

## NORTHEAST OHIO'S GRADE

### BRIDGES



C-

### DAMS



D+

### DRINKING WATER



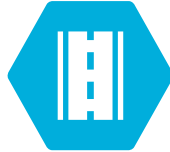
C-

### ENERGY



D

### ROADS



D+

### SCHOOLS



D

### WASTEWATER



D+

### G.P.A.



D+

## About the Grades

Infrastructure is graded based on eight criteria: **capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation.** ASCE grades on the following scale and defines these grades as:



**Exceptional,  
Fit for the  
Future**



**Good,  
Adequate  
for Now**



**Mediocre,  
Requires  
Attention**



**Poor,  
At Risk**



**Failing/Critical,  
Unfit for Purpose**

## 4 STEPS WE CAN TAKE

- 1 Increase the state gas and diesel taxes to pay for necessary road and bridge projects and ensure local governments receive adequate disbursements to maintain local surface transportation infrastructure. Ohio's fuel taxes have not been increased since 2005. By 2020, the Ohio Department of Transportation will face an annual budget shortfall of nearly \$1 billion when compared to what was available in 2014. Increasing the state gas and diesel taxes will provide much-needed funding to pave roads, fix potholes, provide bridge maintenance, create safety enhancements, and more.
- 2 Make Northeast Ohio more economically competitive by increasing investment in infrastructure across all sectors. There have been modest population declines in the region as residents leave for opportunities elsewhere. Population decline can be slowed, and even reversed, with robust, sustained investment in our water and wastewater systems, energy grid, dams, roadways and more. Northeast Ohio would be wise to invest in the region's backbone – its infrastructure – to incentivize businesses to relocate or stay put.
- 3 Plan for the future by investing in school facilities and training tomorrow's workforce. Schools infrastructure was one of the lowest categories in the 2019 Report Card for Northeast Ohio. Properly maintained facilities improve a student's ability to learn. Sufficient funding to repair and replace school facilities is needed. Additionally, students require training for in-demand careers in our region, including those in the drinking and wastewater operations industry.
- 4 Continue to invest in wastewater infrastructure to ensure the health of Lake Erie.

## About the Cleveland Section

The first meeting of what would become the Cleveland Section of ASCE was called to order on October 28, 1914, its first officers were elected on December 19, 1914, and on January 6, 1915, the National Board of ASCE approved the Cleveland Section's Constitution. Today the 700+ members of the Cleveland Section hail from counties in Northeast Ohio extending from Elyria on the west to the Pennsylvania border on the east and south to Jefferson County, with the exception of the Akron-Canton and Mansfield areas. The Section supports student chapters at Case Western Reserve University, Cleveland State University and Youngstown State University, and includes the Youngstown Branch. Two Cleveland Section members served as ASCE Society (National) Presidents: G. Brooks Earnest in 1962 and Randall S. Over in 2014.

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## 2019 REPORT CARD FOR NORTHEAST OHIO'S INFRASTRUCTURE



## Infrastructure Matters

This Report Card for Northeast Ohio Infrastructure evaluates the infrastructure of Cuyahoga, Geauga, Lake, Lorain and Medina Counties. These five counties account for slightly more than 2 million people spread throughout the region's 2,005 square miles. Lake Erie plays a major role in Northeast Ohio. Three of the counties in our study area – Cuyahoga, Lake and Lorain – border the Lake to the North. Lake Erie is a major source of our drinking water, receives a significant portion of our treated wastewater, provides us with recreation opportunities, and influences our climate. Many aspects of the Northeast Ohio infrastructure relate to the Lake.

A well-maintained infrastructure, poised to serve us into the future, is vital for the economic development of Northeast Ohio. We have attempted to highlight our region's successes and pinpoint its shortcomings. Unfortunately, our roads, wastewater systems, dams, school buildings and energy infrastructure are already at risk, while our bridges and drinking water systems require attention now in order not to deteriorate further into that state.

This report card attempts to help residents and decision-makers understand the state of our infrastructure and support initiatives that will improve our existing infrastructure for the future.

## How You Can Get Involved

- 1 Get the full story behind this Report Card at [www.infrastructurereportcard.org/northeastohio](http://www.infrastructurereportcard.org/northeastohio).
- 2 Find out the condition of the infrastructure near you on the Save America's Infrastructure app available on iTunes and,
- 3 Ask your elected leaders what they're doing to make sure your infrastructure is reliable for the future. Use your zip code to find your list of elected officials at [www.infrastructurereportcard.org/take-action](http://www.infrastructurereportcard.org/take-action).



# 2019 NORTHEAST OHIO'S INFRASTRUCTURE REPORT CARD

The 2019 Northeast Ohio infrastructure report card evaluated our region's bridges, dams, drinking water, energy, roads, schools, and wastewater systems' infrastructure. Two of these infrastructure categories are in mediocre condition and five are in poor condition and already at risk. It is possible, however, to raise the grades of all categories – we make some suggestions to reach that goal.

## BRIDGES



Northeast Ohio is home to 3,069 bridges, of which 46.3% are rated in good condition, 39.3% are in satisfactory or fair condition, and 9.7% are in poor condition. A poor condition rating means the bridge is structurally deficient and requires significant rehabilitation or replacement. In 2018-2019, the Ohio legislature paved the way for limited additional funding for the state's transportation network by allowing counties the opportunity to increase vehicle registration revenues, imposing an additional \$5 permissive fee. Proceeds must be used for planning, constructing, improving, maintaining, and repairing public roads and bridges. Cuyahoga County and Lake County have recently passed additional permissive vehicle registration fees. The counties of Lorain, Medina, and Geauga currently are also collecting permissive fees for road and bridge repairs. Overall, however, Northeast Ohio faces a funding shortfall issue, particularly to address its future needs. Infrastructure funding challenges continue to limit the number of bridges which can be repaired or replaced.

## DAMS



Dams support Northeast Ohio's recreation, irrigation, flood control, and drinking water needs. There are 618 dams in the NOACA region out of 5,737 statewide. Most of these structures are constructed of earth and/or concrete. Almost 90% of the dams in Northeast Ohio are privately owned, while just 74 out of the 618 are public and managed by municipalities, counties, or government agencies. Our region's dams are aging. Approximately 70% of the 618 dams in the NOACA region are over 50 years old, meaning they've reached their design life. It is estimated that the repair cost for Ohio's state-owned deficient dams is nearly \$300 million and that over \$1.12 billion is needed to repair all non-Federal deficient dams in the State of Ohio alone. The NOACA Region has approximately 11% of the dams in the state's inventory and would accordingly need approximately \$100 million to repair all non-Federal deficient dams in the NOACA Region alone. The Ohio Water Development Authority has two low interest loan programs for the repair or removal of existing dams but the lack of adequate funding for dam owners to conduct needed repairs continues to be a challenge.

## DRINKING WATER



Lake Erie serves as the main source of drinking water for most of the five counties covered by this Report Card. The quality of drinking water in the region is high, keeping par with the standard across the U.S. The Cleveland Water Department (CWD) is the largest drinking water utility in the region, serving 70% of the Northeast Ohio. Over the last 30 years, CWD has spent more than \$1.6 billion on infrastructure updates. Most recently, it completed all major treatment facility and primary pump station renewals and considers these facilities in excellent condition. In 2013, the completion of this \$650 million Plant Enhancement Program enabled the agency to shift the focus of their Capital Improvement Program to the 5,200 miles of water mains in the Cleveland Water system. As of 2016, 74% of CWD's distribution pipes are in good or excellent condition. However, significant challenges across the five counties remain. For example, Lake County estimates that, on average, it can fix five to six miles of pipes per year, as compared to the eight to nine miles of pipe needing attention annually. Lead service lines are still in place in certain areas. Additionally, modest population decreases and a decline in consumption is contributing to less revenue available to reinvest in the system.

## ENERGY



One third of energy consumed in Northeast Ohio is generated outside the region, and the region's aging distribution networks, built in times of population expansion prior to the 1960s, require continuous care and improvement. Upgraded and/or new transmission lines are needed to bring replacement power into the constrained region as energy demands continue to increase. At present, the only investments in electric transmission lines in Northeast Ohio are for routine maintenance, and ongoing natural gas pipe replacement plans are not intended to increase capacity. The permitting and siting of new transmission lines, both for electricity and oil & gas, is a lengthy process that encounters significant public opposition and regulatory hurdles. While NEO energy companies are reliable caretakers of the existing system, the uncertain regulatory climate discourages long-term investment decisions and the aging energy infrastructure remains vulnerable and stretched thin. Investments are lacking in redundancy, and to prepare the network for the future while protecting it from major natural or human disasters. Energy infrastructure in Northeast Ohio is at risk.

## ROADS



The State of Ohio has the nation's fourth largest interstate system. Approximately 15% of roadways on the state system lie within Northeast Ohio, for a total of nearly 8,000 miles of roads, ranging in size from multi-lane interstates to local streets. Congestion is significant on the I-90 Innerbelt Expressway through downtown Cleveland and various segments of Interstate 480. Data shows that in 2017, there were 49,973 traffic accidents in the 5-county region, including 166 fatalities. Meanwhile, the condition of roadways is mixed. Many major roadways in Northeast Ohio have good pavement conditions, but Pavement Condition Ratings (PCR) are lower for county maintained and municipal roadways. For example, 52% of Cuyahoga County roadways are rated below the PCR goal of 80 (out of 100), and 40% the City of Cleveland system is below the PCR goal of 75. Transportation agencies such as the Ohio State Department of Transportation and the City of Cleveland are now prioritizing preservation projects utilizing sophisticated asset management systems. Ohio's legislature recently voted to allow counties to increase vehicle registration revenues by imposing an additional \$5 permissive fee.

## SCHOOLS



Northeast Ohio is home to 67 school districts and approximately 250,000 students. A recent survey by the Cleveland Section of ASCE indicates 52% of schools in the region have not undergone significant renovations over the past 40 years, and only 57% of school districts have buildings that meet current state and/or federal standards. Funding from the Ohio Facilities Construction Commission (OFCC) is offered to schools based on an eligibility ranking system; those schools with the highest eligibility are ranked as #1. Within the NOACA region, school district eligibility rankings range from #1 to #606 out of 607 school districts statewide, with an average ranking of 447. OFCC's available funding spiked in 2008 from a tobacco settlement, resulting in four years of over \$800 million available per year to K-12 schools, but over the past five years construction disbursements have dropped to an average of approximately \$275 million per year. Resiliency is another concern: 91% of school buildings are designated to serve as emergency shelters, but only 27% of school buildings have backup power systems, only 57% comply with state and/or federal health and safety codes and only 36% are constructed to withstand a natural disaster of the type common to northern Ohio.

## WASTE WATER



There are over 5,000 miles of underground pipes in Northeast Ohio connecting homes and businesses to 45 publicly-owned wastewater treatment plants. On a dry day, capacity in the system is double the average daily volume generated. However, the region is home to 860 communities with combined sewer systems (CSS), or sewers designed to collect rainwater runoff and sewage in the same pipe. The size and capacity of CSS are the limiting factor during rainfall events, and when the stormwater combines with the wastewater in the sewers, there simply is not enough capacity and the system must relieve itself, either through discharges into receiving waters or basement flooding. The Northeast Ohio Regional Sewer District has identified over \$3 billion of capital improvements needed to mitigate the combined sewer overflow issues in the region, plus another \$3 billion to address "non-CSO" (combined sewer overflow) contributing water quality issues, including basement flooding, failing septic systems and illicit sanitary discharges into the environment. In general, much of the wastewater infrastructure in the region is aging, and approximately 25% of the sewer pipes in NE Ohio are over 80 years old.

