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IOWA DATA CENTER DECISION TOOL FOR COUNTIES, CITIES, COMMUNITIES

The Iowa Data Center Decision Tool provides municipal, county, and community leaders with a framework of questions to consider when evaluating whether to encourage data center development within their jurisdictions. The Decision Tool is intended to support informed decision-making by identifying issues that local governments may wish to assess before engaging with data center developers or considering policies related to data center siting and development.

Introduction: Iowa as the Next Data Center Frontier

Iowa is one of the most attractive locations for data centers in the country due to its flat and affordable land, relatively low energy costs, limited historical drought, and lower construction and labor costs. Large energy and water utilities already serve substantial data center demands, signaling a welcoming environment for expanding or building new data centers.

For some Iowa communities, data centers represent an opportunity to diversify the local tax base, create construction and skilled technical jobs, and attract related business investment. Communities may also view data centers as supporting economic development goals by using available land, expanding digital infrastructure, and generating long-term property tax revenue. Communities may also worry about power imbalances and access to resources between different sized localities. Officials and residents may not have the tools they need to ensure a safe, responsible approach to deciding whether to invite a data center into their community, county, or city.

The questions in this Decision Tool address infrastructure, water and energy use, economic impacts, land use, and community priorities. By considering these questions, city and county officials and residents can better understand the potential impacts of data center development and make informed decisions that align with community needs, goals, and values.

Iowa Data Center Decision Tool: Trusted Iowa Voices

Content in the Iowa Data Center Decision Tool is informed by trusted, *Iowa-based* experts from cities, counties, drinking water utilities, and University of Iowa academic experts.

Officials and community leaders are encouraged to prepare for possible discussions with developers and community members by reviewing the questions on the following pages and understanding what actions they may want to consider depending on the responses. Responses to the following questions may point communities toward zoning amendments, site plan conditions, utility service agreements, road use agreements, state permits, third-party technical review, or perhaps a temporary moratorium on data center development until facts are gathered.

Community Considerations

Residents in communities considering data center development express concerns about limited transparency, insufficient access to information or opportunities to express opinions, environmental impacts, and a lack of trust in negotiations. Thoughtfully engaging residents and businesses is important, and providing the public with factual information will help with understanding. A city or county data center webpage can be a helpful community resource. Engaging residents through public meetings, informational sessions, surveys, and other opportunities for input can help local leaders understand community perspectives and determine whether a data center is a good fit for the jurisdiction.

- When and how do you plan to engage with residents to assess their perspectives about data center development in the jurisdiction?
- How will community perspectives be assessed and weighed (e.g., what if surveys and public comment indicate most residents do not favor development)?
- Could any public infrastructure or utility upgrades, special rates, discounted service, TIF, tax abatement, or other incentives offered to the developer/applicant shift costs or risk to existing residents, businesses, or taxing entities?

If already engaging with a developer:

- Has the community established a proposed public-facing project timeline showing key meetings, required approvals, and when residents will have meaningful opportunities to review information before any final vote?
- In agreements, is confidentiality narrowly tailored, time-limited, ensures responses to requests in a timely fashion, and structured so that the public receives meaningful information before elected officials make final land use, utility, or incentive decisions?
- Has the developer shared projections about impacts to residential water and energy rates?

Planning and Zoning

Land use authority varies, but counties typically regulate only unincorporated areas while cities control annexed land. Most local governments are understandably not fully prepared to regulate data center infrastructure, given the fast pace at which development is being proposed. Officials may choose to tap the brakes on data center development until such time as necessary modifications are made to ordinances. Thoughtful planning is key to public trust, as well as deciding *whether* a data center is a good idea for the city or county.

- Are appropriate zoning ordinances in place that address data centers (e.g., definition/category, noise, lighting, size, energy generation, waste heat, waste and materials)?
- Do current ordinances treat multiple buildings/phases under common control as one campus? Are thresholds based on building size, megawatts, water demand, backup generation, or other measurable impacts?
- Are special permits for data centers appropriate or already in place?
- Have objective, use-specific standards (i.e. caps on sound at the property line) been considered?
- Are measurable performance standards embedded in code, such as dBA (a weighted scale for judging loudness that corresponds to the hearing threshold of the human ear) and low-frequency/dBC (a way of measuring sound that captures low-frequencies that humans can't hear and dBA sound measurement doesn't register), noise limits, lighting standards, setbacks from sensitive receptors, emergency access, hazardous materials, stormwater, construction hours, and periodic post-construction testing/reporting?

- Does the code or ordinance require review of off-site power infrastructure or supporting utility (gas pipeline and/or high voltage transmission) upgrades that will affect environmental impact, and long-term capacity?
- Have impacts to adjacent properties and households been considered?

Water Resources

Some data centers use systems that are designed to be much less dependent on water (e.g., closed loop systems) than other systems. While closed loop systems are more predictable, it still may be difficult to forecast water demand for data centers. Namely, water utilities are required to provide large influxes of water but are not always given projections for when and how consistently this demand is required. A mismatch between projected peak demand and actual usage patterns creates a financial and planning burden, particularly on water utilities.

- What is the source of water for the data center?
- What amount of water will the data center need each day and each year (average day, maximum day, annual total, peak hours, and consumptive use versus water returned as wastewater or discharge)?
- What is the cooling strategy?
- What will the water be used for (drinking, industrial, non-potable)?
- How will water usage be reported?
- Would infrastructure be able to handle extra wastewater flow and the potential surge in flow to the system?
- Have water recycling processes been considered?
- What is the estimated start date of operation?
- Have seasonal or drought conditions been considered to eliminate shortages for residents as well as the data center?
- Would a higher water capacity be required for fire protection, which would require larger water infrastructure to the site (considering potential water utility impacts should they need to implement fire flow rates)?

If already engaging with a developer:

- Has a third-party regional water study or projection been undertaken that evaluates drought/low-flow conditions, competing users, utility capacity, and whether the proposed demand would affect service reliability for existing customers (ideally paid for by the developer/applicant)?
- Does a utility service agreement include conservation, curtailment, monitoring, reporting, and emergency/drought response provision?
- Is the Iowa Department of Natural Resources involved in permitting, given the large volumes of water/wastewater?
- What is the water/wastewater ramp-up schedule (usually beginning with lower demand during construction and ramping up each time a building is brought online)?

Energy Resources: Use and Governance

Communities may have questions about the high level of energy use by data center operations, which may result in competition for limited energy resources. Potential competition raises issues of grid strain and increased rates for existing customers. Grid resiliency in the face of natural disasters or extreme weather events, such as historic flooding, may also be a concern.

- What are the sources of power available to the data center?
- What amount of energy might the data center require, including megawatts at peak load?
- How will energy usage be reported?
- Will the data center use backup generation, temporary generation, on-site generation, or battery energy storage?
- Has renewable energy procurement been considered?
- What ordinances are in place that will oversee air quality emissions and noise associated with power sources?
- Will the local distribution utility conduct a rate assessment/impact study?

If already engaging with a developer:

- How many megawatts are needed, as well as transmission, substation, generation, battery or backup infrastructure and is the developer expecting to pay for those upgrades (which could affect costs or risks to other customers)?
- What is the ramp-up schedule (e.g., phased by building/campus phase, whether transmission/substation upgrades are needed)?
- How flexible or inflexible will the data center's power demand be?
- Can the data center waste heat be reused?
- Has a third-party energy study been considered (ideally paid for by the developer or applicant)?

Incentives and Economic Development

Communities may worry about power imbalances and access to resources between different sized localities, and the need to ensure that all communities have the tools they need to fairly negotiate with data center companies and developers. Coordinating regionally and setting clear expectations upfront for developers can result in communities having more influence than they sometimes realize.

- Have elected officials conducted *net* fiscal impact and economic analyses and made the decision to entice a data center to the community?
- What state and local tax exemptions or incentives apply?
- What taxing entities are affected?
- What public costs and benefits are expected?
- Are there claw backs if investment, jobs, or community benefits do not materialize?
- Is there a fund in place for decommissioning the data center at the end of its lifetime?
- Have officials considered a statewide or region-wide approach to incentives to improve outcomes for Iowa communities, residents, as well as industry?

If already engaging with a developer:

- Has a third-party (or internally conducted) economic impact assessment been undertaken that includes job creation versus tax abatements and sales tax exemptions, public infrastructure investments, unique revenue streams, and long-term labor, fiscal, and ecosystem impacts (ideally paid for by the developer or applicant)?
- Does the Development Agreement contain milestones and enforcement clauses, such as assignment/successor language (agreements should remain enforceable if the project is sold, transferred, delayed, partially built, or operated by a different entity than the original applicant/developer) or incentives tied to reporting requirements such as water use, energy consumption, etc.?

- Does the Development Agreement contain provisions tailored to the community (e.g., workforce training, broadband expansion, green-infrastructure projects, investment in local infrastructure, housing, or betterment funds to help the community as a whole)?

Waste Management

More than 70% of materials entering Iowa landfills could potentially be diverted, and nearly one in three Iowa landfills report fewer than 30 years of remaining permitted capacity. In light of those facts, understanding the waste generated by data centers—both during construction and throughout their operation—is an important part of evaluating potential community impacts. Communities can consider opportunities to recover materials, since a large share of construction waste can be recycled or reused rather than landfilled, and conserve limited landfill airspace for materials that have no other viable option.

- What recyclable and reusable materials are likely to be generated during construction, and what local markets are available for materials such as cardboard, wood, pallets, and metals?
- What capacity is available in the community's waste-planning area, including local landfills and transfer stations, to accommodate construction and operational waste?
- Are there local material bans, disposal requirements, or surcharges that could affect the cost of managing data center waste?
- What waste-diversion requirements, if any, should the community establish for contractors before construction begins?
- How will the community ensure that waste-diversion practices are planned and implemented early, rather than after construction is underway?
- What resources are available to help identify markets for recyclable and reusable materials and develop a waste-diversion plan?
- How can the project preserve limited landfill airspace by diverting materials that can be recycled or reused and reserving landfill capacity for materials with no other disposal option?
- How will any waste-management requirements or diversion commitments be monitored and enforced?

Thinking Ahead to the Construction Phase: During Discussions with Developers

Construction of data centers results in a large amount of activity over a lengthy period and can catch residents and community leaders by surprise unless municipalities and developers plan for disruptions during the planning and permitting phase. Communities may consider requiring a construction management plan that addresses haul routes, worker parking, laydown/staging areas, temporary power or water, dust, lighting, noise, hours of operation, complaints, and emergency access.

- What will water usage be during construction (see also "Water Resources" section)?
- Has a plan been developed or ordinance created, as well as necessary permitting obtained, for disposal of construction waste?
- Has a road use agreement been discussed or prepared, including pre-construction road condition documentation (preferably a report by a third-party, certified engineer), designated haul routes, bonding or financial assurance, repair standards, dust control measures, and post-construction restoration responsibilities?
- What noise impacts are expected during construction (e.g., What mitigation measures have been proposed? What levels are expected and when? How will potential or perceived offsite impacts to neighborhoods, schools, livestock, and wildlife be addressed?)

- What lighting impacts are expected during construction (and post-construction)?
- What is the projected length of time for construction; how many phases; how many buildings; and what size (e.g., communities may consider asking for full-buildout assumptions, phase triggers, and whether later phases require additional review if water, energy, noise, traffic, or utility impacts change)?
- Has a plan been discussed or prepared for a construction staging area?
- What considerations have been outlined to manage disruption from construction traffic (e.g., bus routes, routes for construction workers) not only for the community hosting the data center but those adjacent or likely affected by traffic?
- Is there ample housing for construction workers?

Communities have different assets, infrastructure systems, development patterns, growth goals, and resident priorities. A project that aligns well with one community's vision may not be the right fit for another. Informed, local decision-making is key.

Thank You to Our Contributors

Many Iowa cities, counties, and communities have firsthand experience evaluating, constructing, and hosting data centers and generously share their insights to help inform local decision-making across the state.

The Hubbell Environmental Law Initiative at the University of Iowa College of Law, in partnership with the University of Iowa Tippie College of Business Social Impact Community, extends sincere appreciation to the Iowa stakeholders who contributed their time, expertise, and experiences to the development of this Decision Tool.

Contributors to this Decision Tool include: Iowa State Association of Counties; Iowa League of Cities; City of Cedar Rapids Water Utility; City of Altoona; City of Norwalk; Clean Energy Districts of Iowa; Johnson County Planning, Development and Sustainability Department; Linn County Planning and Development; Civil and Environmental Engineering, College of Engineering, University of Iowa; University of Iowa Initiative for Sustainable Communities; University of Iowa Office of Community Engagement.

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