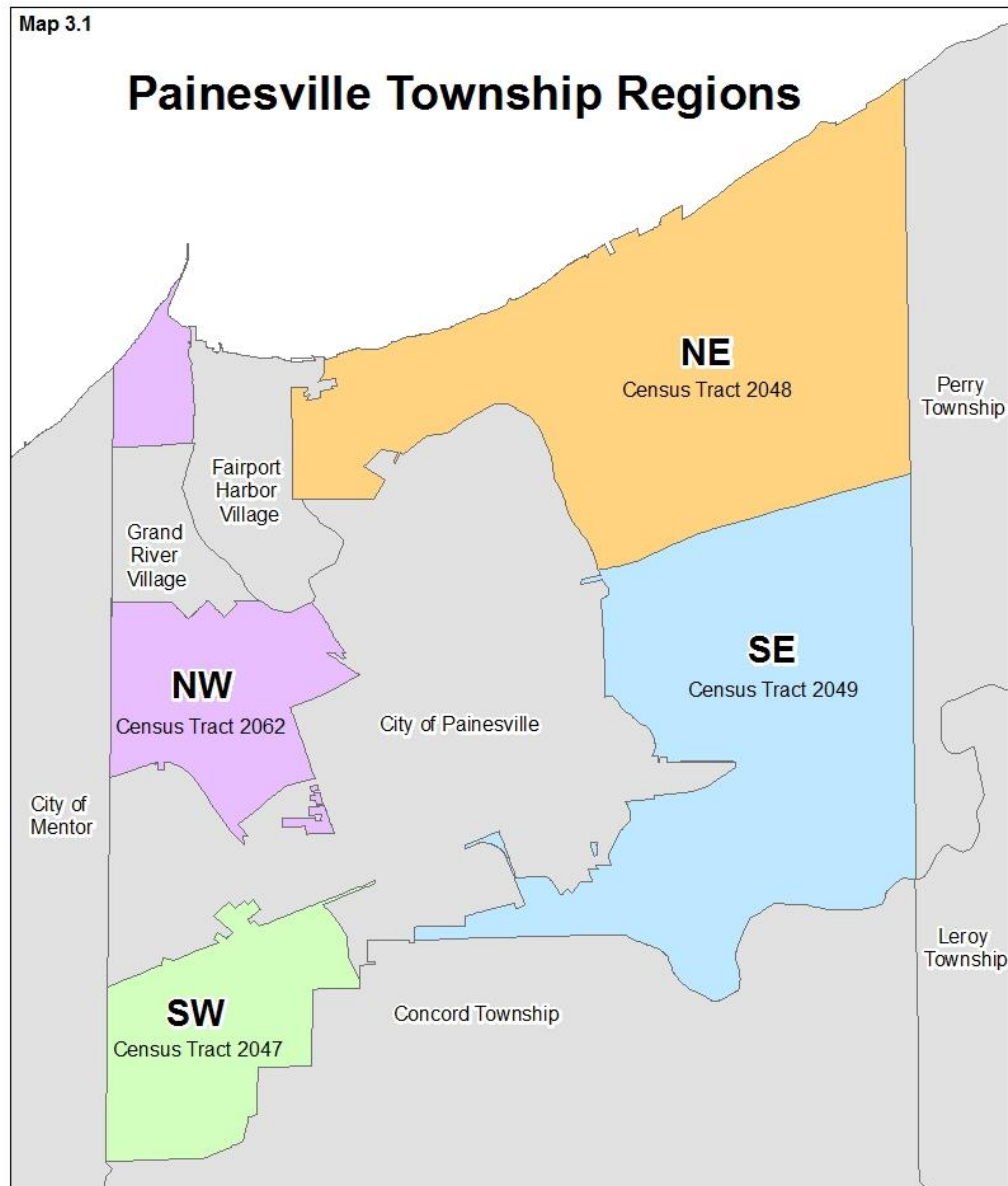


# 3 | Background

---

## 3.1 Geography and Geology

### *Location*



Painesville Township, Ohio, is an unincorporated community located in the northern central region of Lake County. It is located 30 miles (48 kilometers) east of Downtown Cleveland and 75 miles (120 kilometers) west of Erie, PA. The Township is bordered by the City of Mentor to the west, Concord Township to the south, Perry Township to the

east, and Lake Erie to the north. The northwest corner of Leroy Township touches the southeast corner of Painesville Township. The Township is transected by the Grand River, which meanders through a deep valley from the south to Lake Erie. As of 2015, Painesville Township occupies an area of approximately 15.45 square miles.

Two incorporated municipalities are located within the physical boundaries of Painesville Township, and include Grand River Village and Fairport Harbor Village. Grand River Village is located in the northwestern portion of the Township, between the west bank of the Grand River and the City of Mentor boundary. Fairport Harbor Village is located between Lake Erie and the City of Painesville. While not being within the physical boundaries of Painesville Township, the City of Painesville is surrounded by the four noncontiguous regions of the Township and sits along the west bank of the Grand River. Land recently annexed by the City of Painesville extends west to the City of Mentor boundary.

Painesville Township's configuration includes four noncontiguous regions. One of the four areas includes a small region in northwest Painesville Township and is bounded by Grand River Village, the Grand River, Fairport Harbor Village, Lake Erie, and the City of Mentor. This area is occupied by the Morton Salt mine and a portion of Headlands State Park, and has no permanent residents.

In the NW region of Painesville Township, Grand River Village, Fairport Harbor Village, the City of Painesville and the City of Mentor surround a predominantly industrial area. The SW region of the Township, surrounded by the City of Painesville, Concord Township and the City of Mentor, is a heavily developed area. The SW region includes Painesville Township Hall, the Lake County Fairgrounds, and the bulk of the Township's commercial and retail land uses. Between these two areas, there is a small unincorporated area of land that is completely surrounded by the City of Painesville, which is zoned Light Industrial (I-1).

The largest contiguous, unincorporated area is located in the NE region of Painesville Township, and is bounded by Lake Erie, Fairport Harbor Village, the Grand River, the City of Painesville, Concord Township and Perry Township. y.

The Census Bureau includes Painesville Township in the Cleveland-Akron Consolidated Metropolitan Statistical Area (CMSA) and the Cleveland-Elyria Primary Metropolitan Statistical Area (PMSA).

## ***Geology***

Past glaciations contributed to the physical characteristics of Painesville Township, which consist of generally flat landscapes, punctuated by deep stream and river valleys. Wisconsinian glaciers moved through the area from the northeast to southwest during the Ice Age, and scoured the landscape as they retreated. This left the ground covered with silt and thousands of boulders of Canadian rock.

Lake Erie forms the northern edge of Painesville Township. The Lake Erie shoreline ranges from sheer cliffs being overtaken by erosion to beaches covered in sand dunes. Just inshore is the Lake Plain, formed by retreating glaciers. North Ridge and South Ridge are strand line beach ridges that were formed when lake water levels were much higher than today's levels. Between the ridges is a low-lying, flat and poorly drained area formed when the North Ridge was created, cutting off drainage to Lake Erie.

The glaciers temporarily halted their retreat just south of Painesville Township, leaving behind a small ridge of glacial materials, or a recessional moraine, that would later be known as South Ridge. This was an insignificant feature of the landscape until the glaciers continued their retreat and the predecessors of Lake Erie were formed. A large beach ridge and strand line was formed by the lake on top of this low-lying ridge. This geological formation was responsible for forming the drainage channel that would become the Grand River, which runs through a deep valley that crosses the Township. As the river flows toward Lake Erie, broad floodplains emerge along its banks. Mentor Marsh, formed on a formerly ancient river channel, encroaches into the northwest corner of the Township.

The Salina salt beds are located approximately 2000 feet (600 meters) below the surface. These salt beds, which extend underneath Lake Erie, are between 500 and 600 feet (150 to 200 meters) thick. Morton Salt operates a deep shaft mine in the Township, extracting salt from the Salina beds.

Details regarding soil types and permeability, drainage, flood zones, watersheds, wetlands and other elements of the natural environment are described in the Natural Resources section.

## ***Climate***

The ecological subregion of Painesville Township, as defined by the United States Forest Service, is: Humid Temperate Domain: Hot Continental Division: Eastern Broadleaf Forest (Continental) Province: Erie and Ontario Lake Plain Section.

The climate of Painesville Township is largely influenced by the Township's close proximity to Lake Erie. Some summer days can be hot with high humidity, but typical summer temperatures range from 57° to 81° F (14° to 27° C). Spring has the highest quantity of rainy days, and thunderstorms occur most frequently in June and July. Temperatures range from 47° to 68° F (8° to 19° C) in May and from 43° to 74° F (6° to 22° C) in fall. Temperatures are often below freezing in the winter, with a range from 18° to 32° F (-5° to 0° C) during January.

Average precipitation in Lake County can range from about 30 inches annually in areas along the Lake Erie Shore, to about 38 inches in Concord Township, to 42 inches in

south Leroy. Painesville Township is located north of Ohio's snowbelt, but is still susceptible to lake effect snow, especially areas located further from Lake Erie.

The microclimate is somewhat more temperate than areas further from Lake Erie, providing a suitable environment for nurseries. The Grand River valley also provides a suitable microclimate for wineries.

## **3.2 Challenges Facing Painesville Township**

### ***Zoning and Land Use Regulation***

As the primary tool for comprehensive plan implementation, zoning codes are regulatory guidelines for day-to-day development decisions in a community. Zoning codes expand on the information outlined in the Comprehensive Plan by providing parcel-specific regulations. Such regulations include the location of particular land uses, regulation of those uses, and detailed specifications for the site planning and design of proposed development.

Painesville Township first adopted zoning regulations in 1954, which occurred three years after the Ohio General Assembly first authorized zoning in unincorporated areas in 1951. Painesville Township's Zoning Resolution is revised periodically in an effort to accommodate evolving land use needs.

Police power of Ohio's townships originates through statutory delegation by the General Assembly, as opposed to the state constitution, which establishes such power for incorporated municipalities. Zoning authority of Ohio townships is limited to what is specifically granted by the General Assembly through state statutes. This constraint limits townships from implementing some progressive land use control techniques.

Townships have no power to control land subdivision. Only counties and incorporated municipalities may adopt, enforce and administer subdivision regulations. The Lake County Planning Commission administers requests to subdivide land in Painesville Township.

### ***Redevelopment of Commercial Areas***

When following the Mentor Avenue commercial strip eastward from the City of Mentor, the Painesville Township boundary can be discerned by more than a sign identifying the Township limits. Historically, business signs are larger, landscaping is sparser and ingress/egress is haphazard. Recent changes in zoning and state law, as well as the widening of U.S. Route 20, have now begun to reverse these trends. Site plan review, updated signage requirements and future access management regulations will assist in the redevelopment of the U.S. Route 20 corridor over the long-term.

### ***Painesville-on-the-Lake and Sunset Point***

Painesville-on-the-Lake and Sunset Point, located next to each other in NE region of Painesville Township, were founded as cottage communities in the early 20<sup>th</sup> century. Larger estates were often divided into small lots, where the middle class from Cleveland, Pittsburgh and Youngstown could escape the summer heat in a small cottage of their own.

Following the Great Depression, financial hardships led to driving limitations and heavy industry encroached. As a result, once-exotic vacation destinations, such as Painesville-on-the-Lake and Sunset Point, lost popularity. Consequently, the small cottages in the area were winterized and converted to year-round residences. Over time, the natural process of erosion has negatively impacted these neighborhoods. During some years, 30 feet (10 meters) of land succumbed to the waves of Lake Erie. Rapid coastline erosion continues to threaten lakefront properties in the area.

Today, while improvements are still needed, much of Painesville-on-the-Lake and Sunset Point has begun the revitalization process. Infill residential construction and major subdivision developments can be found in this area. Median family and household incomes are lower than Lake County and the Cleveland PMSA as a whole.

### ***Brownfields***

The closure of the Diamond Shamrock facility left the Township with approximately 1.5 miles (three kilometers) of shoreline real estate that has redevelopment potential. Other industrial facilities that once dotted the northern end of Painesville Township are now vacant. The closure of Casement Airport left behind a one square mile (two square kilometer) parcel in the middle of the Township's fastest-growing, most affluent census tract.

Vacant industrial and airfield sites present opportunities for infill development when utilizing innovative planning concepts.

### ***Parks and Recreation Areas***

Painesville Township Park, west of the Painesville-on-the-Lake neighborhood, Headlands State Park and Lake Metroparks' first facility, Helen Hazen Wyman Park, are primary public parks within the Township. The Township also has a golf course, athletic fields located at local schools, and the County Fairgrounds.

### ***Pedestrian and Bicycle Facilities***

A short section of a bicycle path following the former right-of-way of the Baltimore and Ohio Railroad cuts through Painesville Township, between the City of Painesville and

Concord Township. Otherwise, there are no designated bicycle lanes on Township roads, nor are there any dedicated bicycle and pedestrian paths.

Many residential and commercial areas in the Township lack sidewalks, making pedestrian travel difficult. The Transportation element discusses these matters in more depth.

### **Shoreline Erosion**

Although it has been millennia since the end of the Ice Age, the Lake Erie coastline continue to be shaped through the natural process of erosion.



The coastline in Painesville Township is subject to severe erosion in many areas. Steep bluffs are formed where the waves impact the land. Since beaches in the study area are narrow, there is little sand on the lake bottom to absorb wave energy. As a result, waves excavate the lake bottom close to shore. As near-shore depths increase, the amount of wave energy increases, increasing erosion along the shoreline. Items are illegally dumped on the beaches with the intent of slowing erosion, such as concrete blocks, rebar, and even auto bodies. This only accelerates erosion, as wave energy is not absorbed and bluffs are gouged.

In some years when water levels were high and storms were rampant, up to 30 feet (10 meters) of land was lost as a result of erosion. The Ohio Department of Natural Resources has developed the Coastal Erosion Area for the entire shoreline of Lake Erie. A Coastal Erosion Area is a designated land area along the Lake Erie shore that is anticipated to be lost due to Lake Erie related erosion if preventative measures are not taken. More specifically, a Coastal Erosion Area begins at the top of a bluff, bank, or beach ridge and includes all land predicted to erode within a 30-year period if that distance exceeds 9 feet. The shoreline near Painesville-on-the-Lake experiences more severe erosion than other parts of the Township or county.

