MEMO

TO:	COLLINSVILLE PLANNING COMMISSION
FROM:	TRAVIS TAYLOR, AICP, COMMUNITY DEVELOPMENT DIRECTOR
RE:	DATA CENTER TEXT AMENDMENT DISCUSSION
STRATEGIC GOALS:	GOAL 4: PRESERVE AND IMPROVE EXISTING NEIGHBORHOODS GOAL 3: ENCOURAGE TOURISM AND ECONOMIC DEVELOPMENT
DATE:	MARCH 6, 2026

Recently, the St. Louis metro region has experienced rising interest in data centers locating in the St. Louis area, including the Metroeast. The recent interest in this area is part of a larger interest in data center production within the Midwest. According to the Weldon Cooper Center for Public Service's *Data Centers in the Great Lakes Region: Fact Sheets* (n.d.), 20% (525 Data Centers) of US Data Centers are located around the Great Lakes, with another 224 Data Centers planned for construction between 2025 and 2030. The majority of Midwest data centers are currently located in or planned for both Illinois and Ohio. Most data centers are located in large and medium metro counties, counting for over 96% of all operational data centers (Ferraira et al, 2026).

From a local viewpoint, communities such as Troy, Granite City, and St. Charles have seen interest from hyperscale data center developers. While, as of the date of this memo, the City of Collinsville has not been approached or had any conversations with any hyperscale data centers or developers, staff believes it is appropriate to get ahead of the trend and appropriately plan for these potential uses. To date, the City has only seen interest in the City's data center regulations from one crypto mining businesses, which prompted the Planning Commission to consider and vote favorably on a potential Data Center Moratorium in 2025.

Under the City's current regulations, Data Centers (called out as "Data Processing, Hosting and Related Services, NAICS 518) are allowed by right in the City's Business Park 1, Business Park 2, Business Park 3, Business Park 4, and Industrial zoning districts. Exhibits 1-3 of this report depict the locations of these zoning districts throughout the City. These uses have no further supplementary regulations or restrictions than those outlined for any commercial development/land use. As such, staff believes the City's current regulations may not adequately address this use and its potential adverse impact on the city. For discussion purposes, with this memo staff intends to provide a high-level overview of data centers, their potential impacts, and the options the City has to place appropriate protections through development and performance standards.

What is a Data Center?

Simply, data centers "consist of networks computer systems used for data storage and processing" (Morley, 2022). Data Centers can be further categorized into several tiers (Ferraira et. al, 2026), which correspond with scale and use:

- Crypto: Designed primarily for cryptocurrency mining.

- Retail: Offers data center space for multiple small-to-medium clients
- Telco: Telecommunications providers. Often integrated with network hubs and other communication infrastructure
- Wholesale: Large blocks of space and power leased to single, or few, tenants.
- Hyperscale: Large-scale facilities purpose built for big tech companies (Oracle, Amazon, Google, Meta, etc).

The City has minimal experience permitting data centers, with the most notable being that of a "telco" data center for AT&T at 423 West Clay Street. This facility goes mostly unnoticed as a data center due to its scale. This facility serves as not only a data center, but also an office building for the telecommunications provider.

The recent demand for data centers has shifted significantly away from smaller-scale developments, in favor of wholesale or hyperscale developments which are typically larger in scale and carry more significant demands on infrastructure. This demand and growth is fueled by cloud computing, service digitization, and artificial intelligence (AI) advancements/utilization (Ferraira et al, 2026).

Why are data centers controversial?

Development of data centers have dominated the media and planning circles lately as they bring potentially a myriad of adverse impacts on infrastructure and neighborhoods. Some of the major concerns with data centers revolve around electricity usage, water usage/disposal, and noise and vibration.

A primary concern for most communities and regions center around large electricity demands of data centers. Data centers require a significant amount of energy related to both running the processing units, but also cooling these units. By 2030, it is estimated that the average data center will exceed 50 Megwatts (MW) of "installed capacity," equivalent to the energy demands of approximately 70,000 households (Ferraira et al, 2026). AI-focused facilities could require between 300-1,000 MW (Nichols, 2025). With growing demands on energy infrastructure, come questions and concerns related to siting of these facilities, transmission capacity, and community impact (Nichols, 2025). The significant demands on electricity leads data centers to site new major utility infrastructure, and coordinate early with energy providers. Data centers' stress on infrastructure and high demands for energy, may be resulting in rising costs for residents (Levy, 2025). The rising costs have even prompted Illinois Governor JB Pritzker to call for a pause on new state-wide incentives for data centers during his 2026 State of the State address (Pritzker, 2026).

Another concern, centers around water usage. Due to the nature of the use, data center's servers require constant cooling systems, which may take on a variety of forms. Data centers may choose to cool servers in two main ways, evaporative cooling, or non-evaporative cooling. Some evaporative cooling methods require consistent and large amounts of water. This not only stresses utility infrastructure and water supplies, but also brings into question how used water is disposed of and managed. Non-evaporative cooling, such as closed-loop systems appear to offer some solution to direct water needs, as they recycle water through their cooling system, reducing the amount of water needed on a constant basis (National League of Cities n.d.).

Another major consideration for data centers is the potential nuisances created for surrounding properties. Anecdotally, the potential for noise and, to a lesser extent, vibration accounts for the primary reason data centers in recent years have made the news. The constant operational nature of data centers lends to the potential for constant noise and potential vibrations (Nichols, 2025). This may be exacerbated by backup energy production systems, such as generators, which not only turn on during an energy outage, but typically cycle on and off at various times throughout the year for testing purposes. Noise and vibration concerns, while problematic in typical commercial settings, may be of particular concern when data centers are sited near residential properties, parks, or other sensitive uses

From a planning perspective, long-term use of land and structures should also be a consideration. Some discussions around data centers hypothesize a potential for an “AI bubble” (Sanchez, 2026). This could result in a significant slowing, stagnation, or decrease in industry if the bubble should burst. As seen with the plight of malls, data center growth and use may not be sustained in the future, resulting in vacant, purpose-built structures which have limited adaptive reuse (Morley, 2025). Some considerations include provisions such as land reservation for future parking needs, bonds to cover future demolition costs, or even adaptive reuse plans (Morley, 2025). Further, there are additional considerations and concerns a burst of the AI bubble may have adverse implications related to excess energy production, resulting in higher energy costs for nearby areas as smaller-load users pay costs originally shouldered by data centers (Sanchez, 2026).

While there are some claims that some of these issues outlined are being addressed as data centers continue to evolve with demands of not only the industry but local governance, these still remain real and potential concerns the City should consider when crafting regulations.

<u>What are the potential benefits of data centers?</u>

While in the news due to potential adverse impacts of their development, data centers may bring benefits to a community. This is especially true if communities leverage development for community benefits. Some communities are entering into agreements with developers for private investments into utility infrastructure upgrades to support the development or other contributions (including financial) directly to the community via development agreement (Abbott et al, 2025).

An important consideration about possible benefits is employment generation. While direct, long-term employment by data centers is typically minimal (Nichols, 2025), they are usually higher earning positions (Urban Land Institute, 2024). Data Center development is, also, extremely capital intensive and could result in significant up-front construction activity, and therefore temporary construction jobs.

Large data center projects could "create hundreds or perhaps a few thousand" up-front construction jobs over a multi-year development (Bureau of Business, 2018). Such employment, though temporary, could have indirect economic impacts for the community and region as these employees will now find themselves in Collinsville and the immediate area, potentially patronizing businesses. While long-term employment opportunities may be well-compensated, it should be noted that total employment does not typically rival that of other commercial or industrial land uses (Urban Land Institute, 2024).

Other noteworthy, potential benefits for data centers revolve around tax generation. From a property tax perspective, hyperscale data centers are large, expensive capital investments, filled with "high value equipment and infrastructure" (Urban Land Institute, 2024). This may result in large property valuations, higher than potentially other commercial or industrial land uses. As these properties could account for a significant portion of the tax levy for the community's taxing bodies, residents may realize lower property tax bills. Further, and more specific to Collinsville, data centers with large energy consumption may generate significant utility tax revenues. Collinsville currently has a 4% utility tax, meaning utility taxes from a data center could lead to major revenue windfalls for the community.

How do we plan for potential data center development?

As noted by several professional organizations, the clear path to mitigating adverse impacts of data centers relies on proper zoning and permitting procedures specific to the data center land use (National League of Cities n.d.; Nichols 2025). It is staff's opinion that the Planning Commission and City Council carefully evaluate the potential benefits and costs of data center development.

The first step in planning for data centers is appropriate siting. The City will need to evaluate and determine where data centers are most appropriate and if scale of the data center matters in terms of its location. Presently, data centers, as a whole, are allowed by right in all of the City's "Business Park" and industrial districts. For reference, the maps in Exhibits 1-3 depict all zoning districts where data centers are currently permitted by right. Further, the City may need to explore data center permissibility depending on the scale of the development, as that may dictate where data centers make sense. Some communities clearly differentiate between data center size and type and allow them in different districts based on their potential impacts.

The second step is to determine how these uses are permitted. The City has multiple options related to use permissibility within the current zoning regulations. These include: permitted by right (i.e. no public hearing or public body approvals necessary), permitted via Special Use Permit, and permitted via planned use/planned district designation. The latter options require public hearings and approvals by the Planning Commission and potentially City Council. These options allow the Commission to consider developments against specific approval criteria on a case-by-case basis and allow the Commission and Council to place conditions on a specific request, to help mitigate potential adverse impacts.

One of the most important steps is the establishment of development requirements and performance standards. Through regulations specific to data centers, the City can attempt to mitigate potential adverse impacts related to those concerns outlined within this memo, such as energy use, water use, noise/vibrations, environmental concerns, future-proofing reuse capabilities of structures, etc. Some potential requirements could include:

- Third party modeling reports/studies related to noise, vibration, energy use, etc
- Use-specific noise standards
- Cooling system limitations, such as a ban on potable water usage or requiring closed-loop systems
- Annual performance standards and reporting requirements related to noise, water, and energy use
- Additional equipment screening, generator testing schedule requirements, and setback considerations
- Proactive adaptive reuse planning
- Require incorporation of renewable energy
- Development agreements to ensure up-front community benefits

Fortunately, several other communities are currently going through this exercise, allowing us some insight into trending best practices. For the Commission's review, staff has attached reports and ordinances from three communities referenced above, St. Louis, MO; Aurora, IL; and Troy, IL.

Staff is asking for additional feedback from the Commission with regards to both zoning district permissibility, permitting process, and necessary conditions/requirement for the land use. With guidance from the Commission, Staff will bring a complete ordinance for public hearing and consideration at a future meeting date.

MEMO

RESOURCES

Abbott S, Chiu J, Elgoweili N. 2025. *Lightening the Load Scaling Clean Solutions for Data Centers and Communities*. RMI. Young Gifted and Green.

Bureau of Business. 2018. *Economic and Fiscal Impacts of Sarpy County Data Centers*. University of Nebraska- Lincoln.

Ferraira J-P, Shobe W, Raphann T, Scheffel M. 2026. *Economic, Fiscal, and Energy-related Impacts of Data Centers in the Great Lakes Region*. Center for Economic & Policy Studies. Weldon Cooper Center. https://virginia.app.box.com/s/8qq2ggbdgwhf4atrorghtrcqsq64wd74. Accessed 3-2-2026

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National League of Cities. (n.d.) *Data Centers and Environmental Considerations*. National League of Cities. EPI Center for Scientific Evidence in Public Issues.

Nichols C. 2025. The Physical Footprint of Artificial Intelligence. *Zoning Practice. Vol 42, No. 10*

Pritzker JB. 2026. *State of the State Address*. https://gov-pritzker-newsroom.prezly.com/gov-pritzker-proposes-eighth-balanced-budget. Accessed 3-2-2026.

Sanchez T. 2026. *What the Data Center Boom Means for Planners*. Planetizen. https://www.planetizen.com/blogs/137025-what-data-center-boom-means-planners. Accessed 3-3-2026.

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University of Virginia Weldon Cooper Center for Public Service. (n.d.) *Data Centers in the Great Lakes Region: State Fact Sheets. Welson Cooper Center for Public Service* https://www.coopercenter.org/GLDC-state-fact-sheets. Accessed 3-2-2026.

Urban Land Institute. 2024. *Local Guidelines for Data Center Development*. Washington, D.C.: Urban Land Institute.

MEMO

EXHIBITS

Exhibit 1 – City Map of Data Center Zoning Districts
Exhibit 2 – Eastport Map of Data Center Zoning Districts
Exhibit 3 – Lebanon Road Map of Data Center Zoning Districts

ATTACHMENTS

Draft Framework for Data Center Regulation – St. Louis
Ordinance No. 2025-46 – City of Troy
Aurora Staff Report

MEMO

EXHIBIT 1

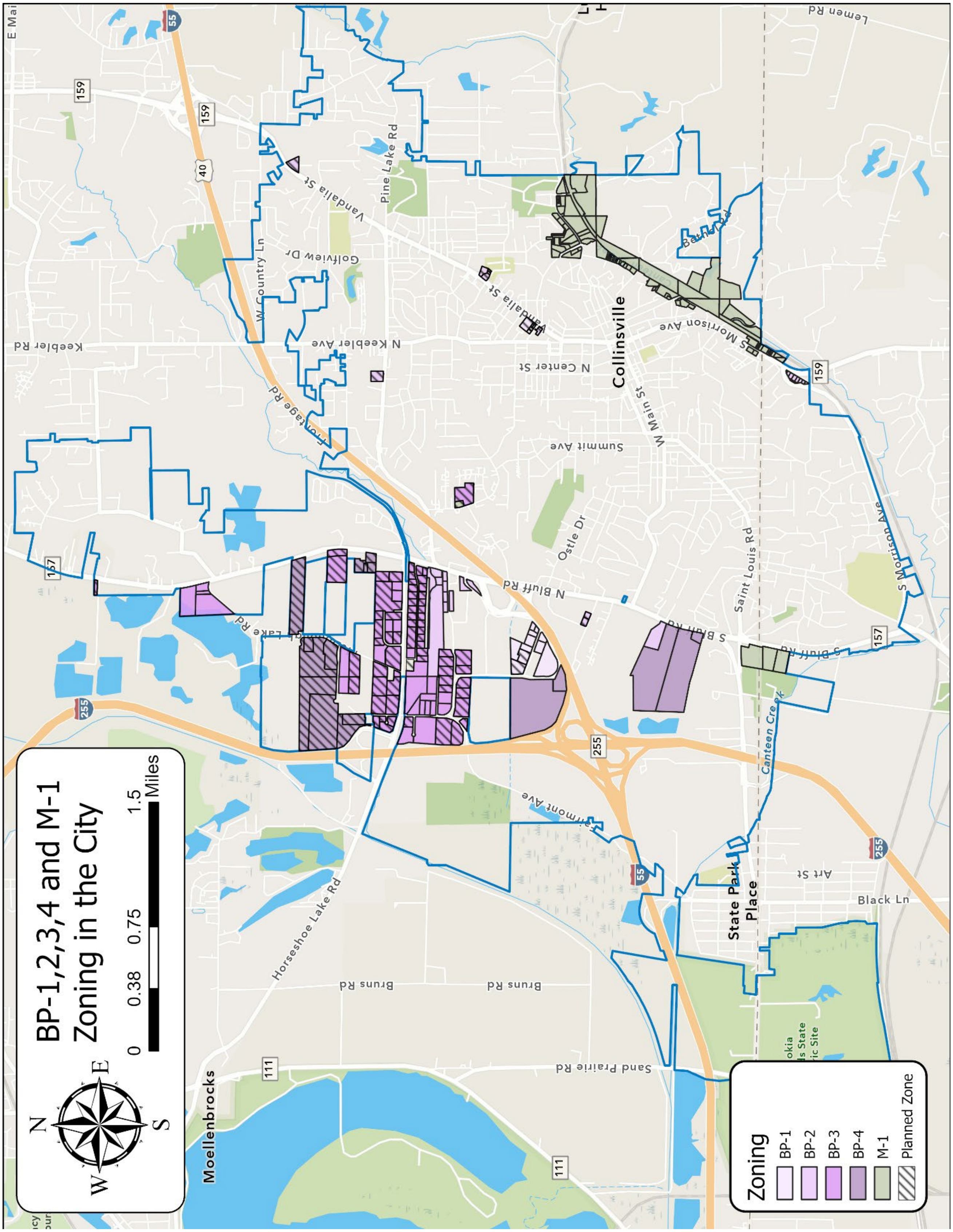

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EXHIBIT 2

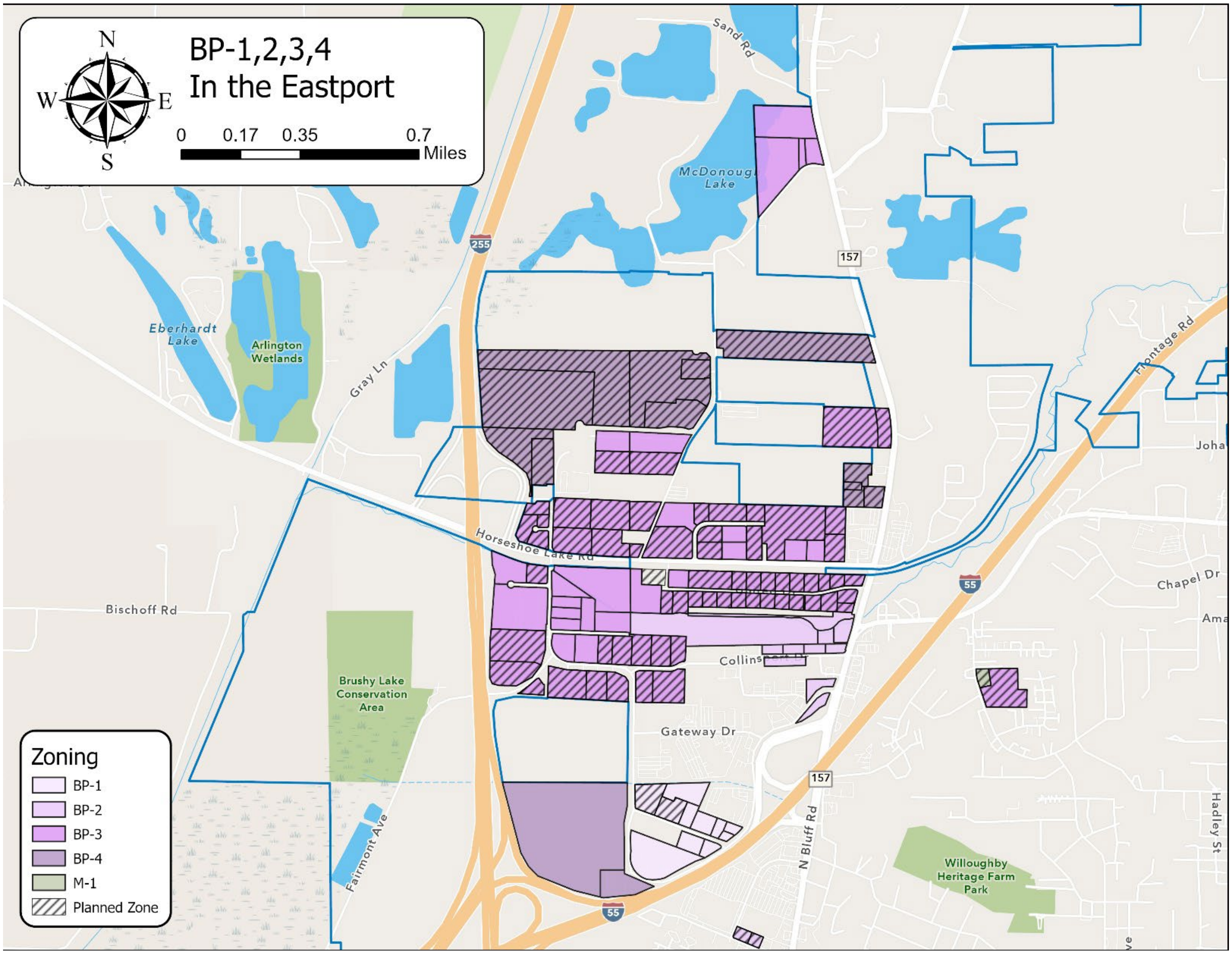

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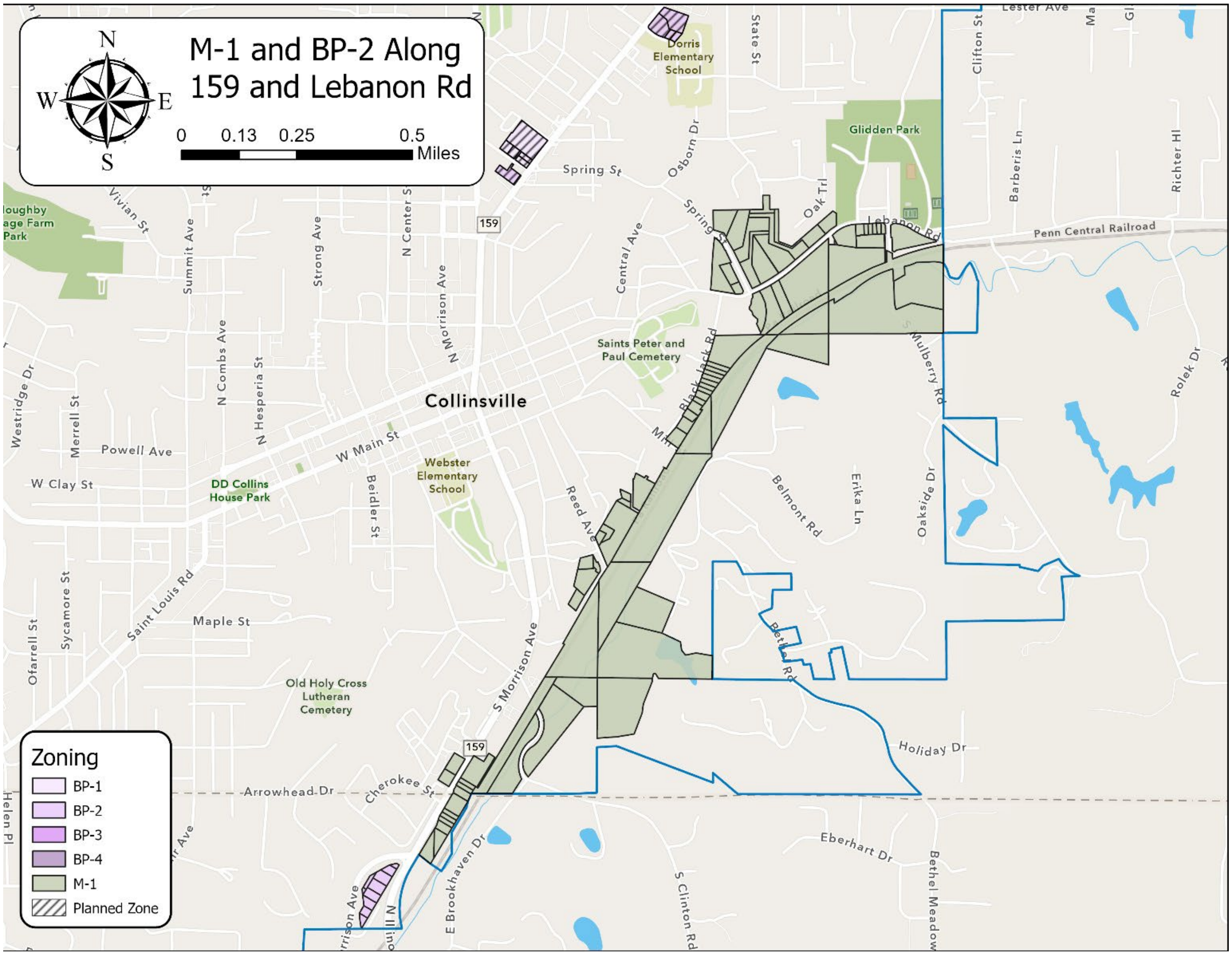
EXHIBIT 3



CITY OF ST. LOUIS PLANNING & URBAN DESIGN AGENCY
Cara Spencer, **Mayor**

File No. PDA-003-26-ZTX

To: City of St. Louis Planning Commission

From: Don Roe, Executive Director

Subject: DRAFT Framework for Data Center Regulation

Date: February 5, 2026 DRAFT

This report outlines a preliminary approach to guiding the development for data centers in the City of St. Louis, including zoning definitions, application requirements, a use table, and standard conditions and requirements. This report focuses on zoning standards, which are the specific purview of the Planning Commission; however, it also references other policy tools that can complement zoning to guide the development of data centers in the city, maximize benefits to the St. Louis community, and minimize negative impacts.

The report has three main sections:
1. Background (page 2), which describes the status of data center standards in St. Louis;
2. Key Research Themes & Findings (page 3), which shares a summary of what staff has learned; and
3. Zoning Framework (page 9), which outlines a preliminary approach and compares it to the current system for regulating data centers. This is also presented in consolidated form in Exhibit 'A' (page 21).

The framework presented in this report is still a work in progress, and will be improved through community feedback, stakeholder conversation, discussion with the Planning Commission, and discussion with the Board of Aldermen. The Planning Commission may act to recommend the proposed zoning approach to the Board of Aldermen, but is not obligated to do so during the February meeting. Planning staff is *not* recommending action at the February meeting; instead, staff recommend that feedback from the public hearing and from the Commission is used to update the recommended zoning standards for presentation and action at a future meeting.

This recommended approach will be presented at the February 11, 2026 meeting of the Planning Commission, which will also include a public hearing. The meeting will be held in a hybrid format, with members of the public welcome to attend and participate both in-person and online:

Location: 1520 Market Street, 2nd Floor Board Room
Zoom details: tinyurl.com/42v6upep
(253) 215-8782
Meeting ID: 816 9925 8307
Password: 149154

Written comments may also be submitted to the Planning Commission in advance of the February 11 hearing via an online form at tinyurl.com/5er5nb9w or at planning-commission@stlouis-mo.gov.

Section 1
Background

The United States and globe are in the midst of a digital infrastructure build-out that is unprecedented in its scale and complexity. Data centers, which are part of the backbone of internet infrastructure, are a major part of this build-out. Like many other parts of the country, the St. Louis region is seeing very large-scale data center proposals, and is challenged to appropriately respond. St. Louis has had several (at least 12) data centers for some time, largely located in repurposed office buildings Downtown. However, new, high-profile proposals around the region are many times the size of existing data centers, in both their physical footprint and in the scale of energy use. For example, the largest existing data center in St. Louis known to the City has access to 20 megawatts of electricity, while proposals in rural parts of the state and region would operate with 500 megawatts of power and cover hundreds of acres.

In April of last year, the Planning Commission discussed the emergence of this new land use and the need to establish tailored zoning standards, and set it as a priority for the coming year. At the time, data centers were regulated either as "warehousing" or "office," which are not effective proxies for data centers. As staff began to understand and share more about the complexity and intensity of the use, the Commission recognized the urgency and complexity of the task.

In September of 2025, Mayor Spencer enacted Executive Order 92,[1] which established an interim framework for managing data center applications, and directed staff to research data centers and develop a recommended approach within five months. The Board of Aldermen subsequently passed Resolution 111,[2] which mirrors and affirms Executive Order 92. Roughly five months have since elapsed.

Since that time, staff have been researching data centers and options for effectively regulating them. Research included a review of literature on the subject, tours of existing facilities, interviews with subject matter experts, and a review of other cities' approaches to regulation. Based on those findings, this report outlines a preliminary approach, with a focus on zoning. In accordance with state and local law, changes in zoning policy must be reviewed and recommended by the Planning Commission prior to their consideration at the Board of Aldermen.

The City is also in the process of fully overhauling its antiquated zoning code to align with modern zoning practices and help implement newly-adopted plans such as the Strategic Land Use Plan. This Zoning Upgrade (ZOUP) is on track to have a new code, new districts, and a new map available for consideration by the fall of 2026. Data center standards will need to be integrated into this new structure, even if policies are passed prior to the new code's enactment.

The table on the next page describes the evolution of data center zoning standards prior to Executive Order 92, under Executive Order 92, and in relation to the development of new standards.

[1] Executive Order 92 can be found online at tinyurl.com/5sk3epeb.
[2] Resolution 111 can be found online at tinyurl.com/5dr6dxys.

Summary: History of Data Center Standards in St. Louis

Before Executive Order 92 / Resolution 111	**Under Executive Order 92 / Resolution 111 (Current)**	**In Progress**
The use was not defined Treated either as an "office" or "warehousing" use (i.e., of data) Conditional use in commercial and mixed-use districts (i.e., "F" thru "H") Permitted by right Downtown and in industrial districts (i.e., "I" thru "L") No specific standards for evaluating them as conditional uses	The use is defined Conditional use in commercial, mixed-use, Downtown, and industrial districts (i.e., "F" thru "L") Detailed question set to increase available information to guide conditional use decisions	As directed by EO 92/Res 111: Develop specific, detailed regulations for where data centers may be allowed, and under what conditions — Later to be integrated into the new zoning code developed via the Zoning Upgrade (ZOUP) process

Section 2
Key Research Themes & Findings

As directed by the Executive Order, staff have sought to learn more about data centers, their development, their operations, their benefits, their challenges, and other communities' approaches to regulating the use. The subject has proven to be exceedingly complex, and new information emerges every day. This report endeavors to share high-level findings from staff research, and introduces a preliminary regulatory framework that is responsive to that context.

Overarching Themes

The following four themes emerged through staff conversations and research:

- **A growing part of our future:** Data centers are part of our evolving economy and technological landscape, and stand to provide many benefits to consumers, businesses, and technological innovation to a variety of industries. Data centers and associated infrastructure can also generate *significant* new revenue for municipalities, through a combination of real estate taxes, personal property taxes, utility taxes, and other fees.

- **Environmental impacts and other concerns:** Many community members have concerns about data centers' environmental impact, impact on place, and impact on electricity bills. There is broad-based concern about AI and its impact on employment, wealth inequality, and education. Many aspects of these challenges lie outside of the direct influence or control of local governments, but all merit consideration.

- **Complex and changing fast:** Data centers and the surrounding industry are exceedingly complex and rapidly evolving. Cities are doing their best to establish appropriate regulation for urban places, but it seems no city is fully confident in its approach. Many cities are actively engaged in research efforts and efforts to develop or refine their own regulations. An iterative approach will likely be necessary.

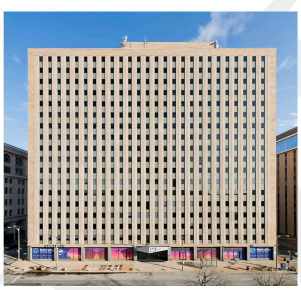
- **Unknowns & uncertainties:** There are many unknowns in the data center and AI industries and their future. Many communities strive to achieve up-front financial or other community benefits, in part to mitigate against future risk. In addition, many communities are concerned with the industry's lack of transparency, particularly around the needs associated with operations. At the same time, participation in this evolving economy could bring benefits to the region, which could be lost through an overly restrictive approach.

Land Use: Key Findings

Data centers, as a land use, have unique characteristics that shape their development and operation. The following is a summary of key takeaways:

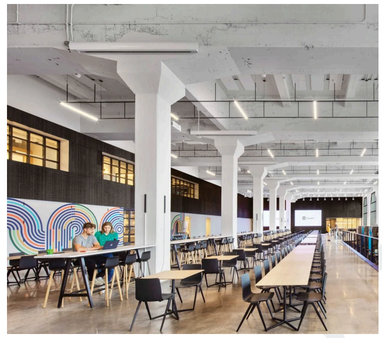
- **Data centers come in many shapes and sizes:** Data centers can vary significantly in both their physical size and their energy demands. Most reporting on data centers has focused on "hyperscale" data centers which are characterized by a large footprint (with campuses that cover hundreds of acres), are used by a single entity (e.g., Google, Meta, AWS, etc.), and have enormous power and energy needs. But data centers can be much smaller, and can repurpose existing warehouse or office buildings.[3] There is speculation that even smaller-footprint data centers could emerge that can be deployed more nimbly to meet compute demand.

  Images below illustrate some of the variation in data centers (including one existing data center in St. Louis,[4] one being developed, and a data center in Northern Virginia).



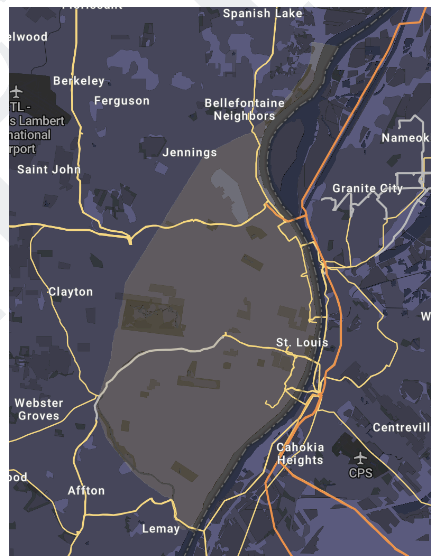
[3] Servers and other equipment associated with operating a data center can be very heavy; adaptive reuse of buildings is constrained, somewhat, by the loads a building's structure can support.
[4] There are currently at least twelve data centers operating in the City of St. Louis.

While not the norm, data centers can be built in a mixed-use format, integrating office and/or active ground floors. Cities generally share a concern for data center's impact on urban vibrancy, and seek to encourage mixed-use development of data centers. The images below show examples of mixed-use data center developments in Seattle, St. Louis's Post Building Downtown, and Houston.




- **Access to electric power drives site selection.** Data centers demand a lot of energy for both cooling and compute needs, and seek sites that can deliver this power. While transmission and distribution can extend power to rural locations for new hyperscale data centers, the direct costs of new infrastructure required for a data center is now developers' financial responsibility.[5]

  In St. Louis, data centers will be drawn to sites along high-voltage transmission lines (shown to the right[6]), which run primarily along railroad rights of way.



- **Zoning is a limited tool, but cities use it to address a variety of data center concerns.** Zoning is cities' primary tool for regulating land use. Zoning is most effective at addressing issues related to location, size, and the character of development, but cities are using it to the best of their ability to establish standards that promote responsible data center development and increase transparency around data center proposals. For example, cities use zoning to establish noise standards and reporting requirements to address the unique concerns related to data centers (i.e., a low, continuous drone that can occur when data centers aren't designed effectively), and add standards that encourage renewable energy use.

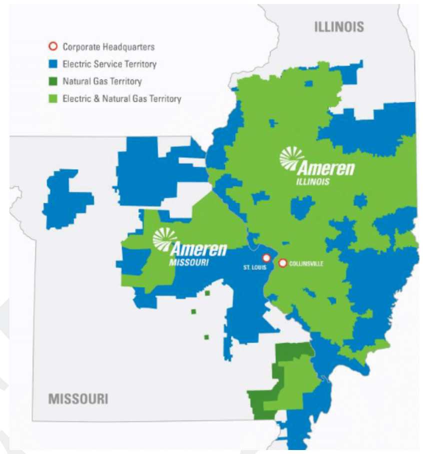
  Data centers nearly always require additional infrastructure for their cooling and backup power[7] needs—these are often the systems which generate the most noise and/or emissions. This infrastructure should also be appropriately regulated.

[5] Under rules approved by the Missouri Public Service Commission (PSC).
[6] National Renewable Energy Laboratory ("National Laboratory of the Rockies") Accelerating Speed to Power
[7] The generators used to supply backup power are also monitored and regulated by Missouri's Department of Natural Resources.

Water, Energy, and Environment: Key Findings

Data centers are widely known for their environmental impact. The following points summarize key research takeaways:

- **Data centers are driving energy demand up.** Data centers use a lot of power. Meeting these power needs is a challenge for utilities across the country, and creates more pressure to bring online new, readily available energy (such as gas), or to delay closure of old fossil fuel facilities, exacerbating emissions that contribute to climate change. Solar and other renewables, especially when combined with battery storage, are excellent options for meeting new demand, and mitigate climate impacts of energy generation.



  Building new energy generation facilities is very costly, and requires long-term planning and investment. Large load tariffs—specialized utility rate structures and contracts designed for customers with exceptionally high energy demands—are the main tool that utilities use to mitigate the potential volatility and risks that providing power to such a large user could entail. Ameren's large load tariffs[8] apply to any electric customer demand 75 megawatts or more. Key elements of the tariffs[9] include:

  - A minimum contract term of 12 years and a 5-year load ramp.
  - An expansion of renewable and clean energy options.
  - A minimum payment of 80 percent of the maximum potential energy use, and automatic extensions.
  - Requirements for early notification of exit, and service termination fees.
  - Caps on the utility's Return on Equity (ROE), past which revenues from large load customers are exclusively dedicated to low-income customers.

  The large load tariffs—particularly the minimum payments and requirement that developers pay for transmission infrastructure—help mitigate the costs borne by other ratepayers. It is difficult to ascertain what the total combined impact of investment in new energy generation and large load tariff policies will be. It should be noted that any new costs are shared by ratepayers across Ameren's entire territory.

  Without adequate planning and demand management, data centers can also impact grid reliability for other customers in a utility's service territory.[10] This can be a serious issue during major weather events (heat and cold), when demands peak.

- **Water use can be reduced.** Traditional data centers relied extensively on water to meet their cooling needs. The industry has largely shifted to closed loop cooling systems, and other advanced technologies

[8] November 24, 2025. PSC Approves Ameren Missouri Large Load Power Rate Plan with Customer Protections. Missouri Public Service Commission.
https://psc.mo.gov/Electric/PSC_Approves_Ameren_Missouri_Large_Load_Power_Rate_Plan_with_Customer_Protections--pr-26-40
[9] November 24, 2025. "Missouri Regulators Approve Consumer Protection Plan for Ameren Customers." Sierra Club.
https://www.sierraclub.org/press-releases/2025/11/missouri-regulators-approve-consumer-protection-plan-ameren-customers
[10] June 2025. 2025 State of Reliability. North American Electric Reliability Corporation.
https://www.nerc.com/globalassets/programs/rapa/pa/nerc_sor_2025_overview.pdf#page=12

like liquid immersion cooling and direct-to-chip cooling, which dramatically reduce water consumption.[11] However, these technologies also increase energy demand. Other advanced technologies can increase efficiency of energy use and stabilize energy demand during peak hours.

- **Some of the largest potential end users have ESG goals.** Very large tech companies like Google, Amazon, and Microsoft have Environment, Social, and Governance (ESG) goals.[12] The use of renewable energy sources, efficient data center design, and community benefits agreements can help advance those goals. Some companies leasing space in a colocation data center have similar goals. However, when the end user of a data center is not yet known or confirmed (as can often be the case), any ESG goals remain unknown.

Economic Development: Key Findings

Data centers represent a new type of infrastructure that can benefit local economies. But the benefits are complex to forecast, and there is significant uncertainty about how the AI economy will evolve. The following points summarize key takeaways.

- **Fiscal benefits can be significant.** Because data centers entail *extensive* capital investment through both construction and equipment purchase/upgrades, real estate and personal property tax revenues are very high relative to other land uses. There is uncertainty inherent in revenue projections tied to the potential "bubble" in the AI economy. The rate of equipment replacement can also vary, making it difficult to predictably estimate personal property tax revenues.

- **Employment is significant during construction.** Data center construction requires participation by many trades and high-skilled workers, and creates many many construction jobs (which have indirect benefits). Data centers also require frequent upgrades to systems and equipment, which involves participation by construction and other industries in an ongoing manner.

- **Few permanent jobs.** Permanent job creation is much smaller, though permanent jobs are high-skill and high-paid.

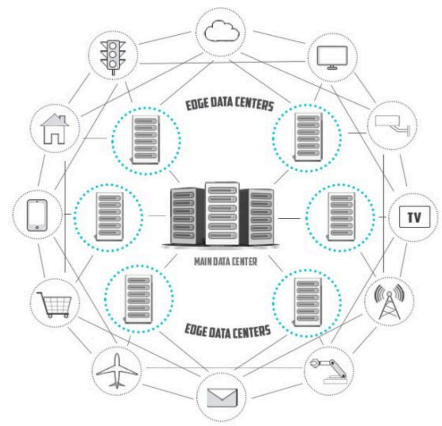
- **Data centers can strengthen other industries.** If AI and other compute-intensive functions are increasingly integrated into health care, advanced manufacturing, and other industries, these industries will require proximate compute power as a means to mitigate latency.[13] However, increasing integration of AI into the economy is also expected to displace jobs.

- **Cities use a variety of mechanisms to secure up-front benefits.** In part as a means to mitigate against the negative impacts, cities seek to secure community benefits and other commitments as part of data center approvals. This can be most successful or easily structured when the end user is identified and if incentives are being offered.

[11] June 25, 2025. Data Centers and Water Consumption. Miguel Yanez-Barnuevo, Environmental and Energy Study Institute. https://www.eesi.org/articles/view/data-centers-and-water-consumption
[12] 2024. Local Guidelines for Data Center Development. Urban Land Institute.
[13] Latency refers to the delay before a transfer of data begins following an instruction for its transfer. Shorter distances between data centers and end users can reduce latency. Low latency is not critical for all end users, but is for some.

Anticipated Context for Data Center Development in St. Louis

St. Louis has its own infrastructural and physical context that will impact the likely shape of data center development in St. Louis.



For example, the City is fairly well-served by energy transmission infrastructure and fiber connections, making it a somewhat more attractive location for data center development. But relative to suburban, rural, or exurban communities, there are not many sites that can accommodate large data centers. We are unlikely to see any proposals of the scale seen in communities like St. Charles and Festus (e.g., with hundreds of acres and 500 megawatts or more). Our ample supply of water has been viewed as a competitive advantage by the industry, but as cooling systems continue to evolve to require less water, this will be less relevant.

We may expect to see smaller "edge" data centers that extend the networks of hyperscalers to expand and improve the reliability of data networks. These can be, relatively speaking, more easily integrated into an urban environment.

Large data centers built in Ameren's territory—and less directly in the MISO transmission region—will have an impact on our energy availability, reliability, costs, and mix.

Policy Tools

St. Louis has different tools at its disposal for guiding the responsible development of data centers. Zoning is the focus of this report.

However, the City may also consider energy benchmarking requirements to track what data centers are actually using (versus just their maximum power access), establishment of a distinct water rate class for the use, and development-specific community benefits and/or development agreements.

Section 3
Zoning Framework

Zoning Precedent & Best Practices Research

To learn how data centers are being regulated at the local level across the country, staff spent substantial time examining regulations other cities have put in place regarding data center siting, design, and operations, and meeting with staff from other cities to discuss their thoughts and experiences. This process involved selecting cities and municipalities that have profiles somewhat similar to St. Louis. Several places were also chosen due to their notable data center activity even if their profiles are otherwise different. Ultimately, staff selected 12 municipalities to study, located throughout the Midwest and Southeast. Staff then studied relevant zoning standards, reached out to city staff members to learn more, and in five instances met virtually with staff members from selected locations to ask questions and gain insights.

Summary of Precedent Research[14]

City / County	# of Data Centers in Area	Code Mentions Data Centers	Code Defines Data Centers	Code Contains By-Right Districts	Code Contains Cond. Use Districts	Site Design Reqs	Utility Reqs	Environ-mental Regs	Emissions Regs	Currently Updating Regs
Kansas City	31	✔	✔	✔	✔	✔			✔	✔
Chicago	171	✔	✔	✔						✔
Atlanta	147	✔	✔		✔	✔	✔	✔		
Louisville	24	✔		✔						✔
Pittsburgh	37			✔						✔
Charlotte	44	✔	✔	✔						
Des Moines	77	✔	✔	✔		✔				
Nashville	27			✔	✔					
Columbus	134	✔		✔						
Indianapolis	35	✔		✔	✔					
Loudoun County, VA	199	✔	✔		✔	✔	✔		✔	✔
Fauquier County, VA	2	✔	✔	✔	✔	✔	✔	✔	✔	
St. Louis (current EO)	12				✔					✔

The following points summarize key observations from staff's precedent research:

- **Cities' approaches are evolving**: Everyone is grappling with rapid changes in the demand for data centers. Many cities that have data center regulations have somewhat piecemeal regulations that were established reactively to proposed developments. Nearly half of the peer cities staff contacted are in the process of expanding or updating their data center regulations. Most of them already have data centers as a defined use in their zoning code or development ordinance, but St. Louis has the potential to demonstrate a more deliberate and comprehensive approach.

[14] Many places have been updating their data center regulations, so the information presented in this table may not reflect recent changes made to other cities' data center regulations.

- **Common concerns:** Staff members from many peer cities shared concerns about the emissions (pollutants, noise, vibrations, and light) from data centers, their intensive utility usage, and maintaining vibrant walkable urban spaces.

- **By-right allowance:** Most cities allow data centers by right in at least one zoning district, with two notable exceptions being Atlanta and Loudoun County, Virginia, which is part of the densest data center development region in the world. Notably, Fauquier County, Virginia, which abuts Loudoun County, permits data centers by right in two zoning districts. However, only two parcels in the entire county carry those zoning designations so they have also effectively made data centers a conditional use by requiring rezoning for any parcel to be able to host a data center.

- **Emerging standards:** There is precedent to require developers of data centers to: disclose expected utility usage, limit noise and vibration emissions to predetermined levels, use recycled water for cooling, activate the ground floor or include a data center in a mixed-use development where appropriate, avoid sites near transit and greenways, and use renewable energy. Peer cities have taken a wide variety of approaches to regulating data center design, but two notable themes are: 1) limiting their ground floor space in denser districts when they are permitted; and 2) requiring visual and/or acoustic buffering to attenuate their aesthetic and auditory impacts on the surrounding community.

Other Best Practice Recommendations

In addition to learning about different place-specific approaches, staff endeavored to synthesize as much third-party research and guidance on data centers as possible, particularly from professional groups such as the American Planning Association (APA). The following points are key recommendations:

- **Data centers should be defined and treated as a specific land use.** They are distinct in many ways, including the potential for consistent noise emissions, relatively low car and foot traffic, and the necessity of having backup generators as a measure of redundancy for service continuity. Many communities have begun to define and incorporate use-specific requirements for data centers in their zoning codes, and the APA recommends proceeding using that model.

- **Governments should be aware of potential nuisance issues**. Communities closest to data centers are at risk of being impacted by construction noise and dust, noise and vibration emissions, and pollution from backup generators. Cities should shield residents from potential negative impacts through measures such as noise mitigation and careful consideration of siting and design elements.

- **Require as much information as possible to accurately assess proposed developments**. Many data center proposals may use non-disclosure agreements or otherwise be opaque to the public or even a city government. This makes it difficult to accurately assess the expected impacts of a proposed project. The more information the developer is required to present up-front, the more informed the public and city officials can be throughout the decision-making process, allowing for appropriate consideration of the entire proposal. This is an issue many communities are facing, and the APA recommends requiring project specifics in writing.

- **Explore ways to mitigate risks and uncertainty.** The astronomical growth of data centers to support the burgeoning use of artificial intelligence (AI), in addition to many other technological functions, has raised concerns that there may be an AI bubble which could result in some data centers not operating long-term. To manage this concern, communities are finding ways to mitigate the risks. For example, Fauquier County, Virginia, encourages data center operators to commit to removing all generators, equipment, and hazardous materials from a site within one year of its ceasing operations. Another example for a different kind of land use is Ferndale, Washington, which requires large retail store developments to submit a potential reuse plan or to pay a bond for 150 percent of the estimated demolition cost. Many of these approaches, however, rely on tools outside of zoning.

Proposed Policy Approach for St. Louis

Based on their research, staff has developed a preliminary recommendation for data center zoning standards, detailed in the section below. The draft regulations seek to achieve the following seven key goals:

- **Differentiation:** Clearly differentiate between different types of data centers so they can be regulated differently (based on both their physical size and the scale of their energy demand).
- **Transparency:** Ensure that ample information is submitted, even if zoning can only appropriately and effectively regulate some aspects of a development. This information will provide the City and the community with the opportunity to understand the full picture of each proposal.
- **Predictability:** Create clear standards and a clear process so that businesses and community members alike know what to expect.
- **Separation:** Establish minimum distances between data centers and sensitive uses such as housing, schools, faith buildings, and parks. This will help site data centers in locations that help prevent conflicts over noise and the emissions from backup generators.
- **Quality:** Set standards that ensure new developments are high quality, do not use wasteful or out-of-date technologies, and are as supportive as possible of the City's climate goals..
- **Urban vibrancy:** Preserve potential for active ground floors Downtown and in mixed-use districts so that data center developments support other community goals, such as supporting a safe and vibrant pedestrian experience.
- **Policy Coordination:** Coordinate with other existing and potential future policies (e.g., the noise ordinance, energy benchmarking, etc.,) in service of a comprehensive approach.

Policy Details

The specific proposed regulations are outlined (in black) and described (in *green italics*) below, and provided in consolidated form as Exhibit 'A.'

1. **Create a new chapter of the zoning code specific to data centers** (Chapter 26.77: Data Centers)

   A new, standalone chapter will allow for all of the standards, terms, and definitions to be made available in one easy-to-reference location. Incorporating data center zoning standards into the Code's cascading structure would make it exceedingly difficult for applicants and community members to understand the process or what is expected.

   This approach will also make the regulations more adaptive to the work of the Zoning Upgrade.

2. **Establish a purpose statement for the zoning standards** (Section 26.77.010 - Purpose)

   The purpose and intent of this Chapter 26.77, Data Centers, is to define and address the location, establishment, application requirements, and standard conditions for data centers in order to ensure the health, safety, and general welfare of the residents of the City of St. Louis. This chapter seeks to allow for responsible, predictable development of data centers and associated infrastructure, to encourage best practices, and limit negative impacts.

A clearly-stated purpose is a best practice for the drafting and presentation of zoning policy.

3. **Establish definitions for data centers and related terms** (Section 26.77.020 - Definitions)

A. Data Center

Data center is a facility whose primary service and dedicated infrastructure is for data processing or data storage, and is used to house computer systems and associated components, such as central processing units, graphical processing units, neural networks, quantum bits, quantum processors, memory, data routing, data storage, server farm, bitcoin mining, crypto processing, virtual private networks, virtual servers, artificial intelligence training or processing, image processing, cloud computing, email servicing, a telecom hotel, telehouse co-location, or any other term applicable to facilities which are used for such purposes shall be deemed to be a data center.

This definition simply describes what a data center is, as a means to distinguish it from an office, warehousing, or telecommunications use. The definition also incorporates the term "facility," which is later defined in order to clarify how different kinds of applications or projects should be reviewed.

The clause describing dedicated infrastructure seeks to clarify that simple "server rooms" (which may be a small closet or room used by any office tenant) should not be considered a data center.

B. Micro Data Center

Micro Data Center is a data center—whether a primary or accessory use—with square footage less than 10,000 gross square feet and maximum power demand less than 5 megawatts.

This definition establishes the smallest of three types of data centers. For this "small" data center type, we are seeking to express both the small physical size and the lower energy demand. The intent is to establish a simpler pathway for the development of this type of data center.

Five megawatts represents a rough, estimated upper limit—under current technology—for very small "edge" data centers which could exist in smaller structures, and for data centers which might be accessory to a large company requiring intensive compute power.

The use of "and" in listing the size of the building and the peak energy demand indicates that a micro data center would have to satisfy both criteria. The idea is that a large footprint, lower-energy data center should be handled with more discretion, as should a small footprint higher-energy data center.

C. Standard Data Center

Standard Data Center is a data center—whether a primary or accessory use—with square footage of more than 10,000 gross square feet or maximum power demand of more than 5 megawatts but less than 75 megawatts.

This definition establishes the middle of three types of data centers. Seventy five (75) megawatts is the threshold at which Ameren's large load tariff policies apply. These policies, approved by the Missouri Public Service Commission (PSC), are special electricity rate structures utilities use for major consumers, like data centers, to prevent stranded generation or transmission assets, and avoid shifting expenses to smaller customers/ratepayers. The approved large load tariffs include higher minimum bills, long-term contracts, upfront fees, and exit penalties. They also establish maximum Return on Equity (ROE) thresholds. This large-load tariff threshold offers a proxy for intensive, higher-complexity projects which the City and community should also handle with greater due diligence. Five (5) to 75 megawatts is a very broad range of potential energy demand. However, staff could not identify a clear rationale for a separate threshold within this range.

D. Large Load Data Center

Large Load Data Center is a data center with a maximum power demand of 75 megawatts or more. Large Load Data Centers shall be understood as an industrial land use.

This definition establishes the largest of the three types of data centers, using the threshold for large-load tariffs as a baseline.

E. Facility

Facility shall refer to a new or expanded data center. Expanded means a structural alteration required to expand a building's footprint by (a) the addition of 25 percent or more space to the interior floor area of a structure used for data center purposes or (b) the addition of exterior generators or cooling equipment.

This definition clarifies that requirements pertain to both new data centers and significant expansions of existing data centers.

F. Data Center Accessory Use/Structure

Data Center Accessory Use/Structure means any structure or building that supports the operation of a Data Center, is located on the same tract or assemblage of adjacent parcels and is developed either as a unified development of or in further support of a Data Center. The category includes but is not limited to administrative, logistical, fiber optic, storage, and security buildings or structures; generators; air handlers; process water and non-contact cooling water and wastewater management and treatment facilities; water holding facilities; pump stations; water towers; environmental controls (e.g., air conditioning or cooling towers, fire suppression, and related equipment), water cooling and storage facilities, security features, and any other associated electric, gas, water, wastewater, and stormwater infrastructure to support operations at the property.

G. Maximum Power Demand

Maximum Power Demand is the maximum energy draw that the facility may use—as set by an agreement with an electric service provider—measured in megawatts.

The correlation between the physical size of a data center and its energy use is very loose. The energy demands of a data center relate to the specific equipment and its energy intensity, which could vary dramatically by facility or over time. Because a data center's energy demands have a direct relation to its land use impacts—such as the number and size of backup generators—it is a more important concept for establishing thresholds between sizes of data centers than physical size. Maximum Power Demand is defined here so the term can be integrated into definitions of the three different types of data centers.

The below definitions all clarify the meaning of terms that are used in the standard conditions, design requirements, and options established in later subsections of the new zoning chapter.

H. Renewable Energy

Renewable Energy means energy derived from wind, solar, geothermal, or other sources of renewable energy as defined in RSMo 393.1025(5) or any other sources certified as renewable by the Missouri Department of Natural Resources pursuant to 10 CSR 140-8.010(3).

I. District Energy System

District Energy System means the Downtown Steam Distribution System and/or the planned Chilled Water Loop.

J. Backup Generators

Backup Generators means engines that are designed to be used for utility power outages to provide continuous electricity, preventing data loss, and service disruption.

K. Cool Roof

Cool Roof means a roofing system designed to reflect more sunlight and emit absorbed heat through high solar reflectance and thermal emittance and through using lighter colors or special coatings that reflect invisible near-infrared light.

L. Closed Loop Cooling System

Closed Loop Cooling System means a system that recycles the same water or water mixture through an underground loop system in order to facilitate the transfer of energy between the closed underground loop and the earth.

M. Transit Center

Transit Center means a location where Metro operates a major hub for MetroBus and/or MetroLink stops as identified by their System Maps. Individual bus stops are not Transit Centers.

Clear definitions for data center types and associated terms is essential for clear interpretation of the standards presented in the rest of the chapter, and allows different types of data centers to be treated differently.Staff research has identified that standard methods for differentiating between the intensity or impact of a use (such as physical size) do not effectively capture the range or diversity of data center proposals because there is not a direct correlation between a facility's physical size and the amount of power it uses. One data center could use many times more power than another facility of the exact same physical size simply by using different equipment that provides much greater compute power.

The level of power used by a data center offers a more reliable proxy for the use's impact on surrounding land uses (i.e., through the potential noise or emissions impacts of generators and cooling equipment), and therefore is the recommended method for differentiating between sizes of data centers.

The proposed Micro Data Center definition allows for smaller, lower-impact facilities to have a much simpler path for review and approval than a larger, more energy-intensive data center. The 5 MW or 10,000 square foot threshold is intended to include and accommodate data centers that might be directly supportive of and accessory to a research, health care, or office use. These data centers can more easily be integrated into a variety of contexts.

The threshold between Standard and Large-Load Data Centers corresponds to the threshold for Ameren's large load tariff policies, which trigger a range of protections that help Ameren manage the uncertainties and impacts of customers for which Ameren must invest more deeply in advance planning and infrastructure.

All existing data centers would be treated as legally nonconforming uses, but expansion that falls under the definition of Facility would trigger the review process laid out in the new zoning standards.

4. **Establish a Clear Use Table** (Section 26.77.030)

The following Use Table lists how Data Centers are regulated in the various existing zoning districts. Within the table, the user can identify the type of Data Center and how the facility is regulated under each zone, thus identifying whether the use is Permitted (P), whether it requires a Conditional Use Permit (C), or whether it is prohibited (NA).

Use	A - E	F	G	H	I	J	K	L
Micro data center	NA	NA	NA	C	C	P	P	C
Standard data center	NA	NA	NA	NA	C	C	C	C
Large load data center	NA	NA	NA	NA	NA	NA	C	NA

A use table simply clarifies which types of data centers will be allowed either conditionally or by right in which districts. Additional distance requirements outlined in Section 26.77.050 would further buffer data centers from sensitive uses such as housing, schools, faith buildings, and parks. The use table above indicates that:

- *Data centers of all kinds would not be permitted in any residential district or neighborhood commercial district.*
- *Micro data centers would be permitted conditionally Downtown and in the city's most intensive mixed-use district, but permitted by right in industrial districts.*
- *Standard data centers would be permitted conditionally in the most intensive-mixed use district and in industrial districts.*
- *Large-load data centers would only be permitted conditionally in the most intensive industrial district: "K" - Unrestricted.*

For all but Micro Data Centers in industrial districts, data centers would be handled as conditional uses, allowing for site-specific consideration of compatibility, the ability to add additional conditions to improve compatibility, and additional community input at public hearings to shape conditions and decisions to approve or deny.

This use table, together with distance requirements, seeks to align the siting of data centers as closely as possible with the general goals of the Strategic Land Use Plan. (This is discussed further in the comments.) However, because the current Zoning Map and the Strategic Land Use Plan Map are not perfectly aligned, this is an imperfect method. The new districts and map developed via the Zoning Upgrade (ZOUP) are an opportunity to refine this approach.

However, it's important to recognize the likely tradeoffs between economic development and climate goals in allowing data centers, some of which cannot be resolved by zoning regulations. The City of St. Louis Sustainability & Climate Plan sets clear climate goals which will be impeded by the development of large-scale data centers. Unless and until there is a sufficient supply of renewable or clean energy to power data centers, large data centers' development will exacerbate carbon emissions from buildings in the city. And requiring 100% renewable or clean energy could mean that developers will either seek variances from such standards or pass over the city altogether, in which case our community loses out on the economic benefits of local data center development (including tax revenue, firm retention and attraction, and construction job creation). Without knowing an end user of a data center, it's difficult to judge Environmental, Social, Governance (ESG) or sustainability goals of that user. While continuing to evolve, industry trends do seem to indicate major corporations have these types of goals that would require renewable energy be provided. Staff have endeavored to identify renewable energy standards and options which can feasibly be attained within the constraints of our energy sources as a means to balance these goals, but this is an imperfect solution.

In addition, it remains uncertain what the marginal impacts would be on ratepayers of data center development at the scale likely to be proposed in the city. On the one hand, the largest proposals possible with St. Louis's available land and energy infrastructure will not approach the scale of what is proposed in suburban and rural environments, therefore requiring less new capital investment in energy generation (the primary source of costs borne by utilities under large load tariffs). (To the best of our ability, staff estimate that proposals in the City might top out at 150 megawatts with current technology; which is a significantly smaller impact than a single 500 megawatt data center campus.) On the other hand, the cumulative impact of several Large Load Data Centers could, over time, require new energy generation investments. Combined with the uncertainties surrounding the evolution of data center design, server efficiency, AI demand, and development trends in the broader utility territory, there are many unknowns about the direct impact of our city's zoning approach on ratepayers.

Whatever the approach, the City could consider complementary policies that commit some amount of revenue from data center development toward investments that reduce energy burdens, improve residents' energy resilience, and mitigate climate impacts.

5. **Define Application Requirements** (Section 26.77.040)

Applicants seeking permits for any new or expanded data center must include the following information as part of their application submission.

a. The proposed type of data center (i.e., Micro, Standard, or Large-Load)
b. Elevations and interior floor plans indicating areas dedicated to data center functions and areas planned for other uses (e.g., office, retail, research, etc.), if relevant.
c. Site plan clearly identifying the building and its square footage, the location of backup generators and cooling equipment, parking, landscaping, overhead power / transmission lines, on-site battery storage, on-site substations, and any additional Data Center Accessory Uses/Structures.
d. Megawattage of maximum power demand.
e. The facility's proposed cooling system, sources of energy, and whether the facility plans provide its own energy through any renewable sources.

Standard Data Centers and Large-Load Data Centers must also include the following information:

a. Anticipated end users of the data center, and purpose of the proposed facility, such as: data storage; cloud computing; artificial intelligence; cryptocurrency mining; or business applications.
b. Map indicating the location of any new substations or substation upgrades required for the data center, and the location of new power lines serving the proposed data center.
c. The number, size, fuel source, and testing schedule for backup generators.
d. The expected timeline for commencing construction and operation of the facility.
e. The expected noise level to be generated by the proposed facility's cooling systems and generators, and the proposed facility's planned sound attenuation and noise reduction measures to limit the emission of noise and prevent disturbances to nearby residents, based on permissible noise levels outlined in Chapter 15.51 of the City's Revised Code of Ordinances, and in 26.77.050. Expected noise levels shared should include anticipated levels of low-frequency noise.
f. Fire detection and suppression systems that will be installed at the proposed facility.
g. Whether the applicant has executed an Interconnection Study Agreement, Construction Agreement, and/or Electric Service Agreement with an electric service provider.
h. Whether the user plans to participate in any renewable energy program, Power Purchase Agreements (PPAs) or or purchase any Renewable Energy Credits (RECs).
i. Anticipated annual water use and anticipated or committed Power Usage Effectiveness (PUE) and Water Usage Effectiveness (WUE).
j. Plans to participate in the state's sales tax exemption program.
k. The number of construction jobs and permanent jobs associated with the data center.
l. How much tax revenue the community is anticipated to receive as a result of the proposed facility.

Large-Load Data Centers must also include the following information:

a. Whether and how the proposed facility building's facade, height, massing, and orientation will be designed to be compatible with adjacent properties and the surrounding area.
b. A detailed description of sources and uses.
c. Any community benefits offered by the proposed facility or its operators.

d. Plans to remove infrastructure and equipment from the site should the data center cease operation.
e. Documentation of having advertised and held at least one meeting with community members during which project information is shared. Such a meeting is to be advertised no less than 15 days prior to the meeting's date, with notification provided to all Registered Neighborhood Organizations having a geographical boundary within a one-half mile radius of the proposed data center. Such a meeting is to be held at least 30 days prior to submission of an application to the City. If the proposed data center is not located within a one-half mile radius of the geographical boundary of any Registered Neighborhood Organization, or no such list has been established pursuant to Ordinance 72030, applicants shall contact the Neighborhood Stabilization Division for neighborhood organizations representing neighborhoods or block units having a geographical boundary within a one-have mile radius of the proposed data center to which notice shall be recommended. Such notice shall be by certified mail and, if available, email. Include a summary of feedback provided during the meeting(s).

In the event that an applicant is unable to provide any of the above information, the applicant shall indicate that they are unable to provide the information and also describe the reason this information cannot be provided.

This section establishes detailed application requirements to ensure the City and the community have ample access to relevant information about the project, and enough information to inform conditional use recommendations.

This section largely replicates the question set included in Executive Order 92, but simplifies language and provides a shorter question set for smaller proposals which do not require extensive due diligence.

6. Establish Site Requirements, Design Requirements, and Standard Conditions (Section 26.77.050)

Location requirements

a. No permit shall be issued to a parcel with all of its lot lines within 300 feet of another parcel or fraction thereof containing a light rail station or transit center, zoned A, B, C, D, E, classified as residential by the Assessor's Office, or containing a faith building, school, or public park.
b. Standard Data Centers are exempt from these location requirements when rehabilitating, reconstructing, or repurposing an existing building(s) within the I or L District.
c. Micro Data Centers which fully enclose backup generators within the primary structure are exempt from these location requirements.

The suggested location requirements seek to complement the Use Table by removing sites from consideration that: 1) are too close to sensitive uses where noise and emissions could negatively impact quality of life; and/or 2) should be prioritized for uses that support transit access and use. Existing buildings Downtown are exempt from these distance requirements in order to allow repurposing of vacant office buildings. (Other standards will seek to encourage active ground floors and mixed use redevelopment of vacant and underutilized office buildings.) The distance requirements would not apply to Micro Data Centers, which are smaller and less intensive, and can be more easily integrated into areas with other uses.

In considering the location requirements, staff has attempted to balance the appropriate buffering of potential negative impacts of data centers from sensitive uses without being overly restrictive on where permitted data centers can operate within the city. 300 ft may not be the most appropriate distance requirement, but staff believe this is a good starting point for debate. Staff considered using "greenways" as an identified sensitive use, but have decided against *recommending its inclusion in the location requirements. This matches a national trend towards encouraging green and pedestrian infrastructure within and through industrial areas. These encourage the softening of districts with lots of impermeable surface and heat generation. Also, requiring a buffer from existing and planned greenways that go through traditional industrial areas that may be perfectly suited for this use (like the Riverfront Trail) may be overly restrictive.*

Reporting requirements & compliance with other laws

a. Data Centers shall:
   i. Not be issued a nuisance letter, and shall maintain compliance with the noise ordinance (Chapter 15.51 of the City's Revised Code of Ordinances), and applicable energy and water benchmarking requirements and data verification by a third party.
   ii. Not exceed a maximum noise level of 55 decibels between the hours of 7am and 10pm or a nighttime maximum noise level of 50 decibels between the hours of 10pm and 7am, as measured from the property line.
   iii. Standard Data Centers and Large Load Data Centers shall annually provide to the Health Department a third-party report of noise emissions to verify compliance with relevant standards. The first annual report shall occur within 30 days of commencement of operation. Readings should be taken at the parcel line of all joining parcels or parcels directly across a street or alley from the parcel containing the data center. The report shall include a measure of decibels (db) as well as a full spectrum analysis, which includes the range of frequencies emitted by the data center.

These standards tie occupancy permits to compliance with other existing and proposed policies that will help monitor the challenges associated with data centers, including noise and energy use. Failure to comply with these requirements could risk revocation of an occupancy permit, offering a strong tool for enforcement. (Note, all revocation procedures allow occupants the opportunity to remedy issues prior to revocation.)

- *Noise: Data centers can be quite loud. Equipment inside the structures generate a lot of noise, and external backup power generation and cooling infrastructure can emit loud incidental and continuous sounds. Mitigating the effect of these sounds on sensitive uses is paramount. Staff believe the combination of the above location requirements (300 ft from sensitive uses) and the existing noise ordinance (Ord. # 68130) should help protect sensitive uses from harmful noises. The standards further enhance the maximum noise levels. Additional reporting requirements and regular monitoring of sound emission are intended to proactively identify issues and ensure management of noise concerns is not solely reactive.*
- *Benchmarking: In an effort to improve understanding of data centers' energy sources and actual energy use (which can be substantially below energy agreement caps established with Ameren), staff are exploring the creation of an Energy Benchmarking Ordinance specific to data centers, which are currently effectively exempt from benchmarking requirements. Such an ordinance would be a separate policy from zoning, but including this as a standard condition would help reinforce a future requirement and clarify requirements.*
- *Nuisance letter: The condition that an operator not be issued a nuisance letter is a standard condition for many uses, and is suggested to be included here.*

Building & site design

a. Data Centers shall:
   i. Be operated with a Closed Loop Cooling System or other system that reduces water use.
   ii. Be designed and operated with a Cool Roof.
   iii. Fully enclose all Backup Generators within the primary structure or an exterior structure.
   iv. Enclose and/or screen all exterior and rooftop cooling equipment, and any other Data Center Accessory Uses/Structures to provide a visual and acoustic barrier from the

property line and surrounding area. Enclosures and/or screens shall be opaque to obstruct from view and reduce frequency and vibrations.

v. Provide landscaping on a minimum of 10 percent of the lot area, inclusive of a mix of evergreen and deciduous trees with a minimum caliper of 2 ½ inch at the time of planting. Trees must be maintained in a healthy condition and replaced if dead.

vi. Provide a tree lawn not less than 3 feet in width along all public streets. Street trees shall be installed in the tree lawn, between the public sidewalk and public street, when the tree lawn has sufficient width, or street trees with gates shall be installed in public sidewalks where the sidewalk has sufficient width and with a minimum of 25 feet between trees. In the K district, Data Centers may install a landscape berm as an alternative to a tree lawn.

vii. In addition, Standard and Large Load Data Centers shall achieve and maintain LEED certification or certification through a similar green building program for the life of occupancy.

Several of these standards—such as Closed Loop Cooling Systems and Cool Roofs—represent best design practices in the evolving industry. Closed Loop Cooling systems dramatically *reduce water use, and Cool Roofs can reduce thermal absorption and mitigate the urban heat island effect.*

Enclosure and screening of Backup Generators and cooling equipment will help reduce visual clutter of this necessary mechanical equipment.

The landscape standards are a slightly enhanced version of the standards applied to drive through restaurants, integrating elements of other communities' data center regulations. The intent is to establish flexible standards that: 1) mitigate the urban heat island effect; 2) ensure trees are included in the pedestrian realm; 3) integrate landscape strategies into screening, noise mitigation, and buffer zones; and 4) provide additional flexibility for developments in the "K" - Unrestricted District.

Other area & operations standards

a. Data Centers shall:
   i. Not exceed more than 50 percent of the gross ground floor area of any building with street frontage, unless in the J or K district. For the purposes of this section, a building with street frontage is any building located within 50 feet of a street right-of-way line.
   ii. Not exceed 500,000 square feet of gross floor area.
   iii. Comply with the Height and Setback limitations of the underlying zoning district.
   iv. Provide 1 off-street parking space for every 5 permanent employees.
   v. Test backup generators only between 10am and 5pm, Monday through Friday.
   vi. Not commence operation until a Willing to Serve Letter is provided.
   vii. Connect to District Energy Systems if located within 50 lineal feet of an existing line. Micro Data Centers are exempt from this requirement.

b. Standard Data Centers shall achieve a 50 percent renewable energy requirement through the utility's renewable energy program, Renewable Energy Credits (RECs) or Power Purchase Agreements (PPAs) within 5 years of commencing operation.

c. Large Load Data Centers shall achieve a 100 percent renewable energy requirement within 5 years of commencing operation. At least 75 percent of the requirement shall be satisfied through the utility's renewable energy program, Power Purchase Agreements (PPAs) or green tariffs, and no more than 25 percent of the requirement shall be satisfied through Renewable Energy Credits (RECs).

This final section addresses basic area requirements (i.e., height, setbacks, and parking), and contains scheduled testing to daytime, weekday hours when noise would be less disturbing to nearby occupants.

The ground floor requirements preserve the possibility of having active civic, office, restaurant, or retail uses in the spaces surrounding the public realm Downtown and in mixed-use districts.

A Willing to Serve letter is a formal confirmation from Ameren that the utility is able to provide power to the proposed data center. Ensuring that electric service is available is necessary to prevent the reliance on backup generators as the primary power source.

7. **Application Review Process** (Section 26.77.060)

The Zoning Administrator shall provide application materials for any Standard or Large Load Data Center to the Executive Director of the Planning & Urban Design Agency, the Commissioner of Health, the Fire Marshall, and the Office of Building Performance no less than 60 days prior to a scheduled conditional use hearing. These departments and offices may submit findings and recommendations to the Zoning Administrator within 45 days of receiving application materials.

This process is intended to give City departments with expertise on a range of issues the opportunity to weigh in on proposals so that feedback is available to inform conditional use recommendations, including recommended conditions. This mimics similar language found elsewhere in the Zoning Code.

Regulation Comparison

The table below summarizes how the preliminary framework presented above differs from the current approach (under Executive Order 92) and to the approach before any standards were in place.

	Regulations prior to EO 92	**Approach under EO 92**	**Recommended Regulations**
Definitions	Data centers regulated primarily as “warehousing”	Specific definition introduced	Specific definition Several types established
Use Table	“G-H” - Conditional “I-L” - Permitted by right	“F-L” - Conditional	Use table allowing more flexibility for smaller data centers, and restricting larger data centers to industrial districts
Application Requirements	Site plan Elevations Floorplan	Site plan Elevations Floor plan Questions asked at conditional use hearing	Specific requirements as part of up-front application
Site Reqs & Standard Conditions	Ability to add conditions to a conditional use permit	No standards Subject to project-by-project determination following conditional use hearing	Clear standards Ability to add site-specific conditions as needed

Exhibit A
Preliminary Zoning Framework in Consolidated Form

Chapter 26.77: Data Centers

Section 26.77.010 - Purpose

The purpose and intent of this Chapter 26.77, Data Centers, is to define and address the location, establishment, application requirements, and standard conditions for data centers in order to ensure the health, safety, and general welfare of the residents of the City of St. Louis. This chapter seeks to allow for responsible, predictable development of data centers and associated infrastructure, to encourage best practices, and limit negative impacts.

Section 26.77.020 - Definitions

a. **Data center** is a facility whose primary service and dedicated infrastructure is for data processing or data storage, and is used to house computer systems and associated components, such as central processing units, graphical processing units, neural networks, quantum bits, quantum processors, memory, data routing, data storage, server farm, bitcoin mining, crypto processing, virtual private networks, virtual servers, artificial intelligence training or processing, image processing, cloud computing, email servicing, a telecom hotel, telehouse co-location, or any other term applicable to facilities which are used for such purposes shall be deemed to be a data center.
b. **Micro Data Center** is a data center—whether a primary or accessory use—with square footage less than 10,000 gross square feet and maximum power demand less than 5 megawatts.
c. **Standard Data Center** is a data center—whether a primary or accessory use—with square footage of more than 10,000 gross square feet or maximum power demand of more than 5 megawatts but less than 75 megawatts.
d. **Large Load Data Center** is a data center with a maximum power demand of 75 megawatts or more. Macro data centers shall be understood as an industrial land use.
e. **Facility** shall refer to a new or expanded data center. Expanded means a structural alteration required to expand a building's footprint by (a) the addition of 25 percent or more space to the interior floor area of a structure used for data center purposes or (b) the addition of exterior generators or cooling equipment.
f. **Data Center Accessory Use/Structure** means any structure or building that supports the operation of a Data Center, is located on the same tract or assemblage of adjacent parcels and is developed either as a unified development of or in further support of a Data Center. The category includes but is not limited to administrative, logistical, fiber optic, storage, and security buildings or structures; generators; air handlers; process water and non-contact cooling water and wastewater management and treatment facilities; water holding facilities; pump stations; water towers; environmental controls (e.g., air conditioning or cooling towers, fire suppression, and related equipment), water cooling and storage facilities, security features, and any other associated electric, gas, water, wastewater, and stormwater infrastructure to support operations at the property.
g. **Maximum Power Demand** is the maximum energy draw that the facility may use—as set by an agreement with an electric service provider—measured in megawatts.
h. **Renewable Energy** means energy derived from wind, solar, geothermal, or other sources of renewable energy as defined in RSMo 393.1025(5) or any other sources certified as renewable by the Missouri Department of Natural Resources pursuant to 10 CSR 140-8.010(3).
i. **District Energy System** means the Downtown Steam Distribution System and/or the planned Chilled Water Loop.
j. **Backup Generators** means engines that are designed to be used for utility power outages to provide continuous electricity, preventing data loss, and service disruption.

k. **Cool Roof** means a roofing system designed to reflect more sunlight and emit absorbed heat through high solar reflectance and thermal emittance and through using lighter colors or special coatings that reflect invisible near-infrared light.
l. **Closed Loop Cooling System** means a system that recycles the same water or water mixture through an underground loop system in order to facilitate the transfer of energy between the closed underground loop and the earth.
m. **Transit Center** means a location where Metro operates a major hub for MetroBus and/or MetroLink stops as identified by their System Maps. Individual bus stops are not Transit Centers.

Section 26.77.030 - Use Table

The following Use Table lists how Data Centers are regulated in the various zoning districts. Within the table, the user can identify the type of Data Center and how the facility is regulated under each zone, thus identifying whether the use is Permitted (P), whether it requires a Conditional Use Permit (C), or whether it is prohibited (NA).

Use	A - E	F	G	H	I	J	K	L
Micro data center	NA	NA	NA	C	C	P	P	C
Standard data center	NA	NA	NA	NA	C	C	C	C
Large load data center	NA	NA	NA	NA	NA	NA	C	NA

Section 26.77.040 - Application Requirements

Applicants seeking permits for any new or expanded data center must include the following information as part of their application submission.

a. The proposed type of data center (i.e., Micro, Standard, or Large-Load)
b. Elevations and interior floor plans indicating areas dedicated to data center functions and areas planned for other uses (e.g., office, retail, research, etc.), if relevant.
c. Site plan clearly identifying the building and its square footage, the location of backup generators and cooling equipment, parking, landscaping, overhead power / transmission lines, on-site battery storage, on-site substations, and any additional Data Center Accessory Uses/Structures.
d. Megawattage of maximum power demand.
e. The facility's proposed cooling system, sources of energy, and whether the facility plans provide its own energy through any renewable sources.

Standard Data Centers and Large-Load Data Centers must also include the following information:

a. Anticipated end users of the data center, and purpose of the proposed facility, such as: data storage; cloud computing; artificial intelligence; cryptocurrency mining; or business applications.
b. Map indicating the location of any new substations or substation upgrades required for the data center, and the location of new power lines serving the proposed data center.
c. The number, size, fuel source, and testing schedule for backup generators.
d. The expected timeline for commencing construction and operation of the facility.
e. The expected noise level to be generated by the proposed facility's cooling systems and generators, and the proposed facility's planned sound attenuation and noise reduction measures to limit the emission of noise and prevent disturbances to nearby residents, based on permissible noise levels outlined in Chapter 15.51 of the City's Revised Code of Ordinances, and in 26.77.050. Expected noise levels shared should include anticipated levels of low-frequency noise.
f. Fire detection and suppression systems that will be installed at the proposed facility.

g. Whether the applicant has executed an Interconnection Study Agreement, Construction Agreement, and/or Electric Service Agreement with an electric service provider.
h. Whether the user plans to participate in any renewable energy program, Power Purchase Agreements (PPAs), or purchase any Renewable Energy Credits (RECs).
i. Anticipated annual water use and anticipated or committed Power Usage Effectiveness (PUE) and Water Usage Effectiveness (WUE).
j. Plans to participate in the state's sales tax exemption program.
k. The number of construction jobs and permanent jobs associated with the data center.
l. How much tax revenue the community is anticipated to receive as a result of the proposed facility.

Large-Load Data Centers must also include the following information:

a. Whether and how the proposed facility building's facade, height, massing, and orientation will be designed to be compatible with adjacent properties and the surrounding area.
b. A detailed description of sources and uses.
c. Any community benefits offered by the proposed facility or its operators.
d. Plans to remove infrastructure and equipment from the site should the data center cease operation.
e. Documentation of having advertised and held at least one meeting with community members during which project information is shared. Such a meeting is to be advertised no less than 15 days prior to the meeting's date, with notification provided to all Registered Neighborhood Organizations having a geographical boundary within a one-half mile radius of the proposed data center. Such a meeting is to be held at least 30 days prior to submission of an application to the City. If the proposed data center is not located within a one-half mile radius of the geographical boundary of any Registered Neighborhood Organization, or no such list has been established pursuant to Ordinance 72030, applicants shall contact the Neighborhood Stabilization Division for neighborhood organizations representing neighborhoods or block units having a geographical boundary within a one-have mile radius of the proposed data center to which notice shall be recommended. Such notice shall be by certified mail and, if available, email. Include a summary of feedback provided during the meeting(s).

In the event that an applicant is unable to provide any of the above information, the applicant shall indicate that they are unable to provide the information and also describe the reason this information cannot be provided.

Section 26.77.050 - Site Requirements, Design Requirements, and Standard Conditions

1. Location requirements
   a. No permit shall be issued to a parcel with all of its lot lines within 300 feet of another parcel or fraction thereof containing a light rail station or transit center, zoned A, B, C, D, E, classified as residential by the Assessor's Office, or containing a faith building, school, or public park.
   b. Standard Data Centers are exempt from these location requirements when rehabilitating, reconstructing, or repurposing an existing building(s) within the I or L District.
   c. Micro Data Centers which fully enclose backup generators within the primary structure are exempt from these location requirements.
2. Reporting requirements & compliance with other laws
   a. Data Centers shall:
      i. Not be issued a nuisance letter, and shall maintain compliance with the noise ordinance (Chapter 15.51 of the City's Revised Code of Ordinances), and applicable energy and water benchmarking requirements and data verification by a third party.
      ii. Not exceed a maximum noise level of 55 decibels between the hours of 7am and 10pm or a nighttime maximum noise level of 50 decibels between the hours of 10pm and 7am, as measured from the property line.

b. Standard Data Centers and Large Load Data Centers shall annually provide to the Health Department a third-party report of noise emissions to verify compliance with relevant standards. The first annual report shall occur within 30 days of commencement of operation. Readings should be taken at the parcel line of all joining parcels or parcels directly across a street or alley from the parcel containing the data center. The report shall include a measure of decibels as well as a full spectrum analysis, which includes the range of frequencies emitted on the parcel.

3. Building & site design
    a. Data Centers shall:
        i. Be operated with a Closed Loop Cooling System or other system that reduces water use.
        ii. Be designed and operated with a Cool Roof.
        iii. Fully enclose all Backup Generators within the primary structure or an exterior structure.
        iv. Enclose and/or screen all exterior and rooftop cooling equipment, and any other Data Center Accessory Uses/Structures to provide a visual and acoustic barrier from the property line and surrounding area. Enclosures and/or screens shall be opaque to obstruct from view and reduce frequency and vibrations.
        v. Provide landscaping on a minimum of 10 percent of the lot area, inclusive of a mix of evergreen and deciduous trees with a minimum caliper of 2 ½ inch at the time of planting. Trees must be maintained in a healthy condition and replaced if dead.
        vi. Provide a tree lawn not less than 3 feet in width along all public streets. Street trees shall be installed in the tree lawn, between the public sidewalk and public street, when the tree lawn has sufficient width, or street trees with gates shall be installed in public sidewalks where the sidewalk has sufficient width and with a minimum of 25 feet between trees. In the K district, Data Centers may install a landscape berm as an alternative to a tree lawn.
    b. In addition, Standard and Large Load Data Centers shall achieve and maintain LEED certification or certification through a similar green building program for the life of occupancy.
4. Other area & operations standards
    a. Data Centers shall:
        i. Not exceed more than 50 percent of the gross ground floor area of any building with street frontage, unless in the J or K district. For the purposes of this section, a building with street frontage is any building located within 50 feet of a street right-of-way line.
        ii. Not exceed 500,000 square feet of gross floor area.
        iii. Comply with the Height and Setback limitations of the underlying zoning district.
        iv. Provide 1 off-street parking space for every 5 permanent employees.
        v. Test backup generators only between 10am and 5pm, Monday through Friday.
        vi. Not commence operation until a Willing to Serve Letter is provided.
        vii. Connect to District Energy Systems if located within 50 lineal feet of an existing line. Micro Data Centers are exempt from this requirement.
    b. Standard Data Centers shall achieve a 50 percent renewable energy requirement through Renewable Energy Credits (RECs) or Power Purchase Agreements (PPAs) within 5 years of commencing operation.
    c. Large Load Data Centers shall achieve a 100 percent renewable energy requirement within 5 years of commencing operation. At least 75 percent of the requirement shall be satisfied through Power Purchase Agreements (PPAs) or green tariffs, and no more than 25 percent of the requirement shall be satisfied through Renewable Energy Credits (RECs).

Section 26.77.060 - Application Review Process

The Zoning Administrator shall provide application materials for any Standard or Large Load Data Center to the Executive Director of the Planning & Urban Design Agency, the Commissioner of Health, the Fire Marshall, and the Office of Building Performance no less than 60 days prior to a scheduled conditional use hearing. These departments and offices may submit findings and recommendations to the Zoning Administrator within 45 days of receiving application materials.

RETURN TO:

CLERK, CITY OF TROY
116 E. MARKET STREET
TROY, ILLINOIS 62294

CITY OF TROY

ORDINANCE NO. 2025-46

AN ORDINANCE OF THE CITY OF TROY, ILLINOIS ESTABLISHING XV LAND USE, CHAPTER 154, SECTION 154.070: DATA CENTERS OF THE CODE OF ORDINANCES

ADOPTED BY THE CITY COUNCIL OF THE CITY OF TROY

THIS 17th DAY OF NOVEMBER 2025

ORDINANCE NO. 2025-46

AN ORDINANCE OF THE CITY OF TROY, ILLINOIS ESTABLISHING XV LAND USE, CHAPTER 154, SECTION 154.070: DATA CENTERS OF THE CODE OF ORDINANCES

WHEREAS, the City of Troy, Illinois, seeks to establish clear and comprehensive regulations governing the development, operation, and design of data centers within the City; and

WHEREAS, data centers are significant infrastructure components supporting digital, cloud, and business computing needs, which require specialized zoning, design, and utility considerations; and

WHEREAS, the Planning Commission of the City of Troy has reviewed, discussed, and recommended adoption of these standards to ensure public health, safety, and welfare; and

WHEREAS, the City Council of the City of Troy, Illinois, finds it to be in the best interest of the City and its residents to adopt such regulations to promote orderly growth, environmental protection, and compatible land use.

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF TROY, MADISON COUNTY, ILLINOIS AS FOLLOWS:

Section 1: The facts and statements contained in the preamble to this Ordinance are found to be true and correct hereby adopted as part of this Ordinance.

Section 2: The Troy Municipal Code, Title XV: Land Usage, Chapter 154: Zoning Ordinance Section 154.070 Data Centers shall be added to read in their entirety, as follows:

§ 154.005 DEFINITIONS.

DATA CENTER. A data center is a physical facility that houses computer systems, servers, storage devices, and networking equipment. The facilities are designed to support the storage, processing, and distribution of large amounts of data for organizations. Data centers play a crucial role in enabling various online services and applications, including cloud computing, e-commerce, and social media.

§ 154.070 DATA CENTERS.

(A) Purpose and applicability: Data centers provide a centralized location for an organization's IT infrastructure, enabling them to manage and access their data and applications efficiently. They typically include servers, storage systems, networking equipment (like routers and switches), and power and cooling systems. Data centers are the backbone of the digital world, supporting everything from online banking and email to streaming services and social networks. Data centers can be owned and operated by a single company, shared by multiple companies (colocation), or provided as a service by specialized companies (cloud providers).

1. Special Use Permits. Data center facilities, as defined herein, require a special use permit in the respective district in which they are allowed and comply with § 154.141 Special Use Permits.
2. In determining compliance with § 154.141 Special Use Permits, the following components of the data center facility shall be evaluated based on the entirety of the circumstances affecting the particular property in the context of the existing and intended future use of the property:
    a. Impact of the proposed facility on existing or planned uses located within the vicinity of the subject property.
    b. Proposed structure in which the facility will be located.
    c. Anticipated parking demand and available private parking supply.
    d. Anticipated traffic generation in the context of adjacent roadway capacity and access to such roadways.
    e. Anticipated utility demand and confirmation by the provider that facilities are adequate.
    f. Noise study to demonstrate environmental impact on surrounding properties.
    g. Site design, including access points and internal site circulation.
    h. Proposed signage plan.
    i. Compliance with all requirements as provided in the Design guidelines section below.
    j. Other criteria determined to be necessary to assess compliance with § 154.141 Special Use Permits.

(B) Design guidelines. The following design guidelines are the basis for reviewing and approving Special Use Permits. They illustrate key elements and design strategies for planning approval, design, construction, and landscaping of the development. They are designed to ensure compatibility with surrounding areas by minimizing noise, dust, traffic, light, and other negative environmental impacts.

1. Data Centers are permitted only in the I-2 General Industry zoning district and with a special use permit under § 154.141 Special Use Permits.
    a. Lot and dimensional standards shall be as required by the zoning district except as amended herein:
        1. *Setbacks from public rights-of-way:* There shall be a 100-foot minimum setback from the principal and accessory structures adjacent to a public right-of-way
        2. *Minimum building side and rear setback:* 50 feet
        3. *Residential setbacks:* There shall be a 200-foot building setback from any district where residential dwellings are a permitted use.

b. Building design.

1. *Building Height:* Height requirements shall comply with § 154.032 of I-2 General Industrial with additional height considerations with additional setbacks as approved as a condition of the Special Use Permit.

1. *Building elevations:* All primary and accessory structures shall be constructed with complementary materials on all elevations, employing a consistent design approach, harmonious character, and matching façade colors.

2. *Accessory buildings:* Accessory or ancillary buildings, whether attached or detached, shall be constructed with similar design, materials, and construction as the nearest primary structure, if they are visible from a public street right-of-way or adjacent properties not zoned I-1 or I-2.

3. *Roof-mounted equipment:* All roof-mounted equipment shall be thoroughly screened on all four building sides with materials that are consistent and harmonious with the building's façade and character. This screening shall be provided to screen the equipment from off-site view and to buffer sound generated by such equipment. Solar energy systems need not be screened to the extent that the screening prevents or limits functionality or accessibility to direct sunlight. The City shall permit additional exceptions for equipment that is not visible to the public and demonstrates compliance with noise regulations.

c. Landscaping and screening.

1. *Landscaping in setback areas:* The first 50 feet of the minimum setback areas defined in Section (a) Lot and dimensional standards shall be landscaped with the following landscaping features. When a setback area abuts a natural amenity such as a stream, park, or other open space, the landscape plan should integrate with and respect the natural integrity of the amenity. Detention and retention ponds must be designed to be physically, functionally, and visually integrated into adjacent landscape areas.

2. *Berms:* A minimum six-foot-tall berm planted with native species shall be provided within all minimum setback areas, excluding side and rear yard setbacks that are not wide enough to accommodate such a berm. A berm shall not exceed a slope of 3:1 (i.e., for every three feet of horizontal run, the vertical height is one foot) and should be graded to appear as a curvilinear, naturalistic form.

3. *Native Woodland Restoration:* Setback areas shall be planted and restored with a combination of native trees and shrubs indigenous to the area and the property.

    a. Plant diversity: Plantings shall consist of a mixture of species native to the area, with no single species comprising more than 25% of the total plantings.

    b. Distribution: The distribution of plantings within the setback areas shall be designed and certified by a licensed landscape architect. Trees shall be planted at a density no less than one tree per 400 square feet of screening area. The Zoning Administrator may approve alternative compliance landscape plans for projects that implement low-impact development practices or seek sustainable development or green building certifications from nationally recognized organizations, such as the International Code Council, the U.S. Green Building Council, the International Living Future Institute, the U.S. Green Building Initiative, or SITES.

    c. *Protection*: All seedlings shall be protected with four-foot-high protective, biodegradable tree tubes.

    d. *Maintenance:* Newly installed plant material shall be properly maintained in the first two years after planting.

    e. *Native seeding:* Native seeding shall be planted surrounding all trees.

4. Fencing and screening.

    a. No fence may exceed 12 feet in height.

    b. Screened fencing shall include solid masonry, pre-cast, or stone walls.

    c. Security fencing shall be limited to decorative metal fencing, barbed or razor wire may not be used within setback areas.

    d. Any alternative fence design that does not adhere to § 154.047 Fences and Walls standards may be considered and approved by the Planning Commission as part of a Building, Site, and Operational Plan submittal.

5. Mechanical equipment.

    a. Mechanical equipment such as meter boxes, utility conduits, roof and wall projections such as vent and exhaust pipes, and trash containers visible to the public shall be screened using parapet walls (when on rooftops), opaque fences or walls at least four feet in height located no further than 10 feet away from the subject equipment. Solar energy systems are not included.

b. Cooling towers, generators, and similar major equipment shall be screened from public view using fences, walls, landscaping, or buildings themselves. The method of screening should be architecturally integrated with the principal building in terms of materials, colors, shape and proportions.

6. Service and loading areas.

a. Service and loading areas must comply with § 154.088 and § 154.089.

b. All service and loading areas visible to the public shall be screened using opaque fences or walls at least eight feet in height, located no further than 10 feet away from the subject area.

7. Sound walls. A masonry or decorative concrete wall no taller than 24 feet in height may be installed surrounding utility areas or for noise mitigation purposes only.

d. Sound/noise.

1. Stationary noise levels shall not exceed 60dB (daytime)/ 55dB (nighttime) adjacent to Residential Land Use nor 70dB (anytime) when adjacent to any Non-Residential Land Use.

2. If the stationary noise source emits noise containing a discrete tone, the permissible levels shall be 5dB lower than the applicable levels.

3. If the stationary noise source emits impulsive noise, the permissible levels shall be 5dB lower than the applicable levels.

4. If both a discrete tone and an impulsive noise are omitted, the permissible levels shall be 10dB lower than the applicable levels.

5. The Planning Commission may approve alternative noise mitigation measures if it is demonstrated that they are equivalent to or superior to the existing noise abatement measure stated in this section.

6. With an application for rezoning, a sound study of the proposed property shall be submitted showing existing ambient noise levels at property line prepared to industry standards.

7. At the start of data center operations, if noise levels exceed the allowable thresholds, the developer or property owner shall implement mitigation measures, including but not limited to acoustically treated enclosures for generators, cooling systems, and other operational equipment, and shall design all measures to reduce or redirect sound impacts on adjacent properties, such as directing sound upward or through other effective methods.

8. Within six (6) months of the issuance of a Certificate of Occupancy for each building, the city may obtain or require the data center operator to provide a post-construction sound study confirming continued compliance with these standards.

9. Noise levels may be adjusted based on recommendations by the City staff based on pre-construction noise studies.

e. Parking and circulation.

1. All parking and circulation shall comply with § 154.080 through 154.089.

2. Parking shall be designed to minimize conflicts between automobiles and pedestrians and create a clearly organized system of entrances, driveways, and parking lots and facilities, while still providing adequate and convenient parking spaces.

3. Parking lots and driveways shall be designed for sufficient movement to avoid conflict with vehicular traffic in the street.

4. "Gated parking" is discouraged, but if required, shall be designed to prevent traffic queuing onto a public street. All gated parking areas shall be located in the rear of the building.

5. Large parking areas shall have sidewalk connections to the building entry areas which are safe and attractive.

6. Adjacent properties should be adequately screened from parking structures and lots.

7. No parking shall be permitted on any public street or access road or at any place other than the paved parking spaces provided.

f. Lighting

1. All lighting shall comply with § 154.081 (G) Lighting and supplemented as follows:
    a. Cut-Offs and Shielding. In addition to the referenced section, property owners shall fully shield luminaires emitting more than 1,000 lumens. Those luminaires shall emit no more than 5% of their total Lumen output above 80 degrees from the nadir.
    b. Accent and Architectural Lighting. Property owners shall recess and direct all accent lighting downward onto the illuminated object or area. They may not install accent light emissions visible above any roofline, building, or other associated structure.
    c. Fixture Height. No property owner may install a freestanding fixture within 300 feet of a property line that exceeds 18 feet in height
    d. Safety and Utility Structure Lights. Strobes, emergency, safety, and utility lights are prohibited unless they are for safety; however, property owners may only utilize red strobe lighting at night.
    e. Construction Lighting. The City permits temporary lighting that property owner's shield for construction activities to prevent glare and light spillover and turn it off during non-construction hours.

(C) Submittal Requirements: Applications must include, at a minimum:

1. Completed Special Use Permit application.
2. Copy of recorded deed (s) showing ownership of the subject property.
3. Electronic copy of the legal description that is editable.
4. Plat of survey (to scale) from a professional land surveyor. Survey must include scale, north arrow and dimensions of the subject property.
5. Affidavit of owner's consent (if applicable).
6. Disclosure of beneficiaries (if applicable).
7. The application fee shall be calculated in accordance with the City's current Commercial Permit Fee Calculation schedule of .0045 x the square footage x the cost of construction per square foot.

8. The results and recommendations from the consultation with the Illinois Department of Natural Resources obtained through the Ecological Compliance Assessment Tool (EcoCAT) or a comparable successor tool

9 The results of the United States Fish and Wildlife Service's Information for Planning and Consulting environmental review or a comparable tool.

10. Evidence of consultation with the Illinois State Historic Preservation Office to assess potential impacts if any state-registered historic sites under the Illinois State Agency Historic Resources Preservation Act are present on-site or in the vicinity (if applicable).

11. Proof of compliance with noise regulations of the Illinois Pollution Control Board (if applicable).

12. Preliminary site plan identifying the following:

    a. Subject property including the property lines, setback lines, and right-of-way lines.

    b. Physical features, including but not limited to roads, floodplain (s) with baseline flood elevations (if applicable), wetland (s) (if applicable), existing and proposed building (s) (if applicable), solar panels and equipment (number, location, and spacing of solar panels/arrays). Proposed locations of underground or overhead electric lines and utility poles, landscaping, and detention fencing.

    c. Identification of proposed construction and ongoing maintenance routes from the nearest arterial road as detailed on a map.

    d. Visual screening report that includes the following:

        1. A map of homes within three hundred feet (500') of the facility.

        2. Locations and type of existing vegetation that provides screening of views of the facility.

        3. Topographic features that provide screening of the facility.

13. Interconnection service agreement or evidence of filing required interconnection service applications with the electric utility.

14. Operation and maintenance plan including measures for maintaining safe access to the installation, storm water controls, landscaping maintenance, as well as general procedures for operation and maintenance of the installation.

15. Proof of liability insurance.

16. Preliminary emergency services plan, including but not limited to the project summary, electrical schematic and means of shutting down energy systems throughout the life of the installation, and fire protection and response plan.

17. Copies of all leases for the subject property (if applicable) (the parties to and amount(s) of rent in any such lease may be redacted).

18. Executed copy of the owner/operator's Agricultural Impact Mitigation Agreement (AIMA) with the Illinois Department of Agriculture

19. Road Maintenance Agreement
    a. Shall be executed between the Developer, the City, and any affected Township or Road District prior to construction.
    b. The agreement shall outline responsibilities for maintaining, repairing, and restoring all public roadways used for equipment delivery, construction traffic, and ongoing operations associated with the project.
    c. The agreement must include provisions for: Pre-and post-construction road condition assessments, required repairs or upgrades to accommodate construction traffic, ongoing maintenance during the construction period, and financial security (such as a Letter of Credit) to guarantee roadway restoration and compliance with the terms of the agreement.

(D) Federal and State Compliance. Must demonstrate compliance with applicable federal and state safety standards, including but not limited to those administered by OSHA, NFPA, UL, and the Illinois Commerce Commission.

Section 3: Adoption.
The City of Troy hereby establishes and adopts Section 154.070, entitled “Data Centers,” of Chapter 154, Land Use, of the Code of Ordinances.

Section 4: Severability.
If any provision, clause, sentence, paragraph, or part of this ordinance or its application to any person or circumstance shall, for any reason, be adjudged by a court of competent jurisdiction to be unconstitutional or invalid, such judgment shall not affect the remainder of this ordinance.

Section 5: Effective Date.

This Ordinance shall be in full force and effect from and after its passage, approval, and publication as required by law.

PASSED by the City Council of the City of Troy, Madison County, Illinois, approved by the Mayor, and deposited in the office of the City Clerk this 17th day of November, 2025.

Aldermen Vote:

Dan Dawson	_______	Sam Italiano	_______	Ayes:	____
Tim Flint	_______	Debbie Knoll	_______	Nays:	____
Elizabeth Hellrung	_______	Heather Stirling	_______	Absent:	____
Nathan Henderson	_______	Troy Turner	_______	Abstain:	____

APPROVED:

____

DAVID NONN, Mayor
City of Troy, Illinois

(SEAL)

ATTEST:

____

KIMBERLY THOMAS, Clerk
City of Troy, Illinois

ZONING
Protecting Quality of Life

Topics to Consider

- Consider whether data centers and warehouses are appropriate in the proposed zoning districts
- Evaluate compatibility with surrounding land uses, including appropriate separation distances from certain uses
- Consider the long-term community and environmental impacts

Summary of Proposed Changes

Goal: To establish clear and objective zoning standards to address the unique operational, infrastructure, and land use impacts associated with data centers and warehouses, while protecting surrounding properties, and promoting orderly and sustainable development.

Zoning Ordinance Proposed Changes:

Definitions
- Separate definitions for data centers and warehouses

Data Center Amendments

Zoning:
- Data Center are allowed in the ORI, M-1, and M-2 as a Conditional Use which requires a public hearing.

Additional document requirements:
- As part of the Conditional Use, a Development Agreement will be required
- A Noise Modeling Report, Energy Consumption Modeling Report and Water Consumption Modeling Report will be required.

Chiller regulations:
- Prohibits evaporative chillers utilizing potable water
- Provided separation requirements to residential, education and hospital uses:
  - 1,000’ separation requirement to residential for ground-mounted chillers
  - 1,500’ separation requirement to residential for roof-mounted chillers
- Additional screening requirement
  - Requirement for sound attenuation for all ground mounted chillers
  - Requirement sound attenuation screen or parapet for all roof-mounted chillers

Generator Regulations:
- Prohibits roof-mounted generators
- Requires Tier 4 Final emission standards
- Provided separation requirements to residential, education and hospital uses:
  - 1,000’ separation requirement to residential, education and hospital uses for ground-mounted generators
- Additional screening requirement
  - Requirement for sound attenuation for all ground mounted generators

Updated performance standards:
  - Additional performance standards for data centers
  - Updated vibration standards in the ORI, M-1 and M-2 districts

Parking Requirement:
  - Requiring for “banked” parking to demonstrate that parking regulations for a typical warehouse / industrial user can be provided in the future.

ZONING
Protecting Quality of Life

Summary of Proposed Change

Zoning Code Amendments Continued

Warehouses amendments

- Changed warehouses to only be permitted as an accessory use to another permitted use in ORI Office, Research, and L Light Industrial District.
- Limited dock to one (1) dock per 40,000 square feet of building gross floor area.

Building Code Amendments

- Clarified requirements of sound and vibration studies demonstrating compliance as part of the permit review process and prior to temporary certificate of occupancy including remodeling permits.

What This Means

- Gives municipality flexibility and control while still allowing the use where appropriate.
- Ensures public input and builds transparency for these types of uses.
- Protect Quality of Life by evaluating the community and environmental impacts on a case-by-case basis
- Creates a simpler and more effective pathway to violation demonstration and thus compliance.
- Creates local accountability for data centers operating within the city limits.

ZONING
Research

Supporting Information

Zoning

Communities that data centers are permitted by right include Yorkville, West Chicago, Oakbrook, East Dundee, Minooka, Sugar Grove, Bloomington, Hobart IN

Communities that data centers require a conditional use include Naperville, Champaign, Deerfield, Loudoun County VA, Fairfax County VA, Chandler AZ

Separation Requirements

The City of Aurora is proposing separation requirements from residential uses that are equal to or more stringent than other communities existing standards.

- Yorkville — 500’ to residential uses
- Loudoun County, VA — 200’ to residential uses; 400’ to residential for 2nd stories of buildings
- Fairfax County VA — 200’ from residential uses; 300’ from residential uses to generator, chillers, & transformers

Screening Requirements

Communities that require screen walls for equipment includes Loudoun County, VA and Fairfax County, VA. Fairfax County, VA also screens substations.

Yorkville does not require screen walls but does have a 100’ Landscape buffer to non-manufacturing zoned land uses and requires a 8’ tall berm when adjacent to residential subdivisions.

Parking Requirements

Parking requirement varies among all of the communities. They range from1 space per 1000 square feet to Staff Determination. Some base it on the number of employees. In addition to parking requirement for the data center, Minooka required 1 space for each 1,500 square feet of building area as a land bank for potential future parking needs.

NOISE

Revised 2/17/2026

Protecting Quality of Life

Topics to Consider

- Data center agreements with tenants mandate 24/7 availability.
  - Constant heat generation from computer systems require continuous mechanical cooling systems.
  - Need for constant power requires emergency generation for the large power loads of these buildings.

- If unmitigated the 24/7 need for chiller usage can create a pervasive constant noise that neighbors get no relief from.

- Emergency Generator sound during grid power outages can be very loud with many simultaneously running generators needed to meet power demands.

- Emergency Generators must be exercised and tested regularly to ensure they are prepared in case of a grid outage.

- As Data Centers may delay equipment installation as their data halls fill noise generating equipment may not be installed at the time of the first issuance of certificates of occupancy. As such we will need to require sound testing in remodeling permitting processes as well.

Summary of Proposed Change

Goal: Protect Residents Quality of Life and require sensitivity to neighbors' quality of life for all non-emergency generated sounds.

Proposed Zoning Language:

- Each new data center will now have to be approved through City Council through the Conditional Use process.

- Data centers must adhere to the IL Pollution Control Board - Title 35, Subtitle H: Noise. State noise standard uses 9 octave bands and is difficult to measure. Proposing an Aurora Constant Minimum Noise Threshold as a tougher standard with easier enforcement.

- Data center facility shall comply with the Illinois Pollution Control Board's (IPCB) Environmental Regulations for Noise (Title 35 Environmental Protection Subtitle H: Noise Part, 900 and 901). Should the data center meet or exceed either of these Aurora constant noise threshold minimums dB (A) weighted noise levels at data center site property lines within 1500 ft of residential uses the data center shall be required to provide monitoring reports and a 3rd party acoustical engineer prepared scientific sound study which demonstrates compliance with all applicable sound standards within 30 days of COA request.

- Aurora Constant Minimum Noise Thresholds
  - Daytime hours 59 dB (A) weighted 7am-7pm
  - Nighttime hours 49 dB (A) weighted 7pm-7am

Sound Compliance modeling and testing requirements:

- A baseline Third Party Engineer pre-development sound study with the first petitions filed for the development.

- Third Party Engineered Sound modeling and required as part of any zoning entitlement.

- Third Party Engineered Sound study shall demonstrate compliance and comparison to baseline pre project sound study required prior to any temporary or permanent certificate of occupancy request.

- Third Party Engineered Sound study shall demonstrate compliance and comparison to baseline pre project sound study required as part of any subsequent remodeling permit which adds sound producing equipment prior to any temporary or permanent certificate of occupancy request.

- On-Demand Constant Sound Monitoring results and if requested a Third Party Engineered Sound study shall demonstrate compliance and comparison to baseline pre-project sound study required within 30 Days of city request for exceeding the Aurora Constant Minimum Noise Threshold.

- Facilities must provide 24/7 monitoring equipment and meet ongoing performance standards and provide on-demand and annual compliance reporting to the City.

- Data Centers shall additionally be required to "Bank" parking (undeveloped during the data center use) that would have been required for a manufacturing use. This will help maintain more land on the data center site for screening and sound buffering.

NOISE

Revised 2/17/2026

Protecting Quality of Life

Summary of Proposed Change

Chiller and Cooling Equipment (chillers, fans & compressors)

- Separation to residential uses:
  - If roof mounted 1,500 feet min from screening to closest residential, education and hospital use lot lines.
  - If ground mounted 1,000 feet min from screening to closest residential, education and hospital use lot lines.

- Required to be surrounded by full height attenuation screening

Emergency Generators

- Separation to residential, education and hospital use lot lines:
  - 1,000 feet min from screening to closest residential, education and hospital use lot lines.

- Prohibited on rooftops

- Required to be surrounded by full height attenuation screening

- Testing and Exercising activities are limited to 9am to 5pm Weekdays and not on holidays, with no more than 2 generators operating simultaneously.

Proposed Building Code Language:

- 107.2.1.2 Data Center Engineered Modeling details is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the proposed permit details for a data center has been modeled for sound and vibration. The accompanied reports shall demonstrate compliance with all local, State and Federal regulations.

- 107.3.4.2 Data Center Testing Deferred Submittals is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the constructed data center has been tested for sound and vibration. The accompanied testing reports shall demonstrate compliance with all local, State and Federal regulations prior to requests for temporary or full certificates of occupancy where sound and vibration generating equipment are being added

What This Means

- Sets one of the most stringent separation and noise compliance standards in the country.

- Requires constant monitoring of sound exceedances and sharing of records on request.

- Requires sound studies demonstrating compliance and mitigation plans and timelines upon sound exceedances

- Creates a simpler and more effective pathway to violation demonstration and thus compliance.

- Protects the regional aquifers and encourages modern, low-energy cooling and building systems

Supporting Information

- Separation Distance to Residential
  - Loudoun Co VA & Fairfax Co VA 200 feet
  - Yorkville IL 500 data center structure to R lot

- Noise Standards and Studies
  - OakBrook IL 55-70 dBA, Hobart IN 65 dBA,
  - At the Residential Lot Noise Standards (Expect a 6dB reduction for every 50 ft of distance)
    - Loudoun Co VA 55dBA, Yorkville IL 50dBA day& 60dBA night

- Generator Testing Hours
  - 9am-5pm Chandler AZ
  - 5am-7pm May to Sept & 11am-5pm Oct to Apr Loudoun Co VA
  - 11am-5pm Yorkville IL

VIBRATION Revised 2/17/2026

Protecting Quality of Life

Topics to Consider

- Data center agreements with tenants mandate 24/7 availability.
  - Need for constant power requires emergency generation for the large power loads of these buildings

- Emergency Generator vibrations during grid power outages can create vibrations in neighboring properties with many simultaneously running generators required to meet power demands

- Emergency Generators must be exercised and tested regularly to ensure they are prepared in case of a grid outage.

- As Data Centers may delay equipment installation as their data halls fill noise generating equipment may not be installed at the time of the first issuance of certificates of occupancy. As such we will need to require sound testing in remodeling permitting processes as well.

Summary of Proposed Change

Goal: Protect Residents Quality of Life and require sensitivity to neighbors' quality of life for all non-emergency generated vibrations.

Proposed Zoning Language:

- Each new data center will now have to be approved through City Council through the Conditional Use process.

- Data centers must adhere to the revised Aurora bulk restriction performance standards for vibration. Where max permitted displacement in inches = K/frequency in cycles per second.

- Constant vibration monitoring shall be required every 500' of property line within 1,000 feet of residential uses.

- Vibration Isolation mounts are required

- Should the data center exceed the Aurora vibration performance standards at data center site property lines within 1,000 ft of residential uses, the data center shall be required to provide monitoring reports and a 3rd party engineer prepared scientific vibration study which demonstrates compliance with all applicable vibration standards within 30 days of COA request.

Table 1
K Value to be Used in Measuring Vibrations

In any Neighboring Lot	K
Steady State	0.008
Impulsive	0.015
Less that 8 pulse per 24-hour period	0.037
In any Residential District	
Steady State	0.003
Impulsive	0.006
Less that 8 pulse per 24-hour period	0.015

Vibration Compliance modeling and testing requirements:

- Third Party Engineered Vibration modeling and required as part of any zoning entitlement.

- Third Party Engineered Vibration study shall demonstrate compliance prior to any temporary or permanent certificate of occupancy request.

- Third Party Engineered Vibration study shall demonstrate compliance as part of any subsequent remodeling permit which adds generator equipment prior to any temporary or permanent certificate of occupancy request.

- Constant Vibration Monitoring results upon request and Third Party Vibration study demonstrating compliance required within 30 Days of city request.

- Facilities must provide 24/7 monitoring equipment and meet ongoing performance standards and provide on-demand and annual compliance reporting to the City.

- Data Centers shall additionally be required to "Bank" parking (undeveloped during the data center use) that would have been required for a manufacturing use. This will help maintain more land on the data center site for vibration buffering.

VIBRATION Revised 2/17/2026

Protecting Quality of Life

Summary of Proposed Change

Emergency Generators

- Separation to residential, education and hospital use lot lines:
  - 1,000 feet min from screening to closes residential lot line

- Testing and Exercising activities are limited to 9am to 5pm Weekdays and not on holidays, with no more than 2 generators operating simultaneously.

Proposed Building Code Language:

- 107.2.1.2 Data Center Engineered Modeling details is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the proposed permit details for a data center has been modeled for sound and vibration. The accompanied reports shall demonstrate compliance with all local, State and Federal regulations.

- 107.3.4.2 Data Center Testing Deferred Submittals is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the constructed data center has been tested for sound and vibration. The accompanied testing reports shall demonstrate compliance with all local, State and Federal regulations prior to requests for temporary or full certificates of occupancy where sound and vibration generating equipment are being added

What This Means

- Mimics the most stringent vibration standards in the country, adding both separation minimums and vibration maximums.
- Limits Generator exercising to a daytime timeframe and limits simultaneous generator testing.
- Requires constant monitoring of vibration exceedances and sharing of records upon request.
- Requires vibration studies demonstrating compliance and mitigation plans and timelines upon vibration exceedances
- Creates a simpler and more effective pathway to violation demonstration and thus compliance.

Supporting Information

- Separation Standards to Residential
  - Match setbacks from Elk Grove IL

- Vibration Standards
  - Match Residential Vibration standards for Loudoun Co. VA, Killdeer IL, Lee County IL
  - Allows less Vibration than Oakbrook IL, Lake Villa IL, East Dundee IL

- Generator Testing Hours
  - 9am-5pm Chandler AZ
  - 5am-7pm May to Sept 11am-5pm Oct to Apr Loudoun Co VA
  - 11am-5pm Yorkville IL

ENERGY
Protecting Quality of Life

Topics to Consider

- Data centers use enormous amounts of **electricity** – A single large data center can use as much power as tens of thousands of homes.
- Grid strain raises costs for everyone – High, concentrated electricity demand can increase infrastructure costs and contribute to **higher utility rates** for residents and businesses.
- Climate impacts – If powered by fossil fuels, data centers significantly increase **greenhouse gas (GHG) emissions**, conflicting with local and state climate goals.
- **24/7 energy demand** – Unlike most buildings, data centers operate continuously, increasing baseline electricity demand even during peak grid stress events.

Summary of Proposed Changes

Goal: Limit excessive energy use and require highly efficient operations.

⇨ Each new data center will have to be approved through City Council through the **Conditional Use** process.

⇨ Each new data center will adhere to the most energy-efficient building code published and must be designed to and meet **high energy-efficiency** standards:

"Data center facilities shall maintain a maximum Power Usage Effectiveness (PUE) of 1.2."

⇨ Developers must submit an **Energy Consumption Modeling Report** by a third-party engineer to demonstrate compliance. Existing facilities must meet ongoing performance standards by 2028 and provide **annual compliance reporting** to the City via a public website.

⇨ **Required on-site solar** to cover 25% of peak demand OR **on-site battery storage** to cover 50% of peak capacity for 15 minutes, with prioritized distribution to local neighborhoods first in the event of high-peak events.

⇨ Decommissioned equipment must be removed to avoid **long-term** environmental & visual blight.

⇨ The City of Aurora is supportive of state, regional, or federal requirements that make data centers pay their fair share for utility infrastructure use and upgrades.

What This Means

- Sets one of the most **stringent energy-efficiency standards for data centers** in the country.
- Prevents local inefficient data centers from driving up electricity demand.
- Encourages modern, low-energy cooling and building systems.
- **Protects residents** from **long-term** utility rate impacts and climate change impacts.

WATER

Protecting Quality of Life

Topics to Consider

- High water consumption — Some data centers consume **millions of gallons of water per year** for cooling.
- Water use can **compete with drinking water needs**, especially during droughts or heat waves.
- **Evaporate cooling** can degrade water quality due to chemical treatment and discharge. There are also concerns with where & how **closed-loop systems** supply and discharge their cooling liquids when they periodically recharge.
- Hidden impacts — Residents may not realize that **digital services rely on local water systems**.
- Despite many data centers recently moving away from high-consumption water cooling, **it's still important for the City to set parameters and ensure local water quality and resources are protected regardless of cooling method**.

Summary of Proposed Changes

Goal: Reduce potable water use and protect water quality.

Proposed Changes:

⇨ **No** potable-water evaporative chillers:

"Evaporative chillers utilizing potable water are prohibited."

⇨ Strict water efficiency standard:

"Data center facilities shall maintain a maximum Water Usage Effectiveness (WUE) of 0.2."

⇨ **Third-party Water Consumption Modeling Report** required prior to approval.

⇨ Removal of obsolete cooling equipment when data centers close or change use.

⇨ Facilities must meet ongoing performance standards and provide annual compliance reporting to the City via a public website.

⇨ Developers must agree to high fines for non-compliance.

What This Means

- Prevents data centers from competing with residents for drinking water, and prevents the City and residents from paying for large water use treatment.
- Pushes operators toward air-cooled or recycled-water systems.
- Protects local water quality and reduces chemical runoff risks.
- Makes water use transparent to the City and public.
- Sets performance standards and enforcement methods.

EMISSIONS

Protecting Quality of Life

Topics to Consider

- **Routine generator testing** causes pollution even when there is no outage.
- **Backup diesel generators** emit harmful pollutants including:
  - Nitrogen oxides (NOx)
  - Fine particulate matter (PM2.5)
  - Toxic air contaminants
  - Other greenhouse gases
- Health impacts can include **asthma, heart disease & increased respiratory risk for children and seniors**.

Summary of Proposed Changes

Goal: Protect Residents Quality of Life and require sensitivity to neighbors' quality of life for all non-emergency generated sounds.

⇨ No roof-mounted generators.

⇨ **Minimum: Tier-4 Final emissions standards** required (cleanest diesel engines available). This is a new state requirement that Aurora will be steadfastly enforcing.

⇨ Limits on testing hours and number of generators **running at once**:

"Testing only between 9am-5pm, weekdays only, no holidays, max 2 generators at a time."

⇨ 1,000-foot **emergency generator buffer** from residential properties, schools, or hospitals.

⇨ Public **annual reporting** of emissions compliance and exceedances via website.

⇨ Developers must agree to **high fines** for non-compliance via a development agreement

⇨ Data Centers must submit plans to become net-zero greenhouse gas (GHG) emissions by 2050.

What This Means

- **Reduces** harmful air pollution in nearby neighborhoods.
- **Limits** health impacts from emergency generators.
- **Prevents** late-night generator testing.
- **Improves** accountability and transparency.
- **Reduces** greenhouse gas emissions.

PRIVACY

Protecting Your Personal Biometric Information

What is BIPA?

BIPA is the **Biometric Information Privacy Act,** a law Illinois passed in **2008** to protect people's biometric data — things like fingerprints, face scans, iris scans, voiceprints, and similar biological identifiers — from being collected, stored, or used without clear consent.

Illinois lawmakers recognized that biometric data is uniquely tied to YOU and cannot be changed like a password if it's misused. Early biometric technology was rolling out in places like grocery stores and gas stations, raising concerns about privacy and long-term misuse.

Key BIPA protections:
Companies must tell you in writing if they collect your biometric data.
They must clearly explain why they're collecting it and how long they'll keep it.
They must get your written consent before collecting or storing it.
BIPA prohibits companies from selling or profiting from your biometric information.
If a company violates the law, YOU have the right to sue and seek statutory damages without proving actual harm.

For Consideration

⇨ Biometric data is deeply personal, including face scans, fingerprints, voiceprints, iris scans, and other identifiers tied directly to your body. It follows you for life and cannot be changed like a password.

⇨ Data centers store and process massive amounts of sensitive data, including biometric and AI training data used by companies and governments.

⇨ Illinois has one of the strongest biometric privacy laws in the country, requiring consent, limiting retention, and allowing individuals to enforce their rights.

⇨ Data centers want to repeal or weaken BIPA, claiming it makes it difficult for data centers to develop and operate here.

⇨ If BIPA were repealed or weakened
. Residents could lose control over how their biometric data is collected, stored, sold, or used.
. Companies could face fewer obligations to secure or delete biometric information.
. Individuals could lose the ability to seek remedies if their data is misused or breached.

Proposed Changes

Goal: Protect Aurora citizens' biometric data.

The City is proposing privacy-protecting language in case BIPA is repealed or weakened.

What This Means

. Keeps Aurora residents protected even if state law changes
. Creates local accountability for data centers operating within City limits
. Signals that privacy and AI governance are community values, not just technical issues

Research and Supporting Info

Energy

Illinois

- To qualify for state incentives, large Data Centers must be **either carbon-neutral or meet green building standards.**
- The City of Chicago, City of Evanston, and Village of Oak Park require large commercial buildings (over 50,000 ft^2, 20,000 ft^2, and 10,000 ft^2 respectfully) to report **energy consumption annually**. Evanston is in the process of setting performance targets for buildings as well.

Data Center Power Use Effectiveness (PUE) Averages

- The average PUE of data centers is 1.56; a PUE of 1 would mean the data center's energy consumption is equivalent to only the IT equipment; a target of 1.2 is a common goal of data centers that prioritize energy-efficiency.

Google/Microsoft

- Leading operators now design new data centers to hit low PUE targets and pair them with clean energy procurement. International companies may already need to meet stringent climate standards.

Water

Illinois

- Data centers must meet green building standards, which often include water conservation practices, in order to qualify for state incentives.
- The City of Chicago, City of Evanston, and Village of Oak Park require large commercial buildings (over 50,000 ft^2, 20,000 ft^2, and 10,000 ft^2 respectfully) to report water consumption annually.
- A data center under development in Minooka, IL initially proposed using 3 million gallons of water a day. They changed the design to a closed-loop cooling system that uses far less water.

Arizona

- Local governments raised concerns about data centers competing with drinking water during drought conditions.
- Some jurisdictions in the Phoenix Metro now require water modeling before approving new data centers.

Google

- Publicly committed to becoming "water positive" by replenishing more water than its data centers consume.

Air Quality

Illinois & California

- The IL Climate & Reliable Grid Act (CRGA) and California Air Resources Board (CARB) require Tier-4 Final diesel engines for many stationary sources.

Northern Virginia

- Residents have raised concerns about air quality from generator testing at data centers.

New York City

- Requires permits and emissions controls for backup generators at large facilities.

Data Center Industry Trend

- Growing shift toward battery storage and alternative backup systems to reduce diesel reliance.