

Which Garage Door



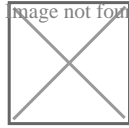
- **Understanding Garage Door Springs and Their Role**  
Understanding Garage Door Springs and Their Role Signs Your Garage Door Spring Needs Replacement Choosing Between Torsion and Extension Springs How Spring Lifecycles Impact Garage Door Safety Common Causes of Spring Failure in Garage Doors Estimating Costs for Garage Door Spring Repair Safety Steps for Handling Broken Garage Door Springs Professional Versus DIY Spring Replacement Tools Required for Garage Door Spring Service Maintenance Tips to Extend Spring Lifespan Balancing the Door After Spring Replacement Environmental Benefits of Recycling Old Springs
- **Chain Drive Versus Belt Drive Opener Performance**  
Chain Drive Versus Belt Drive Opener Performance Understanding Horsepower Ratings in Garage Door Openers Exploring Smart WiFi Connected Garage Door Systems Battery Backup Essentials for Reliable Door Operation Noise Comparison Across Popular Opener Types Energy Consumption of Modern Garage Door Motors Compatibility Factors When Upgrading Your Door Opener Security Features Built Into Rolling Code Openers Routine Maintenance for Long Lasting Openers Troubleshooting Common Opener Sensor Issues Integrating Openers with Home Automation Platforms Planning Costs for a New Garage Door Opener Installation
- **About Us**



waste and preserving natural resources.

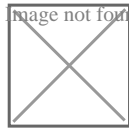
First and foremost, recycling old springs helps in conserving natural resources. The process of extracting raw materials for new metal production is highly resource-intensive. By recycling springs, we reduce the need for mining new ores, which not only preserves these finite resources but also minimizes the environmental disruption caused by mining activities. This includes reducing deforestation, soil erosion, and habitat destruction associated with mining operations.

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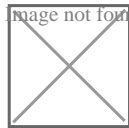
Moreover, the energy savings from recycling metals are substantial. Producing metal from recycled materials requires significantly less energy than refining metal from virgin ore. For instance, recycling steel saves up to 75% of the energy used in producing new steel from iron ore. This reduction in energy consumption directly translates into lower greenhouse gas emissions, which is vital in our fight against climate change. Fewer emissions mean less contribution to global warming and air pollution, improving air quality for all living beings.

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Another significant benefit is the reduction of waste in landfills. Springs are durable and do not decompose; when discarded in landfills, they occupy space indefinitely. By recycling them, we decrease the volume of non-biodegradable waste that would otherwise accumulate over centuries. This not only extends the lifespan of existing landfills but also reduces the need to develop new ones, saving land for other uses or leaving it untouched for wildlife.

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Recycling also prevents pollution associated with improper disposal methods like dumping or incineration. When metals corrode or burn at high temperatures without proper controls, they can release harmful substances into the environment. Recycling under controlled

conditions ensures that these pollutants are managed safely.

Furthermore, there's an economic incentive intertwined with these environmental benefits. Recycling creates jobs within local communities where recycling facilities operate, fostering economic growth while promoting green practices. This cycle supports a sustainable economy where environmental stewardship goes hand-in-hand with economic development.

In summary, the environmental benefits of recycling old springs are multifaceted. From conserving precious natural resources and reducing energy consumption to minimizing landfill use and preventing pollution, each aspect contributes to a healthier planet. Encouraging and implementing effective recycling programs for old springs can lead us towards a more sustainable future where we respect and preserve our environment for generations to come. By understanding and acting upon these benefits, society can make informed choices that support both ecological balance and human well-being.

## **Balancing the Door After Spring Replacement**

### **About Lake County, Indiana**

Not to be confused with Lake County, Illinois.

## **Lake County, Indiana**

County

Former Lake County Courthouse in Crown Point, Indiana

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Former Lake County Courthouse  
in Crown Point, Indiana

Official seal of Lake County, Indiana

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Seal

Location in the state of Indiana

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Location in the state of Indiana

Indiana's location in the U.S.

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Indiana's location in the U.S.

Coordinates: 41°25'N 87°22'W﻿ / ﻿41.417°N 87.367°W

<b>Country</b>	 United States
<b>State</b>	 Indiana
<b>Region</b>	Northwest Indiana
<b>Metro area</b>	Chicago Metropolitan
<b>Settled</b>	October 1834 <sup>[1]</sup>
<b>Established</b>	February 16, 1837 <sup>[2]</sup>
<b>Named after</b>	Lake Michigan
<b>County seat</b>	Crown Point
<b>Largest city</b>	Hammond (population) Gary (total area)

**Incorporated  
municipalities**

**19 cities and towns**

Cedar Lake (town)  
Crown Point (city)  
Dyer (town)  
East Chicago (city)  
Gary (city)  
Griffith (town)  
Hammond (city)  
Highland (town)  
Hobart (city)  
Lake Station (city)  
Lowell (town)  
Merrillville (town)  
Munster (town)  
New Chicago (town)  
Schererville (town)  
Schneider (town)  
St. John (town)  
Whiting (city)  
Winfield (town)

**Government**  
**[3]**

- **Type** County
- **Body** Board of Commissioners
- **Commissioner** Kyle W. Allen, Sr. (D, 1st)
- **Commissioner** Jerry J. Tippy (R, 2nd)
- **Commissioner** Michael C. Repay (D, 3rd)

**Members**

- **County Council**
  - David Hamm (D, 1st)
  - Clorius Lay (D, 2nd)
  - Charlie Brown (D, 3rd)
  - Pete Lindemulder (R, 4th)
  - Christine Cid (D, 5th)
  - Ted F. Bilski (D, 6th)
  - Randy Niemeyer (R, 7th)

**Area**

- **County** 626.5 sq mi (1,623 km<sup>2</sup>)
- **Land** 498.9 sq mi (1,292 km<sup>2</sup>)

- **Water** 127.6 sq mi (330 km<sup>2</sup>)
- **Metro** 10,874 sq mi (28,160 km<sup>2</sup>)
- **Rank** 12th largest county in Indiana
- **Region** 2,726 sq mi (7,060 km<sup>2</sup>)

#### Dimensions

[<sup>4</sup>]

- **Length** 36 mi (58 km)
- **Width** 16 mi (26 km)

**Elevation**  
[<sup>5</sup>] (*mean*)

663 ft (202 m)

**Highest elevation**  
[<sup>6</sup>]—*NE Winfield Twp*

801 ft (244 m)

**Lowest elevation**  
[<sup>7</sup>]—*at Lake Michigan*

585 ft (178 m)

#### Population (2020)

- **County** 498,700
- **Estimate (2023)** 500,598 Image not found or type unknown

**Increase**

- **Rank** 2nd largest county in Indiana 131st largest county in U.S.[<sup>8</sup>]
- **Density** 800/sq mi (310/km<sup>2</sup>)
- **Metro** 9,522,434

- **Region** 819,537

**Time zone** UTC−6 (Central)

- **Summer (DST)** UTC−5 (Central)

**ZIP Codes**

46303, 46307–08, 46311–12, 46319–25, 46327, 46341–42, 46355–56, 46373, 46375–77, 46394, 46401–11

**Area code** 219

**Congressional district** 1st

**Indiana Senate districts** 1st, 2nd, 3rd and 6th

**Indiana House of Representatives districts** 1st, 2nd, 3rd, 11th, 12th, 14th, 15th and 19th

**FIPS code** 18-089

**GNIS feature ID** 0450495

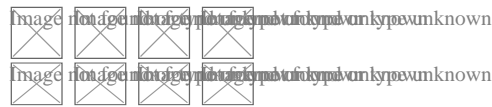
## Interstates



## U.S. Routes



## State Routes



## Airports

Gary/Chicago International  
Griffith-Merrillville

## Waterways

Grand Calumet River  
Indiana Harbor and Ship Canal  
Kankakee River  
Lake Michigan

## Amtrak stations

Dyer – Hammond-Whiting

## South Shore Line stations

Hammond Gateway – East Chicago  
Adam Benjamin Metro Center  
Gary/Chicago Airport – Miller

## Public transit

East Chicago Transit  
Gary Public Transportation  
*Broadway Metro Express*

## Website

[www.lakecountyin.org](http://www.lakecountyin.org)

- Indiana county number 45
- Second most-populous county in Indiana

**Lake County** is a county located in the U.S. state of Indiana. In 2020, its population was 498,700,<sup>[9]</sup> making it Indiana's second-most populous county. The county seat is Crown Point.<sup>[10]</sup> The county is part of Northwest Indiana and the Chicago metropolitan area, and contains a mix of urban, suburban and rural areas. It is bordered on the north by Lake Michigan and contains a portion of the Indiana Dunes.<sup>[11]</sup><sup>[12]</sup> It includes Marktown, Clayton Mark's planned worker community in East Chicago.<sup>[13]</sup>

## History

[edit]

## Early settlement

[edit]

Originally inhabited by the Potawatomi and generations of indigenous ancestors, Lake County was established by European Americans on February 16, 1837.<sup>[2]</sup> From 1832 to 1836 the area that was to become Lake County was part of La Porte County.<sup>[14]</sup> From 1836 to 1837 it was part of Porter County.<sup>[14]</sup> It was named for its location on Lake Michigan.<sup>[15]</sup> The original county seat was Liverpool, but in 1840 Lake Court House, later renamed as Crown Point, was chosen.<sup>[16]</sup>

Lake County's population grew slowly before the 1850s. Construction of railroads to link Chicago to the rest of the country stimulated rapid development, and tens of thousands of settlers and immigrants bought land in the region. Small-scale industrialization began, but was primarily relegated to the northern coast of the county, where it could take advantage of the railroads along the coast and shipping on the Great Lakes. The 1900 Census gives a population of 37,892 residents.

## Industrialization and immigration

[edit]

Inland Steel Company established a plant in East Chicago in 1903 and U.S. Steel founded one in Gary in 1906; with industrial jobs the demand for labor associated with industrial jobs, the county's population exploded. Immigrants poured into the area from all over Central and Eastern Europe (there was also a smaller Mexican immigrant community). In addition, both black and white migrants came from many regions of the United States, particularly Appalachia and the South. Mostly rural blacks went north in the Great Migration, seeking both industrial jobs and escape from Jim Crow violence and disenfranchisement in the South.

By 1930, Lake County's population surpassed 260,000, with first- and second-generation Americans constituting a majority of the population. The second wave of the Ku Klux Klan gained a large following here in the 1920s, as it did for a time in the rest of Indiana. The KKK organized against the numerous European immigrants, who were mostly Catholic. While the steel industry reigned supreme, other industries also found the county to be an ideal location for cheap land and well-developed transportation networks, such as automobiles, oil, chemicals, consumer goods, food processing, and construction supply companies.<sup>[17]</sup>

The Great Depression was devastating to Lake County, as it was to other areas with economies based on heavy industry. The Depression, combined with industrial strife, changing demographics, and unionization, caused a realignment of politics in Lake County. It became a stronghold of the Democratic Party; Lake County has supported the Democratic



nominee for president in every election since 1932 (exceptions occurred in 1956 and 1972). Indiana's 1st congressional district has elected Democratic candidates in every election since 1930.

World War II restored prosperity, as industry revived to support the war effort. Good economic times continued into the 1970s. During this period, unions helped industrial workers gain middle-class wages. In addition to attracting refugees and immigrants from Europe, black Americans and Mexicans migrated here in the postwar period in even higher numbers than in the 1910-1930 period. As minority populations exploded in such industrial cities as East Chicago and Gary, racial tensions surfaced again. Following construction of state and federal highways, development of cheaper land provided newer housing to middle-class people who could afford it. Both whites and established black families moved out of the aging industrial cities.<sup>[17]</sup>

## Recent history

[edit]

Lake County's population peaked at 546,000 in 1970. Severe industrial decline took place during the 1973-1991 period, brought on by foreign competition, new management philosophies that called for major workforce reductions, and productivity gains from technology. The decline was particularly intense in the steel industry: steel employment exceeded 60,000 in the 1960s, and declined progressively to just 18,000 by 2015. Lake County's population declined 13% to bottom out at 475,000 in 1990.

The industrial decline of the 1980s cast a long shadow over Lake County: the county did not regain the level of employment it had in 1980 until 1996, after which the employment level roughly flatlined. The county's economic output peaked in 1978, and has not since recovered, remaining 15-20% below the peak after adjusting for inflation. As prosperity declined, so did the immigration that powered the county's explosive population growth before 1950: per the 2000 census, only 5.3% of Lake County's residents were foreign-born, compared to over 11% for the United States as a whole.<sup>[18]</sup>

The population recovered somewhat during the 1990s and 2000s, as the local economy adjusted. Suburban growth has also been driven by commuter populations of workers who are employed in Chicago and commute via expressways or the South Shore Line. In 2007, it was estimated that 44,000 workers commuted from Lake County, Indiana, to Chicago for work.<sup>[18]</sup> The decline of industrial cities and growth of suburbs has been so sharp, that by 1990 a majority of the county's population lived outside of the four traditional industrial cities. Lake County still continues to struggle with urban decline and poverty, suburban sprawl and traffic jams, and a stagnating population.<sup>[17]</sup>

## Geography

[edit]

According to the 2010 census, the county has a total area of 626.56 square miles (1,622.8 km<sup>2</sup>), of which 498.96 square miles (1,292.3 km<sup>2</sup>) (or 79.63%) is land and 127.60 square miles (330.5 km<sup>2</sup>) (or 20.37%) is water. It is the second-largest county in total area in Indiana, but has the largest water area of all 92 counties.<sup>[19]</sup>

The northern and southern portions of the county (north of U.S. 30 and south of Lowell) are mainly low and flat, except for a few sand ridges and dunes and were both once very marshy and had to be drained. The lowest point, at 585 feet (178 m),<sup>[7]</sup> is along the Lake Michigan shoreline.

The central part of the county is higher and hillier. As you travel south from the low and relatively flat lake plain in the northern part of the county, the land gradually rises in elevation until the peak of the Valparaiso Moraine. The highest point, at 801 feet (244 m),<sup>[6]</sup> is in northeastern Winfield Township near 109th Street and North Lakeshore Drive in Lakes of the Four Seasons. From here the land descends south into the Kankakee Outwash Plain until the Kankakee River is reached.

The geographic center of Lake County is approximately 200 feet (60 m) northwest of Burr Street and West 113th Avenue in Center Township

41°24′53.8″N 87°24′14.3″W﻿ / ﻿41.414944°N 87.403972°W﻿ /

## Adjacent counties

[edit]

- Cook County, Illinois (northwest)
- Will County, Illinois (west)
- Kankakee County, Illinois (southwest)
- Porter County (east)
- Jasper County (southeast)
- Newton County (south)

## National protected area

- Indiana Dunes National Park – *also in LaPorte and Porter counties*

## Transit



















- East Chicago Transit
- Gary Public Transportation Corporation (*Broadway Metro Express*)

## Airports

- Gary/Chicago International Airport
- Griffith-Merrillville Airport

## Major highways

Interstate 65 in Lake County is called the Casimir Pulaski Memorial Highway. Interstate 80/94/US 6 is the Frank Borman Expressway from the Illinois state line east to the Indiana Toll Road interchange in the eastern portion of the county. Interstate 94 has been referred to as the Chicago-Detroit Industrial Freeway. US 6 is part of the Grand Army of the Republic Highway. Broadway (Indiana 53) is also the Carolyn Mosby Memorial Highway. Indiana 51 is known for its entire length as the Adam Benjamin Memorial Highway. US 30 is part of the historic Lincoln Highway. US 12 from Gary eastward is part of Dunes Highway. Cline Avenue (Indiana 912) from US 12 north and westward is known as the Highway Construction Workers Memorial Highway.

-  Interstate 65
-  Interstate 80
-  Indiana Toll Road
-  Interstate 94
-  U.S. Route 6
-  U.S. Route 12
-  U.S. Route 20
-  U.S. Route 30
-  U.S. Route 41
-  U.S. Route 231
-  State Road 2
-  State Road 51
-  State Road 53
-  State Road 55
-  State Road 130
-  State Road 152
-  State Road 312
-  State Road 912

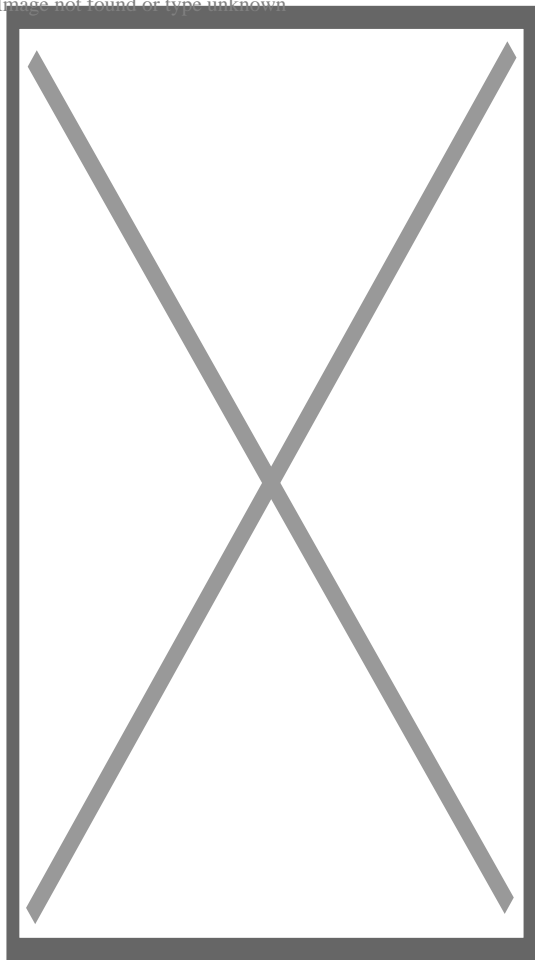
## Railroads

- Amtrak
- Canadian National Railway
- Chicago, Fort Wayne and Eastern Railroad
- Chicago South Shore and South Bend Railroad
- CSX Transportation
- Gary Railway
- Indiana Harbor Belt Railroad
- Norfolk Southern Railway
- South Shore Line

## Municipalities

[edit]

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The municipalities in Lake County, and their populations as of the 2020 Census, are:

## Cities

[edit]

- Crown Point – 33,899
- East Chicago – 26,370
- Gary – 69,093
- Hammond – 77,879
- Hobart – 29,752
- Lake Station – 13,235
- Whiting – 4,559

## Towns

[edit]

- Cedar Lake – 14,106
- Dyer – 16,517
- Griffith – 16,528
- Highland – 23,984
- Lowell – 10,680
- Merrillville – 36,444
- Munster – 23,894
- New Chicago – 1,999
- Schererville – 29,646
- Schneider – 269
- St. John – 20,303
- Winfield – 7,181

## Census-designated places

[edit]

- Lake Dalecarlia – 1,332
- Lakes of the Four Seasons – 3,936  
*(7,091 including portion in Porter County)*
- Shelby – 453

## Unincorporated communities

[edit]

- Ainsworth
- Belshaw
- Brunswick
- Creston
- Deep River
- Deer Creek
- Dinwiddie
- Green Acres
- Klaasville
- Kreitzburg
- Leroy
- Liverpool
- New Elliott
- Orchard Grove
- Palmer
- Range Line
- Ross
- Southeast Grove

## **Townships**

[edit]

The 11 townships of Lake County, with their populations as of the 2020 Census, are:

- Calumet – 91,970
- Cedar Creek – 12,725
- Center – 38,630
- Eagle Creek – 1,719
- Hanover – 18,214
- Hobart – 40,652
- North – 156,686
- Ross – 48,529
- St. John – 68,972
- West Creek – 7,676
- Winfield – 12,927

## **Economy**

[edit]

Despite the decline of heavy industry, manufacturing was still the largest employment sector in Lake County in 2010 with over 45,000 workers employed, followed closely by healthcare and social assistance at 44,000 workers, public administration at 40,000 workers, retail trade at 37,000 workers, accommodation and food services at 25,000 workers, and construction at 15,000 workers.[<sup>18</sup>]

Lake County's GDP in 2010 was measured at nearly \$25 billion. Manufacturing was also the largest sector of the economy in economic terms, contributing over \$5.8 billion to the county's GDP in 2010. It was followed by healthcare and social assistance at \$2.6 billion, public administration at \$2.5 billion, and retail trade at \$1.9 billion. While Lake County's average income was approximately 24% higher than the national average in 1978, in 2010 Lake County had fallen significantly behind the United States as a whole, with average income being approximately 12.9% lower. The national average surpassed Lake County sometime around 1986.

Businesses with the largest number of employees in the county are: [<sup>20</sup>]

- Americall Group, Inc. – Hobart
- Ameristar Casino – East Chicago
- BP Whiting Refinery – Whiting
- Canadian National Railway – Whiting
- Cargill – Hammond
- Cleveland-Cliffs Indiana Harbor Works – East Chicago
- Community Hospital – Munster
- Franciscan Alliance, Inc. – *locations throughout the region*
- Franciscan Health Hammond – Hammond (*closed*)
- Hard Rock Casino Northern Indiana – Gary
- Horseshoe Casino – Hammond
- Majestic Star Casino – Gary (*closed*)
- Methodist Hospitals Northlake Campus – Merrillville
- NiSource – Merrillville
- Radisson Hotel at Star Plaza – Merrillville (*closed*)
- St. Catherine Hospital – East Chicago
- St. Mary Medical Center – Hobart
- Times Media Company – Munster
- Unilever – Whiting
- U.S. Steel Gary Works – Gary

## Education

[edit]

## Public school districts

[edit]

The administration of public schools in Lake County is divided among 16 corporations and governing bodies,<sup>[21]</sup> more than any other Indiana county.<sup>[22]</sup>

- Crown Point Community School Corporation – Center and Winfield townships
- Gary Community School Corporation – City of Gary
- Griffith Public Schools – Town of Griffith
- Hanover Community School Corporation – Hanover Township
- Lake Central School Corporation – St. John Township
- Lake Ridge Schools Corporation – unincorporated Calumet Township
- Lake Station Community Schools – City of Lake Station
- Merrillville Community School Corporation – Ross Township
- River Forest Community School Corporation – Town of New Chicago and some portions of adjacent communities
- School City of East Chicago – City of East Chicago
- School City of Hammond – City of Hammond
- School City of Hobart – City of Hobart within Hobart Township
- School City of Whiting – City of Whiting
- School Town of Highland – Town of Highland
- School Town of Munster – Town of Munster
- Tri-Creek School Corporation – Cedar Creek, Eagle Creek and West Creek townships

## Private schools

[edit]

Elementary and secondary schools operated by the Diocese of Gary:

- Andrean High School, Merrillville (9–12)
- Aquinas School at St. Andrew's, Merrillville (PK–8)
- Bishop Noll Institute, Hammond (9–12)
- Our Lady of Grace, Highland (PK–8)
- St. Casimir, Hammond (PK–8)
- St. John Bosco, Hammond (PK–8)
- St. John the Baptist, Whiting (PK–8)
- St. John the Evangelist, St. John (PK–8)
- St. Mary, Crown Point (PK–8)
- St. Mary, Griffith (PK–8)
- St. Michael, Schererville (PK–8)



- St. Stanislaus, East Chicago (PK–8)
- St. Thomas More, Munster (PK–8)

Other parochial and private schools:

- St. Paul's Lutheran School, Munster (PK–8)
- Trinity Lutheran School, Crown Point (PK–8)
- Trinity Lutheran School, Hobart (PK–8)

## **Colleges and universities**

[edit]

- Calumet College of St. Joseph
- Hyles–Anderson College
- Indiana University Northwest
- Ivy Tech Community College
- Purdue University Northwest<sup>[23]</sup>
- University of Phoenix
- Indiana Wesleyan University

## **Public libraries**

[edit]

The county is served by seven different public library systems:

- Crown Point Community Library has its main location with a branch in Winfield.<sup>[24]</sup>
- East Chicago Public Library has its main location and the Robert A. Pastrick branch.<sup>[25]</sup>
- Gary Public Library has its main location, the Gary Public Library and Cultural Center, and the Kennedy and Woodson branches.<sup>[26]</sup>
- Hammond Public Library<sup>[27]</sup>
- Lake County Public Library has its main location in Merrillville as well as Cedar Lake, Dyer-Schererville, Griffith-Calumet Township, Highland, Hobart, Lake Station-New Chicago, Munster and St. John branches.<sup>[28]</sup>
- Lowell Public Library has its main location with branches in Schneider and Shelby.<sup>[29]</sup>
- Whiting Public Library<sup>[30]</sup>

## **Hospitals**

[edit]

- Community Hospital, Munster – 454 beds<sup>[31]</sup>

- Franciscan Health Crown Point, Crown Point – 203 beds (*Level III Trauma Center*)<sup>[31][32][33]</sup>
- Franciscan Health Dyer, Dyer – 223 beds<sup>[31][32]</sup>
- Franciscan Health Munster, Munster – 63 beds<sup>[31][32]</sup>
- Methodist Hospitals – 536 beds<sup>[31]</sup>
  - Northlake Campus, Gary
  - Southlake Campus, Merrillville
- NW Indiana ER and Hospital, Hammond – 6 beds<sup>[31]</sup>
- St. Catherine Hospital, East Chicago – 216 beds<sup>[31]</sup>
- St. Mary Medical Center, Hobart – 215 beds<sup>[31]</sup>
- UChicago Medicine Crown Point, Crown Point – 8 beds (*opening April 2024*)<sup>[34]</sup>

## Media

[edit]

*The Times*, based in Munster, is the largest daily newspaper in Lake County and Northwest Indiana and the second largest in the state. Lake County is also served by the *Post-Tribune*, a daily newspaper based in Merrillville.

Lakeshore Public Television operates WYIN-TV Gary on channel 56 and is the local PBS station in the Chicago television market.

These eight broadcast radio stations serve Lake County and are part of the Chicago market:

- WJOB (1230 AM) – Hammond
- WWCA (1270 AM) – Gary
- WLTH (1370 AM) – Gary
- WLPR (89.1 FM) – Lowell
- WRTW (90.5 FM) – Crown Point
- WPWX (92.3 FM) – Hammond
- WXRD (103.9 FM) – Crown Point
- WZVN (107.1 FM) – Lowell

## Climate and weather

[edit]

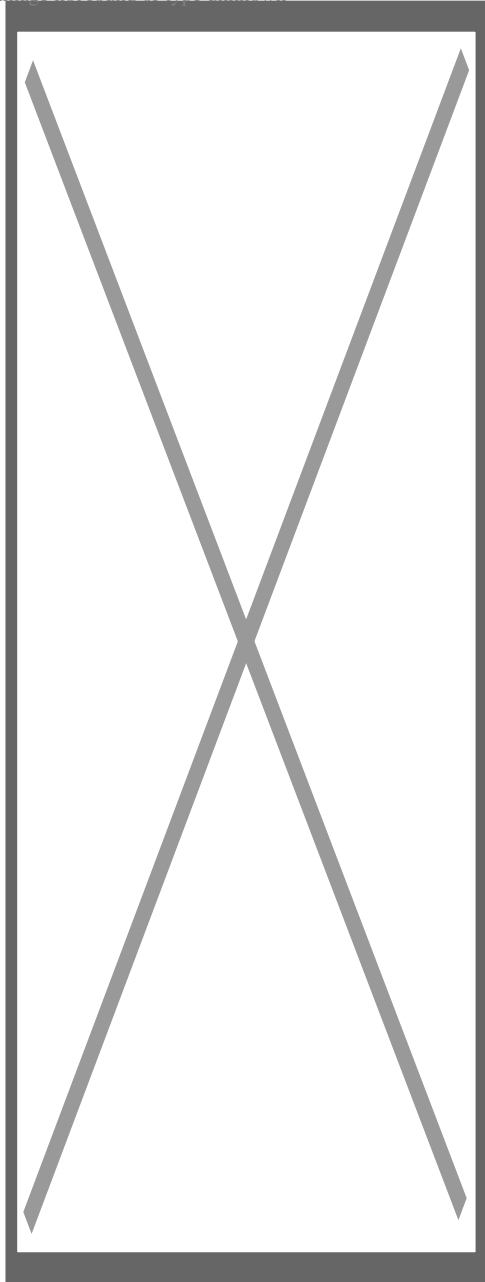
Climate data for Lowell, Indiana (1981-2010 normals, extremes 1963-present)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	66 (19)	73 (23)	85 (29)	91 (33)	95 (35)	104 (40)	101 (38)	104 (40)	98 (37)	92 (33)	77 (25)	70 (21)	104 (40)

<b>Mean daily maximum °F (°C)</b>	31.2 (?0.4)	35.8 (2.1)	47.5 (8.6)	60.8 (16.0)	71.3 (21.8)	80.7 (27.1)	83.8 (28.8)	82.0 (27.8)	76.4 (24.7)	63.6 (17.6)	49.4 (9.7)	35.1 (1.7)	59.8 (15.5)
<b>Daily mean °F (°C)</b>	22.8 (?5.1)	26.7 (?2.9)	37.4 (3.0)	49.3 (9.6)	59.8 (15.4)	69.7 (20.9)	73.1 (22.8)	71.1 (21.7)	64.2 (17.9)	51.9 (11.1)	40.2 (4.6)	27.1 (?2.7)	49.4 (9.7)
<b>Mean daily minimum °F (°C)</b>	14.4 (?9.8)	17.7 (?7.9)	27.4 (?2.6)	37.9 (3.3)	48.2 (9.0)	58.7 (14.8)	62.4 (16.9)	60.3 (15.7)	52.0 (11.1)	40.2 (4.6)	31.0 (?0.6)	19.1 (?7.2)	39.1 (3.9)
<b>Record low °F (°C)</b>	?28 (?33)	?23 (?31)	?9 (?23)	7 (?14)	26 (?3)	33 (1)	41 (5)	38 (3)	28 (?2)	18 (?8)	2 (?17)	?29 (?34)	?29 (?34)
<b>Average precipitation inches (mm)</b>	1.96 (50)	1.75 (44)	2.57 (65)	3.78 (96)	4.38 (111)	4.69 (119)	4 (100)	3.98 (101)	3.14 (80)	3.44 (87)	3.43 (87)	2.34 (59)	39.46 (999)
<b>Average snowfall inches (cm)</b>	8.8 (22)	8.2 (21)	3.4 (8.6)	0.3 (0.76)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.2 (0.51)	0.7 (1.8)	7.7 (20)	29.3 (74.67)

Source: NOAA (normals, 1981–2010)<sup>[35]</sup>

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Satellite imagery of Lake County, IN

In recent years, average temperatures in Lowell have ranged from a low of 14.4 °F (−9.8 °C) in January to a high of 83.8 °F (28.8 °C) in July, although a record low of −29 °F (−34 °C) was recorded in December 1989 and a record high of 104 °F (40 °C) was recorded in June 1988. Average monthly precipitation ranged from 1.75 inches (44 mm) in February to 4.69 inches (119 mm) in June. Temperatures at or below 0 °F (−18 °C) occur on average 11 days annually and exceed 90 °F (32 °C) degrees on 14 days.<sup>[35]</sup> In winter, lake-effect snow increases snowfall totals compared to the areas to the west.<sup>[36]</sup> In spring and early summer, the immediate shoreline areas sometimes experience lake-breeze that can drop temperatures by several degrees compared to areas further inland.<sup>[37]</sup> In summer, thunderstorms are common, occurring an average 40–50 days every year,<sup>[38]</sup> and on about

13 days, these thunderstorms produce severe winds.[<sup>39</sup>]

## Government

[edit]

See also: Government of Indiana

The county government is a constitutional body, and is granted specific powers by the Constitution of Indiana, and by the Indiana Code.

**County Council:** The county council is the legislative branch of the county government and controls all the spending and revenue collection in the county. Representatives are elected from county districts. The council members serve four-year terms. They are responsible for setting salaries, the annual budget, and special spending. The council also has limited authority to impose local taxes, in the form of an income and property tax that is subject to state level approval, excise taxes, and service taxes.[<sup>40</sup>][<sup>41</sup>]

**Board of Commissioners:** The executive body of the county is made of a board of commissioners. The commissioners are elected county-wide, in staggered terms, and each serves a four-year term. One of the commissioners, typically the most senior, serves as president. The commissioners are charged with executing the acts legislated by the council, collecting revenue, and managing the day-to-day functions of the county government.[<sup>40</sup>][<sup>41</sup>]

**Court:** The county maintains a small claims court that can handle some civil cases. The judge on the court is elected to a term of four years and must be a member of the Indiana Bar Association. The judge is assisted by a constable who is also elected to a four-year term. In some cases, court decisions can be appealed to the state level circuit court.[<sup>41</sup>]

**County Officials:** The county has several other elected offices, including sheriff, coroner, auditor, treasurer, recorder, surveyor, and circuit court clerk Each of these elected officers serves a term of four years and oversees a different part of county government. Members elected to county government positions are required to declare party affiliations and to be residents of the county.[<sup>41</sup>]

## County elected officials

[edit]

### Board of Commissioners:[<sup>3</sup>]

- Kyle W. Allen, Sr. (D, 1st)†
- Jerry J. Tippy (R, 2nd)
- Michael C. Repay (D, 3rd)

### County Council:[<sup>3</sup>]

- David Hamm (D, 1st)
- Ronald Brewer (D, 2nd)
- Charlie Brown (D, 3rd)
- Pete Lindemulder (R, 4th)
- Christine Cid (D, 5th)
- Ted F. Bilski (D, 6th)†
- Randy Niemeyer (R, 7th)

### Elected Officials:[<sup>3</sup>]

- Assessor: LaTonya Spearman (D)
- Auditor: Peggy Katona (D)
- Clerk: Michael Brown (D)
- Coroner: David Pastrick (D)
- Prosecutor: Bernard A. Carter (D)
- Recorder: Gina Pimentel (D)
- Sheriff: Oscar Martinez, Jr. (D)[<sup>42</sup>]
- Surveyor: Bill Emerson, Jr. (D)
- Treasurer: John Petalas (D)

† *President*

## Politics

[edit]

While the state of Indiana is strongly Republican, having voted Republican in every election since 1964 (except in 2008), Lake County has long been a Democratic stronghold due to being part of the Chicago metropolitan area. It has given pluralities or majorities to Democrats in every presidential election since 1932 with the exceptions of 1956 and 1972. Like the rest of the Rust Belt, however, Lake County has recently trended Republican, with Donald Trump scoring the highest percentage of the vote since 1972 in the 2024 presidential election.

Lake is part of Indiana's 1st congressional district, which is held by Democrat Frank J. Mrvan.<sup>[43]</sup> In the State Senate, Lake is part of the 1st, 2nd, 3rd and 6th districts, which are held by three Democrats and one Republican. In the Indiana House of Representatives, Lake is part of the 1st, 2nd, 3rd, 11th, 12th, 14th, 15th and 19th districts, which are held by four Democrats and four Republicans.

### United States presidential election results for Lake County, Indiana[<sup>44</sup>]

Year	Republican		Democratic		Third party(ies)	
	No.?	%	No.?	%	No.?	%
<b>2024</b>	97,270	46.30%	109,086	<b>51.92%</b>	3,746	1.78%
<b>2020</b>	91,760	41.65%	124,870	<b>56.67%</b>	3,700	1.68%
<b>2016</b>	75,625	37.29%	116,935	<b>57.66%</b>	10,241	5.05%
<b>2012</b>	68,431	33.85%	130,897	<b>64.75%</b>	2,819	1.39%
<b>2008</b>	67,742	32.41%	139,301	<b>66.64%</b>	1,996	0.95%
<b>2004</b>	71,903	38.24%	114,743	<b>61.03%</b>	1,376	0.73%

<b>2000</b>	63,389	36.02%	109,078	<b>61.98%</b>	3,527	2.00%
<b>1996</b>	47,873	29.22%	100,198	<b>61.15%</b>	15,789	9.64%
<b>1992</b>	53,867	28.91%	102,778	<b>55.17%</b>	29,653	15.92%
<b>1988</b>	79,929	43.03%	105,026	<b>56.55%</b>	780	0.42%
<b>1984</b>	94,870	44.30%	117,984	<b>55.10%</b>	1,289	0.60%
<b>1980</b>	95,408	46.02%	101,145	<b>48.78%</b>	10,786	5.20%
<b>1976</b>	90,119	42.36%	120,700	<b>56.74%</b>	1,922	0.90%
<b>1972</b>	115,480	<b>56.24%</b>	88,510	43.10%	1,352	0.66%
<b>1968</b>	77,911	36.48%	99,897	<b>46.77%</b>	35,766	16.75%
<b>1964</b>	73,722	35.19%	134,978	<b>64.42%</b>	823	0.39%
<b>1960</b>	78,278	37.04%	132,554	<b>62.72%</b>	526	0.25%
<b>1956</b>	92,803	<b>52.00%</b>	85,000	47.63%	657	0.37%
<b>1952</b>	74,073	44.66%	90,721	<b>54.70%</b>	1,051	0.63%
<b>1948</b>	51,413	38.77%	77,025	<b>58.09%</b>	4,157	3.14%
<b>1944</b>	48,147	38.84%	75,066	<b>60.56%</b>	737	0.59%
<b>1940</b>	45,898	38.79%	71,985	<b>60.83%</b>	447	0.38%
<b>1936</b>	33,689	32.47%	68,551	<b>66.07%</b>	1,510	1.46%
<b>1932</b>	42,596	46.56%	46,060	<b>50.34%</b>	2,836	3.10%
<b>1928</b>	48,768	<b>59.68%</b>	32,321	39.55%	630	0.77%
<b>1924</b>	30,990	<b>64.61%</b>	10,918	22.76%	6,060	12.63%
<b>1920</b>	26,296	<b>69.15%</b>	7,136	18.77%	4,596	12.09%
<b>1916</b>	13,262	<b>55.00%</b>	9,946	41.25%	903	3.75%
<b>1912</b>	5,176	29.61%	5,136	29.38%	7,171	<b>41.02%</b>
<b>1908</b>	9,499	<b>60.97%</b>	5,502	35.32%	578	3.71%
<b>1904</b>	6,429	<b>64.11%</b>	2,933	29.25%	666	6.64%
<b>1900</b>	5,337	<b>58.00%</b>	3,733	40.57%	131	1.42%
<b>1896</b>	4,883	<b>58.11%</b>	3,418	40.68%	102	1.21%
<b>1892</b>	2,958	48.02%	3,010	<b>48.86%</b>	192	3.12%
<b>1888</b>	2,543	<b>54.21%</b>	2,068	44.08%	80	1.71%

## 2008 presidential primary

[edit]

In the 2008 Democratic presidential primary on May 6, 2008, Lake County was one of the last counties to report results.<sup>[45]</sup> Lake County had reported no results at 11 p.m. ET,<sup>[46]</sup> and at midnight ET, only 28% of Lake County's vote had been reported.<sup>[47]</sup> A large number of absentee ballots and a record turnout delayed the tallies, and polls closed an hour later than

much of the state because Lake County is in the Central Time Zone.<sup>[46]</sup> Early returns showed Senator Barack Obama leading by a potentially lead-changing margin, leaving the race between Senator Hillary Clinton and Obama "too close to call" until final tallies were reported.

## **Crime**

The NWI Times reported that over 800 registered sex offenders live in Lake and Porter Counties of Indiana in 2021.<sup>[48]</sup>

## **Culture and contemporary life**

[edit]

## **Entertainment and the arts**

[edit]

- Northwest Indiana Symphony Orchestra, concerts held at Living Hope Church – Merrillville
- Theatre at the Center, located at the Center for Visual and Performing Arts – Munster

## **Major attractions**

[edit]

- Ameristar Casino – East Chicago
- Horseshoe Casino – Hammond
- Majestic Star Casino – Gary
- Majestic Star Casino II – Gary
- Pierogi Fest – Whiting
- Southlake Mall – Hobart
- Three Floyds Brewing – Munster

## **Professional sports teams**

[edit]

- Gary SouthShore RailCats, an American Association professional baseball team, play their games at U.S. Steel Yard in Gary.

## **Recreation**



[edit]

## List of parks and recreational facilities – Lake County Parks and Recreation

- Bellaboo's Play and Discovery Center – Lake Station
- Buckley Homestead – Lowell
- Cedar Creek Family Golf Center – Cedar Lake
- Deep River County Park – Hobart
- Deep River Waterpark – Crown Point
- Gibson Woods Nature Preserve – Hammond
- Grand Kankakee Marsh – Hebron
- Lake Etta – Gary
- Lemon Lake – Crown Point
- Oak Ridge Prairie & Oak Savannah Trail – Griffith
- Stoney Run County Park – Hebron
- Three Rivers County Park – Lake Station
- Turkey Creek Golf Course – Merrillville
- Whihala Beach – Whiting

## List of recreational facilities – Indiana Dunes National Park

- Calumet Prairie State Nature Preserve – Lake Station
- Hobart Prairie Grove – Hobart
- Hoosier Prairie State Nature Preserve – Griffith
- Paul H. Douglas Center for Environmental Education – Gary

## Demographics

[edit]

### Historical population

Census	Pop.	Note	%±
<b>1840</b>	1,468		—
<b>1850</b>	3,991		171.9%
<b>1860</b>	9,145		129.1%
<b>1870</b>	12,339		34.9%
<b>1880</b>	15,091		22.3%
<b>1890</b>	23,886		58.3%
<b>1900</b>	37,892		58.6%
<b>1910</b>	82,864		118.7%
<b>1920</b>	159,957		93.0%
<b>1930</b>	261,310		63.4%

<b>1940</b>	293,195	12.2%
<b>1950</b>	368,152	25.6%
<b>1960</b>	513,269	39.4%
<b>1970</b>	546,253	6.4%
<b>1980</b>	522,965	?4.3%
<b>1990</b>	475,594	?9.1%
<b>2000</b>	484,564	1.9%
<b>2010</b>	496,005	2.4%
<b>2020</b>	498,700	0.5%

**2023 (est.)** 500,598 [<sup>49</sup>] 0.4%

U.S. Decennial Census[<sup>50</sup>]  
 1790-1960[<sup>51</sup>] 1900-1990[<sup>52</sup>]  
 1990-2000[<sup>53</sup>] 2010-2019[<sup>9</sup>]

## 2020 census

[edit]

### Lake County, Indiana – Racial and ethnic composition

*Note: the US Census treats Hispanic/Latino as an ethnic category. This table excludes Latinos from the racial categories and assigns them to a separate category.*

*Hispanics/Latinos may be of any race.*

Race / Ethnicity (NH = Non-Hispanic)	Pop 2000[ <sup>54</sup> ]	Pop 2010[ <sup>55</sup> ]	Pop 2020[ <sup>56</sup> ]	% 2000	% 2010	% 2020
White alone (NH)	293,457	274,162	251,106	60.56%	55.27%	50.35%
Black or African American alone (NH)	121,372	125,506	121,048	25.05%	25.30%	24.27%
Native American or Alaska Native alone (NH)	854	913	691	0.18%	0.18%	0.14%
Asian alone (NH)	3,862	5,981	7,334	0.80%	1.21%	1.47%
Pacific Islander alone (NH)	106	63	95	0.02%	0.01%	0.02%
Other race alone (NH)	450	463	1,682	0.09%	0.09%	0.34%
Mixed race or Multiracial (NH)	5,335	6,254	16,817	1.10%	1.26%	3.37%
Hispanic or Latino (any race)	59,128	82,663	99,927	12.20%	16.67%	20.04%
<b>Total</b>	<b>484,564</b>	<b>496,005</b>	<b>498,700</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

As of the 2010 United States Census, there were 496,005 people, 188,157 households, and 127,647 families residing in the county.[<sup>57</sup>] The population density was 994.1 inhabitants per square mile (383.8/km<sup>2</sup>). There were 208,750 housing units at an average density of 418.4

per square mile (161.5/km<sup>2</sup>).<sup>[19]</sup> The racial makeup of the county was 64.4% white, 25.9% black or African American, 1.2% Asian, 0.3% American Indian, 5.8% from other races, and 2.4% from two or more races. Those of Hispanic or Latino origin made up 16.7% of the population.<sup>[57]</sup> In terms of ancestry, 16.1% were German, 11.1% were Irish, 9.6% were Polish, 5.4% were English, 4.8% were Italian and 3.7% were American.<sup>[58]</sup>

Of the 188,157 households, 34.3% had children under the age of 18 living with them, 44.7% were married couples living together, 17.4% had a female householder with no husband present, 32.2% were non-families, and 27.4% of all households were made up of individuals. The average household size was 2.60 and the average family size was 3.19. The median age was 37.4 years.<sup>[57]</sup>

The median income for a household in the county was \$47,697 and the median income for a family was \$58,931. Males had a median income of \$50,137 versus \$33,264 for females. The per capita income for the county was \$23,142. About 12.2% of families and 16.1% of the population were below the poverty line, including 25.3% of those under age 18 and 8.4% of those age 65 or over.<sup>[59]</sup>

#### Places by population and race<sup>[60]</sup>

Place	Population (2010)	White	Black or African American	Asian	Other [ <sup>note 1</sup> ]	Hispanic or Latino (of any race)
Lake County	496,005	64.4%	25.9%	1.2%	8.5%	16.7%
Cedar Lake, <i>town</i>	11,560	94.9%	0.5%	0.4%	4.2%	6.5%
Crown Point, <i>city</i>	27,317	88.2%	6.3%	1.8%	3.7%	8.1%
Dyer, <i>town</i>	16,390	90.1%	2.5%	2.9%	4.5%	9.3%
East Chicago, <i>city</i>	29,698	35.5%	42.9%	0.1%	21.5%	50.9%
Gary, <i>city</i>	80,294	10.7%	84.8%	0.2%	4.3%	5.1%
Griffith, <i>town</i>	16,893	75.8%	16.9%	0.8%	6.5%	13.3%
Hammond, <i>city</i>	80,830	59.4%	22.5%	1.0%	17.1%	34.1%
Highland, <i>town</i>	23,727	88.6%	4.2%	1.6%	5.6%	12.8%
Hobart, <i>city</i>	29,059	85.3%	7.0%	1.0%	6.7%	13.9%
Lake Dalecarlia, <i>CDP</i>	1,355	97.3%	0.2%	0.1%	2.4%	3.4%
Lake Station, <i>city</i>	12,572	79.7%	3.6%	0.3%	16.4%	28.0%
Lakes of the Four Seasons, <i>CDP</i> <sup>[<sup>note 2</sup>]</sup>	7,033	93.4%	1.2%	1.0%	4.4%	8.5%
Lowell, <i>town</i>	9,276	95.9%	0.5%	0.3%	3.3%	6.9%
Merrillville, <i>town</i>	35,246	46.4%	44.5%	1.2%	7.9%	12.9%
Munster, <i>town</i>	23,603	85.6%	3.5%	5.8%	5.1%	10.2%
New Chicago, <i>town</i>	2,035	81.0%	2.2%	0.7%	16.1%	27.4%
St. John, <i>town</i>	14,850	93.5%	1.3%	1.3%	3.9%	8.2%

Schererville, <i>town</i>	29,243 86.8%	5.4%	2.8%	5.0%	10.6%
Schneider, <i>town</i>	277 97.1%	0.0%	1.1%	1.8%	2.5%
Shelby, <i>CDP</i>	539 95.5%	1.7%	0.2%	2.6%	0.9%
Whiting, <i>city</i>	4,997 76.3%	3.5%	0.7%	19.5%	40.7%
Winfield, <i>town</i>	4,383 88.5%	3.7%	3.5%	4.3%	8.9%

Places by population and standard of living<sup>[61]</sup><sup>[62]</sup>

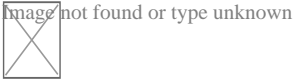
Place	Population (2010)	Per capita income	Median household income	Median home value
Lake County	496,005	\$23,792	\$49,315	\$137,400
Cedar Lake, <i>town</i>	11,560	\$25,477	\$59,090	\$151,400
Crown Point, <i>city</i>	27,317	\$31,454	\$64,876	\$174,900
Dyer, <i>town</i>	16,390	\$35,020	\$78,881	\$197,500
East Chicago, <i>city</i>	29,698	\$13,457	\$27,171	\$86,800
Gary, <i>city</i>	80,294	\$15,764	\$26,956	\$66,900
Griffith, <i>town</i>	16,893	\$26,548	\$53,225	\$141,600
Hammond, <i>city</i>	80,830	\$18,148	\$38,677	\$94,800
Highland, <i>town</i>	23,727	\$30,036	\$61,930	\$155,200
Hobart, <i>city</i>	29,059	\$24,740	\$54,468	\$134,400
Lake Dalecarlia, <i>CDP</i>	1,355	\$25,035	\$52,321	\$165,400
Lake Station, <i>city</i>	12,572	\$16,953	\$36,955	\$82,400
Lakes of the Four Seasons, <i>CDP</i> <sup>[note 2]</sup>	7,033	\$32,908	\$84,242	\$182,600
Lowell, <i>town</i>	9,276	\$23,619	\$60,549	\$146,500
Merrillville, <i>town</i>	35,246	\$23,605	\$53,470	\$132,600
Munster, <i>town</i>	23,603	\$34,735	\$70,708	\$197,600
New Chicago, <i>town</i>	2,035	\$18,083	\$38,672	\$97,700
St. John, <i>town</i>	14,850	\$36,490	\$97,868	\$254,600
Schererville, <i>town</i>	29,243	\$33,984	\$68,004	\$204,300
Schneider, <i>town</i>	277	\$18,774	\$50,972	\$89,500
Shelby, <i>CDP</i>	539	\$29,700	\$61,667	\$89,700
Whiting, <i>city</i>	4,997	\$21,427	\$44,368	\$111,500
Winfield, <i>town</i>	4,383	\$23,792	\$49,315	\$137,400

## See also

[edit]

- Lake County Indiana Sheriff's Department

- List of public art in Lake County, Indiana
- National Register of Historic Places listings in Lake County, Indiana



Wikimedia Commons has media related to **Lake County, Indiana**.

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## Notes

[edit]

- <sup>^</sup> Other = Combined percentages for American Indian or Alaska Native; Native Hawaiian or Pacific Islander; other races; and two or more races
- <sup>^</sup> **a b** Population is 3,936 within Lake County; 3,097 reside in Porter County

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14, 2014.

## External links

[edit]

- o Lake County official website
- o Lake County Parks
- o South Shore Convention & Visitors Authority

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Places adjacent to Lake County, Indiana

Cook County, Illinois

Lake Michigan

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Will County, Illinois

 **Lake County, Indiana**

 Porter County

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Kankakee County, Illinois

Newton County

Jasper County

- o v
- o t
- o e

Municipalities and communities of Lake County, Indiana, United States

County seat: **Crown Point**

## Cities

- o Crown Point
- o East Chicago
- o Gary
- o Hammond
- o Hobart
- o Lake Station
- o Whiting

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Map of  
Indiana  
highlighting  
Lake  
County

**Towns**

- Cedar Lake
- Dyer
- Griffith
- Highland
- Lowell
- Merrillville
- Munster
- New Chicago
- St. John
- Schererville
- Schneider
- Winfield

**Townships**

- Calumet
- Cedar Creek
- Center
- Eagle Creek
- Hanover
- Hobart
- North
- Ross
- St. John
- West Creek
- Winfield

**CDPs**

- Lake Dalecarlia
- Lakes of the Four Seasons‡
- Leroy
- Ross
- Shelby

**Other communities**

- Ainsworth
- Belshaw
- Brunswick
- Creston
- Deep River
- Deer Creek
- Dinwiddie
- Green Acres
- Klaasville
- Kreitzburg
- Liverpool
- New Elliott
- Orchard Grove
- Palmer
- Range Line
- Southeast Grove

**Ghost town**

- Indiana City

**Footnotes**

‡This populated place also has portions in an adjacent county or counties.

- [Indiana portal](#)
- [United States portal](#)

- [v](#)
- [t](#)
- [e](#)

Chicago metropolitan area

**Major city**

- **Chicago**

Chicago landsat image

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**Cities  
(over 30,000 in 2020)**

- Aurora
- Berwyn
- Calumet City
- Crown Point
- Crystal Lake
- DeKalb
- Des Plaines
- Elgin
- Elmhurst
- Evanston
- Gary
- Hammond
- Highland Park
- Joliet
- Kenosha
- Naperville
- North Chicago
- Park Ridge
- Portage
- St. Charles
- Valparaiso
- Waukegan
- Wheaton

**Towns and villages  
(over 30,000 in 2020)**

- Addison
- Arlington Heights
- Bartlett
- Bolingbrook
- Buffalo Grove
- Carol Stream
- Carpentersville
- Cicero
- Downers Grove
- Elk Grove Village
- Glendale Heights
- Glenview
- Grayslake
- Gurnee
- Hanover Park
- Hoffman Estates
- Lombard
- Merrillville
- Mount Prospect
- Mundelein
- Niles
- Northbrook
- Oak Lawn
- Oak Park
- Orland Park
- Oswego
- Palatine
- Plainfield
- Romeoville
- Schaumburg
- Skokie
- Streamwood
- Tinley Park
- Wheeling
- Wonder Lake
- Woodridge

**Counties**

- Cook
- DeKalb
- DuPage
- Grundy
- Jasper
- Kane
- Kankakee
- Kendall
- Kenosha
- Lake, IL
- Lake, IN
- McHenry
- Newton
- Porter
- Will

**Regions**

- Great Lakes
- Northern Illinois
- Northern Indiana

**Sub-regions**

- Chicago Southland
- Eastern Ridges and Lowlands
- Fox Valley (Illinois River)
- Golden Corridor
- Illinois Technology and Research Corridor
- North Shore (Chicago)
- Northwest Indiana

Illinois, United States

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State of Indiana

**Indianapolis** (capital)

## Topics

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### **Largest cities**

- Anderson
- Bloomington
- Carmel
- Columbus
- Crown Point
- Elkhart
- Evansville
- Fishers
- Fort Wayne
- Gary
- Goshen
- Greenwood
- Hammond
- Indianapolis
- Jeffersonville
- Kokomo
- Lafayette
- Lawrence
- Michigan City
- Mishawaka
- Muncie
- New Albany
- Noblesville
- Portage
- Richmond
- South Bend
- Terre Haute
- Valparaiso
- Westfield
- West Lafayette

### **Largest towns**

- Avon
- Brownsburg
- Clarksville
- Highland
- Merrillville
- Munster
- Plainfield
- Saint John
- Schererville
- Zionsville

- Adams
- Allen
- Bartholomew
- Benton
- Blackford
- Boone
- Brown
- Carroll
- Cass
- Clark
- Clay
- Clinton
- Crawford
- Daviess
- Dearborn
- Decatur
- DeKalb
- Delaware
- Dubois
- Elkhart
- Fayette
- Floyd
- Fountain
- Franklin
- Fulton
- Gibson
- Grant
- Greene
- Hamilton
- Hancock
- Harrison
- Hendricks
- Henry
- Howard
- Huntington
- Jackson
- Jasper
- Jay
- Jefferson
- Jennings
- Johnson
- Knox
- Kosciusko
- LaGrange
- Lake
- LaPorte
- Lawrence

## Regions

- Central Indiana
  - East Central Indiana
  - Wabash Valley
- Northern Indiana
  - Northwest Indiana
    - Chicago metropolitan area
  - Michiana
- Southern Indiana
  - Indiana Uplands
  - Kentuckiana
  - Southwestern Indiana

**Indiana portal** Image not found or type unknown

**Authority control databases** Image not found or type unknown **Edit this at Wikidata**

### International

- VIAF
- WorldCat

### National

- United States
- Israel

### Geographic

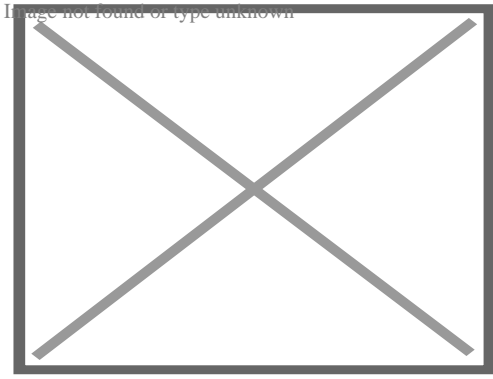
- MusicBrainz area

### Other

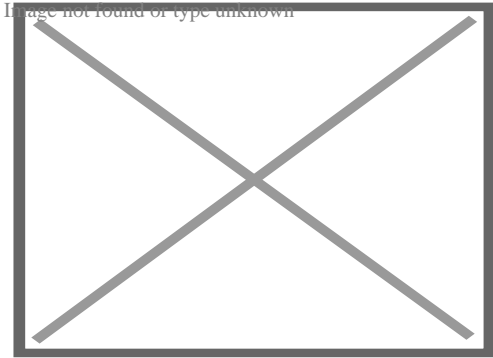
- NARA

## About Maintenance

"Repair" and "repairman" redirect here. For home repair, see Home repair.  
For the Wikipedia administrative page, see Wikipedia:Maintenance.  
For other topics about maintenance, see Maintenance (disambiguation).



A tractor being mechanically repaired in Werneuchen, 1966



Field repair of aircraft engine (1915–1916)

The technical meaning of **maintenance** involves functional checks, servicing, repairing or replacing of necessary devices, equipment, machinery, building infrastructure and supporting utilities in industrial, business, and residential installations.<sup>[1][2]</sup> Terms such as "predictive" or "planned" maintenance describe various cost-effective practices aimed at keeping equipment operational; these activities occur either before<sup>[3]</sup> or after a potential failure.

## Definitions

[edit]

Maintenance functions can be defined as **maintenance, repair and overhaul (MRO)**, and MRO is also used for **maintenance, repair and operations**.<sup>[4]</sup> Over time, the terminology of maintenance and MRO has begun to become standardized. The United States Department of Defense uses the following definitions:<sup>[5]</sup>

- Any activity—such as tests, measurements, replacements, adjustments, and repairs—intended to retain or restore a functional unit in or to a specified state in which the unit can perform its required functions.<sup>[5]</sup>
- All action taken to retain material in a serviceable condition or to restore it to serviceability. It includes inspections, testing, servicing, classification as to serviceability, repair, rebuilding, and reclamation.<sup>[5]</sup>
- All supply and repair action taken to keep a force in condition to carry out its mission.<sup>[5]</sup>

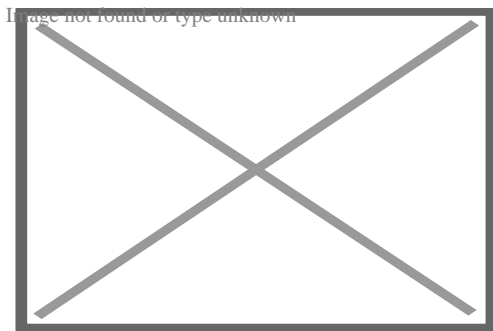
- The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously used, at its original or designed capacity and efficiency for its intended purpose.[<sup>5</sup>]

Maintenance is strictly connected to the utilization stage of the product or technical system, in which the concept of maintainability must be included. In this scenario, maintainability is considered as the ability of an item, under stated conditions of use, to be retained in or restored to a state in which it can perform its required functions, using prescribed procedures and resources.[<sup>6</sup>]

In some domains like aircraft maintenance, terms *maintenance, repair and overhaul*[<sup>7</sup>] also include inspection, rebuilding, alteration and the supply of spare parts, accessories, raw materials, adhesives, sealants, coatings and consumables for aircraft maintenance at the utilization stage. In international civil aviation maintenance means:

- The performance of tasks required to ensure the continuing airworthiness of an aircraft, including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or a repair.[<sup>8</sup>]

This definition covers all activities for which aviation regulations require issuance of a maintenance release document (aircraft certificate of return to service – CRS).



Road repair

## Types

[edit]

The marine and air transportation,[<sup>9</sup>] offshore structures,[<sup>10</sup>] industrial plant and facility management industries depend on *maintenance, repair and overhaul* (MRO) including scheduled or preventive paint maintenance programmes to maintain and restore coatings applied to steel in environments subject to attack from erosion, corrosion and environmental pollution.[<sup>10</sup>]

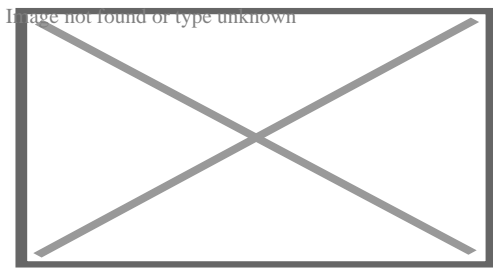
The basic types of maintenance falling under MRO include:

- Preventive maintenance, where equipment is checked and serviced in a planned manner (in a scheduled points in time or continuously)
- Corrective maintenance, where equipment is repaired or replaced after wear, malfunction or break down
- Reinforcement<sup>[11]</sup>

Architectural conservation employs MRO to preserve, rehabilitate, restore, or reconstruct historical structures with stone, brick, glass, metal, and wood which match the original constituent materials where possible, or with suitable polymer technologies when not.<sup>[12]</sup>

## Preventive maintenance

[edit]



C-130J Hercules preventive cleaning at Keesler Air Force Base, Mississippi after a period of operation over the Gulf of Mexico (salt and moisture which lead to active corrosion require regular cleaning)

**Preventive maintenance (PM)** is "a routine for periodically inspecting" with the goal of "noticing small problems and fixing them before major ones develop."<sup>[13]</sup> Ideally, "nothing breaks down."<sup>[14]</sup>

The main goal behind PM is for the equipment to make it from one planned service to the next planned service without any failures caused by fatigue, extreme fluctuation in temperature (such as heat waves<sup>[15]</sup>) during seasonal changes, neglect, or normal wear (preventable items), which Planned Maintenance and Condition Based Maintenance help to achieve by replacing worn components before they actually fail. Maintenance activities include partial or complete overhauls at specified periods, oil changes, lubrication, minor adjustments, and so on. In addition, workers can record equipment deterioration so they know to replace or repair worn parts before they cause system failure.

The New York Times gave an example of "machinery that is not lubricated on schedule" that functions "until a bearing burns out." Preventive maintenance contracts are generally a fixed cost, whereas improper maintenance introduces a variable cost: replacement of major equipment.<sup>[13]</sup>

**Main objective of PM are:**

1. Enhance capital equipment productive life.
2. Reduce critical equipment breakdown.
3. Minimize production loss due to equipment failures.

**Preventive maintenance** or **preventative**<sup>[16]</sup> **maintenance (PM)** has the following meanings:

- The care and servicing by personnel for the purpose of maintaining equipment in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects.
- The work carried out on equipment in order to avoid its breakdown or malfunction. It is a regular and routine action taken on equipment in order to prevent its breakdown.<sup>[17]</sup>
- Maintenance, including tests, measurements, adjustments, parts replacement, and cleaning, performed specifically to prevent faults from occurring.

Other terms and abbreviations related to PM are:

- scheduled maintenance<sup>[18]</sup>
- planned maintenance,<sup>[19]</sup> which may include scheduled downtime for equipment replacement
- planned preventive maintenance (PPM) is another name for PM<sup>[20]</sup>
- breakdown maintenance:<sup>[20]</sup> fixing things only when they break. This is also known as "a reactive maintenance strategy"<sup>[21]</sup> and may involve "consequential damage."<sup>[22]</sup>

## Planned maintenance

[edit]

"Routine maintenance" redirects here. For the album by Aaron West and the Roaring Twenties, see Routine Maintenance (album).

Planned preventive maintenance (PPM), more commonly referred to as simply **planned maintenance (PM)** or **scheduled maintenance**, is any variety of scheduled maintenance to an object or item of equipment. Specifically, planned maintenance is a scheduled service visit carried out by a competent and suitable agent, to ensure that an item of equipment is operating correctly and to therefore avoid any unscheduled breakdown and downtime.<sup>[23]</sup>

The key factor as to when and why this work is being done is timing, and involves a service, resource or facility being unavailable.<sup>[18]</sup><sup>[19]</sup> By contrast, condition-based maintenance is not directly based on equipment age.

Planned maintenance is preplanned, and can be date-based, based on equipment running hours, or on distance travelled.

Parts that have scheduled maintenance at fixed intervals, usually due to wearout or a fixed shelf life, are sometimes known as time-change interval, or TCI items.

## Predictive maintenance

[edit]

Main article: Predictive maintenance

**Predictive maintenance** techniques are designed to help determine the condition of in-service equipment in order to estimate when maintenance should be performed. This approach promises cost savings over routine or time-based preventive maintenance, because tasks are performed only when warranted. Thus, it is regarded as condition-based maintenance carried out as suggested by estimations of the degradation state of an item. The main promise of predictive maintenance is to allow convenient scheduling of corrective maintenance, and to prevent unexpected equipment failures.<sup>[3]</sup> This maintenance strategy uses sensors to monitor key parameters within a machine or system, and uses this data in conjunction with analysed historical trends to continuously evaluate the system health and predict a breakdown before it happens.<sup>[24]</sup> This strategy allows maintenance to be performed more efficiently, since more up-to-date data is obtained about how close the product is to failure.<sup>[25]</sup>

**Predictive replacement** is the replacement of an item that is still functioning properly.<sup>[26]</sup> Usually it is a tax-benefit based <sup>[*citation needed*]</sup> replacement policy whereby expensive equipment or batches of individually inexpensive supply items are removed and donated on a predicted/fixed shelf life schedule. These items are given to tax-exempt institutions.<sup>[27]</sup><sup>[*citation needed*]</sup>

## Condition-based maintenance

[edit]

**Condition-based maintenance (CBM)**, shortly described, is maintenance when need arises. Albeit chronologically much older, It is considered one section or practice inside the broader and newer predictive maintenance field, where new AI technologies and connectivity abilities are put to action and where the acronym CBM is more often used to describe 'condition Based Monitoring' rather than the maintenance itself. CBM maintenance is performed after one or more indicators show that equipment is going to fail or that equipment performance is deteriorating.

This concept is applicable to mission-critical systems that incorporate active redundancy and fault reporting. It is also applicable to non-mission critical systems that lack redundancy and fault reporting.



Condition-based maintenance was introduced to try to maintain the correct equipment at the right time. CBM is based on using real-time data to prioritize and optimize maintenance resources. Observing the state of the system is known as condition monitoring. Such a system will determine the equipment's health, and act only when maintenance is actually necessary. Developments in recent years have allowed extensive instrumentation of equipment, and together with better tools for analyzing condition data, the maintenance personnel of today is more than ever able to decide what is the right time to perform maintenance on some piece of equipment. Ideally, condition-based maintenance will allow the maintenance personnel to do only the right things, minimizing spare parts cost, system downtime and time spent on maintenance.

## **Challenges**

[edit]

Despite its usefulness of equipment, there are several challenges to the use of CBM. First and most important of all, the initial cost of CBM can be high. It requires improved instrumentation of the equipment. Often the cost of sufficient instruments can be quite large, especially on equipment that is already installed. Wireless systems have reduced the initial cost. Therefore, it is important for the installer to decide the importance of the investment before adding CBM to all equipment. A result of this cost is that the first generation of CBM in the oil and gas industry has only focused on vibration in heavy rotating equipment.

Secondly, introducing CBM will invoke a major change in how maintenance is performed, and potentially to the whole maintenance organization in a company. Organizational changes are in general difficult.

Also, the technical side of it is not always as simple. Even if some types of equipment can easily be observed by measuring simple values such as vibration (displacement, velocity or acceleration), temperature or pressure, it is not trivial to turn this measured data into actionable knowledge about the health of the equipment.

## **Value potential**

[edit]

As systems get more costly, and instrumentation and information systems tend to become cheaper and more reliable, CBM becomes an important tool for running a plant or factory in an optimal manner. Better operations will lead to lower production cost and lower use of resources. And lower use of resources may be one of the most important differentiators in a future where environmental issues become more important by the day.

Another scenario where value can be created is by monitoring the health of a car motor. Rather than changing parts at predefined intervals, the car itself can tell you when something needs to be changed based on cheap and simple instrumentation.

It is Department of Defense policy that condition-based maintenance (CBM) be *"implemented to improve maintenance agility and responsiveness, increase operational availability, and reduce life cycle total ownership costs"*.<sup>[28]</sup>

## **Advantages and disadvantages**

[edit]

CBM has some advantages over planned maintenance:

- Improved system reliability
- Decreased maintenance costs
- Decreased number of maintenance operations causes a reduction of human error influences

Its disadvantages are:

- High installation costs, for minor equipment items often more than the value of the equipment
- Unpredictable maintenance periods cause costs to be divided unequally.
- Increased number of parts (the CBM installation itself) that need maintenance and checking.

Today, due to its costs, CBM is not used for less important parts of machinery despite obvious advantages. However it can be found everywhere where increased safety is required, and in future will be applied even more widely.<sup>[29][30]</sup>

## **Corrective maintenance**

[edit]

Main article: Corrective maintenance

Corrective maintenance is a type of maintenance used for equipment after equipment break down or malfunction is often most expensive – not only can worn equipment damage other parts and cause multiple damage, but consequential repair and replacement costs and loss of revenues due to down time during overhaul can be significant. Rebuilding and resurfacing of equipment and infrastructure damaged by erosion and corrosion as part of corrective or preventive maintenance programmes involves conventional processes such as welding and

metal flame spraying, as well as engineered solutions with thermoset polymeric materials.[<sup>31</sup>]

## See also

[edit]

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Look up ***repair*** or ***revamping*** in Wiktionary, the free dictionary.

- Active redundancy – Design concept
- Aircraft maintenance – Performance of tasks which maintain an aircraft's airworthiness
- Aircraft maintenance checks – Periodic scheduled inspection performed on aircraft to keep it airworthy
- Auto maintenance – Periodic maintenance of motor vehicles
- Bicycle maintenance – tools specifically for working on bicycles
- Bus garage – Storage and maintenance facility
- Darning – Sewing technique for repairing holes or worn areas in fabric or knitting using needle and thread
- Department of Defense Dictionary of Military and Associated Terms
- Design for repair – Procedure and discipline in various fields
- Fault reporting – Maintenance concept
- Intelligent maintenance system – System that uses collected data from machinerys
- Kludge – Unmaintainable solution
- Logistics center – hub for logistics
- Maintainability – Ease of maintaining a functioning product or service
- Motive power depot – Rail yard for cleaning, repairing and maintaining locomotives
- Operational availability – Measurement of the actual versus predicted uptime of a system
- Operational maintenance – Basic maintenance done by operators of the equipment
- Predictive maintenance – Method to predict when equipment should be maintained
- Product lifecycle – Duration of processing of products from inception, to engineering, design & manufacture
- Prognostics – prediction of the time at which a system or a component will malfunction
- RAMS – Engineering characterization of a product or system
- Reliability centered maintenance – Concept of maintenance planning
- Reliability engineering – Sub-discipline of systems engineering that emphasizes dependability
- Repair shop
- Remanufacturing – Rebuilding of product to original manufactured product using combo of reused and new parts
- Right to repair – Legal right and movement
- Total productive maintenance – Maintenance management methodology
- Value-driven maintenance

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[edit]

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- FAST

### National

- United States
- France
- BnF data
- Israel

## About Lake County

## Driving Directions in Lake County

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Driving Directions From 41.408057240601, -87.343798613815 to

Driving Directions From 41.391735468419, -87.318200587644 to

Driving Directions From 41.428981281465, -87.421575428085 to

Driving Directions From 41.453568220733, -87.320568421442 to

Driving Directions From 41.443437503917, -87.311638642998 to

Driving Directions From 41.466348423063, -87.291394997875 to

Driving Directions From 41.387196050936, -87.400947816503 to

Driving Directions From 41.382799094677, -87.347560275608 to

Driving Directions From 41.450223110903, -87.428508635102 to

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