and 100-year floodplains in Russell Township have been delineated by the Federal Emergency Management Agency (FEMA). To build within flood zones in Geauga County, a floodplain permit must be secured from the County Building

Figure 8: 100-year Floodplain



Department. Septic systems are not permitted within the 100-year floodplain. Floodplains are important breeding grounds for amphibians, fish, and reptiles. Floodplain wetlands also absorb water during high flows, reduce local flooding, and delay the release of water downstream.

The Chagrin River Watershed Partners has provided maps to the township in connection with the 2035 Land Use Guide Plan that detail the 100-year floodplain.

E. Wetlands

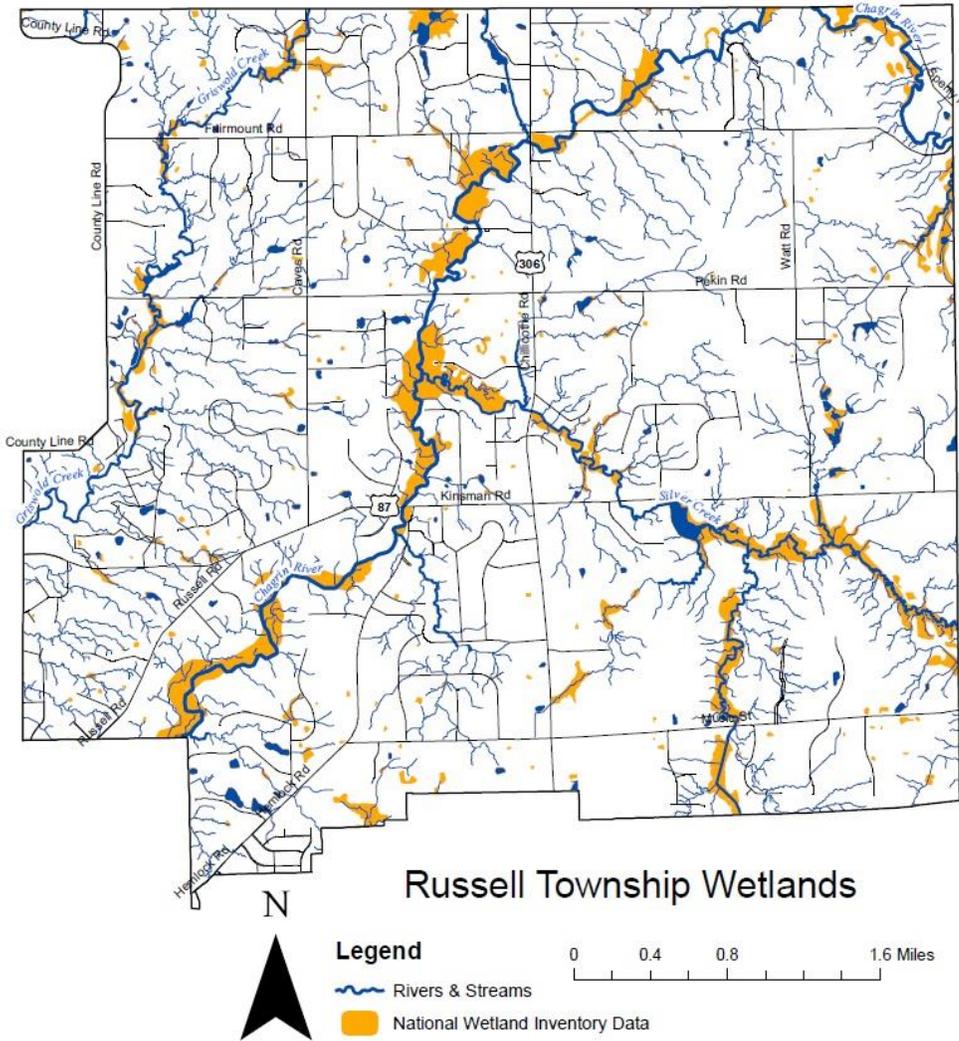
The wetlands of Russell Township are plentiful and noteworthy. Wetlands are delineated based on the presence of hydric soils, wetlands hydrology, and hydrophytic vegetation. About 300 acres of hydric soils exist within Russell Township. Figure 9 shows

inventoried wetlands in the Township by the National Wetland Inventory; additional wetlands and areas capable of supporting wetlands may also be present in the Township. A large portion of land (7,000 acres) is covered by non-hydric clay-based soils which have small hydric inclusions (slight depressional areas) which become "seasonal wetlands". Mapped wetlands comprise 612 acres, or 5% of the township.

Wetlands hold significant environmental, aesthetic, and recreational value and deserve maximum protection. Both permanent and seasonal wetlands provide important habitats for a wide variety of plants, insects, and amphibians, some of which are found nowhere else in the township. Wetlands are important in flood mitigation and stormwater abatement, serving as both sponges and filters. Wetlands are also important for aquifer recharge and for streambank stabilization during high flows.

West Woods Park, a Geauga Park District project, contains 49 acres of wetlands in

Figure 9: Wetlands



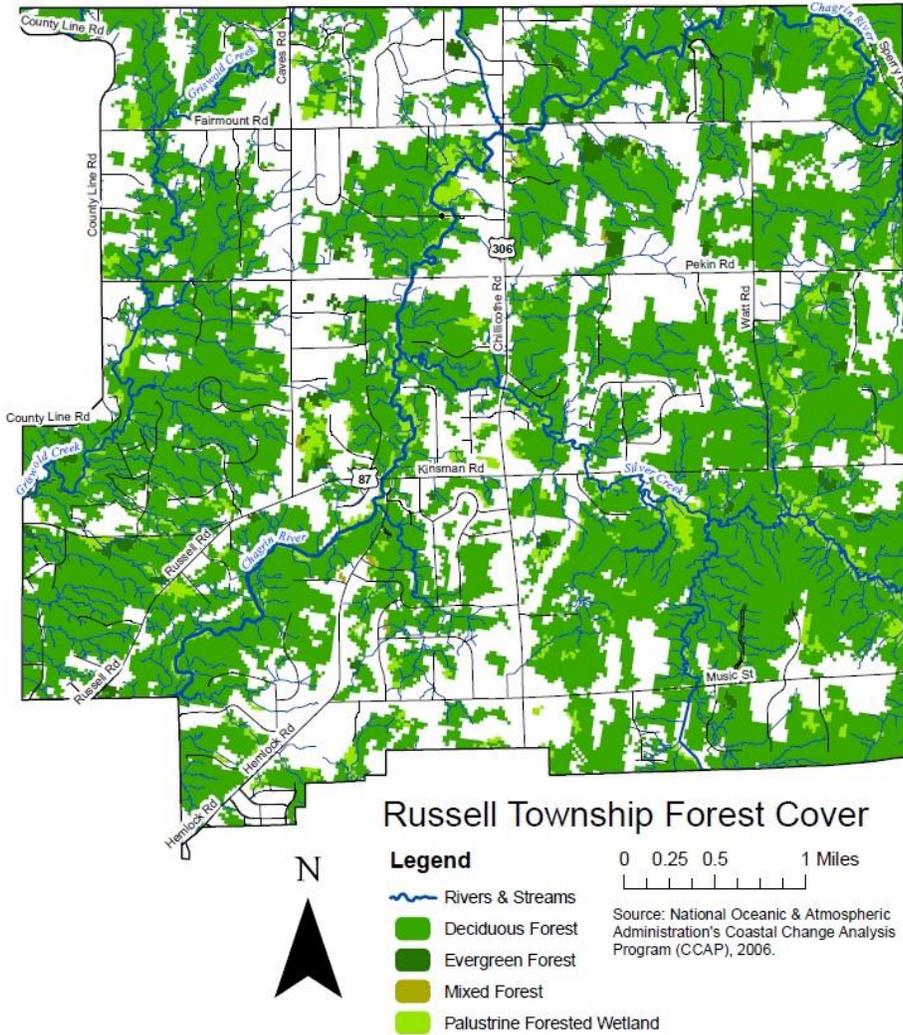
the 192-acre original parcel. ACRT, Inc. recommended that the township and the Geauga Park District should consider acquiring adjacent parcels to the park that have valuable wetlands, springs, and woodlands. Other options would include securing easements from adjacent private landowners and requiring buffer zones to avoid development encroachments on the West Woods habitat.

Since the report, the township has worked actively to preserve open space in the township. The Geauga Park District acquired parcels adjoining West Woods Park, and the township added several parcels to preserve open space as well. Moreover, the township

also rezoned other parcels to Passive Park District. The township established the Passive Park District to preserve and protect park lands, wilderness areas, open spaces and scenic areas; to conserve fish and wildlife; to promote forestry, wetlands, and other natural habitats; to protect, promote, and maintain the area's ecosystem; to enhance the public's knowledge of the area's ecosystem; and to educate the public about the preservation of natural habitats. Parcels zoned Passive Park District may be used in a passive or educational manner so as not to disturb the natural terrain, wildlife and habitat of the area. As of today, there are 1390 acres of passive park district in the township.

It is recommended that the township continue to act to preserve wetlands within the township and to designate other parcels as Passive Park District as appropriate to preserve the township's environmental infrastructure.

Figure 10: Forest Cover



6. Tree Canopy and Vegetation

Over 63% of the land (7,882 acres) in Russell Township is overlaid with mature forests or successional woods. The original vegetation, before extensive farming occurred in the 19th century, was primarily beech and sugar maple, with areas of oak, elm, ash, and willows (in wet areas). Many farm fields have reverted to successional woods, mostly elm, ash, and red maple. The integrity of the mature forests and successional woods is relatively intact. Mature forests are becoming increasingly rare in Northeast Ohio. Woodlands are valuable resources, which contribute to the ecosystem by providing

wildlife habitats, surface runoff, flood protection, and air quality enhancement, in addition to being aesthetically pleasing and increasing property values.

Over the past two decades, the township has worked actively to preserve open space in the township, having added several parcels and rezoned other parcels to passive park district. Other recommendations of ACRT, Inc. that should be considered include instituting a historic or heritage tree program and adopting tree preservation policies or guidelines.

F. Wildlife Habitat

Wildlife diversity is directly related to habitat diversity. The rivers, streams, wetlands, and woodlands in Russell Township are impressive in both quality and quantity. Thus, wildlife is also abundant and diverse.

The ACRT, Inc. report found that Russell Township could enhance and protect its diverse wildlife by maintaining varied and abundant terrestrial and aquatic habitats through preservation of open space and avoiding habitat fragmentation. Providing terrestrial and riparian habitat corridors between developed parcels is important. Large areas of unconnected open space can be deceptively ineffective in providing wildlife habitat because they inhibit necessary migration for food, shelter, and mates.

The ACRT, Inc. report also found the township should consider rural, open residential zoning to protect permanent open space. Such open space areas should be connected to other open space and habitat corridors whenever possible. The township should consider how existing and future dedicated open space is arranged in relation to potential habitat corridors, continuous greenways, and hiking paths. In particular, the township should make a concerted effort to create wildlife corridors through the use of Passive Park District and acquisition of land in coordination with the Western Reserve Land Conservancy and the Russell Park Commission.

CHAPTER VI

LAND USE PATTERNS

1. INTRODUCTION

In order to establish future land use policies, it is important to understand existing land use patterns, and the policies and forces that created them. Often, in rural communities, development patterns are established by developers or land speculators rather than by a logical governmental process involving citizen participation. Even in communities which have been able to guide their growth with zoning and development regulations, strong pressures for development have resulted in land use patterns that are less than desirable.

Uncoordinated development decisions on a property by property basis often cause environmental and aesthetic problems. Strips of retail uses spring up along the busiest roads, which become congested. Housing developments are created that lack open space and ruin the rural character. Developing the land at densities that exceed its natural carrying capacity can also lead to environmental problems including depletion and pollution of groundwater supplies, soil erosion, flooding, and destruction of wetlands and other wildlife habitats and natural ecosystems.

For the past several decades, development pressures have been increasing in Geauga County, with a movement towards urban and suburban densities, particularly in housing. During this period, Russell Township has managed to maintain its local environment through the adoption and enforcement of clear land use policies. Development has taken place in Russell since the 1975 and 1995 Guide Plans, but for the most part, this development has been in locations and at densities that are within the environmental capabilities of the land.

This chapter compares land use as observed at the time of the 1975 and 1995 Guide Plans to the current land use in Russell Township.

2. LAND USE COMPARISONS: 1974 TO 1995 TO 2016

A. Land Use Category Definitions

The 1974 Township Land Use Map divided the township into five major land use categories:

1. Residential
2. Commercial/Industrial
3. Municipal/Religious
4. Open Space
5. Orchard/Farm

Anything that did not fit into one of these categories went into an Estate/Undeveloped Land category. This same taxonomy was used in 1995. The 2035 Land Use Guide Plan taxonomy has some minor category name changes, and splits Municipal/Religious into two categories: Municipal and Institutional.

The lands under each of the 1974 classifications were determined by examining aerial photographs, supplemented with some field checks where there was some question.

The 1995 Land Use Map was updated using the township's Zoning and Lot Map, created by C.T. Consultants, Inc. as well as field surveys.

The current classifications have been determined from a variety of information sources. They were partially based on a database of information from the Geauga County Auditor's website, including information as to which parcels have bedrooms, and the agricultural tax status of parcels. Zoning was also used to identify some classifications, and direct knowledge of actual uses was applied to many parcels, particularly in the classes with smaller numbers of parcels.

The 2035 Land Use Guide Plan classifications are:

1. Residential
2. Commercial
3. Municipal
4. Institutional
5. Open Space
6. Agriculture
7. Vacant/Undeveloped

The 1974 classifications did not necessarily follow parcel lines; some parcels were partially in one use class and partially in another. The 1995 classifications seem to have unified many of those parcels into one class or the other, but left others divided. The current classifications did not subdivide parcels.

a. Residential Land Uses:

1974 and 1995

Those land uses which were developed for the primary purpose of year-round and/or seasonal occupancy by a family unit.

2016

All parcels that show bedrooms in the County Auditor's database unless reclassified differently, including: parcels with part or all of residence, parcels being used for yard of a residence, parcels that have a driveway to a residence, or parcels too small to be buildable and so considered part of an adjacent residential parcel with the same owner.

b. Commercial/Industrial Land Uses:

1974

Land areas that were developed for the primary purpose of retail business, the provision of personal services, professional and/or business offices, wholesale business, light manufacturing, processing or assembling of goods, commercial agriculture and similar uses.

Commercial recreation facilities were not included in this category except those portions of the parcel which have been developed in commercially-oriented uses. For the purpose of this report, these facilities have been defined as open spaces. The entire parcel of land upon which the use is located has been assumed to be totally developed regardless of the percentage of lot coverage by any single building or group of buildings and combinations of accessory uses such as parking, storage, etc.

1995

Land areas that were developed for the primary purpose of retail business, the provision of personal services, professional and/or business offices, wholesale business, light manufacturing, processing or assembling of goods, commercial agriculture, and similar uses.

Commercial recreation facilities were not included in this category except those portions of the parcel that were developed in commercially oriented uses. For the purpose of the 1995 report, parcels containing commercial recreation facilities were generally defined as open spaces.

In this category, the entire parcel of land upon which the use is located was assumed to be totally developed regardless of the percentage of lot coverage by any single building or group of buildings and combinations of accessory uses such as parking, storage, etc.

2016 (Commercial)

Parcels that have been developed for the primary purpose of retail business, the provision of personal services, professional and/or business offices, wholesale business, light manufacturing, processing

or assembling of goods, commercial recreation, cell towers, and similar uses. Parcels included in this class were determined by classification as commercial in the County Auditor's database, as well as through direct knowledge of uses.

c. Municipal/Religious Community Facilities:

1974 (Community Facilities)

Those land areas that were developed for the primary purpose of providing services for the general public at large. These uses may have been developed by public or semi-public agencies such as municipal governments, religious institutions, fraternal organizations, public utilities and school boards.

Public recreational facilities were not included in this category, and for the purpose of this report were defined as open spaces.

1995 (Municipal/Religious Community Facilities)

Those land areas that were developed for the primary purpose of providing services for the general public at large. These uses may have been developed by public or semi-public agencies such as municipal governments, religious institutions, fraternal organizations, public utilities and school boards.

Public recreational facilities were not included in this category as in 1974, and were defined as open space.

2016 (Institutional)

Schools, private clubs, private recreation areas, religious institutions, performing arts schools, and research campuses (ASM). Parcels included in this class were determined by classifications in the County Auditor's database, as well as through direct knowledge of uses.

2016 (Municipal)

Township facilities, cemeteries, county sewer plants, gas company, electric company, power lines. Parcels included in this class were determined by classifications in the County Auditor's database, as well as through direct knowledge of uses.

d. Open Space:

1974

Those parcels that were developed to provide a means of meeting the leisure-time needs of the public in terms of active and/or passive recreation.

Active recreation was defined as any parcel of land upon which an organized recreational activity occurs, such as golf course or playground.

Passive recreation was defined as any land area that provides for unstructured leisure-time activities such as nature trails, fishing, picnicking or sitting. Such an area also had the added requirement of being known publicly as such a use, so as to differentiate it from a parcel of undeveloped land that may have been similarly used from time to time.

Those parcels that in the foreseeable future would remain open and undeveloped for all intents and purposes. This category applied to cemeteries, land and buildings in historical preservations, and water bodies other than reservoirs.

1995

Also included were those parcels that were developed to provide a means of meeting the leisure-time needs of the public in terms of active and/or passive recreation. Also included in the open space category were those parcels of land which in the foreseeable future would remain, for all intents and purposes, open and undeveloped. This category applied to cemeteries, land and buildings in historical preservations, and water bodies other than reservoirs.

2016 (Park)

All parcels zoned Passive Park District and Active Park District.

e. Farm/Orchard:

1975

Those land areas that were actively producing agricultural products, i.e., fruit, poultry, beef, truck gardening, as well as ornamental horticultural plants for commercial and/or home use.

1995

Those land areas that were actively producing agricultural products, i.e., fruit, poultry, beef, truck gardening, as well as ornamental horticultural plants for commercial and home use. This category also included former farmland not under cultivation, and large estates over 10 acres.

2016 (Agricultural)

Large farms, business farms, hayfields, and parcels that currently qualify for and are subject to current agricultural use value classification for tax valuation. Parcels in this class were determined

by classifications in the County Auditor’s database as well as through direct knowledge of uses.

f. Vacant/Undeveloped:

2016

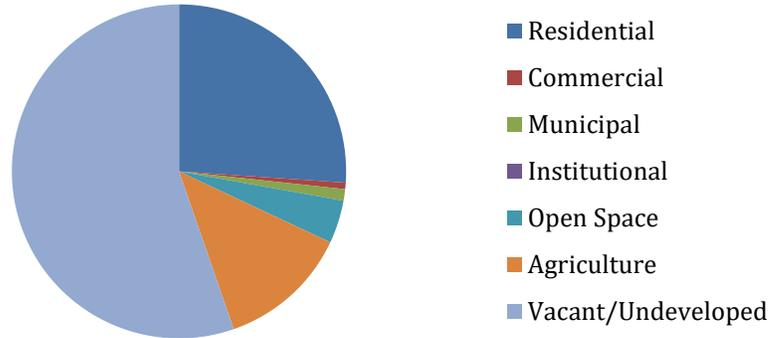
Separate vacant parcels that have not been developed for any use. This designation does not consider nor have any bearing on whether a parcel is or is not potentially developable for a use. This was only addressed in the 2035 Land Use Guide Plan.

Land Usage in Acres

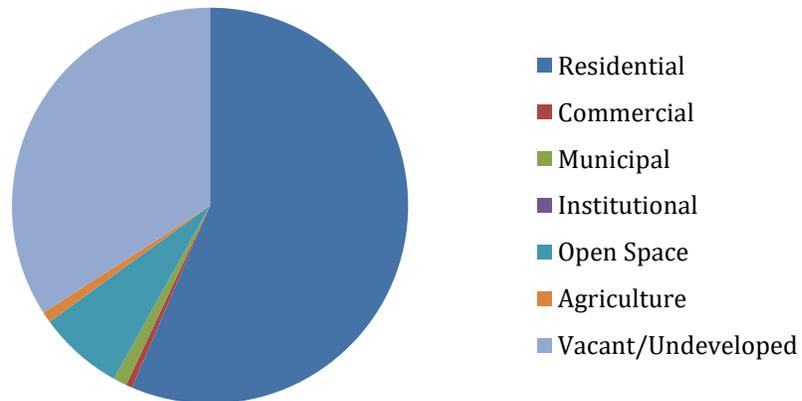
	2016	1995	1974
Residential:	7,636.99 acres	7,055 acres	3,260 acres
Commercial:	112.12 acres	65 acres	78 acres
Municipal:	99 acres	139 acres	139 acres
Institutional:	268.74 acres	(in Open Space)	(in Open Space)
Open Space:	1,458.19 acres	869 acres	521 acres
Agriculture:	1,587.75 acres	110 acres	1,588 acres
Vacant/Undeveloped:	899.91 acres	4,262 acres	6,914 acres

Land Use Maps

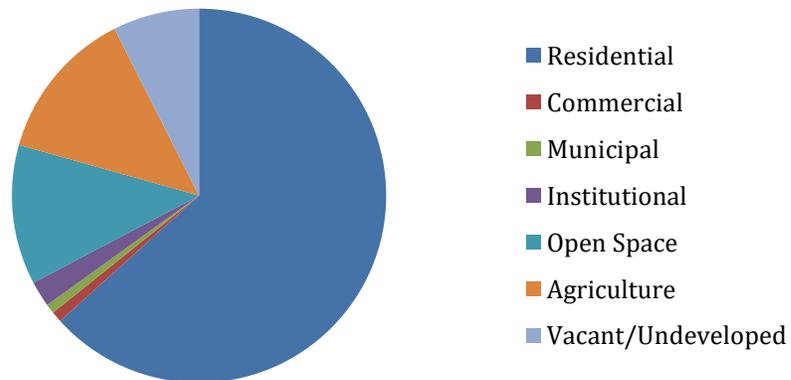
1974

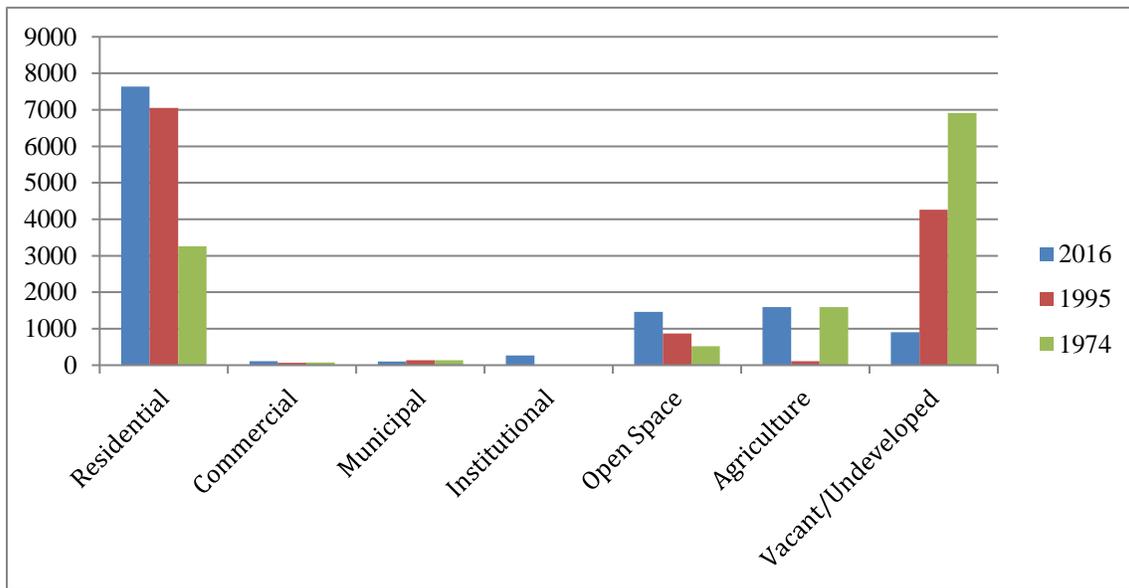


1995



2016





B. Analysis

The 1995 land use survey used the same categories of land use as the 1974 land use survey that resulted in the 1974 Township Land Use Map, in an effort to facilitate comparison and documentation of changes. The 1974 land use survey used close scrutiny of aerial photography to delineate actual areas developed for the different categories. The criteria used to differentiate uses were not reported in the Land Use Guide Plan at the time. The 1995 methodology is only illuminated by the statement that “the 1995 Land Use Map was updated using the township’s Zoning and Lot Map, created by C.T. Consultants, Inc. as well as field surveys.” If there were objective criteria used to differentiate uses in either survey, they were not stated in either Land Use Guide Plan.

There are some discrepancies between the results of the two land use surveys which indicate that the methodologies were not entirely comparable.

The 1974 land use survey split some parcels, assigning part to one category of use, part to another. This is evident in a close examination of some of the large residential lots on the 1974 Township Land Use Map. The 1995 Existing Land Use Map shows most of these split parcels reunited into one category.

Neither the 1974 nor the 1995 guide plans provided any identification of what was referred to in 1975 as “undeveloped land” and in 1995 as “Estates/Undeveloped Land,” which in 1975 represented 55.3% of the total township acreage, and in 1995 comprised 34.1% of that acreage.

In 1995 “estates” were included with undeveloped land, but “large estates over 10 acres” were included in the definition of the Farm/Orchard category, which also

included “former farmland not under cultivation.” Despite these inclusions in this category, the number of acres in the Farm/Orchard category dropped radically in 1995 from 1588 acres to 110 acres.

With these discrepancies and potential other differences kept in consideration, the two earlier surveys can be compared and analyzed in broad general terms, but looking for meaning in small, concise changes is probably not valid.

It is difficult to develop a methodology to classify land uses without relying to some extent on subjective criteria that would be hard to replicate in the future. The methodology used in the 2016 land use survey is an attempt to provide a strong objective basis, but ultimately also relies upon subjective judgments. The database from the County Auditor’s website, with its record of multiple property attributes, is the primary foundation for assigning parcels to the various categories. It was decided to use parcels as the base units, because that is how the Auditor’s database presents information, and parcel information can be used in available software to create land use maps of the township. After initial separation of parcels into categories based on attributes enumerated in the database, there was some significant reassignment of parcels to other categories based on direct knowledge of uses. Adjacent parcels with a single owner were consolidated to a single use where warranted, as often a single “lot” is actually made up of a number of adjacent parcels.

The vast majority of parcels in Russell fall into the residential use category. Almost all of these parcels were identified from database attributes such as the presence of one or more bedrooms and the Auditor’s assignment of the parcel to one of the residential tax classifications. After the residential parcels were identified, the other categories held much smaller numbers of parcels, allowing existing knowledge of uses and direct observation to strongly influence the assignment of parcels to all the other classes.

Despite the inherent difficulties in comparing three land use surveys, each conducted 20 years apart and based to a great deal upon unknowable subjective criteria, there are broad general observations to be made about township land use through time and trends that can be observed.

1. Residential Land Uses

The total acreage of land identified as subject to residential use by the land use surveys has grown from 3,260 acres in 1974, to 7,055 acres in 1995, and rests at 7,636.99 acres in 2016. This would seem to indicate rapid growth during the early time span, which has slowed considerably in the last 20 years. A part of the large growth in these numbers between 1974 and 1995 may be attributable to a change in classification methodology. In 1974, some large parcels were partially assigned to residential and partially assigned to another category or considered to be undeveloped. In 1995 most parcels, no matter their size, were assigned

entirely to one category or another. Many large residential lots, which were previously only partially included in the residential tally, fell completely within that class in 1995.

A search of the Auditor's database for parcels that have one or more bedrooms, and are classified by the Auditor as residential, revealed a total of 2,138 such parcels in Russell Township. This number is not an absolute accurate number of residential uses, but can be used for comparative purposes. Examining the year that the structures on these properties were built, one of the attributes included in the Auditor's database reveals that 1,371 of these structures were built prior to the 1974 land use survey, 1,951 were built prior to the 1995 land use survey, and 2,138 constructed prior to our current survey. This indicates a growth of 42% from 1974 to 1995, and a growth of 9.6% from 1995 to 2016. If we examine the acreage derived from the methodologies utilized in each of the three surveys, we see a growth of 116% from 1974 to 1995, and a growth of 8.2% from 1995 to 2016. Checking the numbers from the database against U.S. Census numbers for the number of dwelling units in the township reveals a fairly close correspondence for those structures built prior to 1970 and 1990. In 1970, there were 1,283 dwelling units, while the database indicates 1,253 residential structures. In 1990, the Census indicates 1,977 dwelling units, while the database indicates 1,839 residential structures. The correspondence is by no means exact, but it is close enough to indicate a degree of reliability in the database numbers.

Using the database numbers reveals sustained, but not radical, growth from 1974 to 1995, and a considerable reduction in that growth rate since 1995. Another number to be examined in future residential development in the township is the number of new residences built to replace an existing residence that was removed. Eight of the residences built since 1995 are replacement structures. We have no data for this prior to 1995. This could be a developing trend given the aging of township housing, the reduction of available building sites, and the probability that the most desirable building sites are mostly already in use and the remaining vacant sites are still to some extent, vacant because they were less desirable.

2. Commercial Land Uses

This is a small land use category in Russell Township; being less than 120 acres, less than 1% of the township, and a category that exhibits limited change through time. Acreage decreased by 13 acres (17%) from 1974 to 1995. These surveys used identical definitions of commercial use, so the decrease may be the result of the cessation of one or more uses, or it may be a result of different subjective criteria used to identify the use. In 2016, there is a significant increase of 47 acres (72%) as a result of including cell tower sites as well as the inclusion of commercial recreation in this use class.

3. Municipal and Institutional Land Uses

The 1974 and 1995 land use surveys used identical definitions for this land use class, despite applying different labels (1974, Community; 1995, Municipal/Religious Community Facilities), and the acreage was unchanged. In 2016 this class was split into two classes, Municipal (primarily public government and utility uses) and Institutional (school board and private institution uses). Private recreational uses are included in the 2016 Institutional class, and there have been changes and additions to both Municipal and Institutional uses since 1995. The old Russell School has been removed, and in its location is the new Russell Police Station. The neighboring Russell Fire-Rescue Station is a new addition since 1995. The 2016 Institutional class also includes Laurel School's campus off of Fairmount Road, built since 1995.

4. Open Space

This class of land use has shown persistent growth over the years, consistent with a community taking positive action towards a desired outcome of preserving open and green space. The 1974 and 1995 land use surveys used identical definitions for this land use class and exhibited growth of 67% from 1974 to 1995. The 1995 Guide Plan attributed this to the initial land acquisitions for the West Woods Park and acreage acquired by the Russell Parks Commission. This category included cemeteries, as well as land and buildings in historical preservations, in these early surveys. The 2016 land use survey moved the cemeteries and land and buildings in historical preservations into the Institutional use class and defined Open Space as all parcels zoned Passive Park District and Active Park District. Even after shifting some parcels out of this class of land use, it still exhibited a 68% growth rate from 1995 to 2016. Again, this is consistent with a community taking positive action towards a desired outcome of preserving open space and green space. There have been no new Active Park District parcels added since 1995, but there have been 25 new additions as Passive Parks, totaling 1,031 acres, in that time. This includes new acreage acquired by both the Geauga Park District, primarily at the West Woods Park, and the Russell Park Commission.

5. Agriculture

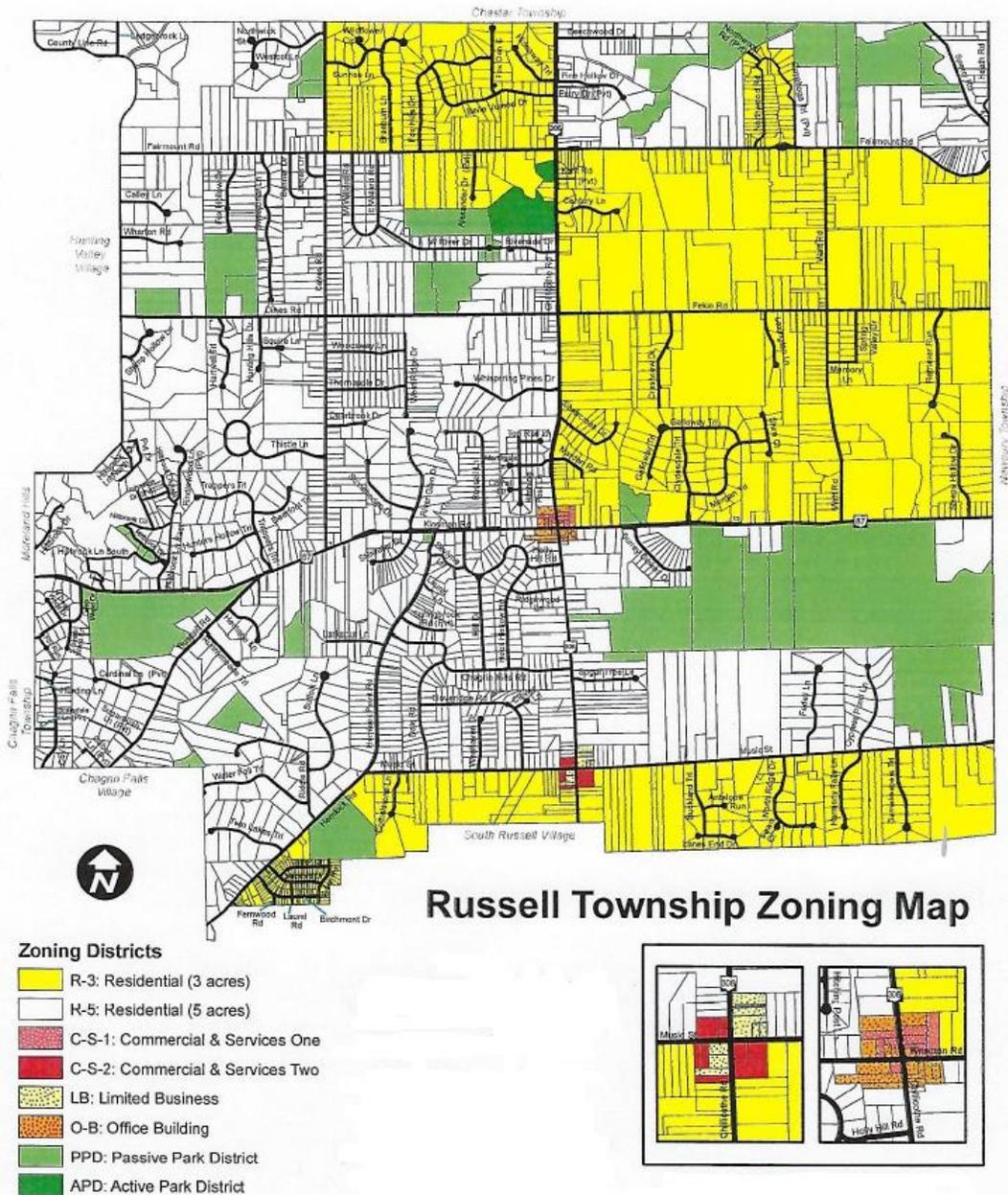
Looking back to the 1974 land use survey, the approximately 1,600 acres dedicated to agricultural use is very similar to the acreage devoted to it today. The 1995 figure of 110 acres appears to be an outlier.

6. Vacant/Undeveloped

As the number of acres dedicated to residential and commercial use has grown, as has the number of acres dedicated to open space, the amount of vacant or undeveloped land has shrunk considerably, although this term was not defined

in either of the past two land use surveys, making comparison difficult. In any event, given the buildout of the township and the dedication of additional open space, the roughly 900 acres that have not been developed for any use (which includes parcels both potentially developable and those that are not developable) is the lowest on record. It will undoubtedly shrink further over the coming years as well.

Figure 1: Zoning Districts



C. EXISTING ZONING

Shortly after the Russell Township Land Use Guide Plan was adopted in 1975, the township updated its Zoning Resolution to bring it into accord with the recommendations of the new guide plan. The Zoning Resolution divides the township into 8 zoning districts as shown in the legend on the Russell Township Zoning Map.

D. EXISTING ROAD CATEGORIES

At the current time, Russell Township divides its roads into three major categories:

1. Thoroughfares
 2. Feeders/Collectors
 3. Local Roads
- a. Thoroughfares, also referred to as arterial roads, are designed for through traffic. They typically carry heavy traffic volumes. A secondary function is to provide access to abutting properties.

There are two thoroughfares in Russell Township, State Route 87 (Kinsman Road) and State Route 306 (Chillicothe Road).

- b. Feeders, also known as collector roads, are designed for limited through traffic movement, but are primarily intended to take traffic from local roads and direct it to arterial roads. They typically carry medium traffic volumes. A secondary function is to provide access to abutting properties.

The Russell Township feeder roads are as follows:

North-South:

County Line Road
Caves Road
Watt Road
Russell Road
Hemlock Road
Hemlock Point Road

East-West:

Fairmount Road
Dines Road
Pekin Road
Music Street

Local roads are designed to provide direct access to abutting properties and to serve local township needs. They typically carry light traffic volumes. Russell Township roads not listed as thoroughfares or feeders are classified as local roads. See the Russell Township Road Map on the next page for locations.

Figure 2: Road Network

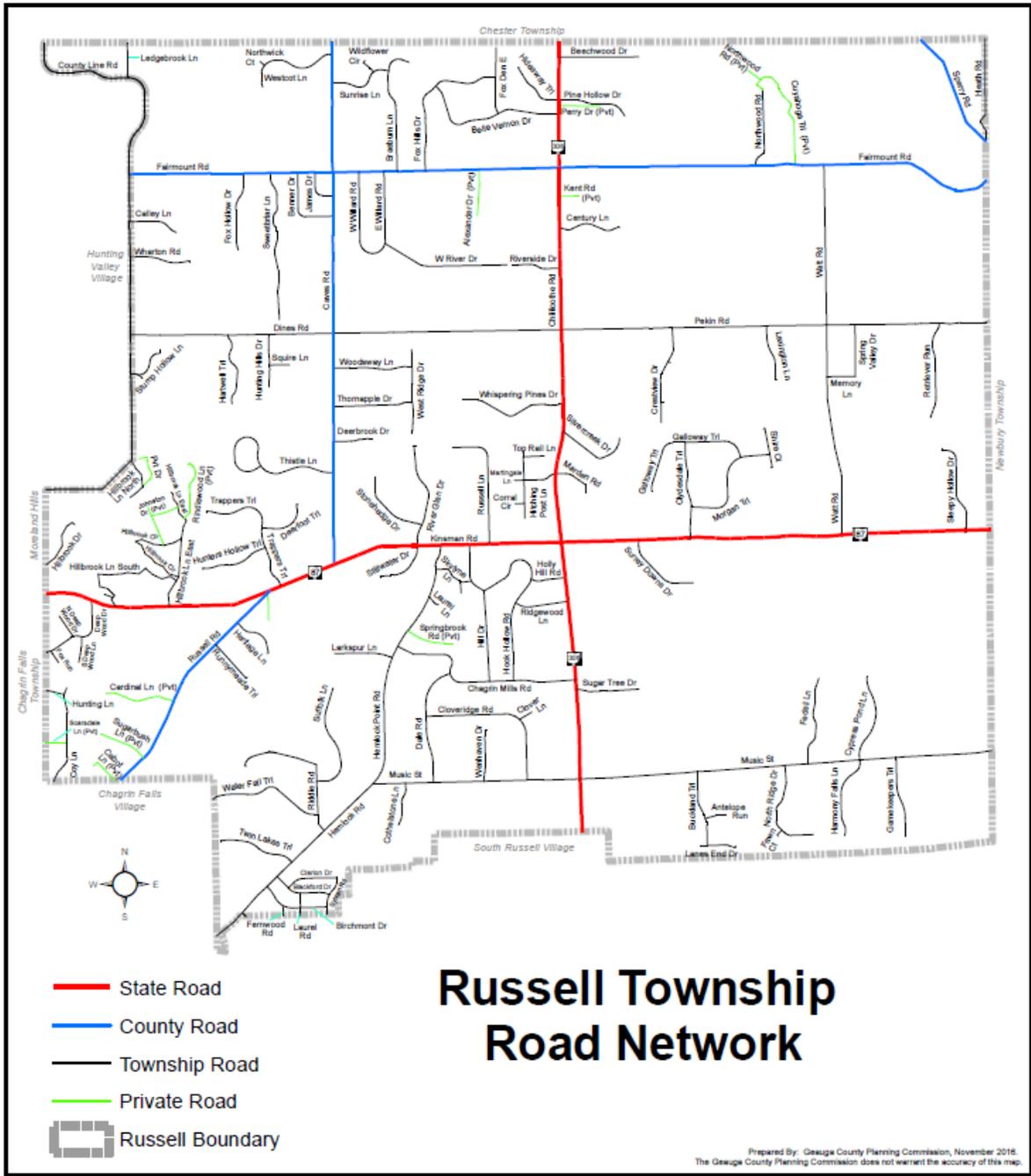
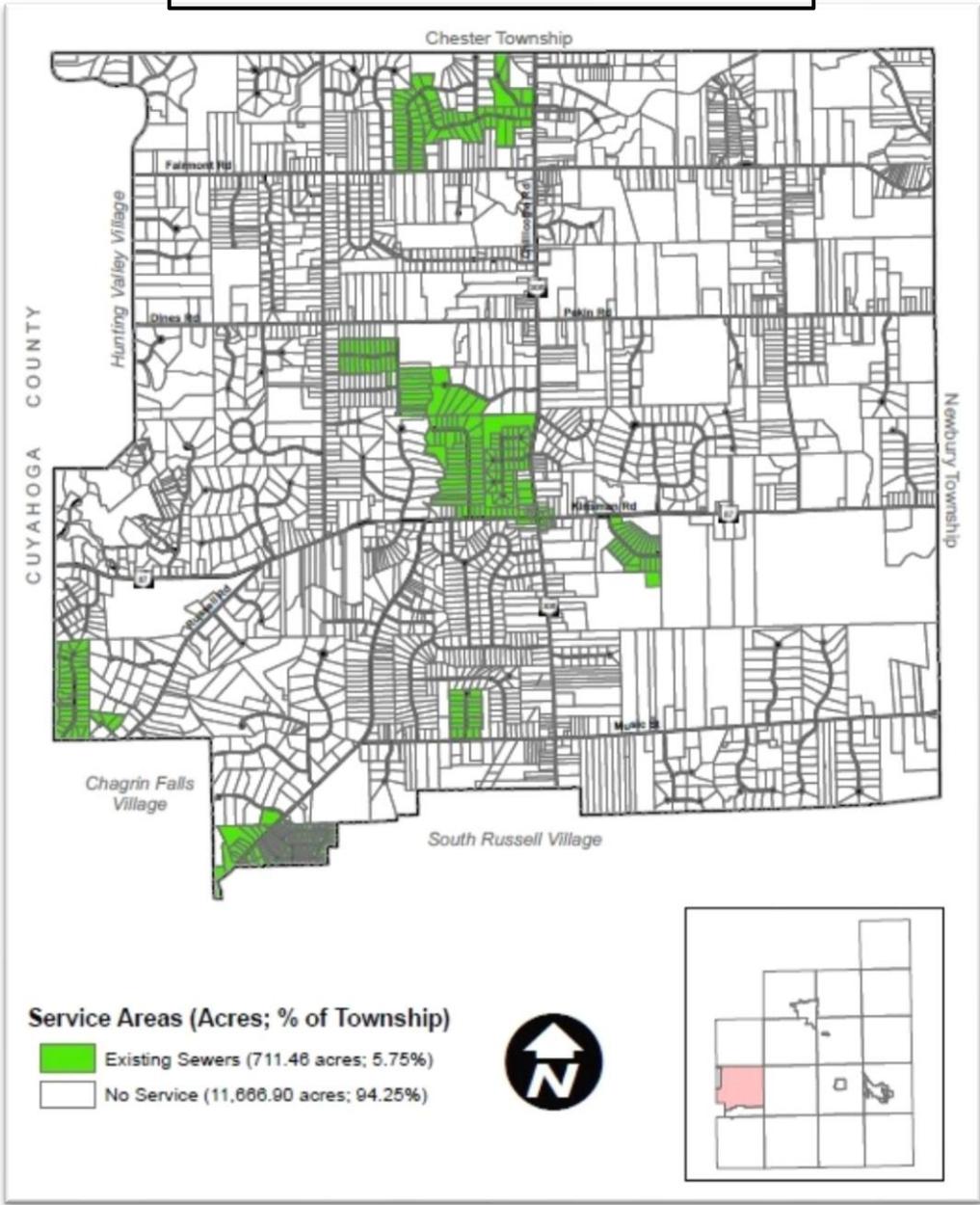


Figure 3: Russell 208 Plan



E. PUBLIC UTILITIES

Public utilities in Russell Township include water, sewer, gas, phone, electricity, and cable television.

1. Water and Sewer Service

Nearly all households in Russell Township have on-site wells and septic systems. Several subdivisions were constructed in the 1950s and 1960s with sewage

treatment package plants that are still operating. One residential development, Chagrin Heights, in the southwest corner of the township, was connected to the Chagrin Falls Village sewage treatment system in 1996.

Due to a desire by the township to prevent large tracts of land from being opened up to high density development through the extension of sewers, in 1997 Russell Township and the Geauga County Board of Commissioners agreed to the Russell Township Infrastructure Plan which delineated existing areas served by central sanitary systems and restricted such service to those areas. Shortly afterwards, the Northeast Ohio Areawide Coordinating Agency (NOACA) and the Ohio Environmental Protection Agency (OEPA) updated the Northeast Ohio Water Quality Management Plan, which is a requirement of Section 208 of the Federal Clean Water Act.

The Infrastructure Plan map, with the assistance of the Geauga County Department of Water Resources, was revised into the Northeast Ohio 208 Water Quality Management Plan and showed all lots with existing sewers. The Russell Board of Trustees and the Geauga County Board of Commissioners came to a formal agreement that sewers will not be extended beyond lots shown on the 208 Plan map unless, upon an individual request for an extension, both boards formally vote to permit the extension. The 208 Plan has been amended upon mutual agreement a few times at the request of individual lot owners.

In 2007 the Board of Trustees, with the support of business owners at the State Route 306/State Route 87 intersection, requested an amendment to the 208 Plan in order to extend an existing sewer line on State Route 87 that connects to the Geauga County-owned Russell Lane sewage package plant because of failing septic systems and OEPA requirements. The amendment was to serve seven township-owned properties and seven privately owned properties at that intersection. The 208 Plan was amended by the Geauga County Board of Commissioners and the Board of Trustees to include the 14 lots, and the sewer line has been installed.

Two developments in the southwest corner of the township, Chagrin Heights and Scarsdale Estates, adjacent to Chagrin Falls Village, are connected to the Chagrin Falls Village public water system. In 2005, a City of Cleveland water line was extended from north to south on the Hunting Valley side of County Line Road. Laurel School asked to connect to that water line, so in 2010 an Amended Memorandum of Understanding was signed by the Board of Trustees and the Board of Commissioners that restricted the water line to no farther east on Fairmount Road than Laurel School's Butler Campus, and with the agreement that any tie-in request from a property owner within the area would require approval from both the Board of Trustees and Board of Commissioners. The township has since granted permission to a few property owners on County Line Road and Kinsman Road to tie in on a case-by-case basis.

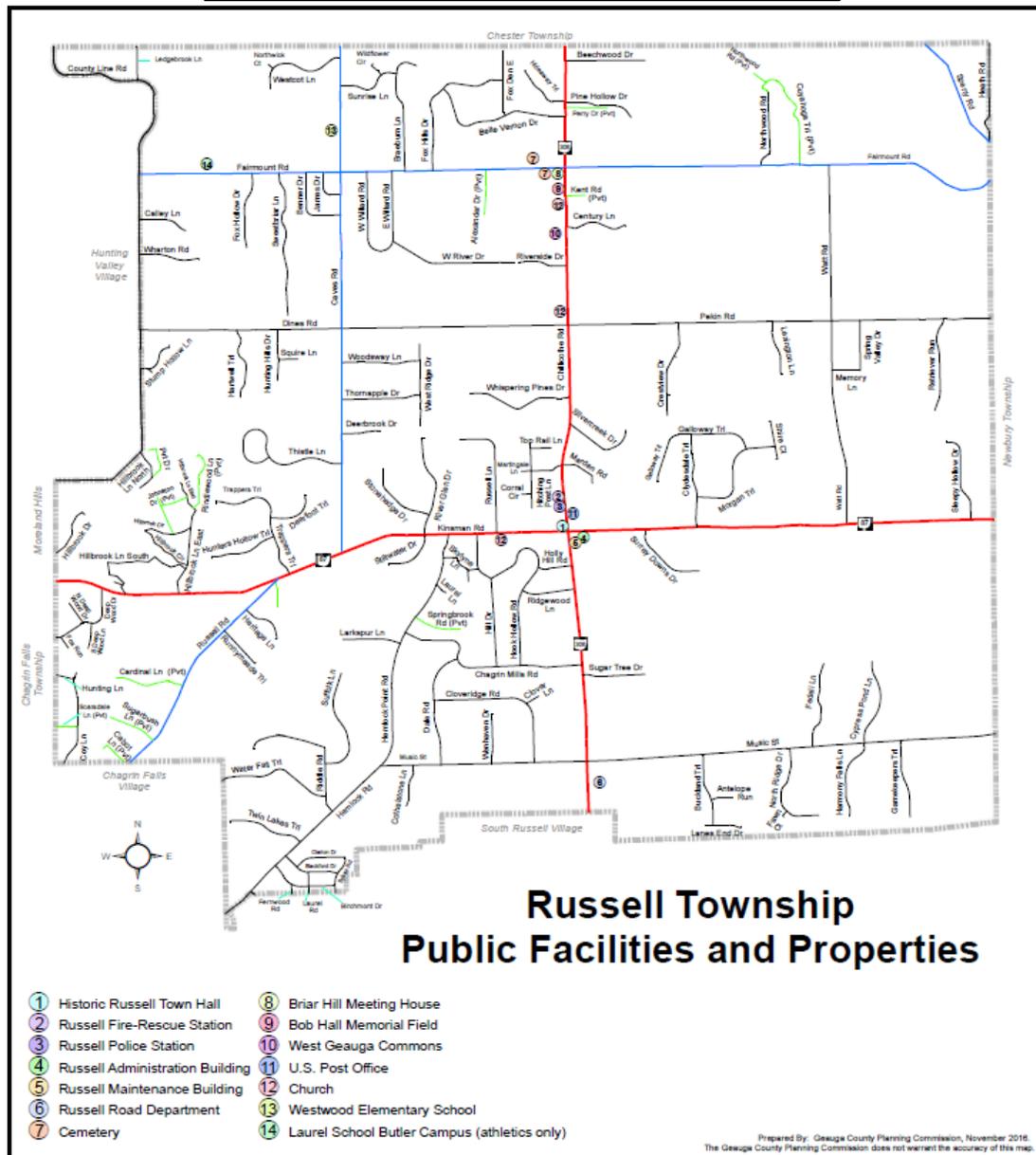
2. Phone, Cable, Gas, and Electricity

Electricity, telephone service and cable television are available to all homes and businesses in the township. Gas service is presently available in most parts of the township. Areas presently without gas service can have a feeder line extended to their street if sufficient landowners agree to apply.

F. GOVERNMENTAL FACILITIES, PUBLIC INSTITUTIONS AND SCHOOLS

Government facilities, schools, and public institutions in Russell Township:

Figure 4: Public Facilities and Properties



Chapter VII

REGIONAL RELATIONSHIPS

Russell Township, Geauga County, lies just to the East of Cuyahoga County on the edge of the Cleveland Metropolitan Area. The following three area organizations provide differing levels of support to enhance the livability of the township:

- Chagrin River Watershed Partners (CRWP)
- Western Reserve Land Conservancy (WRLC)
- Northeast Ohio Areawide Coordinating Agency (NOACA)

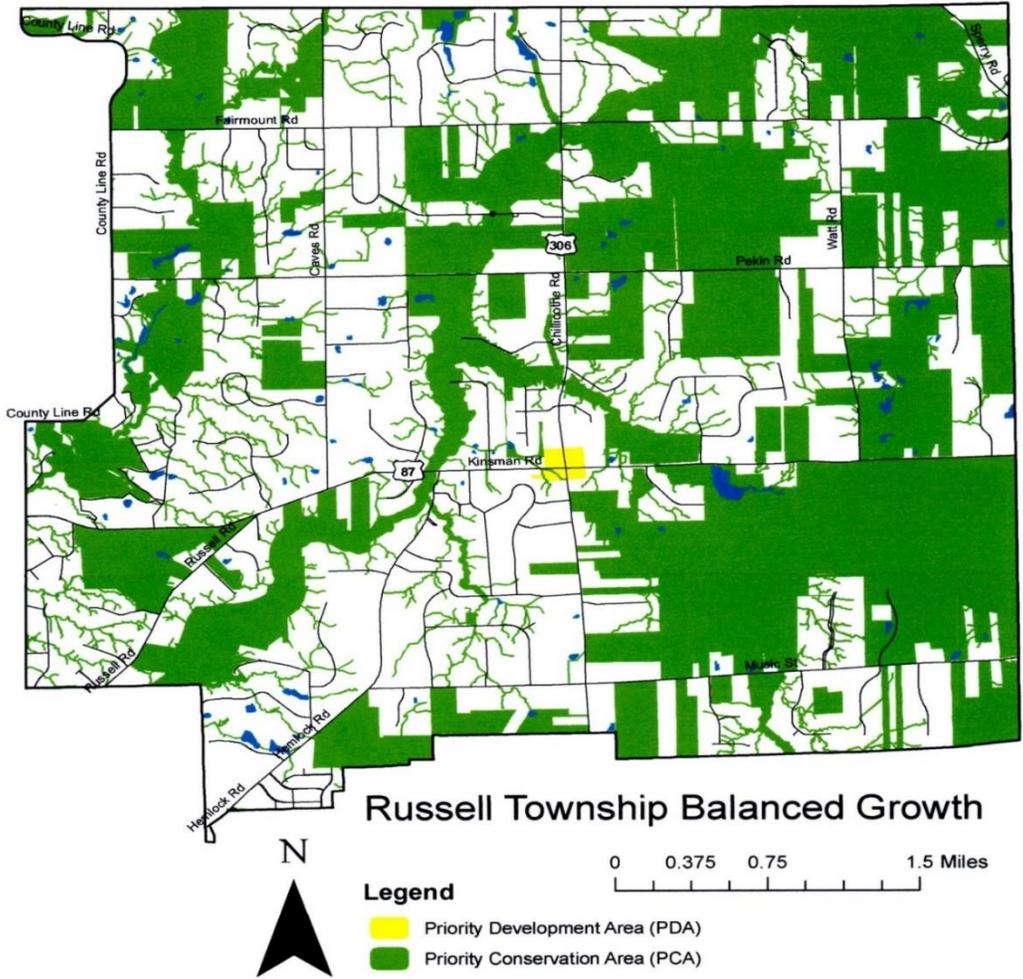
1. CHAGRIN RIVER WATERSHED PARTNERS (CRWP)

Russell Township has been a member of CRWP since its inception in 1996. This locally focused nonprofit group promotes and implements Chagrin River watershed (river and stream tributary) protection through local alliances helping to ameliorate damage to our natural waterways and wetlands. Flooding may occur in our township due to some act or occurrence upstream. CRWP helps to educate governmental bodies and landowners and develop and coordinate innovative land use practices to maintain natural resource functions and prevent or minimize flooding, erosion and water quality problems. Russell maintains its highly attractive natural ecosystems and high standards in protecting the beauty of these environs with the assistance and efforts of CRWP. CRWP watershed initiatives support the public health and safety of Russell Township with sound guidance in land use planning and zoning. Their Chagrin River Watershed Balanced Growth Plan provides assistance to members for coordinated decisions about how growth and conservation should be promoted by state and local policies and investments. In 2009, the Russell Township Zoning Commission and Trustees developed and endorsed maps of priority areas for conservation and development throughout the township. Priority Conservation Areas (PCAs) in Russell Township include riparian corridors, existing parks and conservation easements, and all parcels greater than 10 acres in size. The only area currently designated as a Priority Development Area (PDA) in Russell is the commercial area at the intersection of State Routes 87 and 306. These watershed plans link Russell Township activities across the Chagrin River Watershed.

The Chagrin River Watershed Action Plan implements natural resource restoration efforts throughout the watershed to control flooding, erosion and to improve storm water management. CRWP also provides guidance in site design and construction of green infrastructure through low impact development practices, the direct restoration of community natural resources through targeted stream restoration, dam removal and erosion control.

CRWP provides members, such as Russell Township, with grant support writing and coordination for storm water management and resource restoration, development plan review, and technical assistance to Township staff and residents.

Figure 1: Priority Conservation and Development Areas

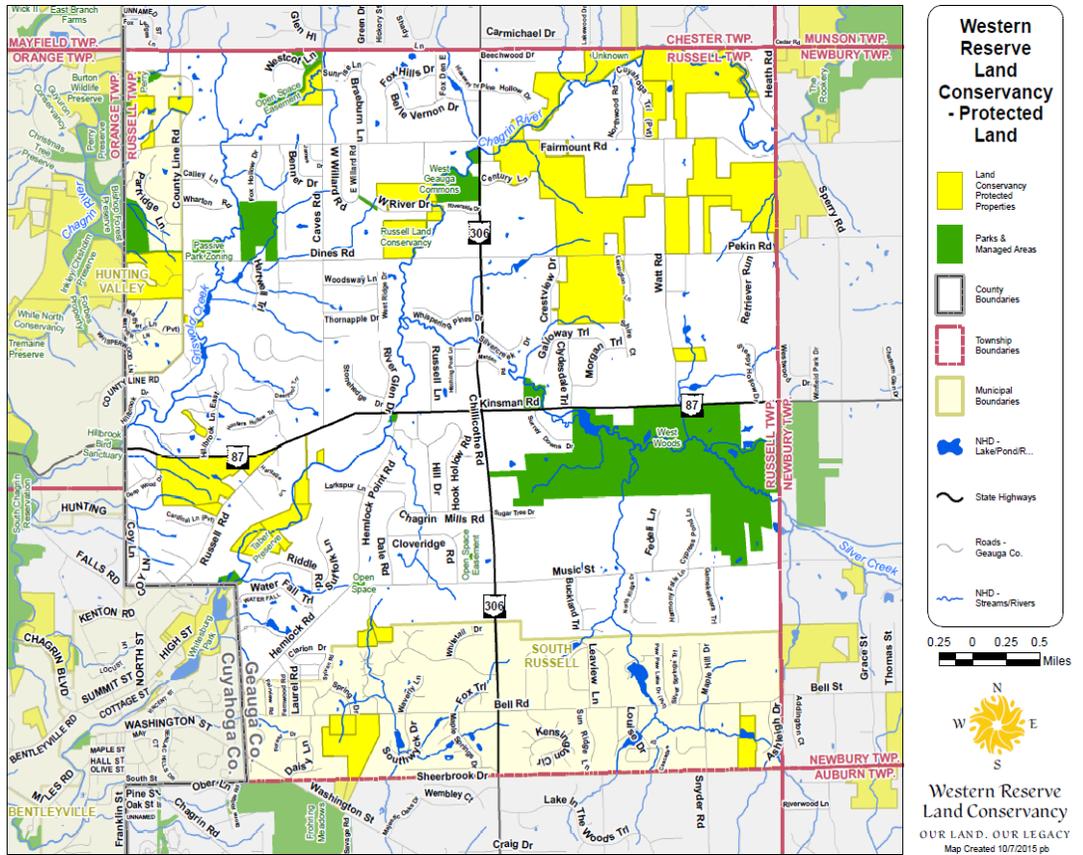


2. WESTERN RESERVE LAND CONSERVANCY (WRLC)

WRLC has helped to preserve 35,000 acres in 18 counties in Northeast Ohio, 7,569 acres in Geauga County and 678 acres in Russell Township (see Figure 2). Their mission is to work to preserve natural places that nourish and support vibrant and prosperous communities by identifying, preserving, restoring and maintaining essential assets like clean water, working farms, wildlife areas, and parks. As a nonprofit conservation organization, they are dedicated to preserving the natural resources of northern Ohio. Working with landowners, communities, governmental agencies, park systems and other nonprofit organizations, they permanently protect natural area and farmland from development and or destruction.

Through the use of conservation easements, property owners may permanently preserve their land without surrendering ownership. This protection remains with the land, even if it is sold. Once a property is permanently preserved with a conservation easement, WRLC ensures it remains protected under the easement's terms through their land stewardship program.

Figure 2: Western Reserve Land Conservancy Protected Properties



WRLC is a good steward of the lands that it protects and helps make Russell Township a most desirable home for its residents.

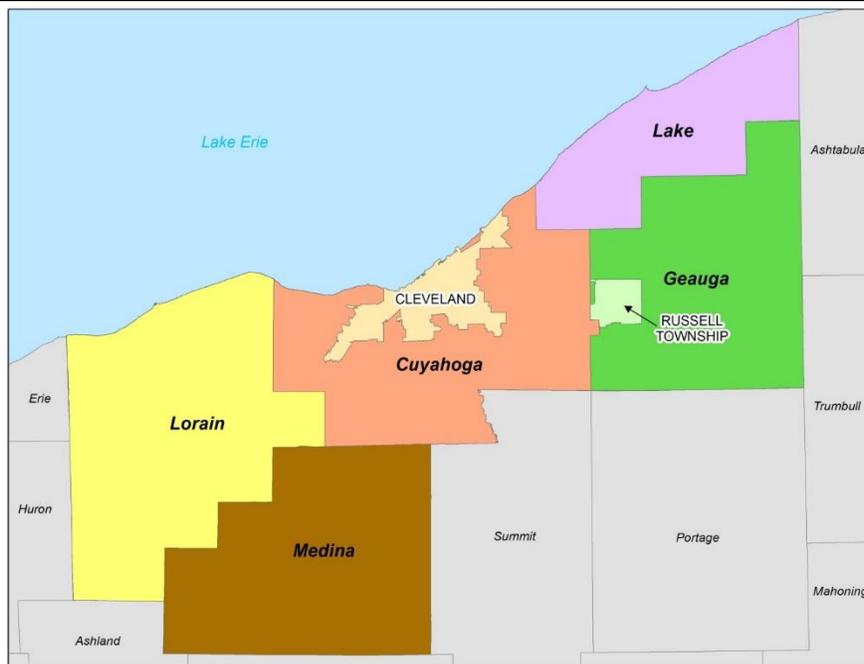
3. NORTHEAST OHIO AREAWIDE COORDINATING AGENCY (NOACA)

NOACA is a public organization serving Cuyahoga, Geauga, Lake, Lorain and Medina Counties (see Figure 3). This jurisdiction is included in the Cleveland Metropolitan Area, roughly defined to include locations within a 30-40 minute commuting distance from Cleveland (see Figure 4). The municipalities and townships within these 5 counties surrounding Cleveland have a total population of approximately 2.1 million people. NOACA is the agency designated or recognized by the State of Ohio to perform the following functions:

- A. Serve as the Metropolitan Planning Organization (MPO), with responsibility for comprehensive, cooperative and continuous planning for highways, public transit, and bikeways, as defined in the current transportation law.
- B. Perform continuous water quality, transportation-related air quality and other environmental planning functions.
- C. Administer the area clearinghouse function, which includes providing local government with the opportunity to review a wide variety of local or state applications for federal funds.
- D. Conduct transportation and environmental planning and related demographic, economic and land use research.
- E. Serve as an information center for transportation and environmental and related planning.
- F. At NOACA Board of Director's direction, provide transportation and environmental planning assistance to the 172 units of local, general purpose government.

The NOACA Governing Board is composed of 45 local public officials. The Board convenes quarterly to provide a forum for members to present, discuss and develop solutions to local and areawide issues and make recommendations regarding implementation strategies. As the area clearinghouse for the region, the Board makes comments and recommendations on applications for state and federal grants,

Figure 3: NOACA Five County Region Map



with the purpose of enhancing the region's social, physical, environmental and land use/transportation fabric.

NOACA conducts metropolitan planning for vehicles, freight, transit, bicycle and pedestrians considering the transportation system's impact on the air quality, water quality and land use. It assesses traffic flow and congestion and provides assistance in finding matches for commuters for carpooling, van

pooling and bicycling. Geauga County Transit provides public transportation needs on a per call basis for county residents for doctor's appointments, shopping, governmental services and entertainment venues.

Two major forces currently alter the way in which the Region will function in the future. On the one hand, the City of Cleveland is experiencing a renaissance. Recent downtown revitalization projects such as the baseball and football stadiums, sports arena, Rock and Roll Hall of Fame, casino, and the Global Center for Health Innovation (Medical Mart) are attracting business investment and people to the City, to live, work, and enjoy. Case Western Reserve University is promoting business startup incubator guidance resulting in the growth of new medical, biomedical, technology businesses in the region. On the other hand, rapid improvements in electronic communications technology are helping to decentralize businesses. Offices are able to move out to suburban locations, and many people are working at home—doing their commuting via the internet. Both of these trends, the economic growth of Cleveland and the decentralization of commercial offices, will increase demand for attractive, upscale development in a desired area. Physical commuters will seek housing that is within a reasonable distance of their work place, while telecommuters may prefer locations that are attractive to their lifestyle to enjoy the amenities they desire. Russell Township, because of its location, as well as its rural character and environmental quality, is likely to continue to attract residential development to its limited land area.

This chapter explores these regional trends and their potential effects on the township.

4. REGIONAL CONTEXT

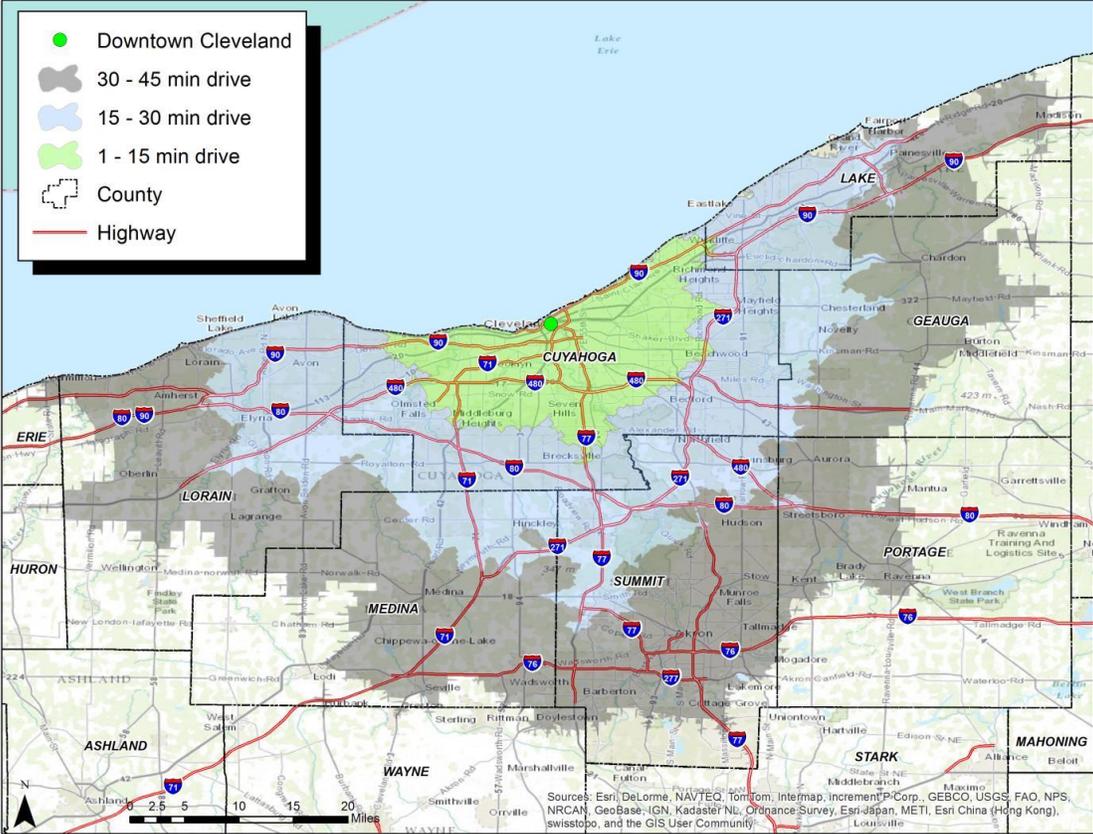
A. Proximity to Downtown Cleveland

Located only 26 miles from downtown Cleveland, Russell Township seems more like the rural residential and farming communities to the east than it does to Cleveland and its surrounding suburbs.

However, Russell Township is closely connected to the greater Cleveland Metropolitan Area because the majority of township residents work in either downtown Cleveland or at one of its suburban commercial center or “edge-cities.”

Figure 4, a map prepared by NOACA and entitled Commuting Distance in the Cleveland Metropolitan Area, shows graphically that Russell Township is located just on the edge of what is considered to be a reasonable commuting distance from the Cleveland central business district (CBD)—thirty minutes by freeway. It is also within easy commuting distance of the business and office centers located to the east of Cleveland.

Figure 4: Commuting Distance in the Cleveland Metropolitan Region



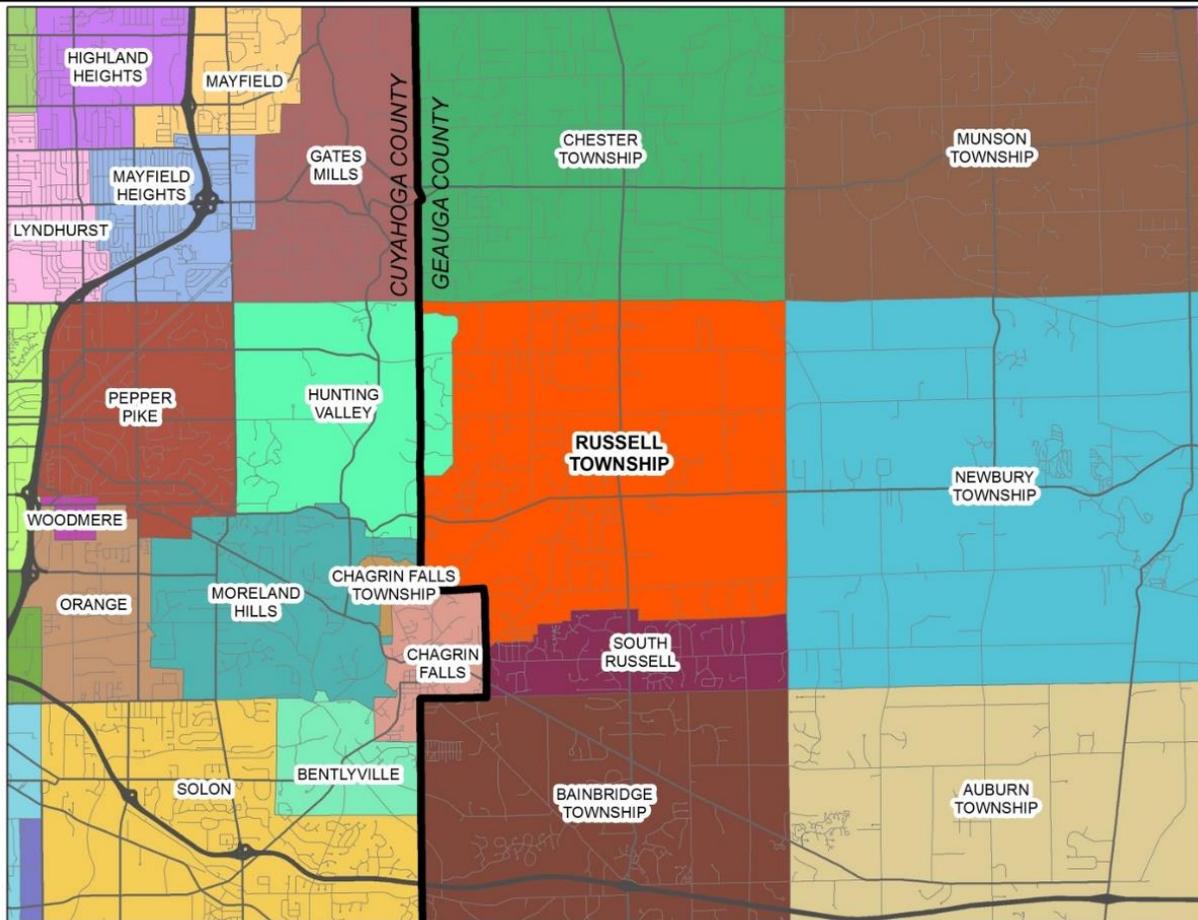
B. Russell Township in the Context of Cuyahoga and Geauga Counties

Russell Township is influenced by the growth and development occurring in the contiguous townships and villages of Cuyahoga and Geauga Counties (Figure 5). As development has expanded outward from Cleveland over the past several decades, western Geauga County has become a target for residential and non-residential development.

Due to most of these neighboring communities not instituting environmentally based planning policies, much of the development has been at suburban densities. As a result, the natural character and environmental quality of this sub-regional area has been threatened or destroyed. Like much of eastern Ohio, the natural landscape here is characterized by gently rolling hills, thick woods, grassy meadows, stream corridors and low-lying wetlands.

A more positive impact for Russell residents of the development in the sub-regional area has been the increase in local amenities—including shopping, employment opportunities, and varied house options. The City of Chardon, the Geauga County seat, is a 20-minute drive from Russell.

Figure 5: Russell Township in the Context of Cuyahoga and Geauga Counties



The townships and villages adjacent to Russell Township are described below:

- **Hunting Valley Village**, located partly in Cuyahoga County and partly in Geauga County, is a largely rural, lightly populated village with little prospect for growth. Most of the land is divided into large residential properties and its Guild Plan and Zoning Resolution support the continuation of the village as a rural residential community.

- **Chagrin Falls Village**, located along the southwestern edge of Russell in Cuyahoga County, is an old community with historic charm. Chagrin Falls Village's historic business center offers a small village atmosphere with a wide variety of specialty stores. The village is connected to the Cleveland regional water system.

- **Chester Township**, located to the north of Russell, is a more highly populated township that has grown steadily over the last several decades. Chester is also a shopping destination for Russell residents. The Chesterland

shopping district, located at the intersection of State Route 306 and State Route 322, has a variety of medium-sized sub-regional stores including grocery, hardware and convenience stores, drug stores, banks, fast food restaurants and gas stations.

■ **Newbury Township**, located to the east of Russell, has developed several small industrial parks and some strip industrial and commercial uses on State Route 87, which links Newbury to Russell. It is unlikely that the industrial-commercial uses on State Route 87 will have much influence on Russell; however, for regional planning purposes, State Route 44 in eastern Newbury Township has been designated the “urban boundary” of the Cleveland metropolitan area. This means that the federal and regional planning agencies have envisioned Russell as part of the area which potentially could be served by city utilities.

■ **South Russell Village** was originally part of Russell Township but broke away in 1923 to form its own Village. It is predominantly residential with a small shopping complex located at the intersection of State Route 306 and Bell Street and abutting the Chagrin Falls Village boundary on East Washington Street.

■ **Bainbridge Township** lies south of South Russell Village, which has been growing rapidly due to the opening of relocated State Route 422, linking southern Geauga County with Cleveland and Warren, in 1993. There are three commercial centers in Bainbridge offering food stores, specialty stores, a wide variety of hard goods, a movie theater, office space, banks and restaurants. Commercial development is proceeding at the junction of East Washington Street (“old 422”) and State Route 306, and there is pressure to continue commercial growth north along Route 306 toward South Russell Village.

5. COMMUTING PATTERNS

A. Russell Township to Downtown Cleveland

Russell Township is not located directly adjacent to any of the major transportation corridors leading to downtown Cleveland. The commute to downtown Cleveland is made by connecting to one of these major corridors or utilizing multilane boulevards leading into the city. The commute to downtown Cleveland takes about 30 minutes. The relation to the City of Cleveland is shown in Figure 6.

A few residents drive and park at the Greater Cleveland RTA station in Shaker Heights and ride the train to downtown. The Cleveland RTA also

Figure 6: Russell Township in relationship to the City of Cleveland

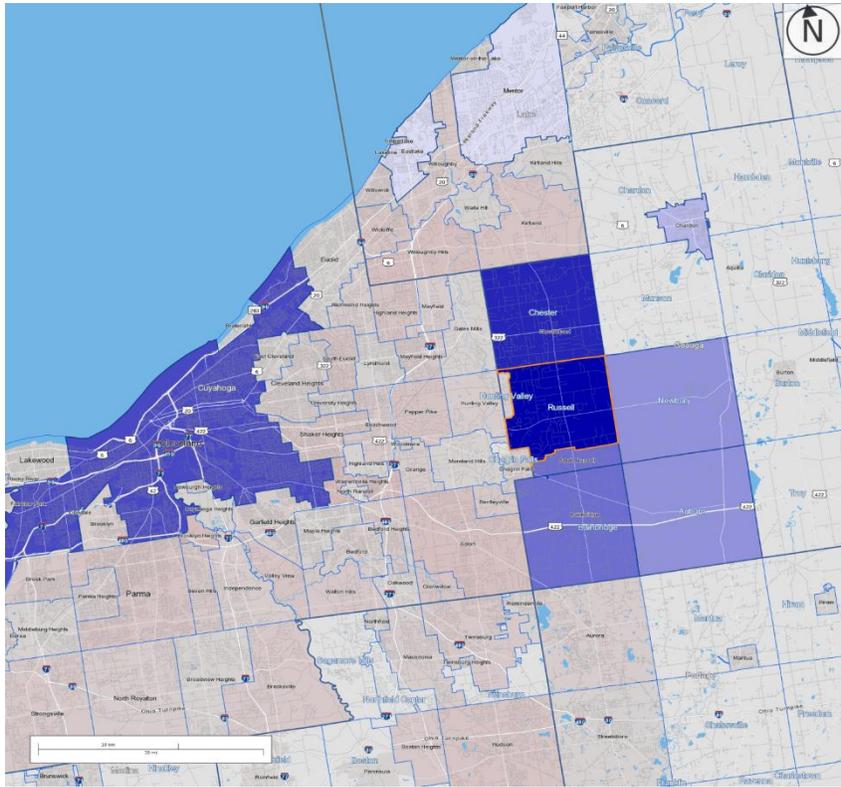
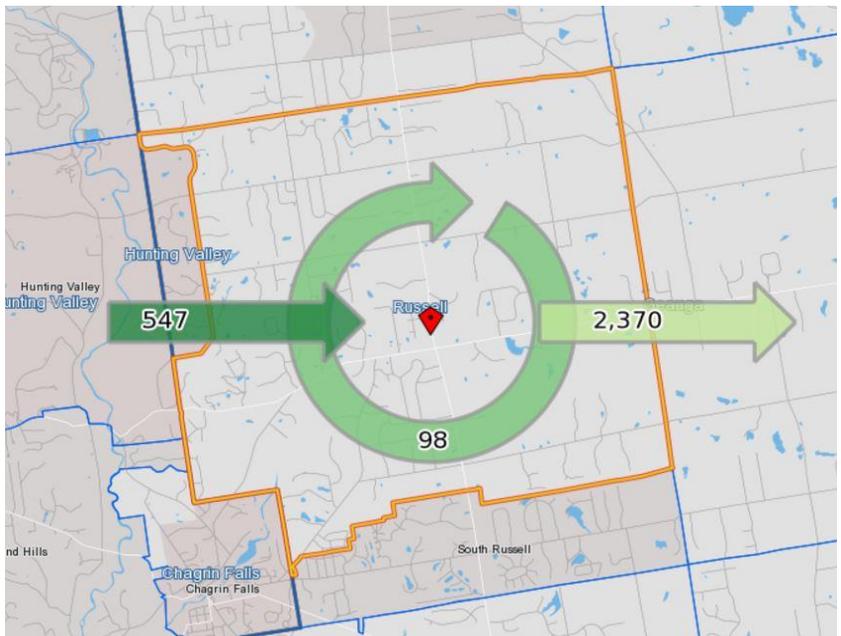


Figure 7: Inflow/Outflow Counts of Primary Jobs for Russell Township



provides less stressful transportation to sports and entertainment venues in downtown Cleveland.

B. Regional Commuting Patterns

Census data from 2014 shows primary job inflow and outflow from the Township in Figure 7. Outflow is 2,370 residents commuting from Russell Township to jobs outside the Township, while inflow is 547 non-residents commuting to employment in Russell Township and 98 Russell residents employed within the Township.

The census data from 2014 also reports about 20% of Russell commuters travel west to the Cleveland city area and University Circle, followed by lesser numbers surrounding work complexes. The breakdown of work commuting locations for residents of Russell to surrounding localities is shown in Figure 8. Over 4% of Russell residents either work for businesses in Russell or from their home. Overall, regardless of direction, 48.5% of Russell Township residents travel between 10-24 miles to work, while 46.7% of residents travel less than 10 miles.

Figure 8: Work Destination Report

Jobs Counts by County Subdivisions Where Workers are Employed - All Jobs

	2014	
	Count	Share
<u>All County Subdivisions</u>	2,468	100.0%
<u>Cleveland city (Cuyahoga, OH)</u>	484	19.6%
<u>Solon city (Cuyahoga, OH)</u>	115	4.7%
<u>Russell township (Geauga, OH)</u>	98	4.0%
<u>Mayfield Heights city (Cuyahoga, OH)</u>	84	3.4%
<u>Beachwood city (Cuyahoga, OH)</u>	75	3.0%
<u>Mentor city (Lake, OH)</u>	65	2.6%
<u>Bainbridge township (Geauga, OH)</u>	64	2.6%
<u>Chester township (Geauga, OH)</u>	62	2.5%
<u>Mayfield village (Cuyahoga, OH)</u>	52	2.1%
<u>Chagrin Falls township (Cuyahoga, OH)</u>	51	2.1%
<u>All Other Locations</u>	1,318	53.4%

The most noticeable effect in Russell Township is an increase in traffic using the major thoroughfares of State Routes 306 and 87. Although the overall population of the region has declined slightly, the total number of vehicle registrations has increased by more than 150% from 1960 through 2010. Growth projected for population and vehicle registration through 2030 will level off, with a slight increase in residential households (Figure 9.) This has resulted in increased regional traffic on Russell Township thoroughfares and collector roads in the future.

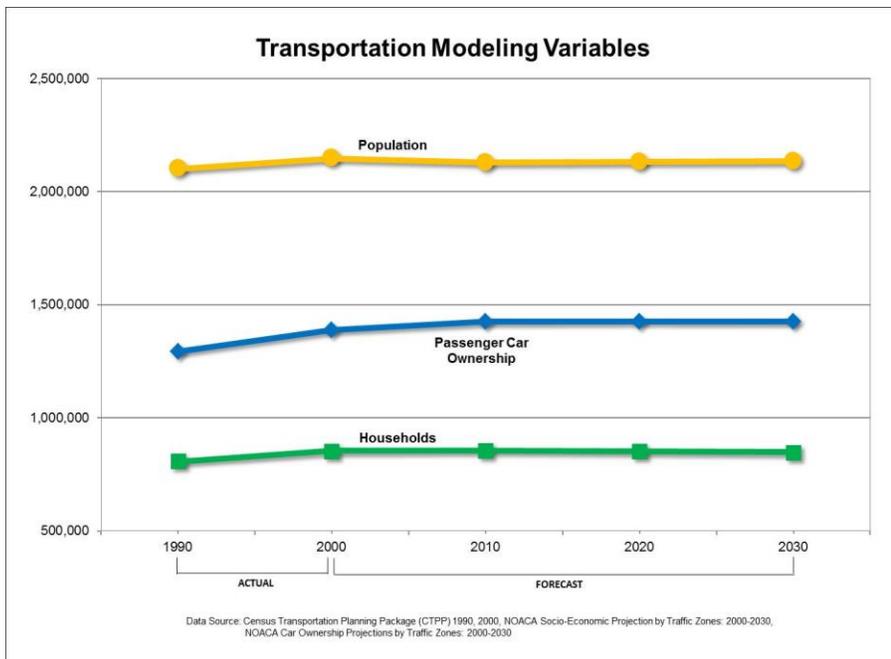
C. Regional Retail Shopping

A wide variety of shopping choices abound for Russell residents,

Bainbridge and Chagrin Falls Village to the south, Chesterland to the north, Eastgate and Golden Gate to the west, and Chardon to the northeast. Chagrin Falls is an attraction, drawing both locals and out-of-towners to a vast array of retail, dining and entertainment venues. Major shopping excursions also

may include Market Square in Bainbridge, Beachwood Mall in Beachwood, Eaton Collection and Village Square in Woodmere, Lander Circle in Pepper Pike, Legacy Village in Lyndhurst and the City of Solon. Great Lakes and Mentor Malls in the City of Mentor in Lake County offer full-service regional shopping opportunities. Pinecrest, a new large multi-purpose retail, commercial, entertainment, residential and hotel complex, has broken ground near Route 271 in Woodmere and Orange Villages.

Figure 9: NOACA Transportation Modeling Input Variables



D. Regional Office/Industrial Development

Existing office space in western Geauga County is available to the north of Russell in Chester Township. To the south, Bainbridge Township has some office space on East Washington Street and State Route 306 as does South Russell Village at the Bell Street and State Route 306 intersection and the area abutting Chagrin Falls Village. In Cuyahoga County, Chagrin Falls Village has both retail and office space. Solon has both retail and office facilities. To the west along the Chagrin Boulevard corridor in Beachwood, Pepper Pike, and Woodmere there is an abundance of retail, office, and commercial space as well as the State Route 271 corridor in Highland Hills and Beachwood. The Mayfield Road into Mayfield Heights offers retail, office, and commercial facilities.

Industrial development opportunities are offered in many nearby locations. To the east in Geauga County, Newbury Township has Newbury Industrial Parkway, Cross Creek Parkway and much commercial and industrial zoned land along State Route 87. To the southeast Auburn has industrial zoning along Munn Road, State Route 422, and other areas are under consideration. Bainbridge Township provides limited industrial and commercial zoning off East Washington Street. Solon, to the west in Cuyahoga County, has industrial lands in many locations including Aurora Road, Cochran Road, parts of Harper Road, and Neiman Parkway on the Bedford Heights boundary.

E. Regional Housing Opportunities

Within a 10-minute drive north, south, east, and west there are single-family residences from about \$100,000 up to several million dollars. Lot sizes generally are from ½-acre to 5-acre minimums. Many residential lake communities exist in South Russell Village and Bainbridge Township, most in some version of cluster planning. Two notable nearby lake communities are Tanglewood, known for Tanglewood Golf Course, in Bainbridge Township and Auburn Lakes in Auburn Township. Geauga County offers many and varied sizes and prices in single-family homes. Smaller country houses are available in Newbury for about \$100,000. This price range in Bainbridge and Chester townships averages \$200,000-400,000. Chardon, Burton, and Middlefield areas have a larger number of affordable housing opportunities. There is public housing in Bainbridge, Newbury, Chardon Village, and Middlefield Village.

Rental apartments and condominiums are available in quantity in Solon, Mayfield Heights, Chagrin Falls and many communities a short distance west. Condominium living is offered in Russell, Newbury, Bainbridge, South Russell, Auburn, Chagrin Falls and to the west in Moreland Hills Village, with price ranges from \$100,000 to several million dollars.

Various senior housing and medical facilities are provided within Geauga County, including The Weils in Bainbridge, The Lantern of Chagrin Valley in South Russell, Heather Hill in Munson, Holly Hill in Newbury, Briar Hill in Middlefield, Blossom Hill in Huntsburg, Brooks House in Troy, and Maplewood and Chardon Quality Care in Chardon. Group homes for the elderly are scattered throughout Geauga County. Also, similar facilities are available in adjoining counties.

PLAN RECOMMENDATIONS

The Zoning Commission hired professionals to survey Russell’s residents, and collected and analyzed demographic, environmental and geographical data with the help of the Geauga County Planning Commission, the Chagrin River Watershed Partners, and others. Based upon these results, as well as input from members of the community and the Trustees, the 2035 Land Use Guide Plan’s zoning recommendations are:

- 1. Ensure that future zoning preserves the character of Russell as a low-density residential community with ample open space and a distinct rural and natural character.**
- 2. Ensure that future zoning protects and enhances the quality of the natural resources, including ground water, wetlands, aquifer recharge areas, river corridors, surface water quality, woodlands, wildlife habitats, soils, and natural ecosystems.**
- 3. Seek to preserve the township’s environmental infrastructure and rural nature by encouraging the use of conservation easements, designating additional parcels as Passive Park District, and working with residents, the Western Reserve Land Conservancy, and other regional partners to secure additional lands for preservation.**
- 4. Ensure that future residential development respects the township’s large-lot zoning and is properly regulated to be consistent with the other plan recommendations.**
- 5. Ensure adequate ground water supply and room for septic systems when recommending minimum lot sizes for residential development.**
- 6. Consider requiring the setting aside and maintenance of additional green or open space as a condition for future development.**
- 7. Ensure that future commercial development takes place only within the physical boundaries of the present commercial districts, is highly regulated, and is otherwise consistent with the other plan recommendations.**
- 8. To the extent permitted by state law, exercise local control over oil and gas drilling within the township and ensure that any zoning regulations concerning drilling are consistent with the other plan recommendations.**

- 9. Consider a zoning resolution concerning in-home in-law suites, given the aging population of the Township as well as residents' support of in-home in-law suites and opposition to other senior housing within the Township.**
- 10. Oppose the installation of centralized water or sewer systems, or any expansion of existing sewer systems, and ensure that future zoning regulations and development do not make any such expansion or installation necessary or more likely.**
- 11. Endeavor to keep future decisions about Russell Township zoning in the control of the Trustees, their appointed representatives on the Zoning Commission, and, ultimately, the residents as a whole.**
- 12. Ensure that Russell Township looks much the same in 20 years as it does today.**
- 13. The zoning resolution is in accordance with the Land Use Guide Plan and that it is adopted in the interest of promotion and protection of the public health, safety, and general welfare**

APPENDICES

This plan consists of the information and recommendation that are contained in this document, together with the following appendices which are kept on file in the Township offices. These appendices include the following documents:

- A. "Russell Township Land Use Survey Report 2012", Cleveland State University, 2013
- B. "Demographics for Survey Respondents", U.S. Census Bureau's American Community Survey, 2007-2011