

DATA CENTER DEVELOPMENT

TOOLBOX

PREPARING FOR DATA CENTER DEVELOPMENT IN YOUR COMMUNITY

Through the expanding use of digital processing and artificial intelligence (AI), the demand for computing power is increasingly being met through the development of large-scale data center complexes. The American Public Works Association (APWA) Technology Committee has prepared this toolbox to support public works professionals who may be involved when a data center is proposed in their community, particularly those encountering these developments for the first time or contributing to early-stage discussions.

As data centers grow in size and complexity, public works staff are being asked to provide input, advise decision-makers, support public outreach, and coordinate across departments, sometimes with limited project information.

This resource offers an introductory set of talking points and questions to help public works professionals build a baseline understanding, identify key considerations, and engage more confidently in internal and community conversations related to data center development.

This work is occurring alongside shifts in federal policy, including a January 2025 Presidential action revoking previous AI policies and directives: [Removing Barriers to American Leadership in Artificial Intelligence](#).

PUBLIC INFORMATION AND OUTREACH

When approached about data center development, landowners and public agencies are frequently asked to sign nondisclosure agreements (NDAs). NDAs are legal contracts that establish confidentiality regarding public discussions of sensitive project information. Some land brokers working on data center development include NDAs to protect information being released as the data center market continues to be competitive, while also drawing more public concern about these developments.

In communities where data center developments have been proposed, the public is demanding information, leading to public agencies hosting a series of Town Hall meetings. Ahead of meetings, project information is shared with the public. During the Town Hall session, representatives of the development team present general information about the data centers and specific information about the project. Residents are usually given the opportunity to submit questions or comments either ahead of or during the meeting.

DEVELOPMENT RIGHTS

Planning and zoning codes drive land-use development requirements in cities and counties. Some community elected officials are taking action to end by-right development, so specific project information is revealed and discussed ahead of voting.

By-right refers to development that strictly conforms to land-use zoning codes and does not require obtaining specific approvals or variances. Some communities are moving toward adopting zoning code amendments requiring a different process for data centers, such as Overlay Zoning, Specific Plan, Conditional Use, Special Exception, or Variance approvals.

PUBLIC WORKS ROLE IN DATA CENTER DISCUSSIONS

1

DATA CENTER
PROPOSED

BUILD A BASELINE
UNDERSTANDING

2

3

IDENTIFY KEY
CONSIDERATIONS

ENGAGE IN INTERNAL
DISCUSSIONS

4

5

SUPPORT PUBLIC
OUTREACH

COORDINATE ACROSS
DEPARTMENTS

6

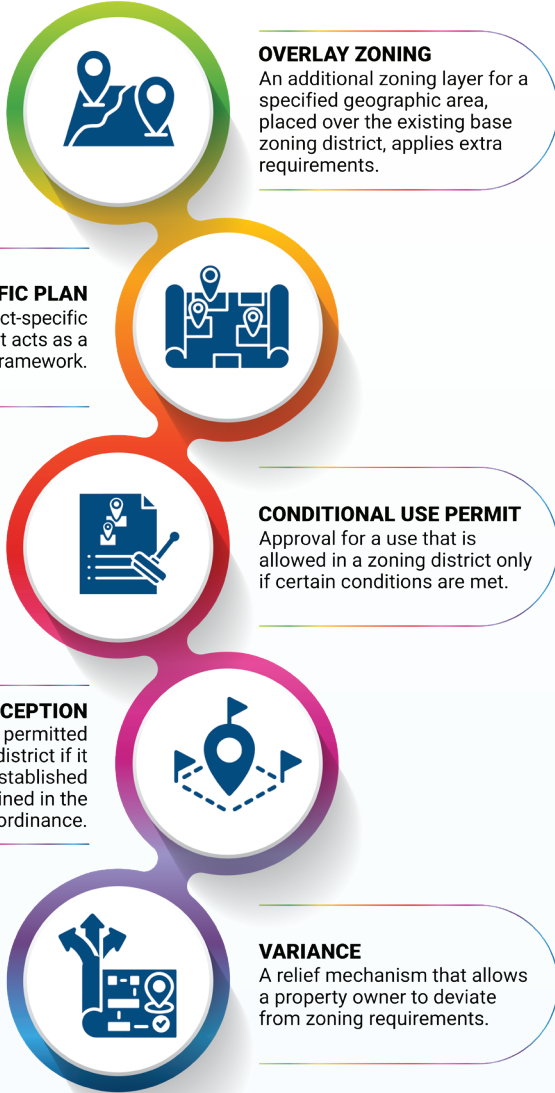
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HELP INFORM
COMMUNITY
DECISIONS

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ALTERNATIVES TO BY-RIGHT DEVELOPMENT

As communities evaluate requirements for data center complexes, there may also be opportunities to reconsider and strengthen broader planning, zoning, infrastructure, and community impact considerations as part of the review process.



PROPOSED DATA CENTER DEVELOPMENT CONSIDERATIONS:

Scale of the Proposed Development

The land footprint of data center complexes varies in size but will likely be larger than other developments in the community. When approached, communities should ask questions about the proposed development such as:

- Site location
- Number and size of buildings
- Parking requirements
- Workforce needs for construction, operation, and maintenance
- Stormwater management
- Environmental compliance
- Electric demand and source
- Water source and usage
- Utility extensions to serve the complex
- Utility/fiber extensions from the complex
- Development construction timeframe and whether it will be phased over time

PARKING AND IMPERVIOUS AREA

Zoning codes have parking requirements based on proposed development use. Often, these codes have not been updated to reflect uses such as data centers where the number of permanent onsite employees is very low compared to the building footprint. Communities may consider updating the required parking code for data centers to minimize impervious areas based on the low number of workforces once open for operations. When making this parking decision, however, the community should consider future redevelopment of the site if the data center closes. If the code is written such that redevelopment needs to meet current parking code requirements, this is less of a concern.

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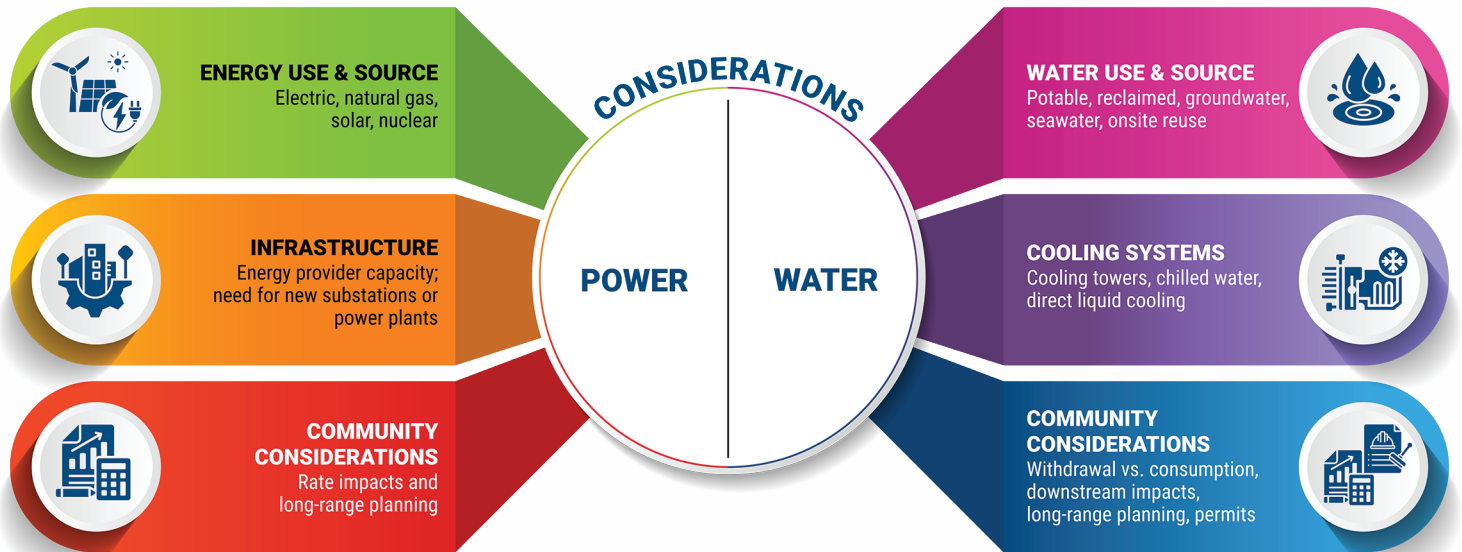


POWER AND COOLING

Power and water usage are typically much higher than for other developments of a similar size. Communities should ask questions to identify electric and water providers and the demands for the proposed development. Long-range planning for increased electric and water demands for the community should be considered.

Data centers use electricity to power the IT equipment within the facility. Additionally, electricity is part of the cooling system, uninterrupted power supplies, lighting, security, and building systems.

Data centers can use water as part of the cooling system. Designs using water for cooling may include cooling towers, chilled water systems, or direct liquid cooling. Some facilities can use as much water as small cities. Water is reused within a closed-loop system, while cooling towers will lose water to evaporation. If power plants are proposed as part of the development, this facility also will have significant water demands to operate.



LAND AND ENVIRONMENT

Information related to land and environmental impacts as part of the development will need to be discussed. Public works leadership should ask if they will conduct an Environmental Impact Assessment (EIA) to provide early insight into possible natural resource impacts.

General information to obtain:

- Impacts on energy sources (climate change, air pollution, temperature impacts, etc.)
- Water resource impacts (ocean, lake, wetland, river, stream, riparian areas, floodplain, aquifers, etc.)
- Biological, ecological, cultural, and archaeological resource impacts
- Wildlife impacts (corridors, threatened and endangered species, migratory species, pollinators, etc.)
- Habitat impacts (forest, woodlands, prairie, native vegetation, etc.)
- Construction noise impacts (including planned hours of operation; in some regions, work may occur overnight)
- Noise impacts during permanent operations (cooling fans, backup generators)
- Lighting impacts (construction hours and permanent operations)
- Solid waste impacts (waste diversion, zero waste, landfill, recycling)
- Temperature impacts to surrounding areas

Environmental Mitigation: Agencies should ask if the data center developer will contribute towards mitigation measures within the watershed and community, such as:

- Water stewardship and replenishment
- Water quality improvements and waterway stabilization
- Flood and wetland mitigation
- Green infrastructure and rainwater harvesting
- Land conservation and restoration (including invasive species removal)
- Biodiversity and habitat enhancement
- Urban forestry (tree canopy expansion and diversification)
- Wildfire prevention
- Public green spaces and trails
- Green or cool roofs
- Noise mitigation
- Environmental education programs

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TRANSPORTATION

Traffic from data center complex construction is often more impactful than during the operations phase. A traffic impact study will help identify both construction and opening day (including phased) recommendations. The transportation analysis, including recommended temporary and permanent mitigation measures, will guide formal improvement negotiations. Transportation information to consider includes:

- Access points, current and future traffic volumes, accident/safety analysis, emergency access, and circulation
- Construction material deliveries (pre-cast concrete panels vs. cast-in-place, equipment, etc.)
- Construction crews (site access during phased construction, contractor parking, etc.)
- Phasing and timing of construction and permanent operations
- Number of permanent jobs created with data center opening
- Temporary and permanent traffic mitigation measures and timing of installation (turn lanes, traffic control devices, pavement markings)

SUSTAINABILITY

If your community has established plans or goals around sustainability, questions related to the sustainability aspects of the proposed data center development may be of interest.

Examples of sustainability questions include:

- How does this proposed development align with community climate and sustainability goals or adopted plans?
- What is the development's carbon footprint?
- Does this development align with community carbon neutrality goals?
- How does this development impact the regional water footprint?
- Will the project contribute to water-positive goals?
- Does the power source for the data center align with community goals?

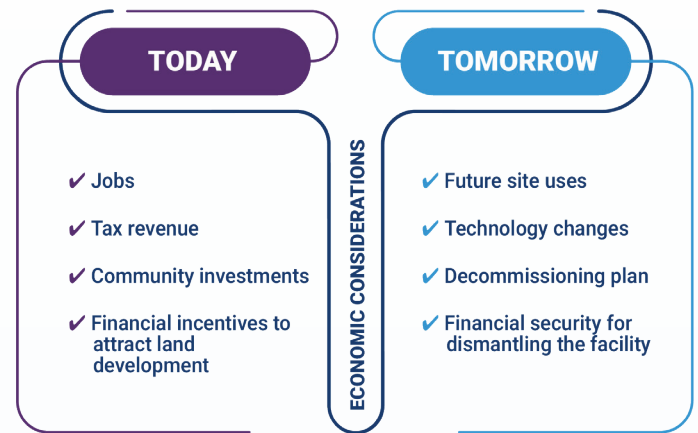


This toolbox was developed by the [APWA Technology Committee](#) with support from the APWA Engineering and Construction Committee, Sustainability and Resiliency Committee, and Water Resources Management Committee.

ECONOMICS

Investments into the community, mitigation projects, job creation, and tax revenue may be topics of conversation among the municipal officials when considering the proposed data center development. Another consideration is whether the municipality will offer tax abatements or other financial incentives to attract land development. Some states enable the creation of special infrastructure taxation districts to promote development.

Considering the life cycle of data center development can be critical. As technology rapidly changes, so may the uses of large data center complexes. Requiring a decommissioning plan and financial security to dismantle the facility should be considered.



COMMUNITY BENEFITS

As part of negotiating an agreement to develop the data center complex, the developer may commit to providing scholarships or other forms of financial contributions toward local programs (student, science, cultural, environmental).

Additional community benefits may come from infrastructure projects such as stormwater/water resources, reclaimed water/potable water access, transportation, or power supply resiliency.

Each community that receives a data center proposal will have specific considerations for its region. Asking questions and gathering the right information is important to making informed decisions about a proposed project. Being transparent early in the planning process can help residents, staff, and elected officials better understand what is being proposed, what impacts it may have on the community, and how it fits with local plans and priorities. Throughout the review process, infrastructure, natural resources, and environmental impacts, plus decommissioning plans with financial security, can provide a community with the critical information to make these important decisions.

For further reading on data center development and its impacts on communities, the National League of Cities has [several resources](#).