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Community Strategies to Address Data Center Development and Operation

Overview

This fact sheet explores how local governments can manage land use and the community impacts of data center development and operation. Building on insights about energy and environmental considerations, it highlights zoning ordinances, permitting strategies and policy tools that help cities, towns and villages guide data center siting while aligning with economic, sustainability and community development goals.

Zoning and Permitting

With the growth of artificial intelligence (AI) and the need for more data centers, a common challenge facing local governments is that older zoning codes do not explicitly address data centers. These facilities often fall between classifications. This ambiguity can result in case-by-case determinations and ad hoc review processes. Zoning code typically allows for specified development types through the following: by right, by conditional use, or by special exception.

TABLE 1: ZONING CATEGORIES

ZONING APPROACH	FEATURES
By Right	Projects that meet all zoning requirements are allowed to proceed without discretionary review or public hearings. Streamlined and predictable process.
By Condition Use	Projects may be allowed if they meet specific conditions set by the zoning ordinance. Typically requires a public hearing and approval from a zoning board or commission.
By Special Exception	Projects not normally permitted under current zoning may be approved if they meet certain criteria and do not adversely impact the surrounding area. Usually involves a public hearing and discretionary review.

Some local governments are adopting zoning amendments to specifically address data centers. For example, in Fairfax County, VA, officials have updated their zoning ordinance to define data centers and permit them by-right in select industrial and commercial zones, while introducing buffers, size thresholds, and location restrictions to guide development away from transit-oriented areas. Harrisonburg, VA took a different approach by removing by-right permissions and requiring special use permits for data centers in industrial zones, enabling more discretion in site selection and public engagement.

Loudoun County, VA is considering shifting from by-right permissions to a special exception model for new data centers. Proposed comprehensive plan changes would also limit future data center development in designated urban centers near transit.

Several local governments have used **overlays**, which provide additional rules on top of existing zoning regulations. Overlays can allow local governments to exercise greater control over where and how data centers are built. These mechanisms often include supplemental requirements related to noise, aesthetics, setbacks and environmental impact. Prince William County, VA created multiple overlay zones between 2016 and 2023, including the "Digital Gateway" district. These zones impose specific criteria, including 24-hour noise limits and landscaping requirements, while also enabling large-scale rezoning for data center parks. Limerick Township, PA created a data center overlay that requires compliance with detailed standards for noise, woodland preservation, water use and emergency access.

In Chandler, AZ, all new data centers must now go through a public hearing process and are restricted to specific districts. The city's ordinance requires detailed noise mitigation studies and regulates generator testing schedules to reduce disruptions.

Policy Tools and Local Incentives

Beyond zoning, local governments are experimenting with policy tools to shape the environmental footprint and community contributions of large building projects.

Some cities have adopted or explored **energy and water benchmarking requirements**. In 2023, Detroit, MI enacted an ordinance requiring large commercial buildings to report annual energy and water use. Similar policies exist in Chicago, IL and Atlanta, GA forming part of a broader trend toward transparency in high-resource-use sectors.

Several jurisdictions have explored **renewable energy and water efficiency incentives** tailored to data centers. While some operators voluntarily co-locate renewable energy, local governments have begun facilitating this through streamlined permitting and flexible zoning for on-site generation.

In New Albany, OH, a large **tax abatement was paired with community benefits** in a development agreement for a data center. In return for a 15-year, 100 percent property tax abatement, the developer committed to stormwater mitigation, scholarships for local students and cultural programs.

Community Engagement and Placemaking

Community engagement should begin early, before zoning changes are proposed or negotiations with data center developers take place. Proactive outreach to residents and community-based organizations builds trust, surfaces local priorities and creates opportunities to align development with community goals.

Creative placemaking offers a useful framework for engaging the public in data center planning and ensuring these projects contribute positively to the built environment. For example:

- Transforming required buffer zones into **public green spaces** or **walking trails** that benefit nearby neighborhoods.
- Using **community-led design processes** to shape screening, signage or building facades so they reflect local identity or cultural themes.
- Developing **public benefit agreements** tied to local education, job training or public Wi-Fi access, co-designed with community stakeholders.

In addition to public engagement, **collaboration with utilities and regional partners is essential**.

- Work with energy and water utilities early in the planning process to assess infrastructure capacity and coordinate long-term investments.
- Coordinate regionally with other municipalities and public utility commissions (PUCs) to address cumulative grid impacts, resource availability and shared development pressures.

By embedding engagement and collaboration into the planning process, cities, towns and villages can ensure data center development is more responsive to local needs and contributes to long-term community well-being.

TABLE 2: HOW LOCAL GOVERNMENT'S ADDRESS DATA CENTERS

JURISDICTION	ZONING APPROACH	KEY FEATURES
Fairfax County, VA	By-right in high-intensity zones with thresholds and restrictions	Triggers special review above 40,000 sq ft (commercial) or 80,000 sq ft (industrial); prohibited within 1 mile of Metro stations; performance standards for cooling and noise.
Harrisonburg, VA	Shifted from by-right to special use permitting	Requires public hearings and city council approval for data centers in industrial zones.
Prince William County, VA	Data center overlay zones	Includes Digital Gateway; applies 24-hour noise limits, architectural screening, and buffer standards.
Loudoun County, VA	Data center overlay zones	Would require discretionary review for all new facilities; restricts development in transit zones.
Chandler, AZ	Data center overlay zones	Requires public hearings, noise mitigation studies, and generator use restrictions.
Mesa, AZ	Data center overlay zones	Encourages clustering in advanced manufacturing zone; requires infrastructure capacity review and often includes design or noise provisions in development agreements.

Additional Resources

- Urban Land Institute, Local Guidelines for Data Centers
- American Planning Association, Data Center primer for planners