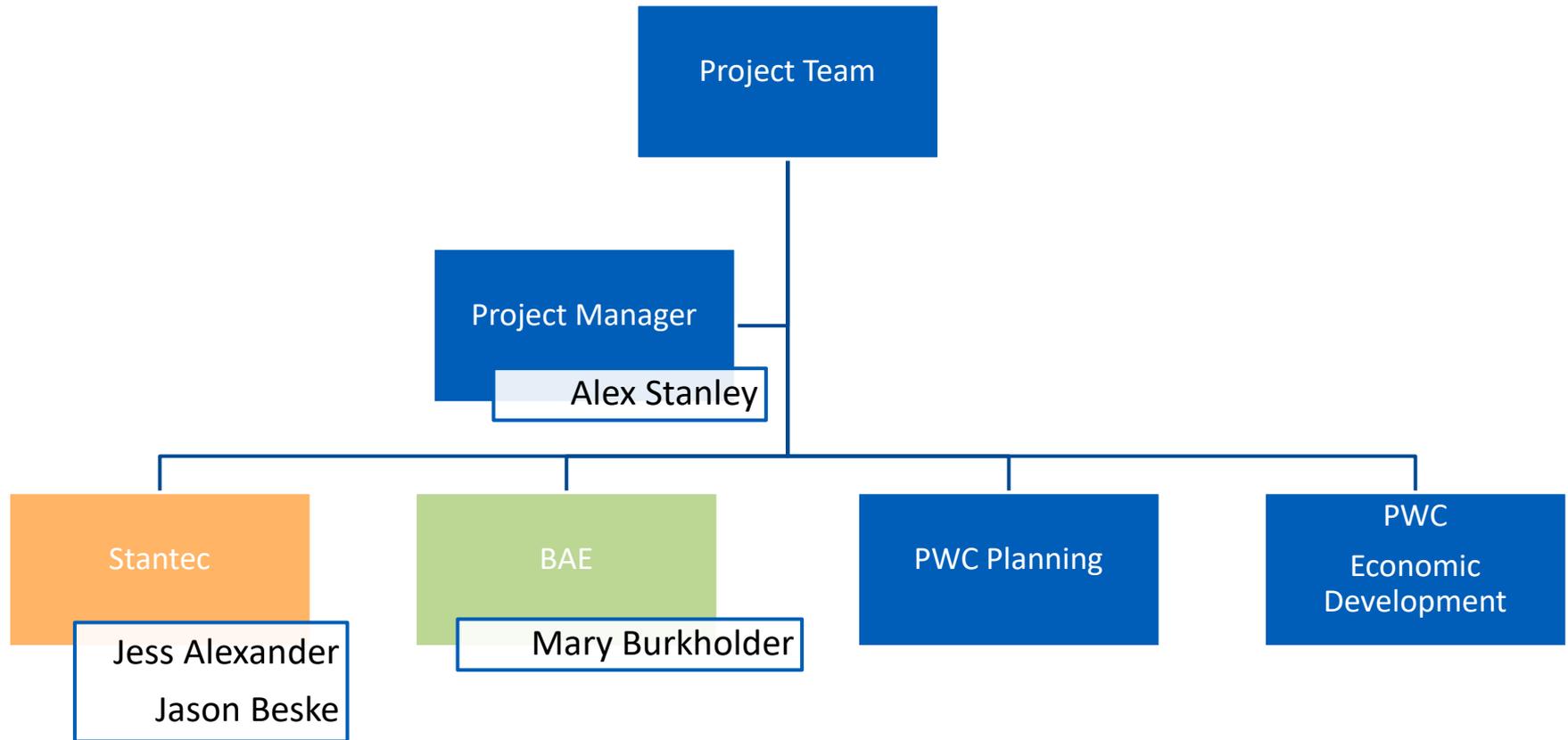




**PRINCE WILLIAM**  
COUNTY

Data Center Opportunity Zone  
Overlay District (DCOZOD)  
Comprehensive Review  
**DPA2021-00020**



# History of Data Centers in Prince William County

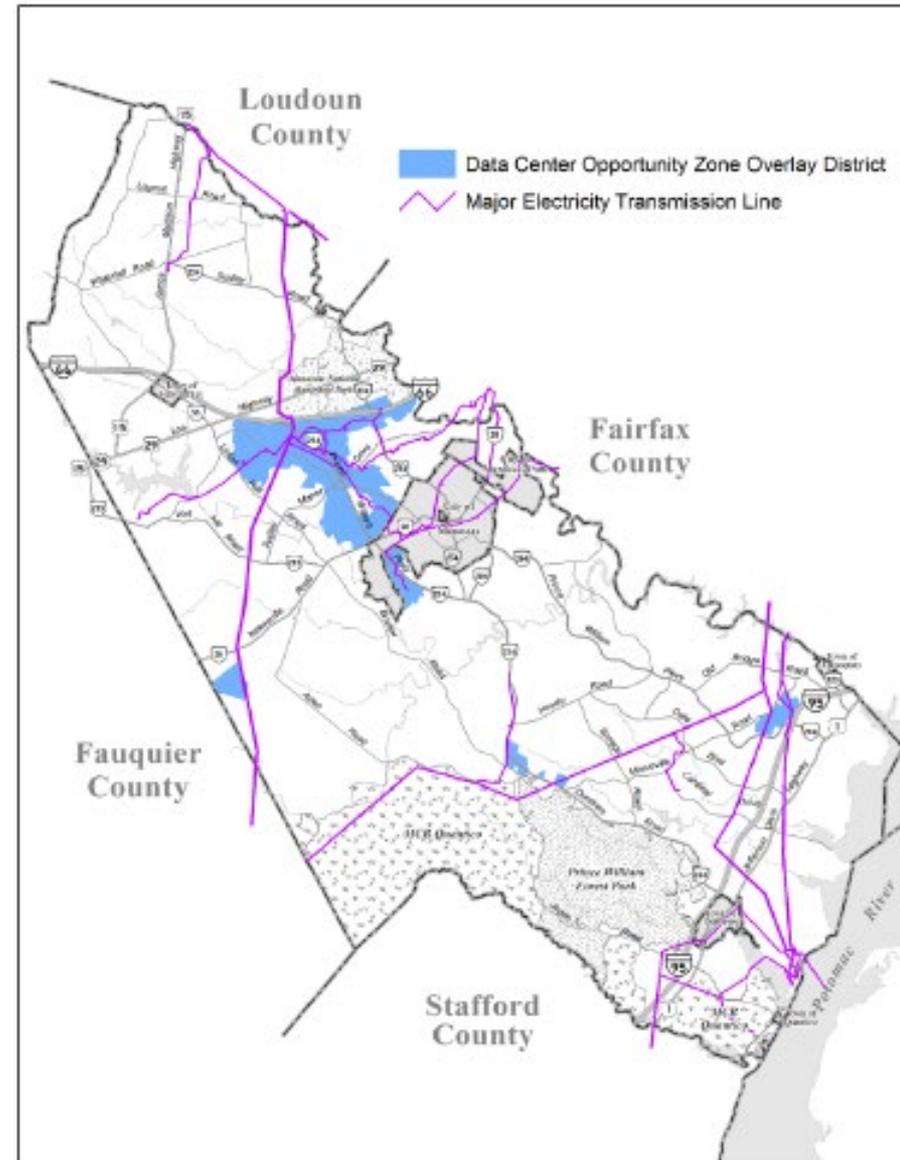


## Before the Overlay (Pre-2016):

- Increased data center growth in County
- Demands for new infrastructure to support use
- Significant community concerns related to power infrastructure
- Board initiated the creation of the Data Center Opportunity Zone Overlay District (DCOZOD)

## Background – 2016 Overlay:

- Focus of ZTA
  - Land use compatibility
  - Economic development goals
  - Infrastructure needs
- Solutions implemented
  - New definitions
  - New overlay district
  - Amended policies for substations



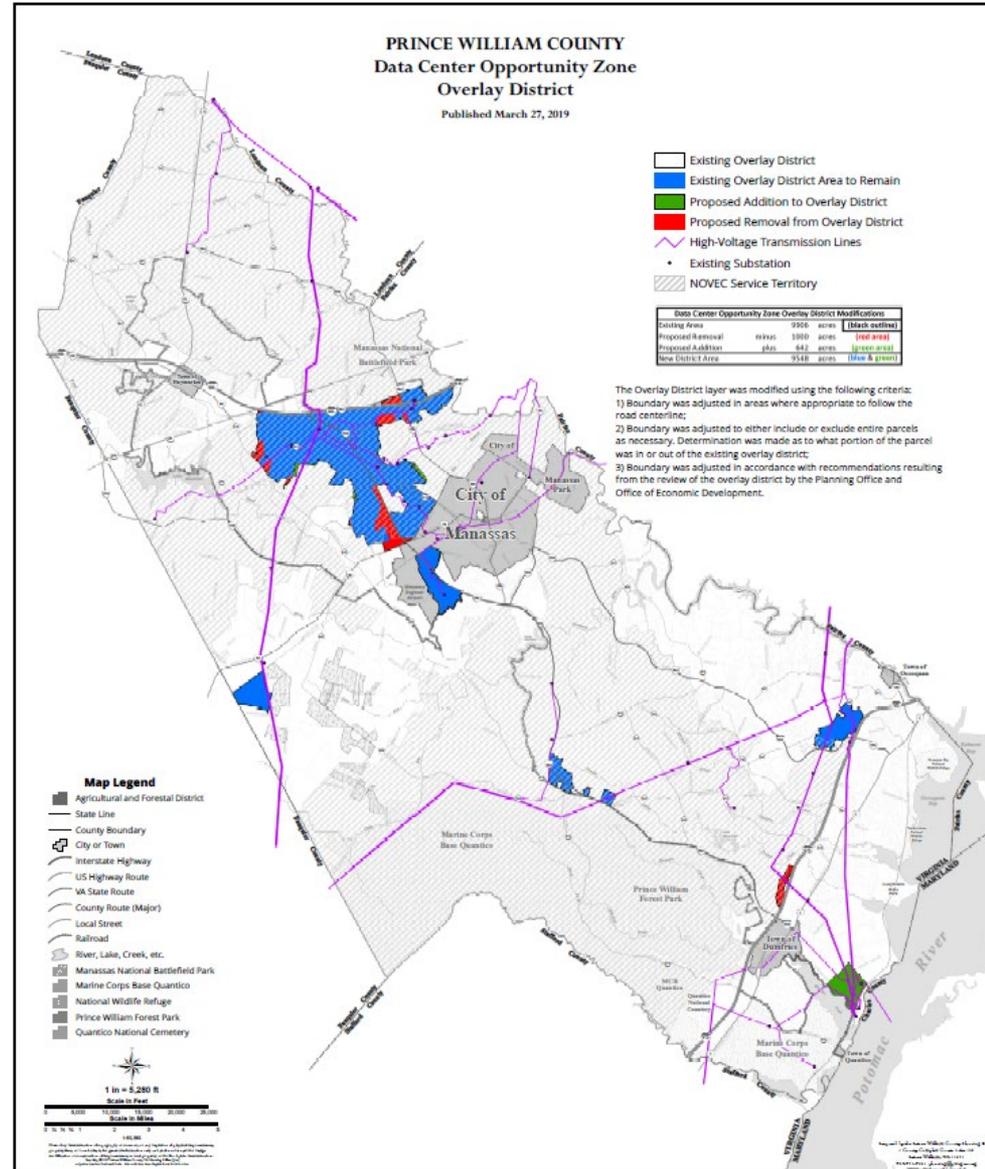
# DCOZOD Comprehensive Review, DPA2021-00020



PRINCE WILLIAM  
COUNTY

## Background – 2019 Overlay:

- Focus of ZTA
  - Adjust boundary to account for new priorities:
    - Remove high visibility employment areas
    - Add areas ideal for data center development
    - Correct for mapping and use inconsistencies
  - Architectural design of data centers
- Solutions implemented
  - Removed 1000 acres from overlay district
  - Added 642 acres to overlay district
  - New design guidelines for data centers
  - Increase floor-area-ratio up to 1.0 in the overlay



## Initiation – May 16, 2021

- Prince William Board of County Supervisors initiated amendments to County policies and regulations related to data center development including the Data Center Opportunity Zone Overlay District, the Design and Construction Standards Manual, the Comprehensive Plan, the Zoning Ordinance, and other appropriate development regulations.
- The Board directed staff to include the following items in the scope of work:

## Approved Scope of Work

### Community Engagement

#### Information Gathering

- Market Demand and Analysis
- Emerging Trends
- Best Economic Development Practices
- Economic Impact

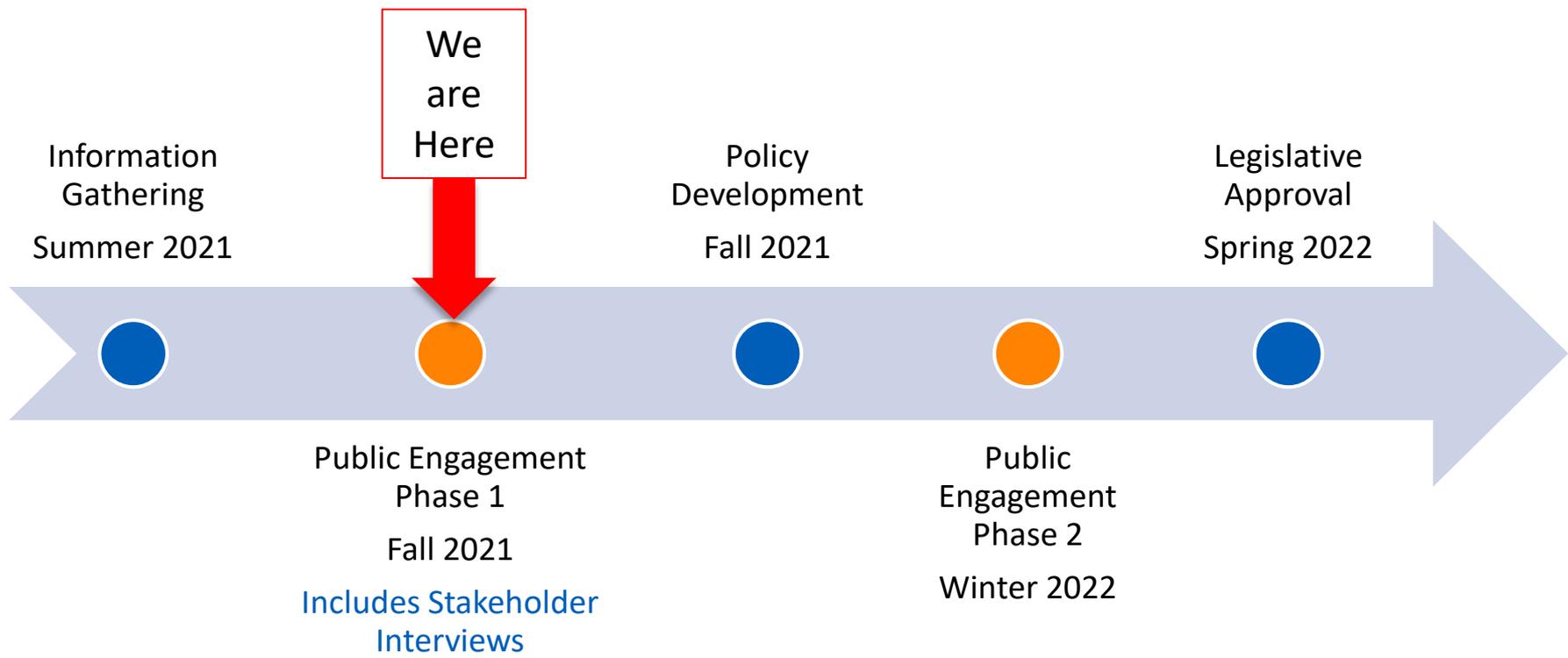
#### Policy Development

- Overlay District Expansion
- Design Guidelines
- Sustainability Guidelines
- Land Use/Infrastructure Impacts

#### Legislative Approval

- Boards, Committees, and Commissions
- Planning Commission
- Board of County Supervisors

# DCOZOD Comprehensive Review, DPA2021-00020



# Current Status of the Overlay District



# DCOZOD Comprehensive Review, DPA2021-00020

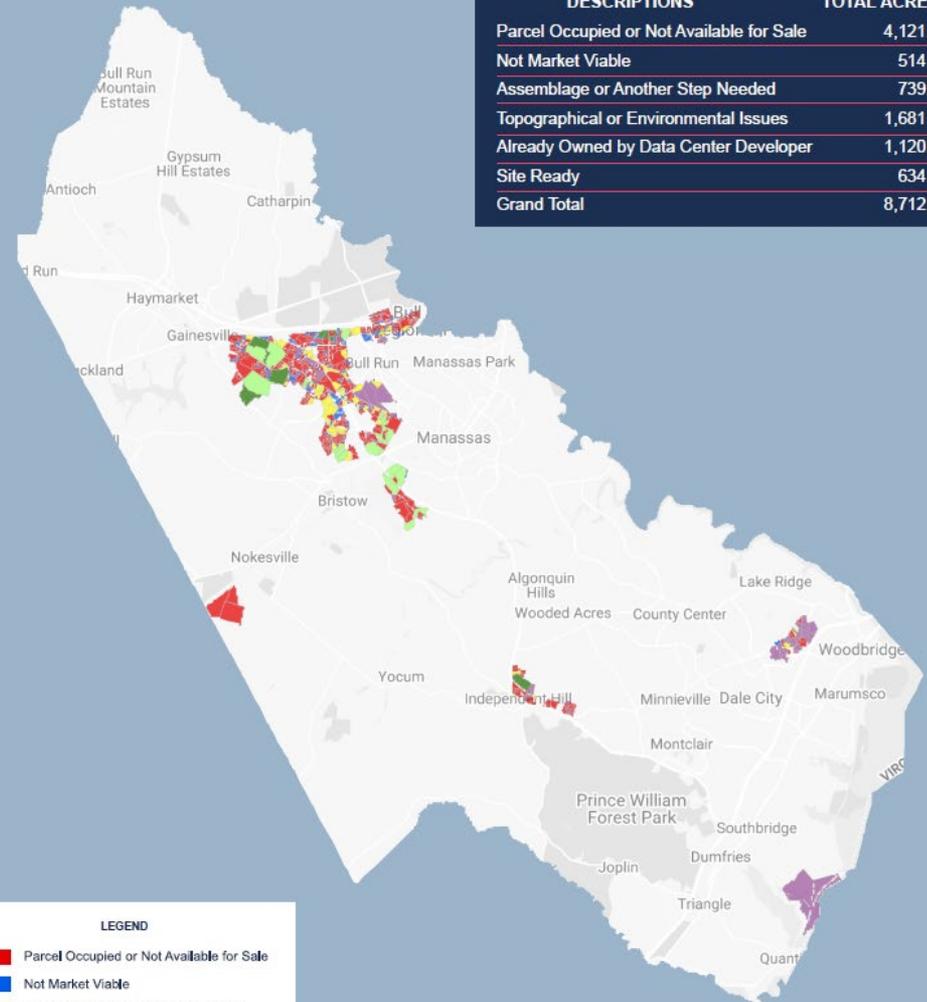
## DESCRIPTIONS

## TOTAL ACRES

Parcel Occupied or Not Available for Sale	4,121.9
Not Market Viable	514.3
Assemblage or Another Step Needed	739.6
Topographical or Environmental Issues	1,681.5
Already Owned by Data Center Developer	1,120.6
Site Ready	634.4
<b>Grand Total</b>	<b>8,712.3</b>

As of May 27, 2021

## Data Center Sites With the Overlay: Economic Development Market Viability Review



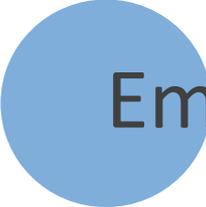
### LEGEND

<span style="color: red;">■</span>	Parcel Occupied or Not Available for Sale
<span style="color: blue;">■</span>	Not Market Viable
<span style="color: yellow;">■</span>	Assemblage or Another Step Needed
<span style="color: purple;">■</span>	Topographical or Environmental Issues
<span style="color: green;">■</span>	Already Owned by Data Center Developer
<span style="color: darkgreen;">■</span>	Site Ready

# Prince William County Data Center Market Study



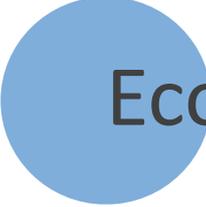
## Study components



Emerging Trends in the Industry



Best Practices in Economic  
Development (Incentives)

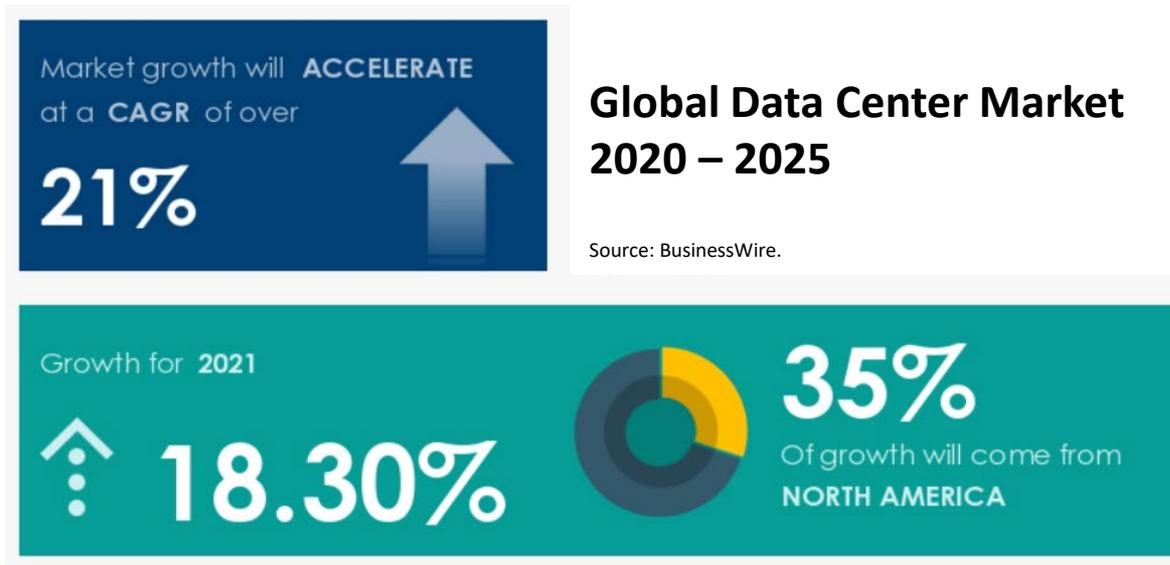


Economic Impact Analysis



Market Demand Assessment

# Emerging Trends

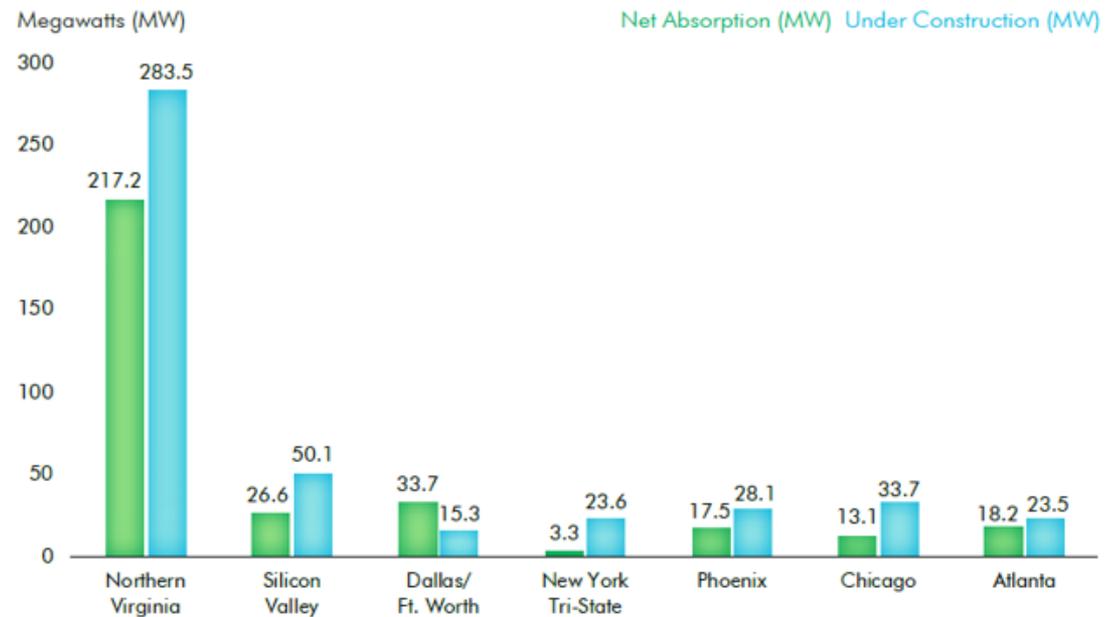


- Exponential increase worldwide of digital communication and services = need for more and more data centers.
- In 2020, the U.S. data center market is valued at \$8.4 billion and is projected to reach \$13.91 billion by 2026 at an annual growth rate of 8.63%.
- COVID-19 boosted demand for data centers – lockdowns initially created 25 – 30% internet traffic upsurges, then stabilized but stayed high.
- The pandemic brought about increased awareness of benefits of cloud services and need for more secure and robust IT environments.

# Emerging Trends

- Data centers continue to be one of the fastest growing real estate sectors with government agencies and business reconfiguring their digital infrastructure for remote work capabilities.
- There was 329.6 MW of net absorption in 2020 across the 7 primary US data center markets, second highest annual absorption amount after 2019.
- 2020 data center vacancy fell to 8.5 percent despite 11 percent growth in new supply.
- Investor interest led to a 62 percent increase in data center construction pipeline nationally—457.8 MW data center construction underway nationally.

Net Absorption vs. Under Construction by Primary Market, 2020

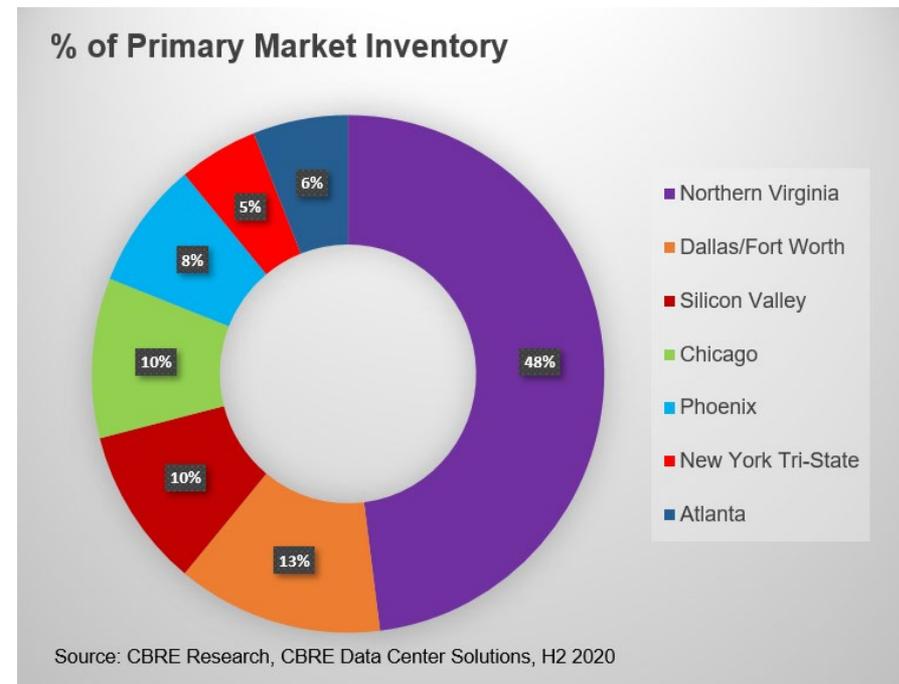


Source: CBRE Research, CBRE Data Center Solutions, H2 2020.

# Emerging Trends

## Larger Trends Impact on Northern Virginia:

- NoVa continues to be largest data center market in the world--48% of the primary market inventory in the U.S. Next largest is Dallas with 13% of market.
- Jones Lang LaSalle reports in 2020 NoVa data center market had 323 MW of net absorption, with social media accounting for 54% of that or 176 MW.
- All real estate data center outlooks predict ongoing market strength for NoVa.



# Industry Site Selection Factors

- Economic development agencies identify 6 key factors for data center site selection:
  - fiber connectivity,
  - access to electrical power,
  - environment,
  - access to water,
  - a skilled workforce, and
  - incentives.
- The most important factors are fiber availability and access to power.

## NORTH AMERICAN DATA CENTER MARKET

According to JLL and 451 Research, a data center market requires two things: low-cost electricity and ample bandwidth. Tier 1 data center markets have this, along with low operating costs, fiber availability, low natural disaster risk, accessibility and other factors.



# Economic Development Incentives

## Virginia:

- Retail Sales and Use Tax Exemption for minimum \$150 million capital investment, 50 or more employees earning at least 1.5x average local wage
- Distressed localities need only create 10 jobs and make \$70 million capital investment for exemption.

## Maryland:

- Sales and Use Tax Exemption on data center personal property for 10 years if investment is at least \$5 million and 5 jobs are created.
- In Tier 1 counties (distressed or rural) investment requirement is \$2 million. This includes Prince George's County.



# Economic Impact Analysis

- BAE prepared an economic impact analysis of data centers on the Prince William County economy using IMPLAN, an economic modeling software package on a prototype data center.
- IMPLAN reports direct impacts, indirect impacts, and induced impacts.

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## Prototype Data Center in Prince William County

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<u>Metric</u>	<u>Value</u>
Square Feet	250,000
Construction Cost per SF	\$1,100
Total Construction Costs	\$275,000,000 (a)
Square Feet per Worker	9,000
Permanent Jobs	28 (b)
Total Compensation per Worker	\$180,000 (c)
Total Worker Compensation	\$5,040,000

---

Note:

All dollar amounts in 2021 dollars.

(a) Includes labor and materials costs for building construction.  
Excludes IT equipment-related expenditures.

(b) Excludes construction jobs supported during construction period.

(c) Average compensation is for permanent jobs, not construction period jobs.

Source: BAE

# Economic Impact Analysis

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## Economic Impacts of Construction of Prototype Data Center in Prince William County

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<u>Impact (a)</u>	<u>Employment</u>	<u>Labor Income</u>	<u>Output</u>
Direct	1,697	\$110,695,000	\$275,000,000
Indirect	407	\$23,166,000	\$73,394,000
Induced	301	\$11,747,000	\$44,400,000
Total	2,406	\$145,608,000	\$392,794,000

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Notes:

Totals may not sum from parts due to independent rounding.

(a) Dollar figures given in 2021 dollars.

Dollar amounts rounded to the nearest thousand dollars.

Sources: IMPLAN; BAE, based on various data center studies.

# Economic Impact Analysis



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## Annual Economic Impacts of Operation of Prototype Data Center in Prince William County

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<u>Impact (a)</u>	<u>Employment</u>	<u>Labor Income</u>	<u>Output</u>
Direct	28	\$5,040,000	\$33,479,000
Indirect	133	\$5,889,000	\$17,915,000
Induced	22	\$873,000	\$3,302,000
<b>Total</b>	<b>183</b>	<b>\$11,802,000</b>	<b>\$54,696,000</b>

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### Notes:

Totals may not sum from parts due to independent rounding.

(a) Dollar figures given in 2021 dollars. Dollar amounts rounded to the nearest thousand dollars.

Sources: IMPLAN; BAE, based on various data center studies.

# Market Demand Analysis

- Data center real estate specialists say NoVa continues to show strong demand. Loudoun County (Ashburn) has highest demand, but few land options.
- Prince William County is the primary NoVa back-up site to Ashburn/Loudoun County.
- Land prices for data centers continue to accelerate – announcement on 8/13/21 of Amazon Web Services purchase of 17.15 acres for \$32.5 million in Loudoun Gateway area.
- Real estate brokers predict continued strong demand for Prince William County.

## Northern Virginia Recent Site Sales

PROPERTY	SIZE (Acres)	SALE DATE	SALE PRICE	PRICE/ACRE	BUYER	SELLER
5945 Wellington Rd, Gainesville	58	Apr-21	\$52,400,000	\$903K	Amazon	Chuck Kuhn
8322 Bethlehem Rd, Manassas	5	Mar-21	\$2,750,234	\$546K	Iron Mountain	Lucky Seven Manassas Inc (David Warren)
11500 Prince William Pkwy, Manassas	17	Mar-21	\$7,371,625	\$425K	Iron Mountain	Warren family
Sycolin Rd, Leesburg	50	Mar-21	\$27,000,000	\$538K	TA Realty	John Andrews
Sycolin Rd, Leesburg	95	Mar-21	\$60,000,000	\$632K	TA Realty	NV Real Estate Two LLC (Jack O'Donnell)
14721 Avion Pkwy, Chantilly	46	Jan-21	\$55,900,000	\$1.2M	Amazon	Principal Financial
21445 Beaumeade Cir, Ashburn	7	Jan-21	\$21,500,000	\$3.02M	American Real Estate Partners, Harrison Street Investment Management	Chirisa Tech Centers

# Market Demand Analysis



Other Areas of Note Potentially Competitive to Prince William County include:

- Henrico County – Only network access point (NAP) in the country that connects land-based data centers to underwater data cables to Spain and Brazil.
- Frederick County, MD – In June 2021 Quantum Loophole announced the purchase of a 2,100-acre property in Frederick County for data centers with land costs less than \$50,000 per acre. The site has “power, water, and proximity to Northern Virginia needed for success.”

# Observations & Conclusions



- Land prices for proposed data centers are rising to unprecedented heights in Loudoun County and Prince William County with recent deals at \$1 million plus per acre.
- The primary drivers for data center site selection are availability of reliable power and access to fiber—NoVa offers both.
- Local personal property tax rates are a factor, but all other things being equal, are not the primary consideration for data center site selection.
- Though other areas in the broader region could become more serious competitors for data center investments over time (i.e., Henrico County, VA and Frederick County, MD) there is practically unlimited demand for data centers in NoVa.
- The high rate of growth for data centers in NoVa will continue and be abated only by the lack of land availability.

# Prince William County Stakeholder Interview Feedback



**Prince William County**  
**Data Center Opportunity Zone Overlay District Comprehensive Review**  
**Stakeholders**

Agricultural and Forestal Districts Advisory Committee	Greater Prince William Trails Coalition	Prince William County Chamber of Commerce
American Battlefield Protection Program	Historic Prince William	Prince William County Soil and Water Board
American Battlefield Trust	House Family Farm	Realtor Association of Prince William
Baltimore/DC-Metro Building Trades	LOCCA-PELT	Sierra Club
Buchanan Partners	Manassas Battlefield	St. John Properties
Bull Run Civil War Round Table	Manassas Park	SummitIG
Casa	Marine Corp Base Quantico	The Coalition to Protect Prince William
Christopher Consultants	Mid County Civic Association (MIDCO)	The Wiley Companies, Inc
City of Manassas	National Association for Industrial and Office Parks (NAIOP)	Town of Haymarket
Commercial Development Committee	National Parks Conservation Association	Vanderpool, Frostick & Nishanian, P.C
Compton & Duling, LLC.	Northern Virginia Electric Cooperative	Virginia Coop Extension Service
Conway Robinson State Park	Piedmont Environmental Council	Virginia Native Plant Society
Digital Gateway	Prince William County Historic Commission	Vulcan Quarry
Dominion Power	Prince William Trails & Streams Coalition	Walsh, Colucci, Lubeley & Walsh
Friends of the Occoquan	Prince William Conservation Alliance	Weber Rector
Greater Prince William Climate Action Network	Prince William Forest Park	Woodbridge Potomac Communities Civic Association

**Internal Stakeholders**

Building Development - Development Services	Land Development - Development Services
County Archeologist	Long Range Planning
Department of Parks, Recreation & Tourism	Prince William County Service Authority
Economic Development	Watershed Management - Public Works

## Non-Industry Themes: Historic/Cultural, Local/Federal, County, Environmental, Civic

Overall quality of life for County residents should be the most important consideration in the development of new data centers.

Build-out the existing overlay prior to expansion.

Balance data centers with other industrial uses/services.

Financial benefits of data centers are appreciated but should not overshadow the potential adverse impacts of a data center only economy.

Need to understand what the vision for the County is in relation to data centers. A sustainable vision is missing.

- *What elements do residents of PWC give value to? This should be considered overall.*

Protect and enhance the historic and cultural assets of PWC as a priority.

- Concern about viewshed corridors and the impact on historic sites

## Non-Industry Themes: Historic/Cultural, Local/Federal, County, Environmental, Civic

### Data centers should not adversely impact infrastructure availability for others.

- Developers should advance the County's energy sustainability goals.
- Concern about energy and water impacts on adjacent communities.

### Protect and enhance the natural environment and ecology of PWC as a priority.

- Protect Prince William Forest Park and habitat throughout the County.
- General concern about a lack of understanding and respect for the natural environment.
- The County should consider purchasing environmentally sensitive areas to protect them.
- The rural economy should be incentivized in light of data center development.

### Preserve greenfield areas of the county by exploring the redevelopment of existing underutilized sites.

- New development models (location and multistory).
- Preserve and expand Prince William County Park.

### Potential mitigation measures:

- List of data center impacts.
- Map open space and cultural resources to specify areas that should not be developed.
- Height limits in sensitive areas, requiring detailed viewshed studies.
- Focus development in other areas (brownfields/greyfields, Possum Point).
- Consider sound impacts.
- Need more green building measures and metrics.
- Tree planting alone is not good enough for screening.
- Context sensitive design

## Industry Themes: Infrastructure, Builders/Developers, Real Estate

The Overlay District has not made it easier for developers to move projects forward.

Greenfield sites are more attractive for development than redevelopment sites—particularly for a campus setting (~3-4 data centers).

- Landscaping can be easy to accommodate in setbacks, but can also hurt in achieving allowable Floor Area Ratios (FAR).

Architectural standards can be prohibitive, but level the playing field.

Tax/assessment environment in PWC is not as stable as developers/owners would like.

- The tax rate for projects is not predictable.

New development models are being used (e.g., adaptive reuse, infill).

- Certain models may be cost prohibitive but not enough infill property to address demand.
- The demand for data centers has removed available industrial land.

The labor market for data centers is highly competitive.

- PWC has a good pool of labor.
- NVCC is partnering with the Data Center Coalition to help with employee pipeline.

## Industry Themes: Infrastructure, Builders/Developers, Real Estate

### PWC is an attractive location for data centers.

- The cost of land is rising with limited overlay capacity of land.
- Several entities are competing for each lease.
- Low cost of energy.
- Existing robust infrastructure networks.

### Information and data will only increase over time.

- There has been a 500% increase in internet traffic with only a 6% increase in energy consumption.
- A critical efficiency is being reached and energy may be a limiting factor moving forward.

### PWC is not an attractive place for data centers from an approval perspective.

- Speed to market is critical, the local/state government can help to expedite approvals for data centers (entitlements, site plans, building permits, etc.) and utilities (public utility permits, easements).
- Known requirements are helpful for upfront planning (e.g., design guidelines, LEED).

### Consider a more flexible approval process for data center development.

- The Overlay adds an additional layer of red tape—it was supposed to expedite the process but does not seem to have done that.
- Suggestion to remove the Overlay and rely on the Special Use Permit process—giving the BOCS more transparency into each project.
- Do not downzone properties in the Overlay.
- Consider new development models



- Quick Survey –  
[forms.office.com/g/tDNznpjPg6t](https://forms.office.com/g/tDNznpjPg6t)

## Approved Scope of Work

### Community Engagement

#### Information Gathering

- Market Demand and Analysis
- Emerging Trends
- Best Economic Development Practices
- Economic Impact

#### Policy Development

- Overlay District Expansion
- Design Guidelines
- Sustainability Guidelines
- Land Use/Infrastructure Impacts

#### Legislative Approval

- Boards, Committees, and Commissions
- Planning Commission
- Board of County Supervisors

# DCOZOD Comprehensive Review, **DPA2021-00020**

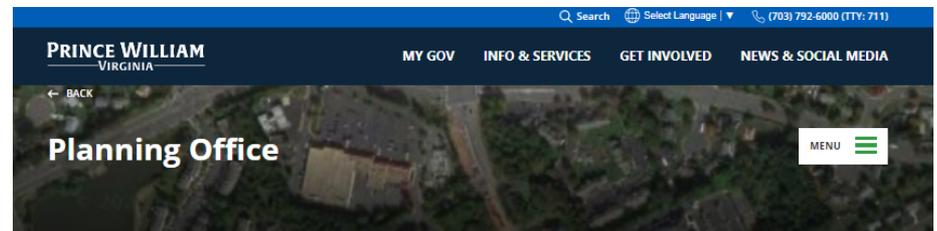
## Project Team

Planning

Economic Development

Stantec

BAE



Home | Planning Office | Data Center Opportunity Zone Overlay District Comprehensive Review

## Data Center Opportunity Zone Overlay District Comprehensive Review

The Data Center Opportunity Zone Overlay District (DCOZOD) was created to promote the development of data centers within areas of the County where there is existing infrastructure that could adequately support the proposed use. This District continues the County's efforts to attract and advance high-tech industrial development while limiting negative impacts to communities. Data centers are on the Board's adopted List of Targeted Industries for New, and Expanding Companies revised on August 4, 2020.

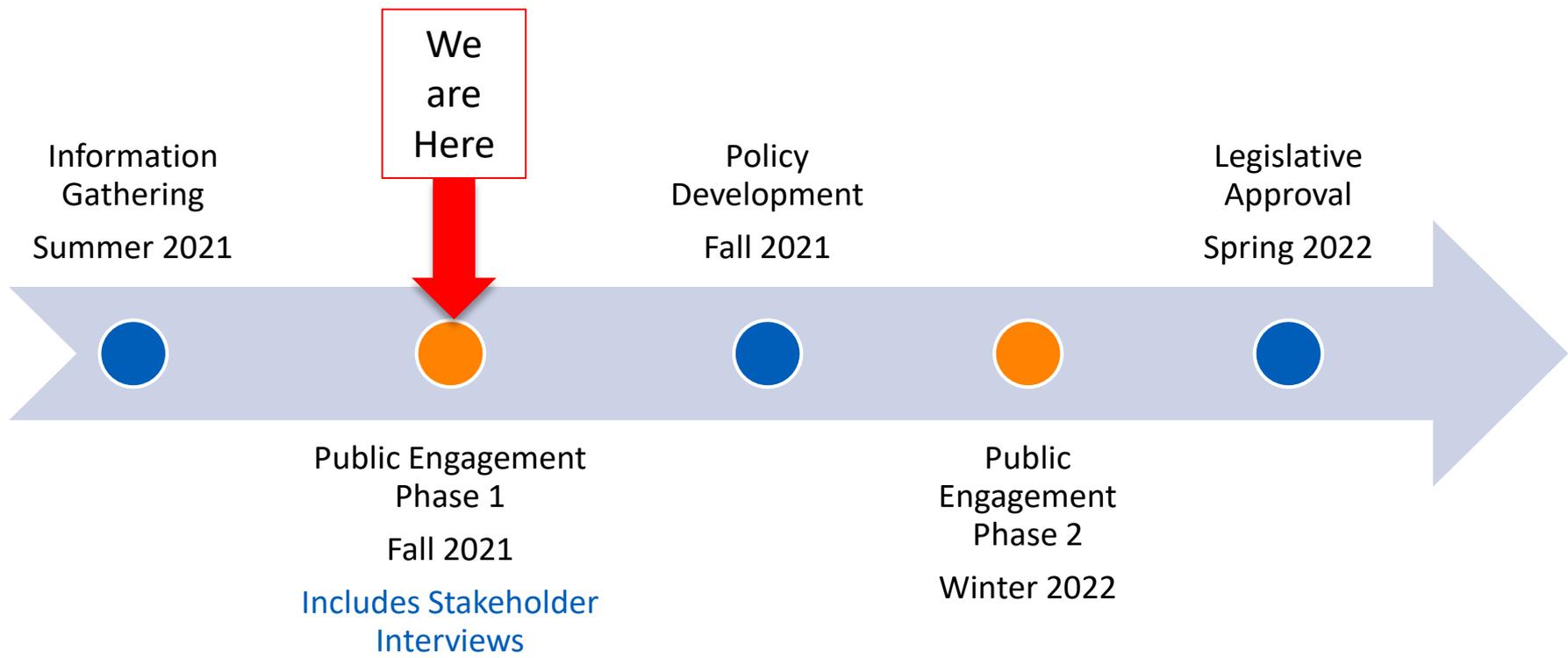
### BOARD OF COUNTY SUPERVISORS INITIATION

On May 18, 2021, through Res. No. 21-327, the Prince William Board of County Supervisors initiated amendments to County policies and regulations related to data center development including the Data Center Opportunity Zone Overlay District, the Design and Construction Standards Manual, the Comprehensive Plan, the Zoning Ordinance, and other appropriate development regulations.

### PROJECT TASKS

This project has been broken down in the multiple tasks. These tasks include research of the data center industry, public outreach & community engagement, policy development, and adoption of new policies through the public hearing process. These tasks build off of each other and help to inform the next steps in this project. While public outreach & community engagement is a distinct task, opportunities to provide public input are available during all tasks of this project.

# DCOZOD Comprehensive Review, DPA2021-00020



- For more information: [www.pwcva.gov/planning](http://www.pwcva.gov/planning)
- For follow up questions & comments, please contact:  
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(703) 792-7359