

The Effects of Data Centers

What is a Data Center?

According to Susnjara and Smalley (2025), a data center is a room or building that contains information technology (IT) infrastructure used to build, run, or deliver applications and services. This type of facility also stores and manages data that is involved with these applications and services. Dating all the way back to 1945, the United States military created what is now considered one of the earliest forms of a data center with the development of the Electrical Numerical Integrator and Computer (ENIAC).

Fast-forwarding to the present time, many top technology companies, such as Amazon, Google, IBM, and Microsoft, operate a large number of data centers across the world. With that being said, there are many types of data centers, depending on the needs of each company (Susnjara & Smalley, 2025). A few examples include enterprise data centers, public cloud data centers, hyperscale data centers, and managed data centers. Each type of these data centers serves a different purpose, ranging from supporting a single organization's operations to powering large-scale cloud computing services. Data centers can vary widely in size, with hyperscale data centers covering millions of square feet.

Impacts on the Community

There are many effects a data center can have on a community, both good and bad. In this paragraph, I will discuss the positive and negative impacts a data center can

have on the Fort Wayne community. These effects can be seen in areas such as employment, the local economy, and the development of infrastructure.

Many people may see data centers as only having negative effects on their surrounding communities, but that is not the whole truth. A few examples of the positive impacts of data centers on the community include increased revenue for Fort Wayne's economy, the creation of thousands of jobs, and the development of new infrastructure, such as a new water tower at zero cost to Fort Wayne residents (Google, n.d.). It does not stop there; there are also numerous local improvements provided by Google, as well as long-term environmental investments and donations to local schools to support certain technology and workforce programs.

Despite these positive impacts, data centers can also introduce many challenges and concerns for the community. One of the major negative effects of data centers is pollution, including noise pollution, light pollution, and air pollution (Pavlinich, 2026). Another one of the most talked-about concerns is the amount of water used to cool the computers within data centers. According to Yanez-Barnuevo (2025), large data centers can use up to 5 million gallons of water each day. This reduces the water resources available to local communities, increasing the risk of water insecurity (Pavlinich, 2026). Data centers can also increase the cost of home energy for community members. These health and financial concerns should not be ignored, as they highlight the need for regulation and planning when developing data centers in the Fort Wayne community.

Good or Bad?

Although large data centers may have many positive financial advantages for the

community and people globally, I believe the data center is more bad than good. I think this because I believe health and water security are more powerful than the millions of dollars Google invests into the community. This money cannot buy the health of the community members, and it cannot take back the farmland and natural landscape used to build the large facilities. With Fort Wayne having many rural surroundings, preserving this area is very important to residents, as it maintains local agriculture and community quality of life. One could argue that these residents deserved to have their opinions heard regarding the implementation of a large data center in their area. Although data center companies strive to create positive impacts in Fort Wayne and other communities, they cannot fully eliminate the environmental, health, and social concerns associated with these developments. With that being said, I would label the data center as bad for our community.

References

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