2026 Educational Session on

Data Centers in Wisconsin

Local Government Education
DIVISION OF EXTENSION
UNIVERSITY OF WISCONSIN–MADISON

Karl Green
Community Planning Specialist
UW-Madison Extension

Anna Haensch
Research Associate Professor
UW-Madison Data Science Institute

Overview of Today

Local Government Context

What's a Data Center?

Context & Common Topics

Q & A

What is a Data Center?

What is a Data Center?

A data center is **a collection of computers in a building** serving up data, computation, and other cloud resources for people offsite.

Data Centers Are Diverse

Data centers are different from one another:

- Size
- Data storage capacity
- Ownership and clients served
- Cooling method(s)



Colocation Facilities



Modular Data Centers



Enterprise Data Centers



Hyperscale Data Centers



W210 N12975 Gateway Crossing. Image from LoopNet

Colocation Facilities

Why is there an increase in data centers?

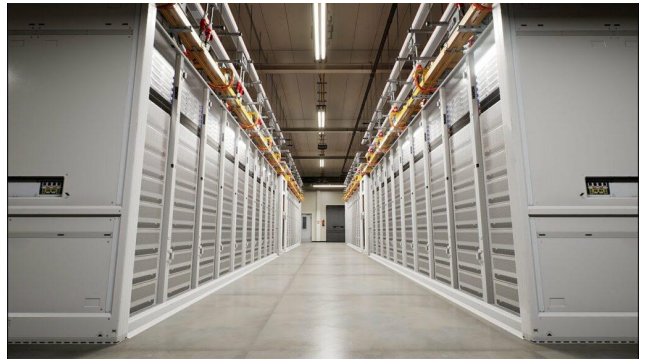
Current data center capacity can't accommodate the forecasted AI need. This is driving massive growth.



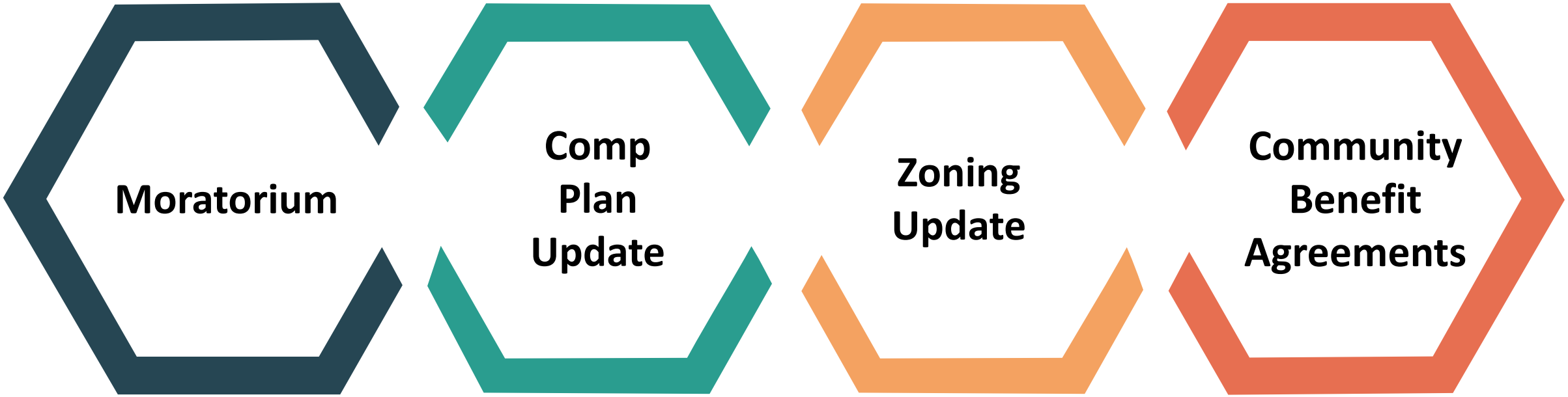
Models stored at **Data Centers**.



Inference returned through API or **cloud services**.

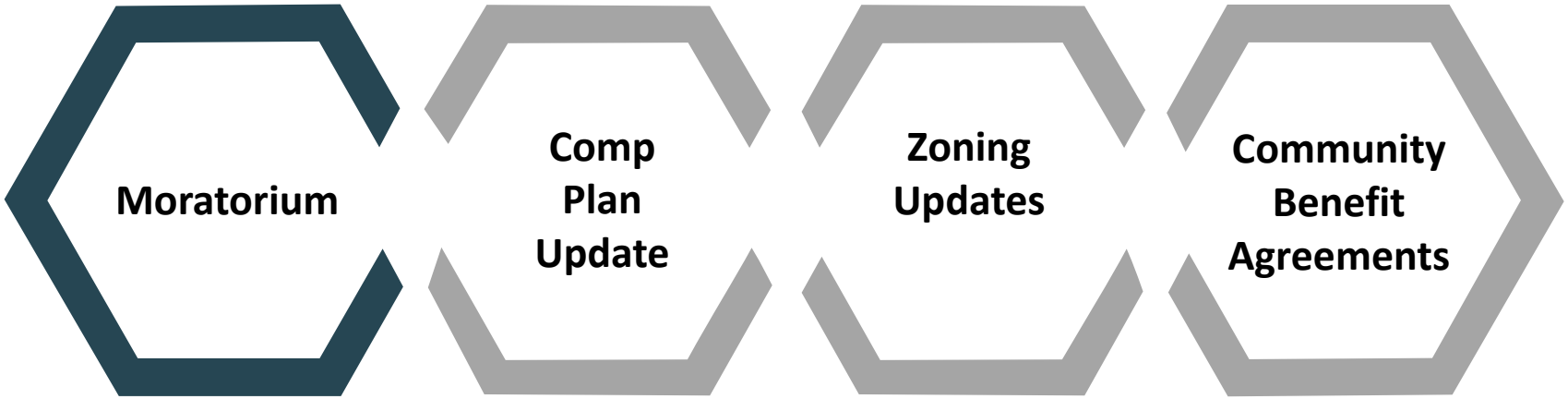


What can local governments do?



Moratoriums

Local Government Context



Data Center Moratoriums

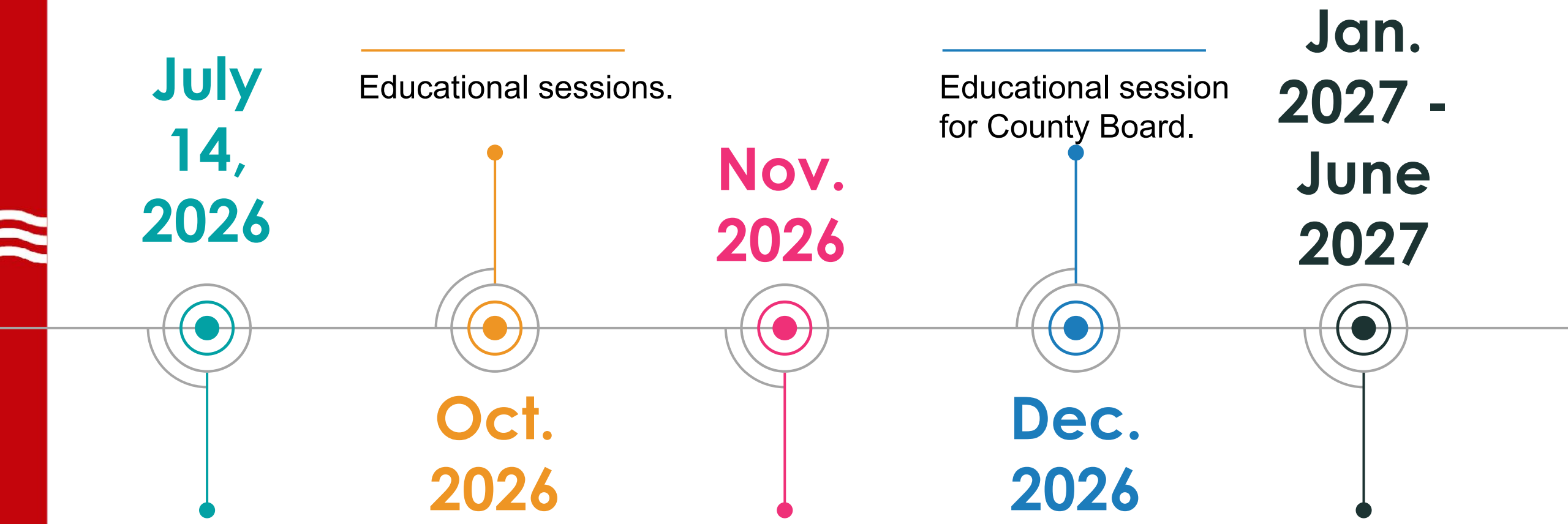
Moratoriums provide a 12-18 month window
for local government entities to study the impacts of the issue
and review local zoning regulations.

Moratoriums do not allow prohibiting the development of data centers.

Examples of County Moratoriums

- Manitowoc County (4-28-26)
- Dane County Data Center Moratorium (5-15-26)
- La Crosse County Data Center Moratorium (Res. 6-6/26)
- Green County Data Center Moratorium (Res. 26-0703)

Green County Data Center Moratorium Timeline



Context & Common Topics

Context & Big Picture:

Infrastructure

What are Data Center Developers Looking for in a Site?

- Proximity to necessary infrastructure (power / fiber / water / land)
- Accessibility to utility grids and future power expansion potential
- Specific geographical and topological features (wetlands / hills)
  - Land availability / ability to aggregate land (depends on facility size)





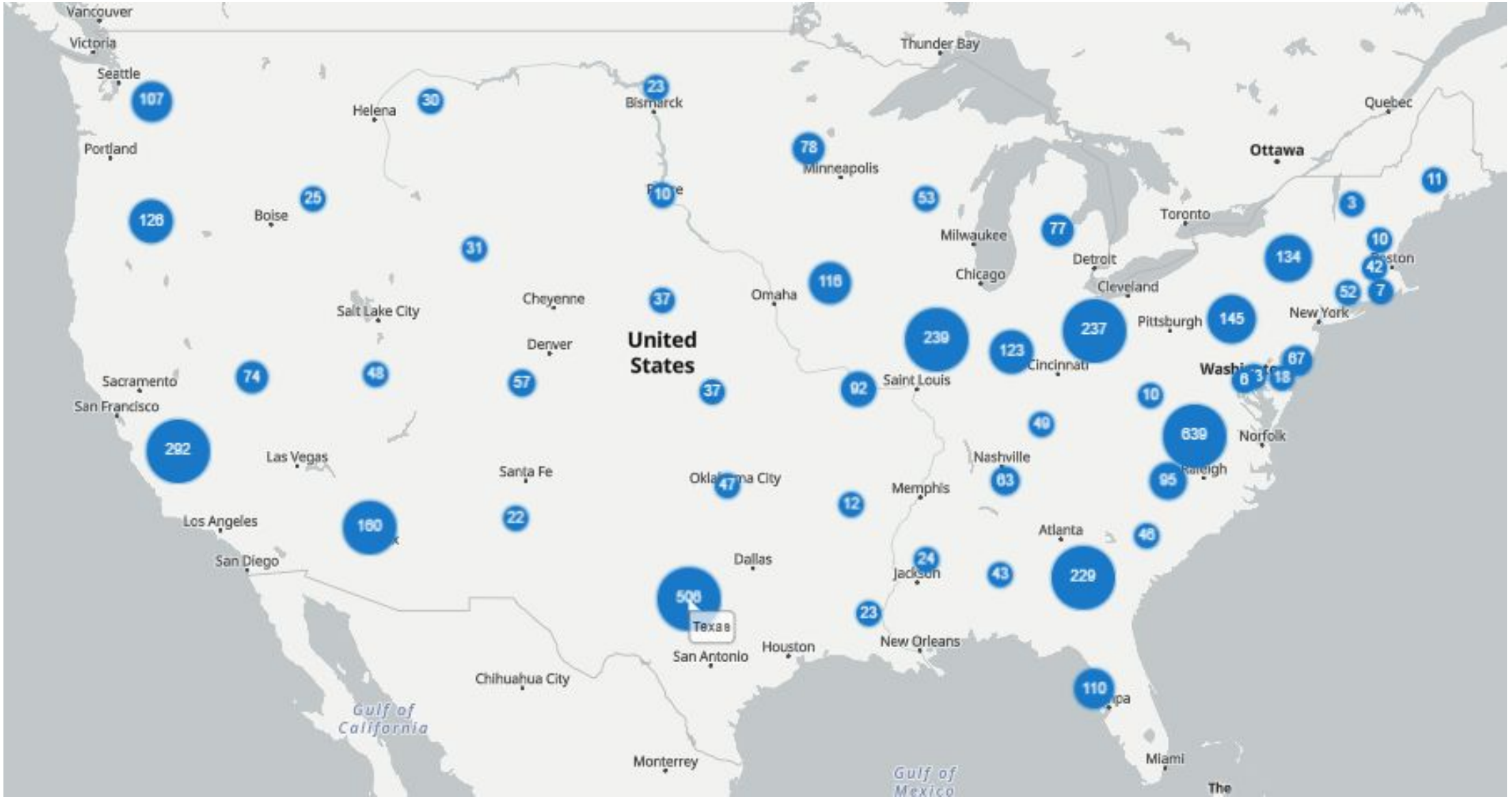


What are Data Center Developers Looking for in a Site? *Continued…*

- Evidence of accessibility and ease of logistics for major construction efforts
  - Materials, Labor, etc

- Evidence of strong community and municipal support
  - Think timeline ease

United States Data Centers *4,556 total*



Source: *www.datacentermap.com/usa/*

U.S. Long-Haul Fiber-Optic Infrastructure



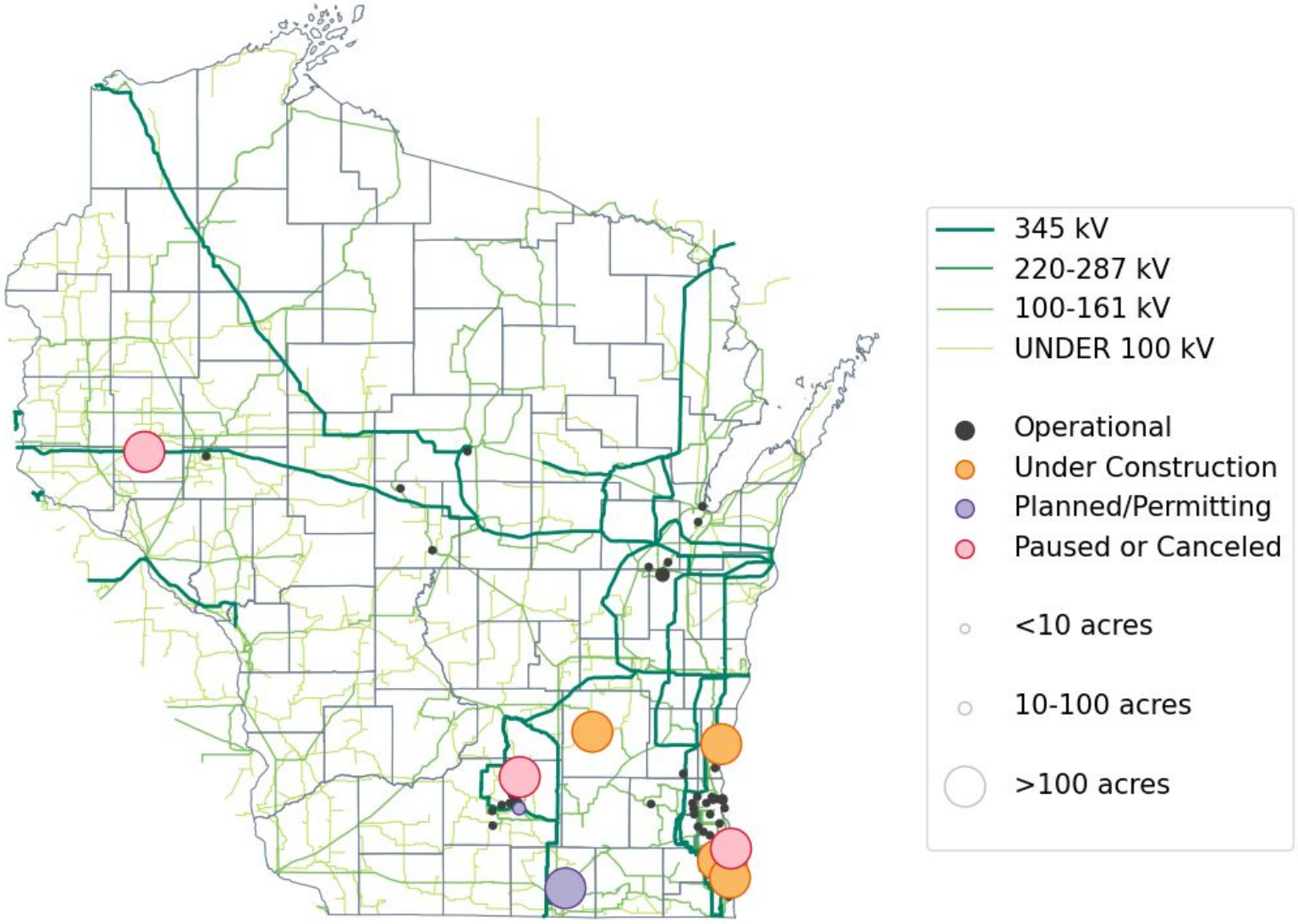
Source: Haensch (2026). *U.S. Long-Haul Fiber-Optic Infrastructure*;. Data source: R. Durairajan et al. (2015) *Intertubes: A study of the us long-haul fiber-optic infrastructure*, in: Proceedings of the 2015 ACM conference on special interest group on data communication. Github.

U.S. Grid and Transmission Infrastructure



Source: Haensch (2026). *U.S. Grid and Transmission Infrastructure*; Data source: Homeland Infrastructure Foundation-Level Data obtained via U.S. Fish and Wildlife, *US Electric Power Transmission Lines*.

WI Data Centers & Transmission Lines

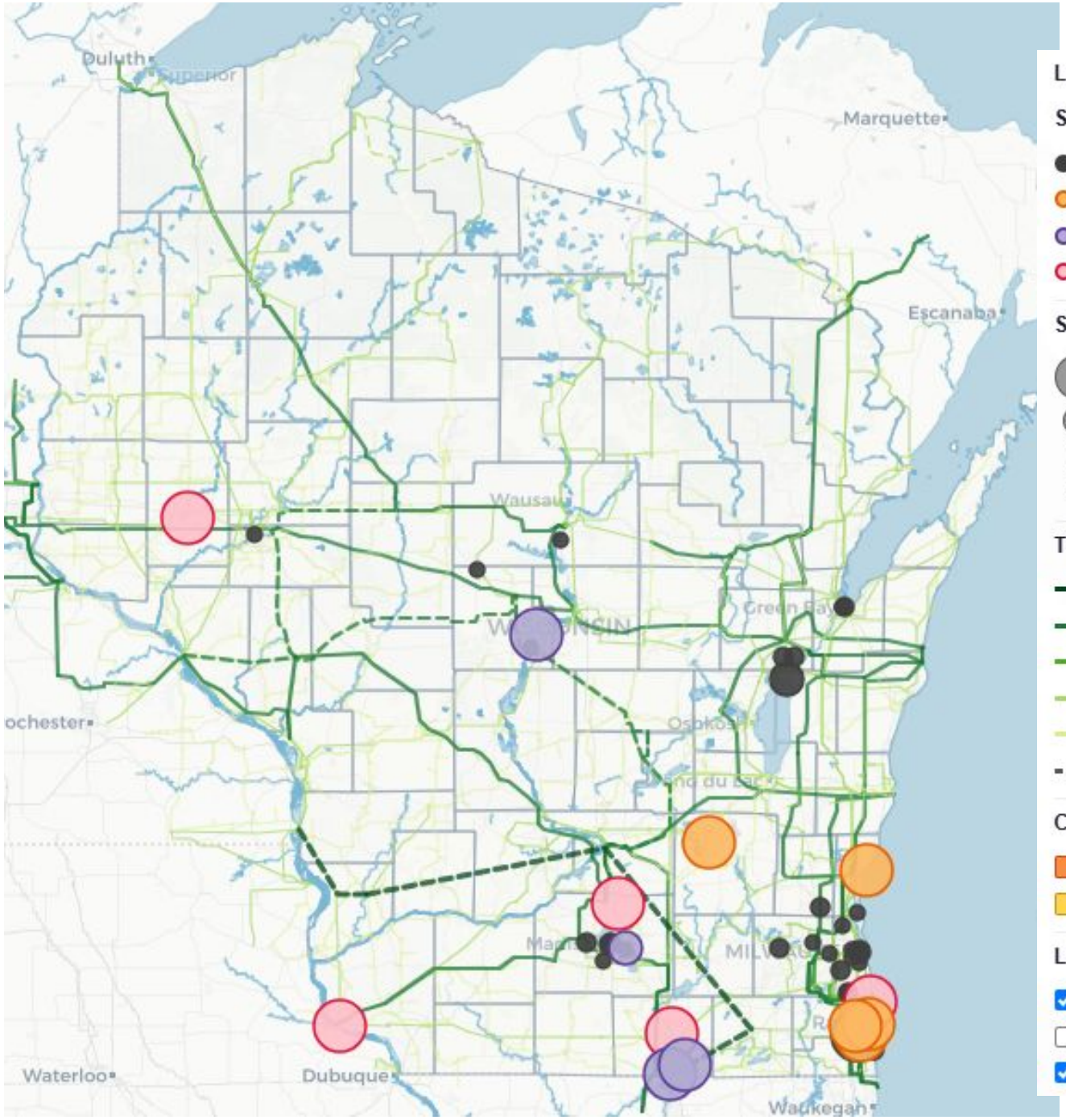


Source: Haensch (2026), *Wisconsin Data Center Map*.

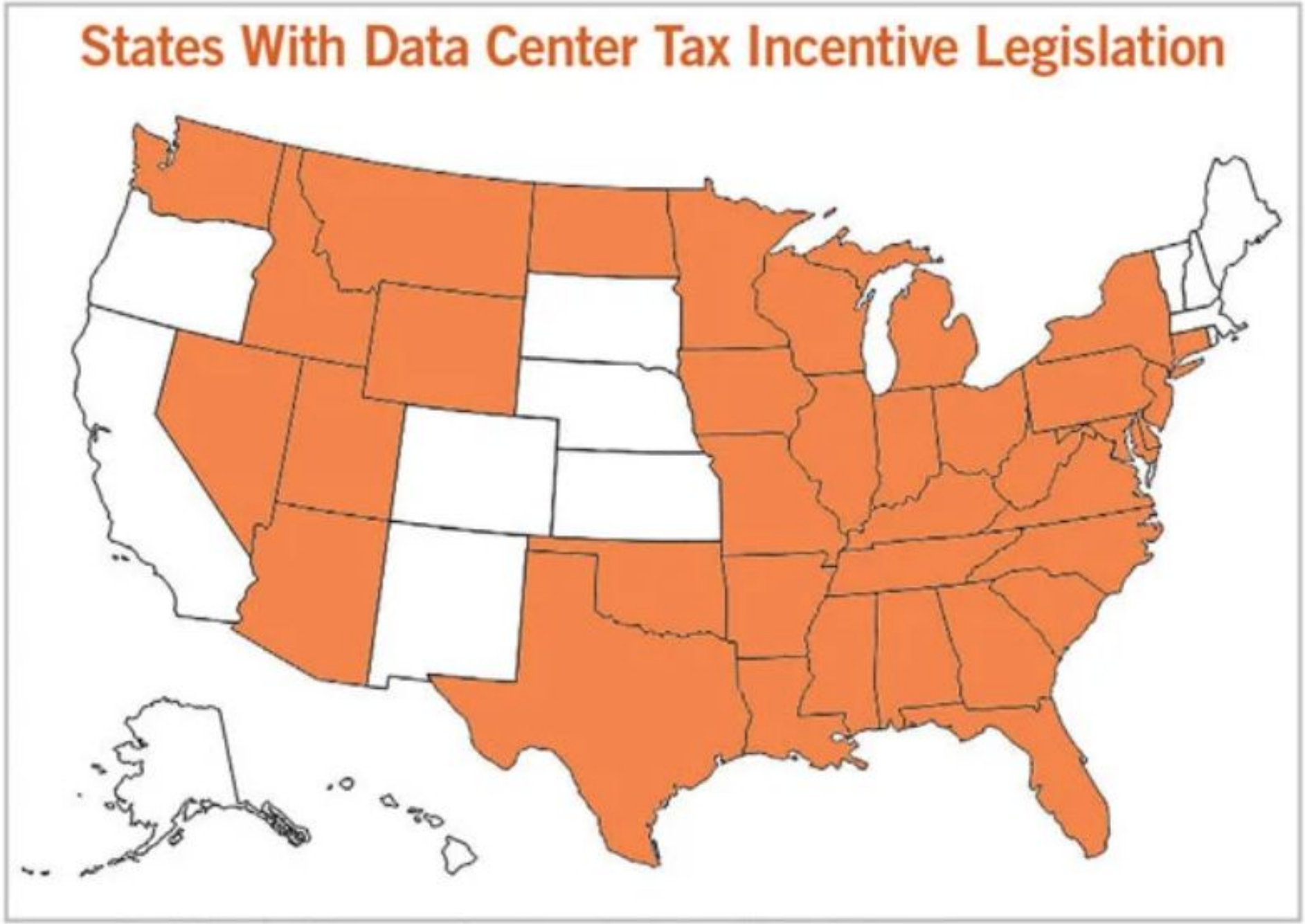
- Communities ***near existing high voltage transmission lines*** will be attractive to data center developers.
- Hyperscale data centers typically require 345 kV or greater.

Future / Proposed Transmission Lines

Source: Haensch (2026), *Wisconsin Data Center Map*.



States With Data Center Tax Incentive Legislation



Source: Husch Blackwell, Tax Incentives for Data Centers 50-State Survey

Wisconsin Data Center Sales and Use Tax Exemption Program

- Created by 2023 Wisconsin Act 19, aims to **bolster economic growth** and **attract high tech industries** and talent.

- Developers are exempt from sales and use tax for tangible property.
  - *For example: computer server equipment, networking equipment, and other essential hardware*

*For a hyperscale data center replacing its equipment every 3-4 years, this will amount to **hundreds of millions of dollars** in foregone tax revenue over a data center lifetime.*

2023 Wisconsin Act 19 Data Center Sales and Use Tax Exemption (DCSTE) Program

Wisconsin Department of Revenue

Sales and Use Tax Exemption for Qualified Data Centers

Fact Sheet 2114 **revenue.wi.gov**

This fact sheet provides information about the sales and use tax exemption for qualified data centers. It describes what is exempt and how to claim the exemption.

Overview

2023 Wis. Act 19 created a sales and use tax exemption for the sale of certain property for qualified data centers that are certified by the Wisconsin Economic Development Corporation (WEDC).

The exemption is not applicable until WEDC provides a certification date for the qualified data center. Purchases made prior to the certification date do not qualify for the exemption. For example, if a qualified data center's certification date is June 1, 2024, purchases made on or after June 1, 2024, may be eligible for the exemption.

www.revenue.wi.gov/DOR%20Publications/2114QualifiedDataCenter.pdf

The (Data Center) buildings create a minimum qualified investment in Wisconsin within 5 years after the certification date by WEDC. A "minimum qualified investment" means eligible data center costs of one of the following amounts:

- $**150,000,000** for buildings in a county having a population greater than **100,000**.
- $**100,000,000** for buildings in a county having a population of **50,001 to 100,000**.
- $**50,000,000** for buildings in a county having a population of not more than **50,000.**

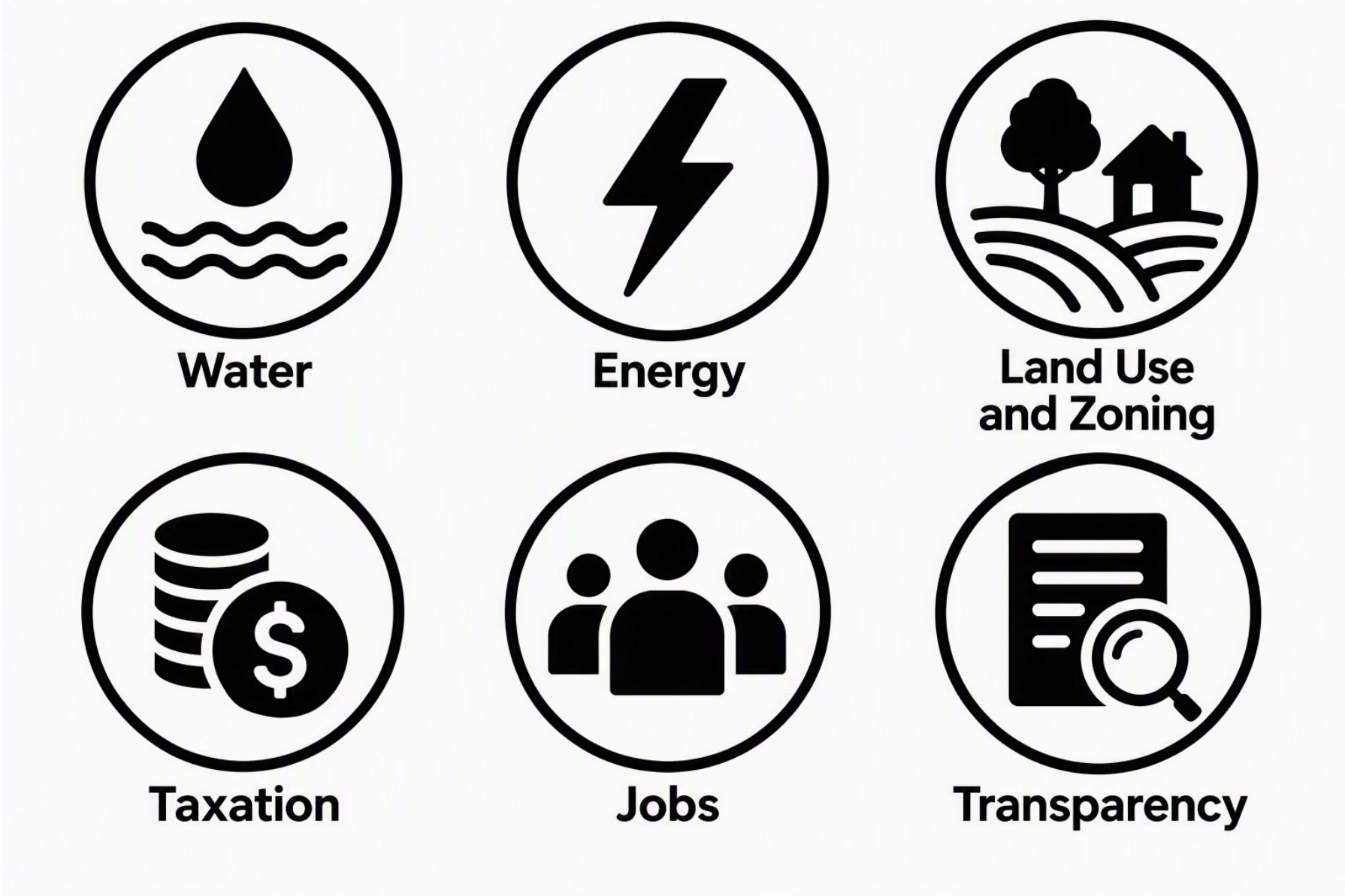
- For buildings located in more than one county, the minimum qualified investment is the amount provided above for the most populous county in which the buildings are located.

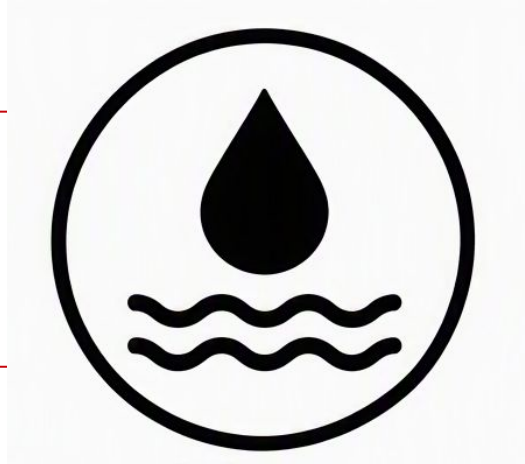
www.revenue.wi.gov/DOR%20Publications/2114QualifiedDataCenter.pdf

Context & Big Picture:

Common Topics

Common Topics





Water

Water Consumption of Data Centers

Data Centers produce HEAT as a by-product of IT operations

Cooling can be a significant water use dependent on the type of cooling system

- Open Loop (Evaporative) - uses more water but less electricity to operate than closed loop systems
  - Evaporative cooling (used to cool large spaces like airports, civic centers, hospitals, etc.)
- Closed Loop (water/coolant passing through pipes releasing heat without evaporating the water, minimal water loss), however this system uses significantly more electricity than open systems

Cooler climatic regions allows passive cooling during cold months (Economizer systems)

Open-Loop vs. Closed-Loop Cooling Comparison

Type of Cooling	Water Use	Energy Efficiency	Contamination & Reliability	Infrastructure Complexity
Open-Loop	High water consumption due to evaporation.	Energy-efficient because evaporation removes heat with low electrical input.	Water is exposed to air – requires filtration, chemical treatment, and monitoring for biological growth.	Requires cooling towers, water treatment systems, and large-scale plumbing.
Closed-Loop	Minimal water loss; water stays inside sealed circuits.	Less energy-efficient because heat must pass through a heat exchanger.	Sealed system – no airborne contamination, more stable water chemistry, and reduced maintenance.	Requires pumps, heat exchangers, and sometimes a secondary tower or dry cooler.

www.dce.louisiana.gov/assets/CE-General/Fact-Sheets/Open-Loop-vs-Closed-Loop-Cooling-Fact-Sheet.pdf

Common Concerns

- Volume used (Consumption daily, annually)
  - Relates to Data Center Cooling Design (evaporative cooling versus closed loop system)

- Capacity of municipal water system & WWTF
  - Determined by municipal engineer

- Potential impacts on local wastewater discharge & impacts
  - Facility Plan
  - Potential pollutants from coolant discharge in wastewater - WPDES

- Ongoing reporting of usage to WDNR, 5-year permit cycle.

Water Infrastructure

- Most data center >10MW will likely look for municipal water supply system
- Capacity of municipal system
  - Determined by municipal engineer
  - Preliminary Engineering Water Report
    - Considers sufficient supply, storage,distribution and fire fighting capacity.
  - Water Supply Service Plan: WDNR process to help ensure system can provide an adequate supply of water
  - If increased capacity is needed, how will rates for existing customers maintain, or increase to cover expansion costs? (local decision if negotiating - rates approved by PSC)

Water Contamination Concerns

- Potential impact on local water quality
  - All water being discharged from the site, either as stormwater or wastewater, is regulated by the WDNR, and monitored if reguired

- Capacity of municipal system wastewater system
  - Determined by municipal engineer/consultant
    - WasteWater Treatment Facility Plan
      - Assess the **condition** of existing **sewer system** and **treatment facility**
      - Considers age, condition, chemical, biological capacity of the existing facility and under “proposed future conditions” to illustrate potential operational or regulatory needs
      - Evaluate alternative solutions for cost and efficacy
      - If increased capacity is needed, will rates for existing customers maintain, or increase to cover expansion costs?
    - Local decision when negotiating - rates approved by PSC

Water Contamination Concerns

Open Loop System

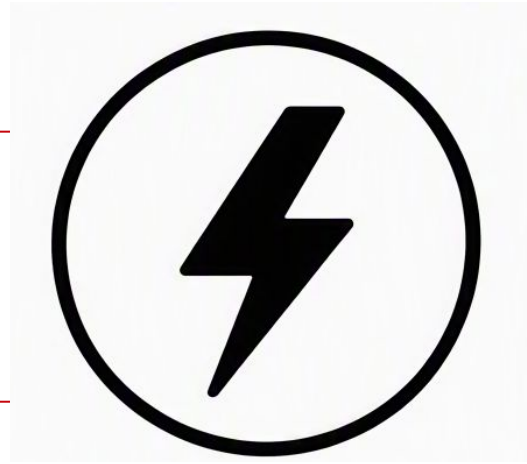
Open Loop systems "precipitate" out minerals/scale when operated.

- WPDES permit would cover blowdown, descaling, and chemical flushing/purging of chiller system, **discharging to wastewater - WPDES permit**

Closed Loop System

- Depends on local water chemistry and volume necessary, but may include: ethylene glycol, biocides, corrosion inhibitors, ph adjusters, deionization potential

- Discharge of closed loop during flushing
  - **WWTP - WPDES Permit**
  - Private hauler/disposal



Energy

Electricity Consumption

Data Center are servers, central processing units, graphical processing units, all pulling significant electrical demand

- Energy intensity depends on:
  - Size of data center (Sq footage, DC clientele, IT Equipment end use, % data capacity used)
  - Cooling type used at data center
  - Power Usage Effectiveness (PUE): Total electricity usage of the data center divided by the electricity demand of the IT equipment

Rates : Does this increase rates?

Depends on Utility provider Dependent on utility

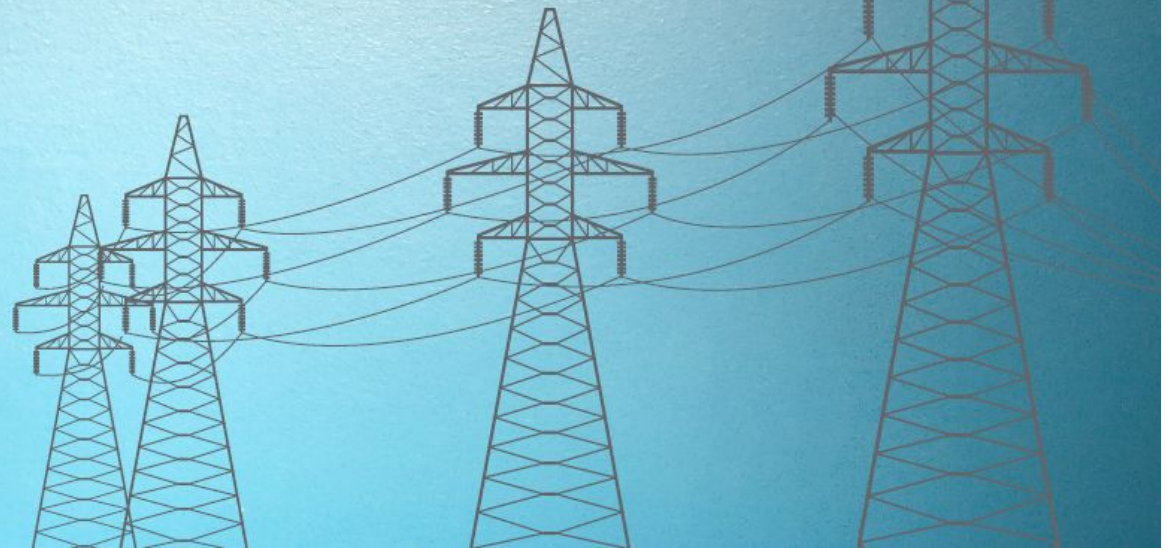
Governance: not much a local government can do directly

PUE

(Power Usage Effectiveness)

Power Needed for IT

$$\frac{\text{Total Energy Use}}{\text{IT Energy Use}}$$



Electricity Rates

- Electricity rates are controlled by PSC, but set by Utility
- Electric Cooperatives are separate, and not regulated by the PSC.
- Utility/EC determines how to charge/tariff “Large Ratepayers” that may require Utility Infrastructure investments

Electricity, Pollution, and Public Health

High electricity usage
Port Washington:
    1,300 MW (not on-site)
    Equivalent to 640,000 homes

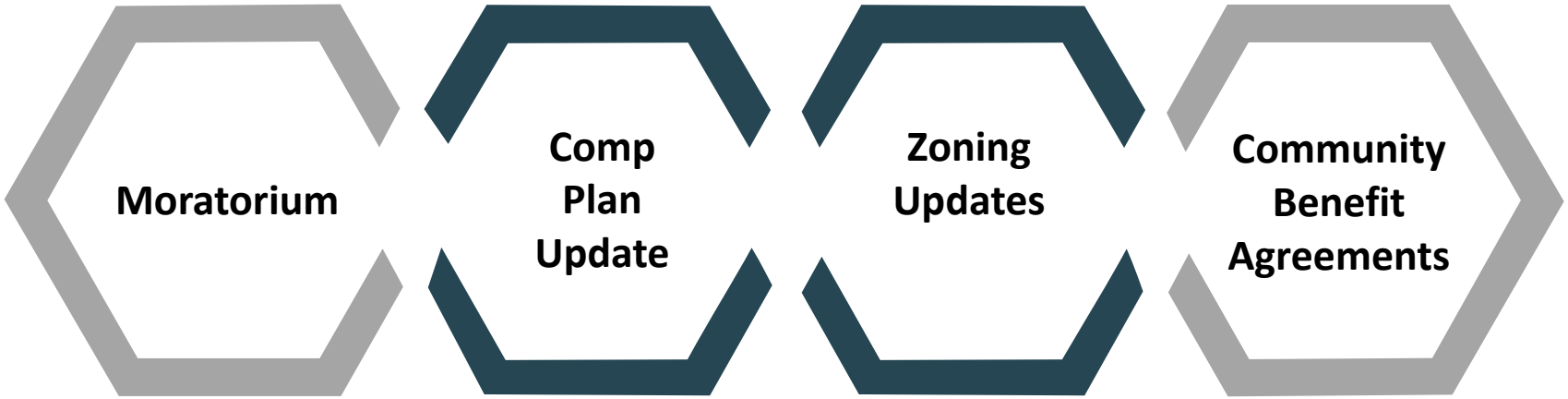
45 Diesel generators (back up emergency power)
    Concerns on exhaust, noise, vibrations, time of operations

Traffic / Transportation impacts

https://widnr.widen.net/s/8jh9nv5njx/pwdc_ea-summary_dec2025

Zoning Update

Local Government Context



Land Use & Zoning

Land Use

- County vs Municipal Jurisdiction
- Review of Zoning:
  - Zoning by right, conditional use, legal, non-conforming use
- Development Standards
- Comprehensive Plans
- Moratoriums

Land Use Concerns

- Size and scale
- Stormwater management
- Traffic / transportation impacts
- Back-up power generation / noise and air quality concerns
- Removal of a significant amount of land from former use
- Impacts to neighboring properties (zoning)

Public Health/Safety/Welfare concerns

- Noise
  - Sound amounts at varying distances, time of noise generation,
  - Onsite power generation/generators, or battery electricity storage systems, combination?

- Onsite power generation/generators
  - Discharge/pollution (Air Quality Permit, issued by WDNR)

- Light impacts

- Incompatible zoning

- Fire/Emergency response capacity (see development standards)

Some useful definitions for terms we will be discussing today

Zoning: Land use regulations and standards that allows communities to control where/how development occurs, and implement comprehensive/future plans.

- Municipalities cannot legally exclude a land use that complies with all local land use ordinances, policies and permitting requirements.
- Moratorium: Temporary cessation of specific land use activity/development in a community while it reviews and considers potential future impacts of the land use.

Comprehensive Plan: Official Future Growth/Development plan for the community, may be as prescriptive or vague as desired by community

Community Benefit Agreement, Joint Developers Agreement – a legal contract representing all agreed upon conditions, for which each party will provide as part of the development project.

TIF/TID: Often used interchangeably, Tax Incremental Financing is the tool name, Tax Incremental District is the geographical area for which future tax growth will finance the project costs necessary for the project's development.

Comprehensive Plans *(County, Municipal)*

- Policies (especially in the Land Use element), Future Land Use Map illustrate potential land uses allowable for future development

- The Comprehensive Plan needs to be **consistent** with zoning code. If the zoning code mentions data centers, the Comprehensive Plan should as well.

- Communities should consider:
  - Where? How Large?
  - What Infrastructure?
  - What Impacts?
  - Who Pays?
  - How to handle abatement, abandonment and decommissioning?

Comprehensive Plan Example

Data Centers and High-Intensity Technology Facilities

The community recognizes that data centers and other high-intensity technology facilities may have infrastructure, energy, water, transportation, environmental, noise, land-use and fiscal impacts that differ substantially from conventional industrial uses. The community will evaluate proposed data centers based on their compatibility with planned land uses and their anticipated impacts on public infrastructure, natural resources, surrounding land uses, community services and long-term community objectives.

(Source: West Central Regional Planning Commission)

Local Regulation Authority: County Zoning

- Only applies to Counties with County Comprehensive Zoning Ordinance
  - Only unincorporated areas. Does apply within municipal boundaries (cities / villages)
  - Municipal annexations have been used in recent data center sites to provide municipal infrastructure (sewer / water)

- Towns that have opted out, or never opted into County Zoning, are not covered

- County zoning such as Shoreland, Floodplain, and Farmland Preservation Zoning do not regulate where various land uses can locate in the County

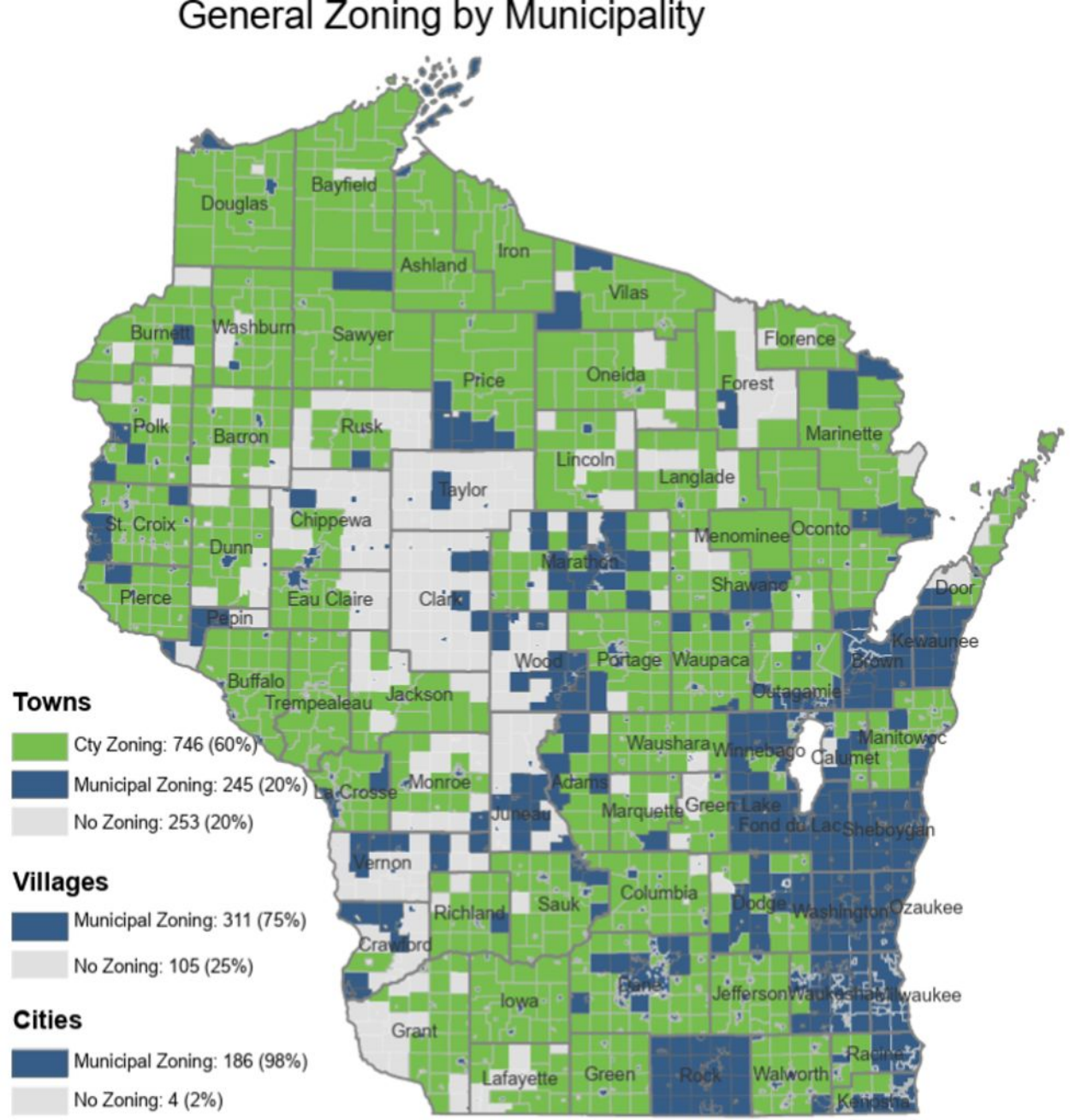
Wisconsin State Statutes 59.69 Planning and Zoning Authority

Zoning in Wisconsin is handled either at the County level, or at the municipal level (City, Village, Town)

If Counties have Zoning, Cities and Villages are exempt from County Zoning (as they have their own)

Towns can “opt out” of County zoning if they wish to handle on their own

Counties that do have zoning may have “unzoned” towns if towns opted out, or never joined in the



Cities, villages, and towns adopt general zoning ordinances under s. 62.23(7), 60.61 or 60.62. Counties and towns adopt county general zoning under s. 59.69. Those seeking the most current data may consult the Comp Plan and Land Regs Inventory spreadsheet, which continues to be updated. They may also visit the local government website or contact the clerk for information on its comp plan and land regulations. Please email comp.planning@wisconsin.gov with any corrections.

County Zoning vs. Municipal Zoning

	Municipal Zoning	County Zoning
Governing Body	City Council or Village Board	County Board
Applies to…	Land within city/village limits, some extraterritorial areas	Unincorporated areas (towns)
Statutory Authority	Wis. Stat. §§ 61.35, 62.23	Wis. Stat. §59.69
Administration	Municipal planning / zoning staff	County zoning department
Board of Appeals	Municipal board	County board of adjustment
Comprehensive Planning Relationship	Municipal comprehensive plan	County comprehensive plan and participating town plans

Sources: Wisconsin State Statutes for Towns, Villages, and Cities

County Zoning

Permitted Uses: Uses by right within a zoning district if applicant meets all ordinance requirements. If the proposal complies with the ordinance, generally you must issue the permit, without conditions set or public hearing.

Conditional Uses: A use that may be appropriate in a zoning district, but only under certain “Conditions” that minimize impacts to things like traffic, noise, lighting, odors, compatibility with nearby properties.

- Conditional uses typically requires a public hearing.
- Denials for conditional use must be related to *ordinance standards*, not just public opposition.

Non-Conforming Use: Grandfathered use of land/building that was legally established but no longer complies with current zoning regulations.

County Zoning Ordinance review

County zoning districts are not the same between counties.

What does your County Zoning allow in Commercial, Industrial, Non-metallic mining, etc…

Zoning of Data Centers

- Likely data centers may not be addressed in the current zoning ordinance.

- Important to address new land uses in your zoning ordinance before a project is proposed (zoning text and zoning map).
    - Once an application for a project is submitted, existing zoning ordinance applies to the application.

- Public participation during zoning ordinance updates helps inform public and build their knowledge and understanding of topics and processes.
    - Public Hearings are required for all zoning ordinance amendments.

Data Center Development Standards

- Development standards should be designed to diminish the adverse impacts of the use on neighboring properties.
    - Ordinance can include specific standards for data centers that apply to permitted or conditional uses.
    - Standards can be negotiated as part of a Development Agreement.

Example Development Standards

- Noise standards
- Lighting standards
- Identification of backup electrical power sources & generators or battery energy storage systems
- Property setbacks to reduce: noise, light, heat, distance from residences or habitable structures, road and right of way setbacks for driver/pedestrian safety, parking lot setbacks
- Maximum Lot Coverage
- Minimum Lot Size
- Height Limits
- Screening, fencing (including fencing standards) and landscaping (including landscaping standards)
- Construction standards including phasing, stormwater management and erosion control
- Water quantity estimated by certified professional of average and peak daily water usage of proposed data center
- Water quality estimated by certified professional of influent and effluent chemical quantities and temperature
- Energy: Estimates of energy usage by certified professional of average and peak daily electricity
- Reclamation / Abatement requirements
- Public safety / emergency access



Cost to Community and Taxation

Cost to Community & Taxation

- How a TIF works
- How a TIF might impact taxes
- How a TIF can be a raw deal for communities
- Adverse impacts of municipal TIF on county valuation
- Land and home values
- State increase to accommodate data centers

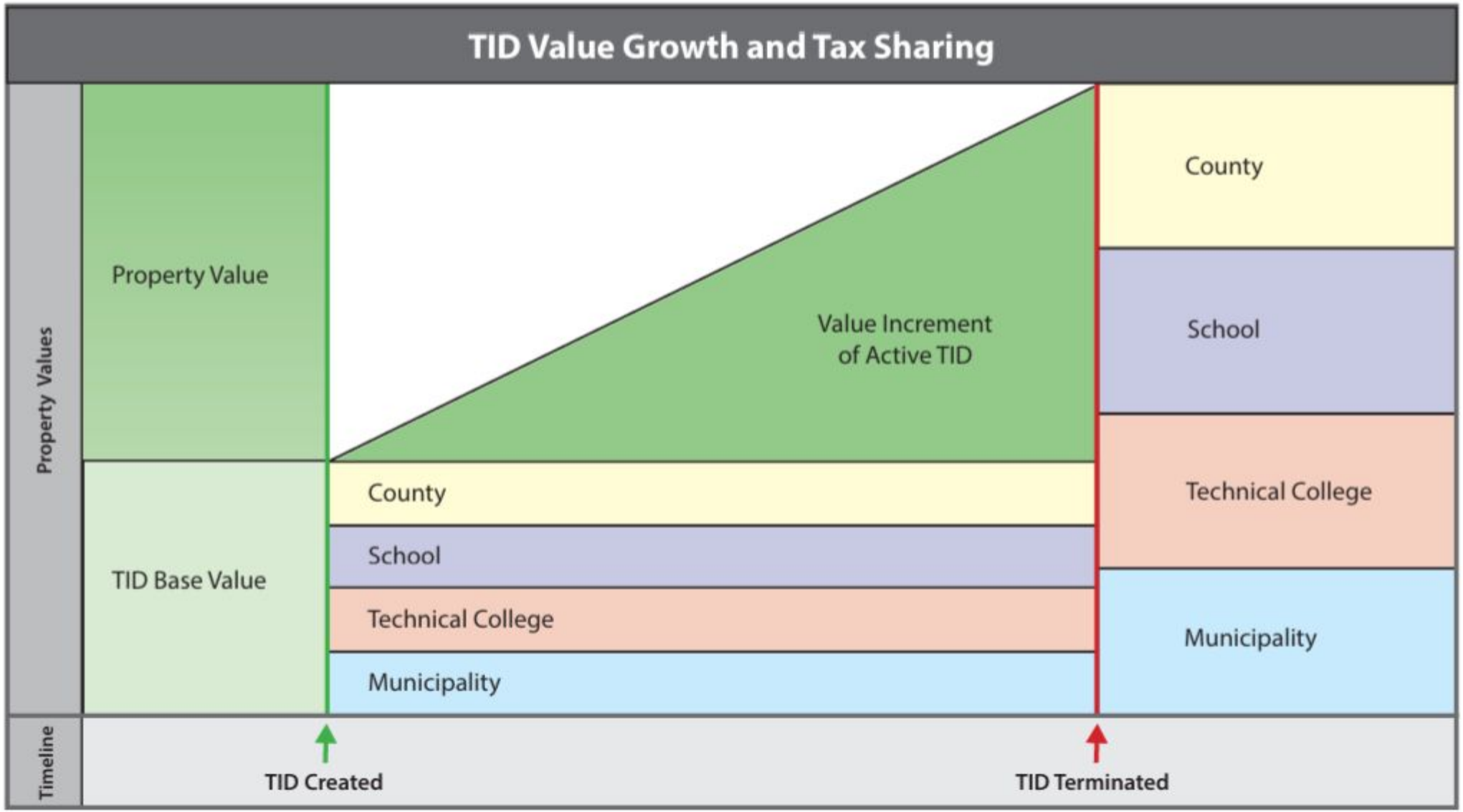
What is a TIF (TID)

Tax Incremental Financing (TIF) is a mechanism that allows communities to borrow against future tax revenue in a specific geographic area (district) in the City/Village, and use those proceeds to fund the cost of development and infrastructure within the “district”.

Governance: a TID is local financing tool, thus a local decision point for a community (To use, or not use TIF)

How Tax Incremental Financing (TIF) Works

Tax Incremental FInancing is a property tax financing mechanism that allows debt to be issued on future tax revenues



Tax Revenue

Property Tax Valuation

Mill rate = $\frac{\text{Levy}}{\text{Total Assessed Value}}$

Increased valuation of data center could provide property tax relief by increasing value, causing mill rate to drop

Does Municipality raise Levy, and by how much?

Does TIF impact property tax relief?

Levy Limits

- Levy limits restrict the amount a LGU can increase levy based on net new construction (NNC)
- LGU has 1-5 year diminishing window to take levy increase allowance
- Following this window, increased value from data center makes NNC smaller in years moving forward

Tax Definitions

- **Levy Limits**: Restriction by State on the amount a LGU can increase Levy based on net new construction (NNC)
- **Levy** is the part of a LGU's budget support by property taxes
- **Net new construction** is total new construction value (minus any value removal necessary) in a municipality for an entire year
- The total Net New Construction of the municipality is then divided by the municipality's total taxable value to determine the % percent of allowable levy increase

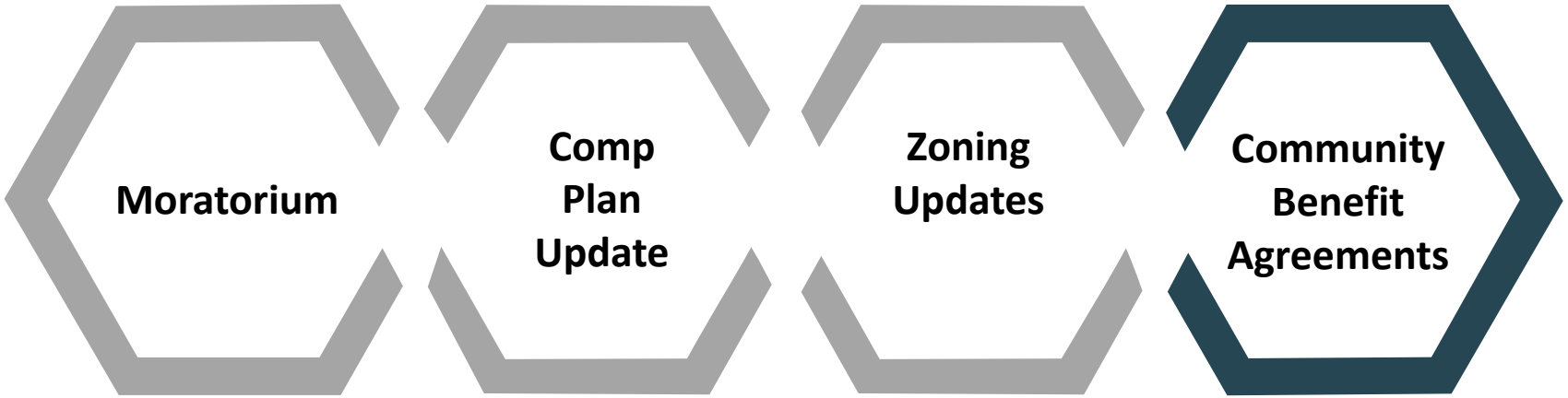
Considerations on Net New Construction

- Who pays Levy increase if Data Center is in a **TID** and municipality raises levy as allowed?
- How does municipality use this additional levy increase?
    - Debt retirement
    - Capital Improvement Planning
    - General Fund balance replenishment
    - Investment for future use
    - New municipal program(s)?
- Politically, how do you promote benefit of tax base from DC's if it does not lead to tax decreases for general public?
- What happens to %NNC after major construction data center valuation has been added?

Total NNC / Total Equalized Value = % Levy Increase allowed

Community Benefit Agreements

Local Government Context



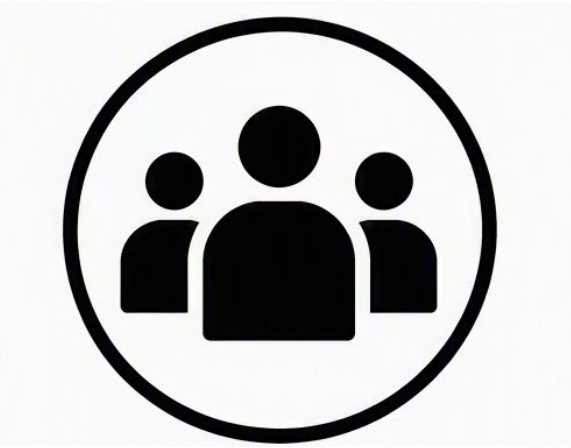
Community Benefit Agreements

Formal Community Benefit Agreements are signed by developers, local governments, and/or community organizations.

They can include things like:

- Community benefit funds or direct payment
- Job training and prioritized local hiring
- Economic development programs
- Construction agreements
- Local land rehabilitation and greening
- Ratepayer utility relief mechanisms
- Address local infrastructure impacts
- May be part of Joint Developers Agreement, or seperate

Source: Columbia Law School (2026). *Community Benefits Agreements Database;* U.S. Department of Energy, *Wind Energy Community Benefits Guide*.



Jobs and Economic Activity

Job Creation *Estimates from Virginia*

2024 Estimates in Virginia ("Data Center Alley")

570 data centers	**12,140** operational jobs	**14,240** construction jobs
That's about 20 operational jobs per data center.		
For every job inside a Virginia data center, **3.5 additional jobs are supported.**		

Many of these are much smaller than the "hyperscale" facilities being considered in Wisconsin.

Sources: Northern Virginia Technology Council (2024) Virginia Data Center Report. Data Center Maps, Virginia Data Centers.

Jobs and Economic Activity

- Housing during construction
  - Temporary workers will require housing
  - How much depends on size, scale of development
  - Local municipality may find it difficult to “zone away” these impacts, should consider provisions in **Community Benefit Agreement** to offset concerns



Transparency

Transparency

Non-Disclosure Agreements vs Public Record Law

WI State Statutes 19.31 - 19.39

- **No contractual agreement** excludes public officials from Wisconsin Public Record Law.
- A local government **cannot** create or enter a contract with a private party to get around disclosing public records.





Transparency and Accountability

Use of Non-Disclosure Agreements (NDA)s

- Have not been in Port Washington, WI
- Have been used in others state

Economic Development Corporation versus County Economic Development Corporation

- A **County Economic Development Corporation** may provide county-specific economic impact analysis, workforce projections, and coordination with county officials. This is a Government organization, even though it has non-government elected board members
- An **Area Development Corporation (501c6)** may market the entire region, coordinate multiple communities, develop regional infrastructure strategies, and assist with site-selection efforts across jurisdictional boundaries. This is a non-governmental organization, even though governmental elected officials may serve on the board

Transparency and Accountability

Use of Closed Session by local units of government

- Closed session is authorized by statute (WI SS. 19.85) by LGU's when considering:
- Deliberations concerning a judicial or quasi-judicial "case"
- Personnel matters including employee discipline and licensing
- Deliberations on property acquisitions. investments
- Competitive or bargaining issues



Closed is temporary, and records may become available in future after issue is settled

Transparency and Accountability

How does an LGU go into Closed Session?

- Convene in open session
- Announce authority (cite statute) and purpose of proposed closed session
- Close session by a majority vote, showing vote of each member
- If unanimous, note as such (in minutes)
- Limit discussion during closed session to announced item(s) (from public notice of meeting)
- WI State Statute says “ do not reconvene in open session unless it is included in public notice of meeting”



Local Government Context

Questions?



Local Government Education

DIVISION OF EXTENSION

UNIVERSITY OF WISCONSIN–MADISON