

Earlham Infrastructure

Other public infrastructure in Earlham includes drinking water, sanitary sewer, solid waste collection, electrical service, natural gas service, and telecom/broadband. The City provides, and this plan focuses mostly upon, drinking water, sanitary sewer, and storm water management. Other infrastructure is covered in less detail and only as it pertains to growth and development of the community.

Drinking Water

Warren Water, based in Indianola, provides treated water in bulk to the city, through an 8" water main, which feeds the local water tower. The City has access to 200,000 gallons in its own tower built only a few years ago and 75,000 gallons directly available from Warren Water. This same water supply, which originates in the Des Moines area, flows through a region, meaning Earlham is reliant upon a singular water main that travels some distance to provide water. However, this system is considered ideal and reliable for local residents and leaders.

Earlham uses an average of 90,000 gallons per day but can purchase 300,000 gallons. The City indicates that the water supply and storage capacity can support a population up to 2,000, unless there are other major users added to the city, such as intensive industries.

The Earlham CIP from 2012 identified 18 water projects, most of them water main replacements and/or expansions to a larger water main size. Most of the water main projects are to replace water mains built in the 1960s and 1970s, although some are older. While these are aging water mains, they are much newer than what is found in many rural Iowa communities. Since then, only a few projects have proceeded. One of the completed projects is a 250,000-gallon water tower. *These remaining projects are still a priority as funding is available.*

Wastewater Collection and Treatment

The City of Earlham maintains a compliant NPDES permit for wastewater collection and treatment. A project is currently underway to address effluent standards, and a second phase is planned for disinfection to make environmental standards in 2026. The treatment lagoons in the northeast part of the city treat an average of 190,000 gallons per day in dry weather and 850,000 gallons per day in wet weather, with a max legal capacity of 4.2 million gallons per day. No new lagoon or additional mechanical treatment, except the UV system addition, is projected in the foreseeable future.

The CIP included sewer lining projects impacting about a quarter of the mains in the city, concentrated along 6th Street. To date, none of these projects have proceeded. However, a \$6 million wastewater treatment project is underway (right). This project is mandated by the Iowa DNR to address effluent pollution.

Earlham Storm Water Infrastructure

Over half of the streets and intersections in Earlham have full pavement with curb and gutter. The only areas routinely without this infrastructure are fringe areas of the city, where space exists for roadside ditches. Overall storm water management is not a major challenge for the city, and the city's public works director states that there are no major storm water infrastructure issues or problems.



No map of storm water infrastructure was reviewed or offered as part of the planning process. Based on visual inspections, it appears that the storm water management system is comprehensive, well maintained, and in good overall condition. One area of town that should be monitored for future damage due to flash flooding is the swale along NW Elm Avenue. This area can be overloaded quickly due to street and culvert runoff that increases flows beyond the natural design of the swale. Erosion is notable along this area (see photos to the right).

While storm water is not on the top of the City's list of concerns, the most recent CIP included four projects, mostly focused on North Chestnut Avenue. One manhole rehab project has been completed. Projects yet to be complete are North Chestnut Avenue culvert installation north of the school, North Chestnut Street storm water lining, and Phase 2 of westside lining mostly along NW 3rd Street. As funds are available, those projects should proceed if they are deemed still necessary.

Earlham Non-City Infrastructure and Services

Earlham is served by non-municipal utilities that include the following: electrical, natural gas, telecom, broadband, and solid waste service. These entities provide adequate to high quality services and are not a major concern for residents and leaders. There is no momentum toward the City taking over or otherwise offering these services. Therefore, this plan only considers these utilities in terms of their impact on development potential and the future land use pattern.

All the services mentioned are stable and the capacity is sufficient to support the existing land use pattern and potential growth through the next twenty years. While the City lacks ability to directly plan for their future, it is vital that the City remain involved in the policymaking and land use decisions to ensure these infrastructure elements meet local needs and achieve the goals of this plan. As much as possible, the City's franchises and agreements with various utilities should include statements about plan goals that would similarly apply to the City's infrastructure, such as hazard mitigation, property maintenance, and design standards for new development.

Infrastructure in the Planning Area

A review of infrastructure in the planning area is helpful for this plan because Earlham is located where development and growth is likely. The land use patterns surrounding Earlham allow for growth. Much of the land is used for agriculture, which could be developed. Areas around gravel pits, along the railroad, and near the Interstate could be targeted for commercial and industrial uses. However, these things can only occur if infrastructure can support it. This Northern Natural Gas-owned distribution or border station (see photo at bottom right) just outside of the city northwest of Earlham supplies natural gas to the city.

Today, the rural area around Earlham is served by all the utilities found in the city except solid waste collection, storm water management, wastewater collection and treatment, and natural gas. However, those utilities provided in the rural area are outside of City control, which means the City of Earlham must consider how to interact with those utilities when planning development. The State of Iowa gives municipalities some power in this regard through the zoning law. Iowa Code Chapter 414 allows City's to review subdivision plats and



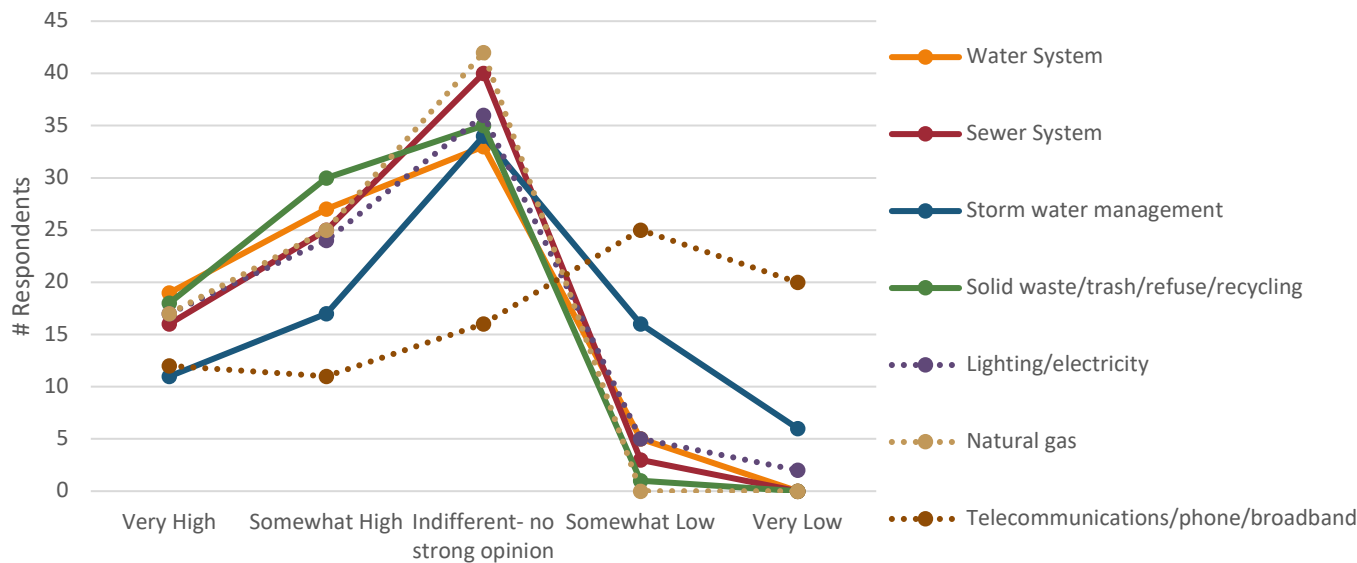
other development plans to ensure, for example, that roads and sidewalks are built to “city” standards. This power, however, is limited to development projects. The City cannot unilaterally require the county to pave roads, the rural electric cooperative to bury or extend power lines, wind turbines to be built far from the city, or other policies and design standards that pertain to the surrounding area. Therefore, ongoing conversations with providers is important so that local needs are considered.

Generally, rural utilities are modern and sufficient to support development in the rural area. The City has the capacity to supply services and extended infrastructure to accommodate growth to 2,000 population without tremendous new investments in core infrastructure (such as new sewer lagoons). Most rural infrastructure is to a lower design standard, such as 4” water mains with no hydrants. However, it is felt that upgrading to accommodate urban development is not an exceptional challenge, due to the experience both Madison and Dallas Counties have with development projects and the development capacity and resources of service and utility providers in the area.

Infrastructure Needs

The community survey for the planning process asked the following question, “How would you rate the dependability and quality of the following utilities and services?” The following is a summary of the 84 responses.

Figure 3.50: Perception of Dependability and Quality of Utilities



The survey results reflect overall satisfaction with everything but telecom/broadband and, to a lesser extent, storm water management. Clearly, there can be improvement in all the local utilities, but most people accept services that are provided.

Current Land Use Patterns

Land use information is what sets a formal comprehensive plan apart from a strategic plan or a capital improvements plan. This section of the plan describes and shows the layout of the current land use patterns within the city and within two miles of the current city boundary.

Land Use Types in the City

For this plan twelve land use types were identified. Each is the primary use of the property. For each of the following, there is a description and an estimation of the amount and percent of land in the city.

Single-Unit Residential

Single-unit residential uses are properties with one detached housing unit on one or multiple parcels. In some cases, duplex or converted single-unit homes may be included. More parcels make up this type of use than nearly all others combined, but most of the properties are small. Approximately 177 acres or 28% of the city's area is single-unit residential.

Duplex Residential

Duplex residential users are properties with two units in one structure or on one parcel. These include converted single-unit structures now with multiple units. Approximately 10 parcels composed of 3 acres or 0.5% of the city's area is duplex residential.

Multi-Unit Residential

Multi-unit residential users are properties with three or more units in one structure or on one parcel. These include converted single-unit structures now with multiple units. Approximately 3 parcels are used in this way. Approximately 6 acres or 0.9% of the city's area is multi-unit residential.

Mobile Home Residential

For this plan mobile home residential properties are parcels that have manufactured homes not taxed as real estate and still containing their axels. Traditionally, these might be called "mobile home courts" or "parks." About 20 such homes are in two developments occupying approximately 7 acres or 1.1% of the city's area.

Commercial/Retail/Office

This land use combines several types of economic land uses – retail, food establishments, hotels, offices, etc. – that occur in sometimes the same building but do not include industrial type uses. Most of the uses are in the downtown area. Approximately 8 acres or 1.3% of the city's area is commercial/retail/office.

Mixed Uses

These are properties that have a residential and commercial use in one building or on one parcel. Most of these are in the downtown area. Approximately 3 acres or 0.5% of the city's area is mixed uses.

Industrial/Manufacturing/ Warehousing/Commercial-Industrial Support

This use category includes assembly, manufacturing, processing, and other economic activities that are not retail in character. Uses may include buildings, shipping and transport facilities, permanent storage containers and tanks, and related infrastructure on private property. It may include salvage yards where the main activity is storage, agricultural chemical and equipment storage and repair, and similar economic supportive uses. In Earlham, there are no major traditional manufacturers, and most industrial uses are agriculture related. Most of this land is located near the railroad. Approximately 20 acres or 3% of the city's area is industrial/manufacturing.

Public and Civic

Public and civic uses include those that are publicly owned, not necessarily by the City of Earlham (including the school and other educational facilities), and those that are privately or non-profit owned but have a general civic use, such as churches, medical clinics, and club meeting halls and event centers. Public or other accessible recreational areas are not considered as public and civic but rather have their own category. Approximately 31 acres or 5% of the city's area is public and civic.

Park/Recreation/Open Space

This is public land, not necessarily owned by the City, or private but accessible land that is used for recreation of the general public. It includes active recreational areas, such as playgrounds, as well as passive recreational areas, such as open spaces. Gendler Park, which is not in the city boundary, is not included in this calculation. Approximately 24 acres in the city or 4% of the area is park or recreation use.

Transportation/Infrastructure

Streets and street right-of-way make up a considerable part of Earlham's land. Additional to this are numerous parcels that include sewer treatment facilities, water towers, and similar uses. Combined, approximately 168 acres of the city's area or 26% is composed of these uses.

Agriculture/Timber/Ag Dwellings

This land use includes agricultural production areas, privately owned timbered land, pastureland, farm dwellings, and related agricultural uses. This land surrounds Earlham and includes considerable acreage to the southwest, northwest, south, southeast, and east of the developed part of the city. Among the largest uses, agricultural composes approximately 170 acres or 27% of Earlham's area.

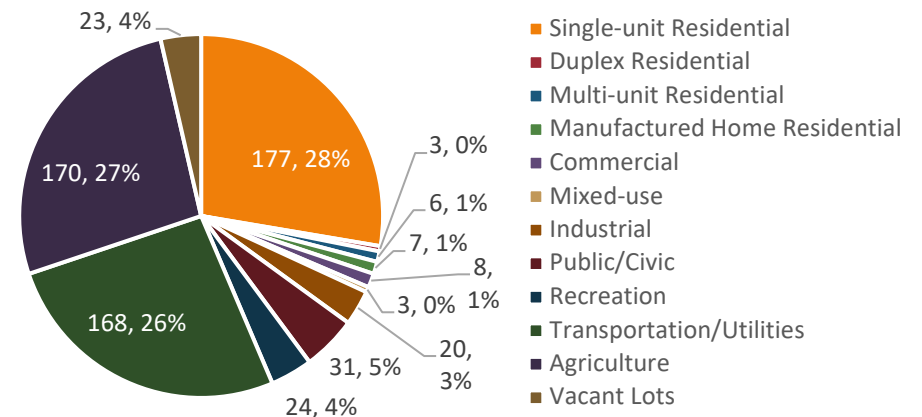


Vacant Lots

Vacant lots are vacant infill lots within the developed part of Earlham that are currently unused or underused and at least in theory can be developed for other uses, such as residential, commercial, industrial, or public uses. Vacant lots are found in a few neighborhoods but are concentrated in the newer development area on the east side and include approximately 15 parcels making up about 23 total acres or 4% of the city's area.

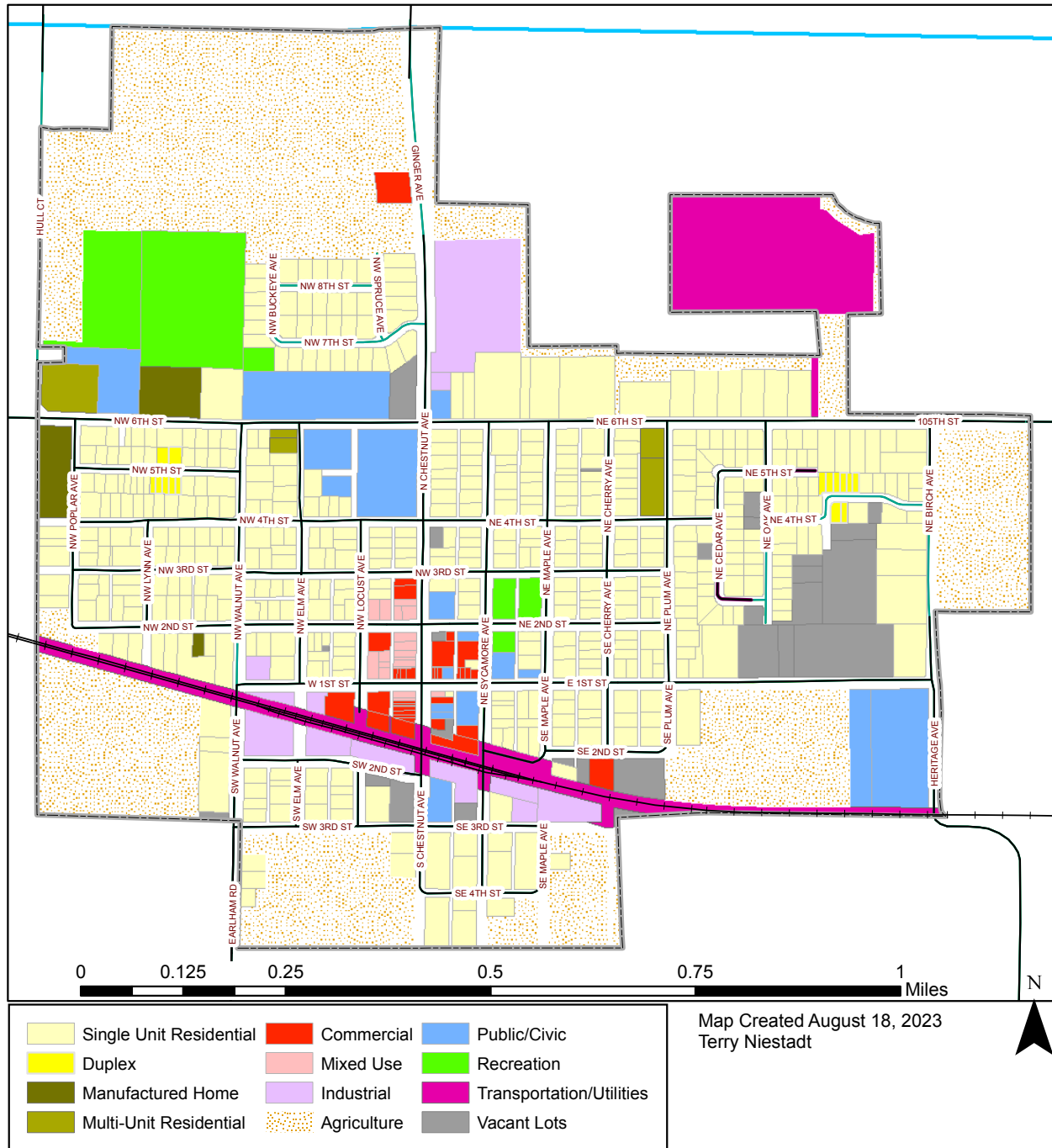
Combined, these land use compose the approximately 640 acres making up the entirety of Earlham in 2023.

Figure 3.51: Composition of Land Use Types in Earlham in Acres and Percent of the Total Area



The largest land use categories, those occupying the most land, are single-unit residential (28%), transportation and utilities (26%), and agriculture (27%). These combine for over 80% of all land used in the city. Based on the size of the city and its proximity to Des Moines, the large areas for single-unit residential and agriculture are good. In fact, the area used for agriculture might be a bit low when one considers that many farmers may be unwilling to sell, resulting in the potential need to annex land to find growth opportunities. The other land use categories are rather low. The town has limited acreage used for higher density housing, commercial, industrial, and mixed-use areas. This, we can suppose, is consistent with a "bedroom community." Acreage and percentage of the total for public, recreation, and transportation/utility uses are suitable for this community.

Figure 3.52: Current Land Use Map of Earlham



As Earlham continues to grow, the growth should be distributed more evenly in single-unit, duplex, and multi-unit properties, so that the percentage of the other types compared to single-unit and the overall land use composition grows. Commercial and, because of the railroad and interstate, industrial proportions should also grow. Given the town has great potential for growth, the 4% of land used as vacant developable parcels is important and may even be low. The future land use distribution chart in Chapter 12 shows a more ideal composition.

As the map shows, the land use pattern is dynamic. Nearly every part of town or every neighborhood has many or even all types of land uses. Residential neighborhoods contain some commercial, mixed, and public uses. The downtown area contains many uses in a small area. Vacant lots are found in newer development areas, where not all land has ever been developed, as well as infill areas where previous uses, mostly residential, have been demolished.

Agricultural uses represent the greatest development potential, due to the acreage involved. Large areas are suitable for new development of all types, although this land is highly productive and likely to be expensive to acquire.

Current Land Use Patterns in the Planning Area

Chapter 414 of the Code of Iowa authorizes Cities in Iowa to exercise extra-territorial zoning and subdivision regulation up to two miles outside of the city boundary when there are no other cities in that same area and when the counties bordering the city do not exercise county zoning. When rural zoning is implemented, the zoning commission is expanded, and two members of the City's zoning commission must be appointed by the county board of supervisors. Since both Madison and Dallas County exercise rural zoning, Earlham does not extend zoning to this area, but the City is able to provide formal review of subdivision plats within the two miles. Figure 3.5 shows the current two-mile boundary.

The total land area represented by this boundary, not included what is the city boundary, is approximately 13,810 acres or 21.58 square miles. About 66% of the area is in Madison County and the remaining area is in Dallas County.

Like Earlham proper, the planning area is mostly flat with some rolling hills dissected by small streams. Most of the area is used for row crop production.

Two-mile Planning Area Land Uses

The area surrounding Earlham has many of the same uses as found in the city, but not all of them. The classifications are slightly different and are described here.

Agriculture/Timber/Ag Dwellings

This land use is very similar to what is in Earlham itself. It includes parcels that are entirely or mostly for agricultural purposes, including timberland and pastureland. It also includes agricultural dwellings as taxed by either the Madison or Dallas County Assessor's Offices. About half of the residential units in the area are considered rural residential. Approximately 11,450 acres or 82.9% of the extraterritorial area is composed of this use.

Rural Residential

This includes all parcels taxed as rural residential, which includes all intensities (number of units per parcel) of residential. In this case, all rural residential parcels have single-unit structures. These are found throughout the planning area, especially just north of the county boundary in Dallas County. Normally, these parcels have no or only small agriculture operations. About half of the residential units in the area are considered rural residential. Approximately 623 acres or 4.5% of the extraterritorial area is composed of this use.

Commercial, Support Businesses

This is similar to the commercial classification within Earlham but is more consistent with the types of commercial likely to be found in rural areas that tend to serve the agricultural community and may include quasi-industrial uses, such as grain storage facilities. A few parcels are scattered around the area. This includes approximately 101 acres or 0.7% of the extraterritorial area.

Public/Civic

This is the same kind of use as found in the City. A cemetery, church, and a few miscellaneous government facilities make up this area. This includes approximately 7 acres or 0.05% of the extraterritorial area.

Park/Recreation/Open Space

This land use is essentially the same as within Earlham. Gendler Park land used for recreation and open space is this type. These areas combined compose approximately 76 acres or 0.6% of the planning area.

Transportation/Infrastructure

This land use is also essentially the same as found in Earlham. The gas border station, railroad, cell towers, and the like are included. Most of the land is used for rural roads and their right-of-way areas that are not recognized as parcels. This includes approximately 500 acres or 3.6% of the planning area.

Industrial/Mining

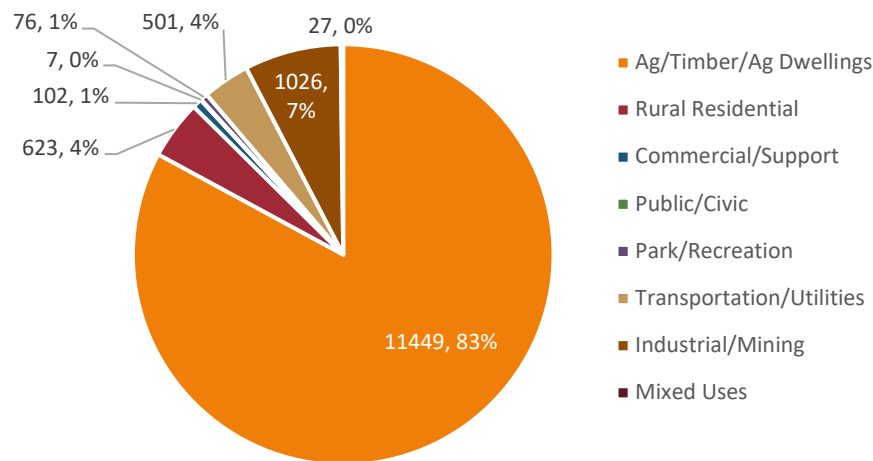
This land use includes industrial but is limited mostly to mining activities, which is quasi-industrial. There are no major manufacturing facilities. Much of the land in these parcels is used for agriculture or may be idled/not actively mined. This includes approximately 1,026 acres or 7.4% of the planning area.

Mixed Use

This is one parcel in Dallas County that has a home and an RV/mobile home park on the same parcel. This includes approximately 27 acres or 0.2% of the planning area.

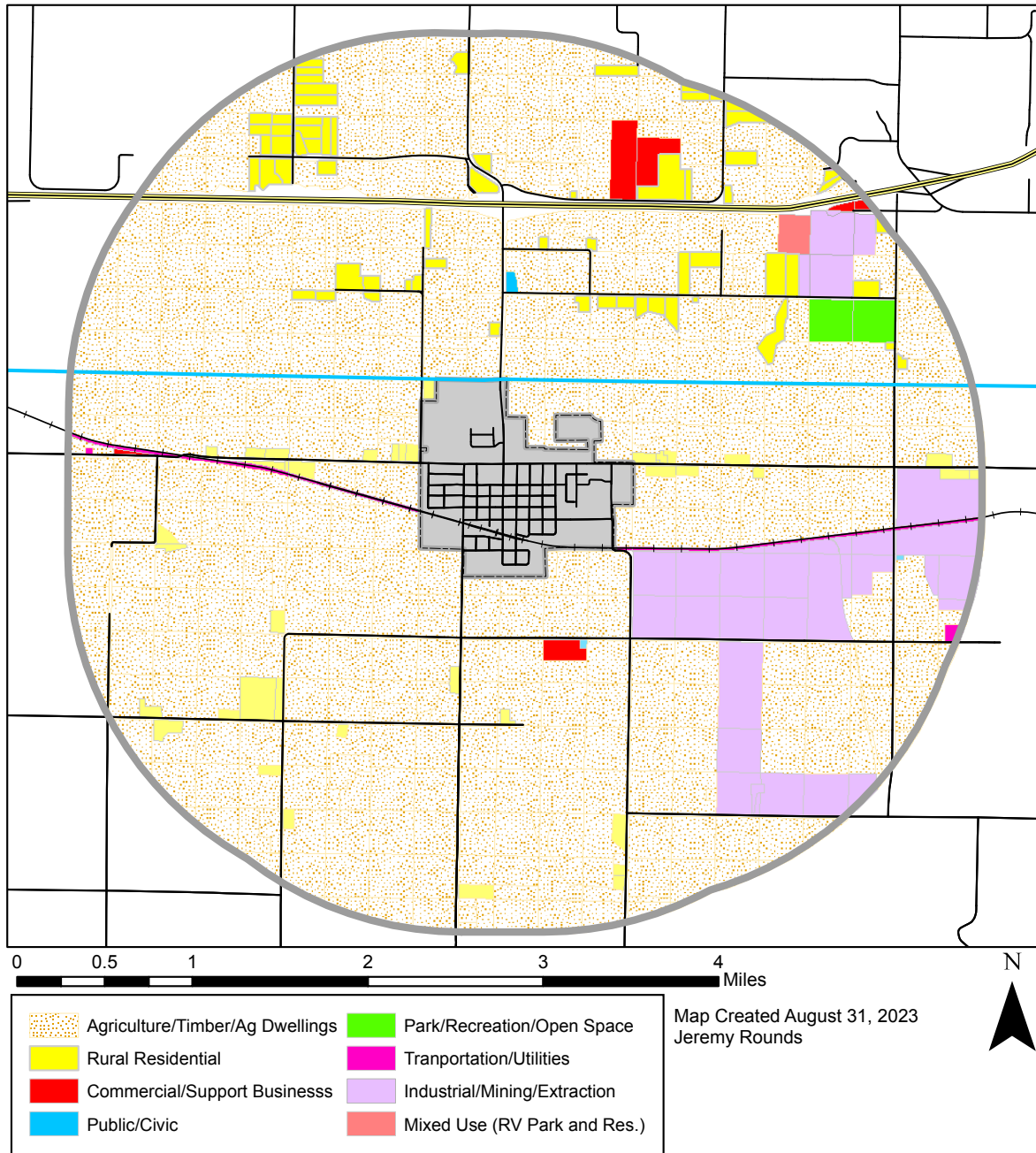
Further, within several land use categories, less than 1% of the extraterritorial area is composed of water surfaces – streams and lakes.

Figure 3.53: Composition of Land Use Types in the Planning Area in Acres and Percent of the Total Area



As expected before analysis, the bulk of the land is used for agricultural and natural purposes, such as timber, waterways, etc. However, the growth generated by the metro is notable surrounding Earlham compared to more remote parts of Iowa. Considerable acres, equal to the entire size of Earlham’s city boundary, are used for residential purposes, mostly individual large-lot acreages. Subdivisions are in development north of the interstate. An estimated 500 people today live in the planning boundary. About equal shares are in Madison and Dallas Counties. The other uses are considerable as well. The mining/extraction areas are a unique feature for the region. The area supplies materials for the construction industry and good jobs. While most of the area identified for this use is not continuously active, it remains a potential resource. Some reclaimed mining areas become quality recreational areas or ponds/lakes that can be developed with quality housing. Many planning areas surrounding rural cities have few other uses, but this area includes commercial, mining/extraction operations, recreation and other uses. This is indicative of an area poised for growth.

Figure 3.54: Current Land Use Map of Earlham's Extraterritorial Area



As noted on this map, the land use pattern for the planning area is mostly rural in nature, with agriculture and other natural uses. However, in all directions are other uses that can further developed. There are no land use patterns that prevent the further growth and development of Earlham outside of the current boundaries. Even the mining areas are not intense and do not present a deterrent for housing and other uses southeast of the city.

This church just north of town could form the nucleus of a new residential development area.



The Exit 104 interchange (below) has potential for a range of development options, although the topography makes it a challenge.



Exit 106 interchange (two photos to left below) has potential to be a second entrance into the city and to Gendler Park.



Hazards to Which Earlham is Susceptible

Earlham does not have a history of major disasters, such as extensive tornado or flood damage. However, many events occur annually that cause damage to properties and infrastructure. Earlham Fire & EMS has also reported many transportation incidents to which they have responded along I-80.

Earlham, like all of Madison County, has adopted a hazard mitigation plan to address natural and some other hazard risks. In general terms, the community is at greatest risk due to storm-related hazards, such as tornadoes and windstorms, thunderstorms and lightning, hail, and severe winter storms. Other non-natural hazards to which Earlham is vulnerable are infrastructure failure, fire, and terrorism.

Hazard mitigation efforts outlined in the hazard mitigation plan, which is to be updated every five years, are designed to reduce these risks and increase resiliency. The comprehensive plan can include development strategies and land use regulations that reduce risk. One of these is the imposition of zoning regulations that reduce flood risk both inside and outside of flood hazard areas.

Recent Hazard Mitigation Efforts

Earlham participates in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP), which prevents or regulates development in flood zones, known as the Special Flood Hazard Areas (SFHA), the so called 100-year flood level. Figure 3.6 contains the current FEMA map. Roughly 1% of Earlham's land area is within the floodplain and is entirely mostly undeveloped, except for roads and infrastructure that cross the flood zones.

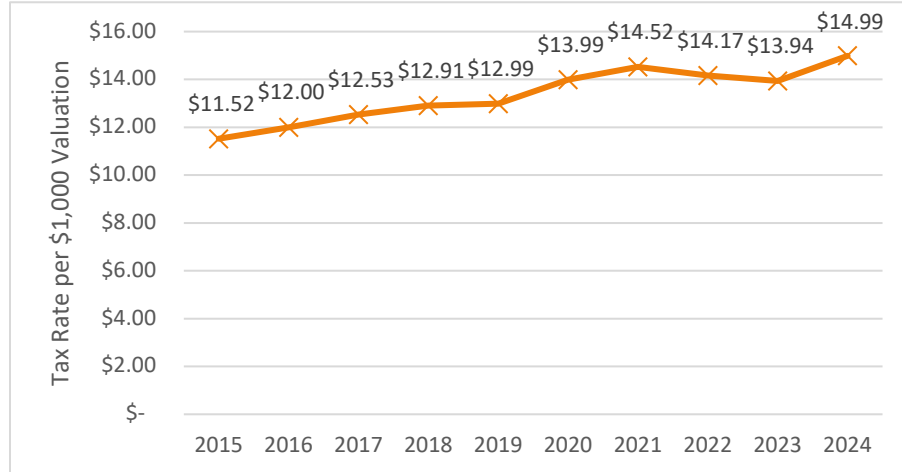
Other mitigation efforts include continued training and equipment upgrades for emergency services, additional educational programs to improve public awareness, infrastructure upgrades, and imposition of building codes and inspection programs.

Fiscal Condition

While the comprehensive plan looks mostly at development, infrastructure, and service needs of the future, it is important to include an overview of Earlham’s financial or fiscal condition.

Madison and Dallas Counties, as growing communities, have more modest property tax rates compared to other areas, but this is offset by notably higher and inflating property values that result in more taxes actually being paid, an issue that is detrimental to existing property owners who may be on fixed incomes and have owned their homes for many years.

Figure 3:55: City of Earlham Historical Tax Rates



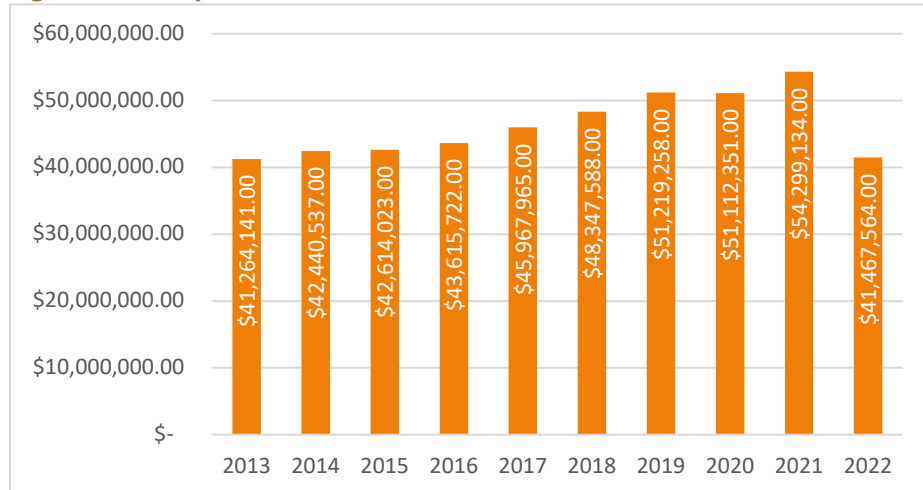
Source: Iowa Department of Management (9/1/23)

Earlham levy information has been analyzed over the past dozen or so years. While property values have increased, so has the city’s tax rate, as shown in Figure 3.55, although it is lower than many similar sized cities in Iowa.

Overall tax rates are manageable but have steadily risen in the past ten fiscal years. In Fiscal Year 2021-22, Earlham was ranked 241 of 940 cities, meaning the tax rate is higher than average but is not an outlier.

Figure 3.56 shows the total taxable property value trends for Earlham.

Figure 3:56: City of Earlham Historical Taxable Valuations

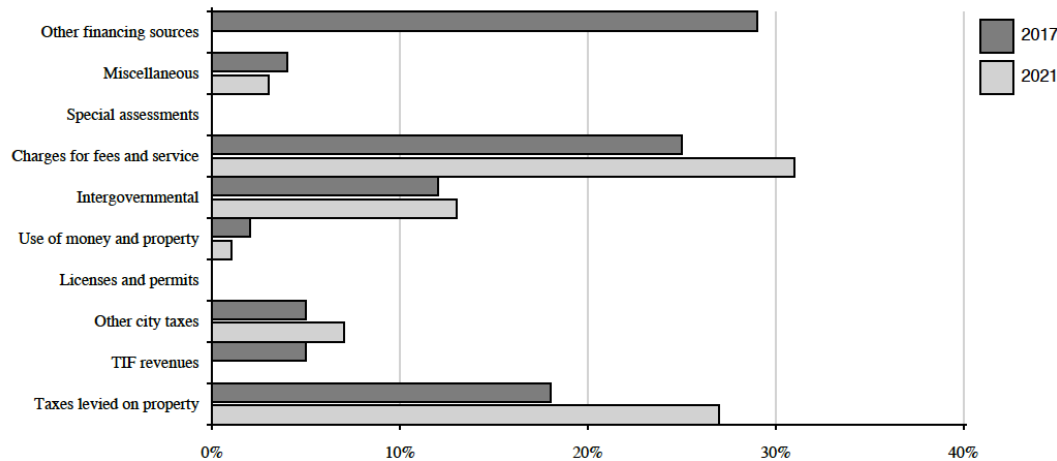


Source: Iowa Department of Management

A \$41.5 million taxable valuation at a \$14.99 per \$1,000 tax rate means the City of Earlham expects around \$622,000 in tax revenue, which by no means is sufficient to fund local government.

The following figure shows the revenue sources available to the City of Earlham in Fiscal Years 2017 and 2021. These years were used as part of the Annual Fiscal Conditions Report, Earlham, Iowa, published by Iowa State University. This report provides detailed insight into the fiscal condition of the city. It should be noted that no COVID ARPA funds are included in the report, as those did not arrive until FY 2022. Notice that property taxes are only a small part of Earlham’s revenue each year.

Figure 3:57: City of Earlham Revenue Sources

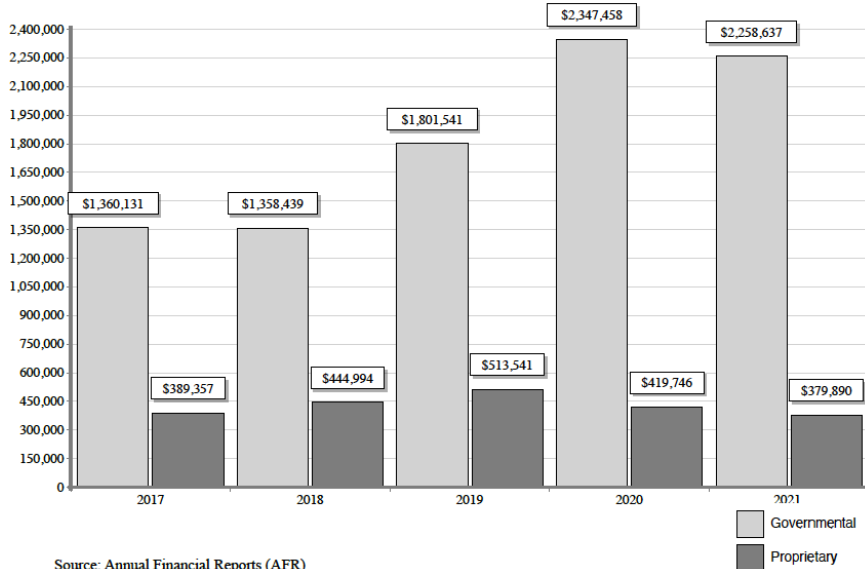


Source: Iowa State University Fiscal Conditions Report, Earlham, Iowa, FYE 2021, based on the Annual Financial Reports (AFRs)

The variety of revenue sources is beneficial, as relying on one source can be a challenge. ISU’s report shows the per capita property tax revenue rose from \$345 per capita in 2017 to \$474 in 2021. However, the report also shows a slight decline in revenue per capita overall. This is a concern, if this continues, for the sustainability of local government. Reliance on property taxes is shaky when the State of Iowa changes property tax law. However, the City should not rely upon one-time infusions of funds either.

Expenditures have been somewhat less than revenues over the period 2017-2021, although the high expenditures of 2020 and 2021 resulted in a significant loss. The trend is an overall increase in expenditures. It is likely that large projects were factors in 2020 and 2021. The following shows total expenditures by fund type.

Figure 3:58: City of Earlham Expenditures by Type



Source: Iowa State University Fiscal Conditions Report, Earlham, Iowa, FYE 2021, based on the Annual Financial Reports (AFRs)

The report also analyzes per capita expenditures in various general fund categories. Overall, while some fluctuated greatly from year to year, the trend was stable. Fiscal Years 2019 and 2020 had spikes in expenditures in several categories, which likely represents special projects during those years, such as the purchase of a police car, fire truck, or playground equipment.

The report indicates a spike in debt service expenditures per capita in FY 2020 and then a drop below previous levels. There was a spike in capital projects expenditures per capita in 2021. Perhaps this is because the City was able to pay off debt the previous year and then invest in a new project.

The report also analyzed the fund balances at the end of the fiscal years. In 2017- inflation adjusted dollars, the end balance of the general fund grew from \$784,000 in

2017 to \$1.095 million in 2021. The highest end balance was 2020, with \$1.982 million. Further, the proprietary funds balance has increased by about 40% during this same time from \$439,754 in 2017 to \$730,151.

In summary, Earlham is fiscally responsible but is sustainable only if several factors work out favorably. These might include:

- The City is selective with its project selection and uses grants to match local funds as much as possible.
- Earlham is careful about the rate of growth. While growing rapidly like Waukee is appealing to many and may be possible as people want to move farther west from the metro, the cost to develop land and maintain infrastructure could be prohibitive, especially if density is low and the State legislature continues its property tax reform plan.
- Appropriate high-value small manufacturing develops (10 to 50 employees) to supplement the disproportionate share of property taxes that are classified as residential.
- The housing market is able to weather national and regional trends that affect growing suburban areas disproportionately.

Summary of Current Conditions

Earlham has many advantages, such as its strategic location, high-quality school system, working-together mentality, desire to preserve historic and cultural assets, presence of the interstate, better than average infrastructure quality compared to many rural Iowa communities, and rapidly increasing housing values. However, the city has glaring disadvantages, such as some aging infrastructure, lack of capacity to grow infrastructure to meet growth demands, the potential for gentrification of long-time fixed-income residents, unaffordable housing, lack of developable infill lots, and an aging downtown building stock with limited momentum in the retail sector. The remaining parts of this plan considers how to build on these and other advantages while proactively addressing challenges within the context of fiscal restraint.