



Photo Credit: <http://www.smc-tv.com/blogs/>

Las Vegas

Data Center Market Report



About Our Market Reports

The data center market reports are a labor of love for the Open Spectrum team. The information found within is designed to be service provider agnostic, accurate, highly relevant, and actionable for anyone working within the industry. In producing these reports, we pool information from our own dealings around the data center marketplace working directly with hundreds of buyers, sellers, and investors.

We also partner with different experts and aggregators of targeted data sets such as Structure Research, NE Fiber, and Lathrop & Gage, LLP.

FiberLocator



**STRUCTURE
RESEARCH**

LATHROP & GAGELLP

We hope these reports provide value to you in whatever you are trying to accomplish.

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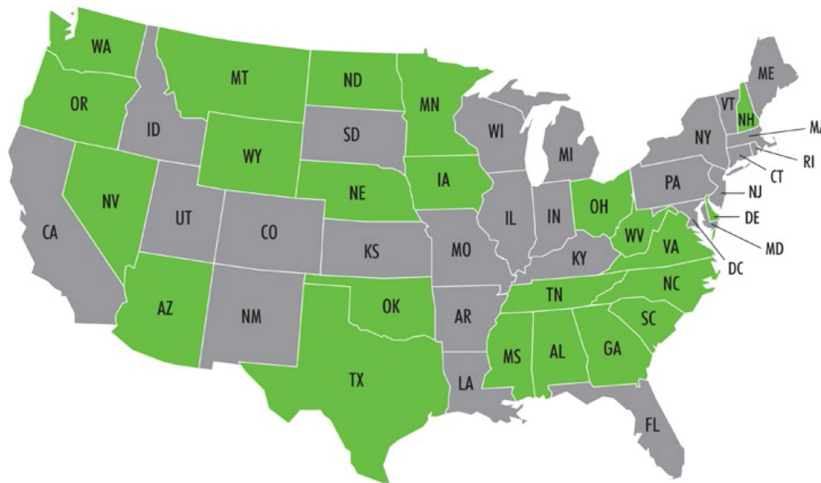
Tax Incentives

Sales and use taxes, property taxes, and real estate taxes all play a role in the total operating costs of data centers. Some states, however, offer incentives that lower the operating cost, or Total Cost of Occupancy (TCO) for both data center developers and clients installing infrastructure within these facilities. Site Selection is typically based on four primary drivers:

1. Power: Cost per kWh, carbon footprint, fuel mix, and infrastructure
2. Telecom: Fiber Providers, Latency
3. Geography: Proximity to headquarters, population size, labor force, water
4. Climate: Environmental risk (i.e. hurricanes, tornadoes, earthquakes, etc), free cooling

SALES TAX INCENTIVES FOR DATA CENTERS

■ States with incentives



*Source: Lenio, John and Lynch, Patrick, "Impact of Taxes & Incentives on Data Center Incentives," CBRE..

Sales & Property Taxes

Nevada currently offers sales tax incentives that may affect data center owners, operators, or their clients installing hardware and related infrastructure.

The legislation allows data centers to apply for reduced property and sales taxes for 10 years as long as they make a capital investment of at least \$50 million. Those making \$100 million investment or more could receive similar abatements for up to 20 years.

Eligible goods includes personal property located at the center, machinery or equipment necessary to and specifically related to the business of the data center or collocated business. The term does not include vehicles, buildings, or the structural component of buildings.**

National Industry Trends

90% Amount as a % of the totality of data generated
*-Expected to **Increase** year after year*

2,500 Number of commercial colocation facilities within the USA
*-Expected to **Increase** year after year*

2,940,000 Number of corporate owned data centers in the USA*
*-Expected to **Decrease** year after year*

611,400,000 Total data center sq. ft. within the USA*
*-Expected to **Increase** year after year*

*Source: IDC trends

National Industry Trends

PRIMARY WHOLESALE COLOCATION MARKET SNAPSHOT

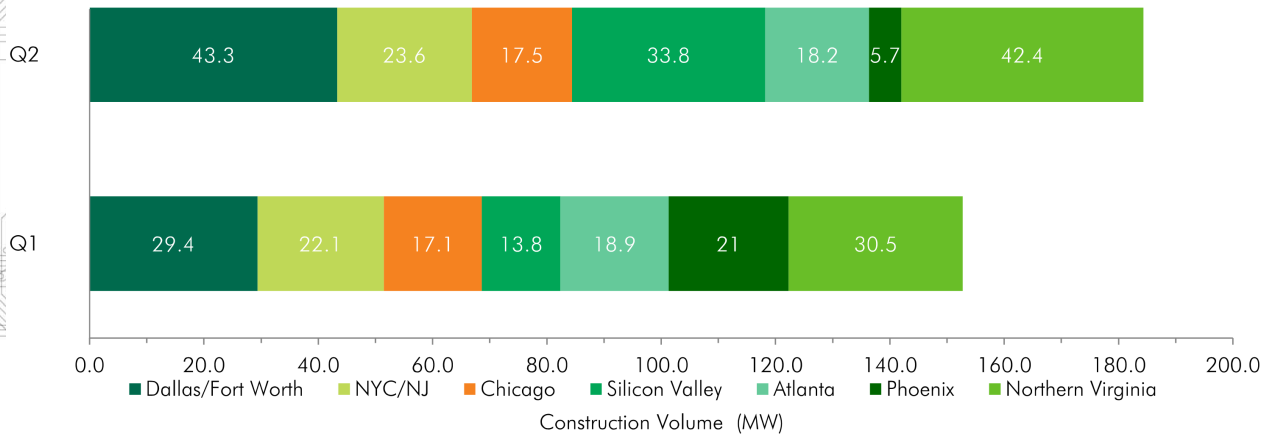
Market	Quarter	Inventory	Vacancy	Absorption	Rental Rates (kW/mo)*
Northern Virginia	Q1	417 MW (▲ 15.0 MW)	21.2 MW / 5.1% (▼ 24.1%)	20.8 MW (▲ 11.9 MW)	\$130-\$145
	Q2	421 MW (▲ 3.6 MW)	15.5 MW / 3.7% (▼ 27.7%)	9.4 MW (▼ 11.4 MW)	\$130-\$145
Phoenix	Q1	218 MW (▲ 5.0 MW)	4.1 MW / 1.87% (▼ 0.1%)	5.0 MW (▲ 2.8 MW)	\$140-\$160
	Q2	228 MW (▲ 10.0 MW)	4.1 MW / 1.87% (▲ 0.0%)	10.0 MW (▲ 5.0 MW)	\$140-\$160
Atlanta	Q1	127 MW (▲ 0.6 MW)	25.7 MW / 20.2% (▼ 2.4%)	0.7 MW (▼ 1.8 MW)	\$125-\$150
	Q2	127 MW (▲ 0.0 MW)	24.3 MW / 19.1% (▼ 5.2%)	1.4 MW (▲ 0.7 MW)	\$135-\$150
Silicon Valley	Q1	131 MW (▲ 14.9 MW)	16.1 MW / 12.3% (▼ 10.7%)	14.7 MW (▲ 11.7 MW)	\$140-\$150
	Q2	134 MW (▲ 3.6 MW)	15.8 MW / 11.7% (▼ 4.6%)	3.9 MW (▼ 10.8 MW)	\$130-\$150
NYC/NJ	Q1	134 MW (▲ 11.4 MW)	21.7 MW / 16.2% (▼ 0.5%)	10.1 MW (▲ 3.8 MW)	\$145-\$165**
	Q2	135 MW (▲ 1.5 MW)	22.2 MW / 16.5% (▲ 1.4%)	1.0 MW (▼ 9.2 MW)	\$150-\$170
Chicago	Q1	117 MW (▲ 2.4 MW)	3.4 MW / 2.9% (▼ 7.9%)	2.6 MW (▼ 1.6 MW)	\$145-\$165
	Q2	130 MW (▲ 13.0 MW)	10.9 MW / 8.40% (▲ 189.7%)	5.5 MW (▲ 2.8 MW)	\$145-\$165
Dallas/Fort Worth	Q1	131 MW (▲ 18.6 MW)	23.7 MW / 18.0% (▲ 68.1%)	7.0 MW (▼ 1.9 MW)	\$125-\$155
	Q2	132 MW (▲ 0.7 MW)	21.5 MW / 16.3% (▼ 9.6%)	2.8 MW (▼ 4.2 MW)	\$125-\$155

*Rental rates are quoted asking rates from providers for 500 kW. CBRE experiences that actual contract rates fall below these numbers.

Arrows reflect quarter-over-quarter changes.

**Quoted rates are outside of NYC proper. NYC (Manhattan) wholesale rates average \$225-\$300/kW/mo.

Q1-Q2 DATA CENTER CONSTRUCTION PIPELINE



*Source: CBRE Data Center Solutions,

Regional Industry Trends

ViaWest Secures Tax Savings for Clients Through Nevada's New Data Center Abatement Program

"ViaWest has been approved for the newly launched State of Nevada Data Center Abatement program, securing a partial abatement from personal property tax and sales and use tax for clients leveraging the company's Nevada data centers. Clients' purchases of machinery or equipment dating back to July 2016 may be eligible for an abatement up to 75 percent for personal property and reduction of sales tax to 2 percent."*

Tax Incentives, Power Savings May Cut Data-Center Costs by More Than 30%

"There are three states in particular with tax-abatement programs that have been gaining national attention as desirable data-center destinations: Minnesota, Nevada and Oregon..**"

Switch Contracts for Solar Power for Its Entire Data Center Footprint

"Switch, operator of the massive SuperNap data center campus in Las Vegas, has signed its second solar power purchase agreement, which will ensure all of its Nevada data centers are fully powered by renewable energy..***"

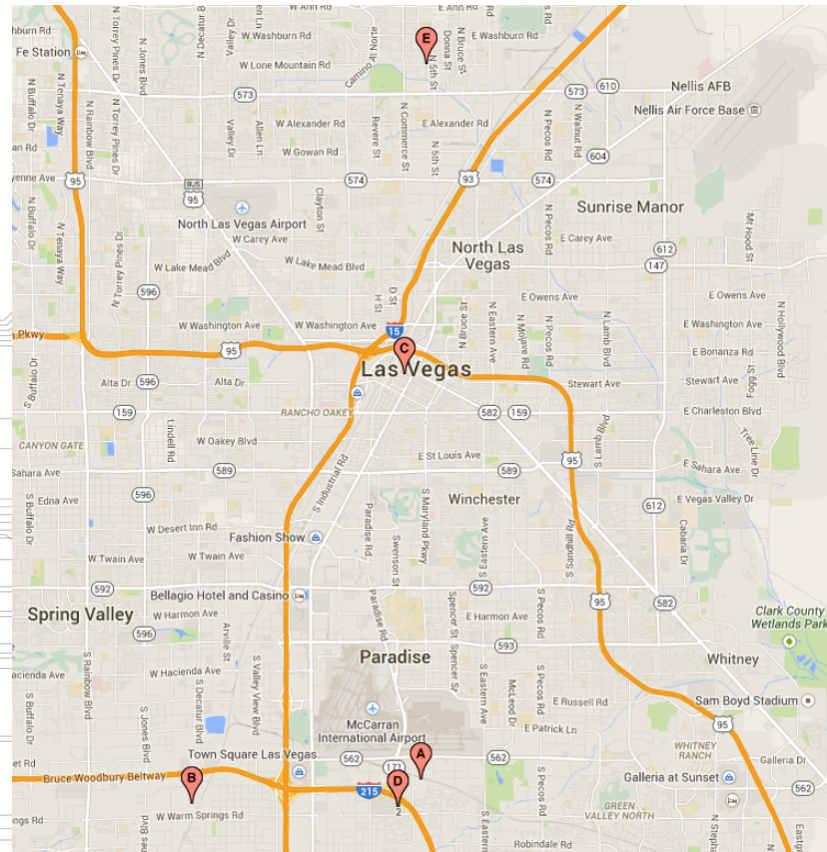
*Source: <https://www.viawest.com/newsroom/viawest-secures-tax-savings-clients-through-nevada%E2%80%99s-new-data-center-abatement>

**Source: <http://www.channelpartneronline.com/blogs/peertopeer/2016/04/tax-incentives-power-savings-may-cut-data-center.aspx>

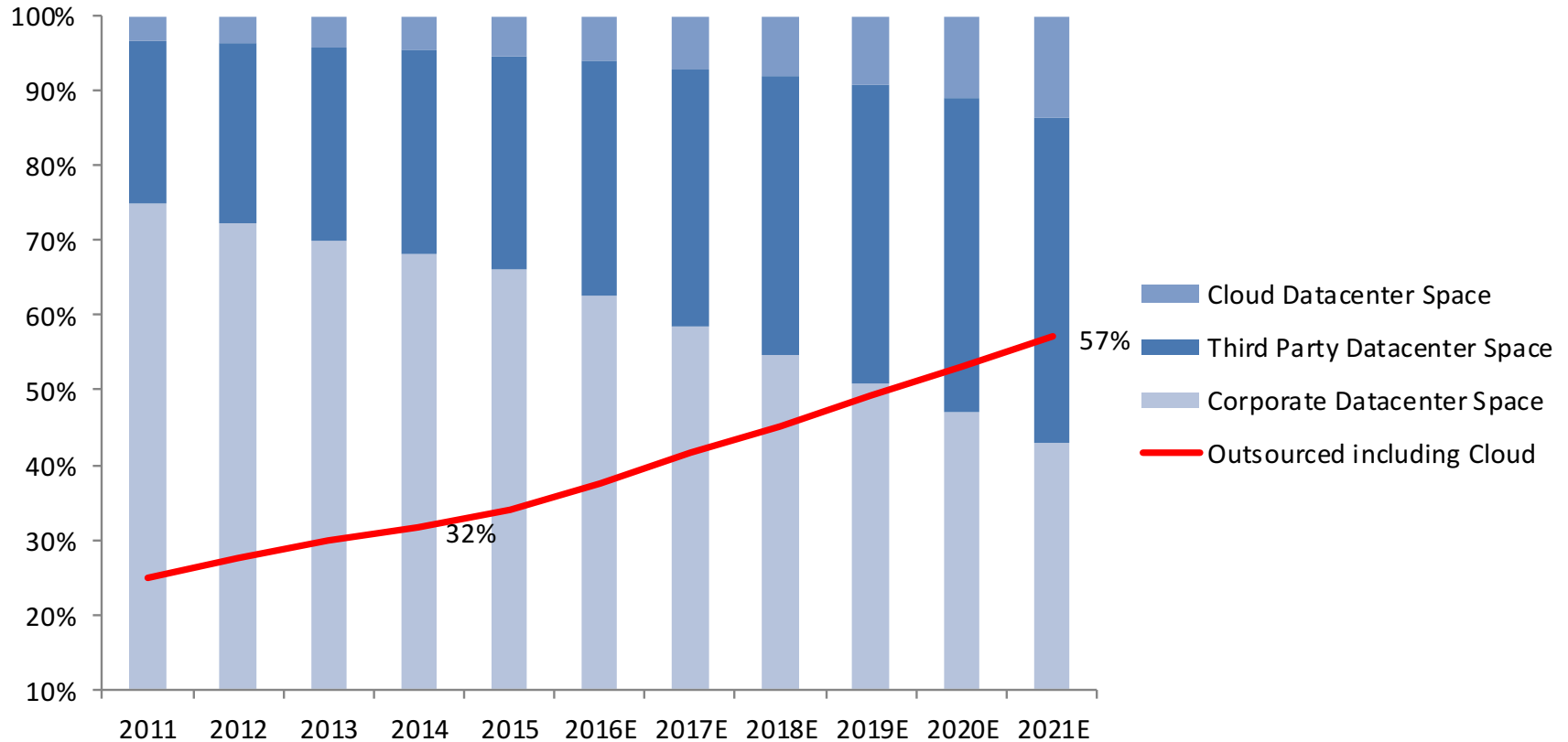
***Source: <http://www.datacenterknowledge.com/archives/2016/01/05/switch-contracts-for-solar-power-for-its-entire-data-center-footprint/>

Regional Industry Trends

6 Commercial Data Centers House 5 Different Providers Within the Las Vegas Region



Outsourcing Trends



Public Data Centers Comparison

Stock (Ticker)	Ticker	Stock Price	Stock Perf Since YE15	Market Cap. (Mil.)	Firm Value (Mil.)	2016E Revs (Mil.)
Cloud Infrastructure						
Cyrus One (CONE)	CONE	\$52.4	40%	3,437	4,524	521
CoreSite Realty (COR)	COR	\$82.6	46%	3,910	4,409	397
Digital Realty Trust	DLR	\$102.1	35%	14,158	20,017	2,081
DuPont Fabros (DFT)	DFT	\$45.9	55%	3,761	5,279	521
Equinix (EQIX)	EQIX	\$371.0	23%	26,104	32,111	3,615
InterXion Holding (INXN)	INXN	\$38.3	27%	2,703	3,243	478
Landmark Infrastructure (LMRK)	LMRK	\$15.5	6%	1,269	1,497	43
QTS Realty Trust (QTS)	QTS	\$54.7	21%	2,322	3,132	389
Zayo (ZAYO)	ZAYO	\$27.9	5%	6,782	10,663	2,065
S&P 500 (Cons. Ests.)	SP50	\$2,112.0	3%			

Public Data Centers Comparison

Stock (Ticker)	Ticker	Firm Value to '16E EBITDA (Consolidated)	Firm Value to '16E EBITDA (Multiplier)	16E FCF / AFFO Yield	16E Net Debt / EBITDA	Div. Yield %
Cloud Infrastructure						
Cyrus One (CONE)	CONE	272	16.6x	4.9%	4.0x	2.4%
CoreSite Realty (COR)	COR	206	21.4x	3.8%	1.9x	0.0%
Digital Realty Trust	DLR	1,185	16.9x	4.7%	4.9x	3.3%
DuPont Fabros (DFT)	DFT	323	16.3x	6.0%	3.6x	3.8%
Equinix (EQIX)	EQIX	1,653	19.4x	4.1%	3.6x	1.9%
InterXion Holding (INXN)	INXN	215	15.1x	-1.5%	2.5x	NA
Landmark Infrastructure (LMRK)	LMRK	38	39.7x	9.9%	6.1x	8.1%
QTS Realty Trust (QTS)	QTS	177	17.6x	4.6%	4.6x	2.3%
Zayo (ZAYO)	ZAYO	1,054	10.1x	8.3%	3.7x	0.0%
S&P 500 (Cons. Ests.)	SP50					2.1%

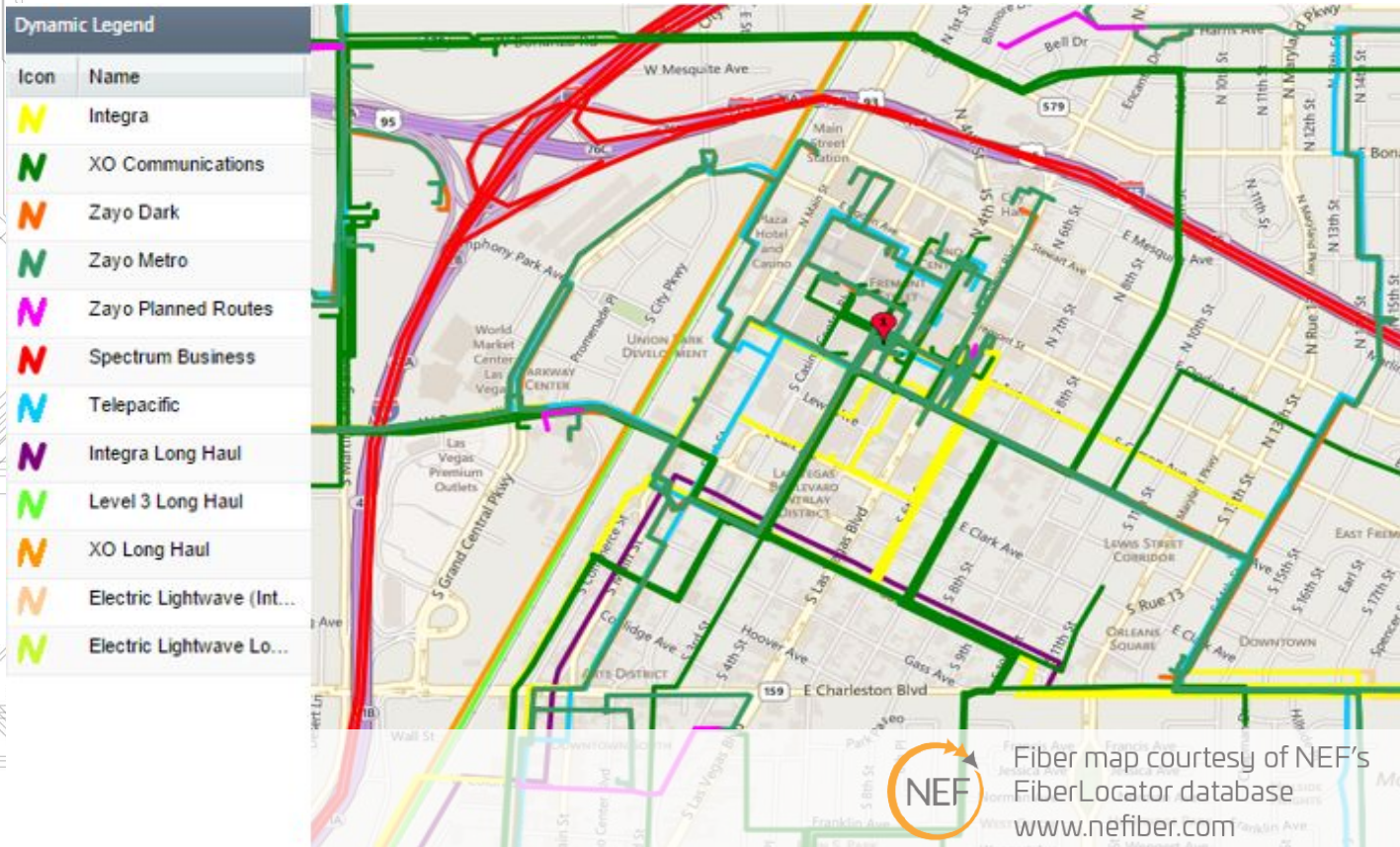
Data Center Directory

Name	Retail	Wholesale	Hosting	Location(s)	TYPE (TICKER: EXCHANGE)	Address	City
Cobalt	x		x	Local	Private	7710 West Cheyenne Ave	Las Vegas
FiberHub	x			Local	Private	1110 Palms Airport Drive	Las Vegas
SuperNAP	x	x		Local	Private	7135 South Decatur Blvd	Las Vegas
ViaWest Carson I	x	x	x	National	Sub of Shaw Public (SJR: NYSE)	302 East Carson St., Suite 100	Las Vegas
ViaWest Carson II	x	x	x	National	Sub of Shaw Public (SJR: NYSE)	7185 Pollock Drive	Las Vegas
ViaWest Lone Mountain	x	x	x	National	Sub of Shaw Public (SJR: NYSE)	330 East Lone Mountain Rd	Las Vegas
Zayo Group	x	x		Global	Public (ZAYO: NYSE)	7185 Pollock Drive	Las Vegas

*Source: peeringdb.com.

Regional Carrier Hotels

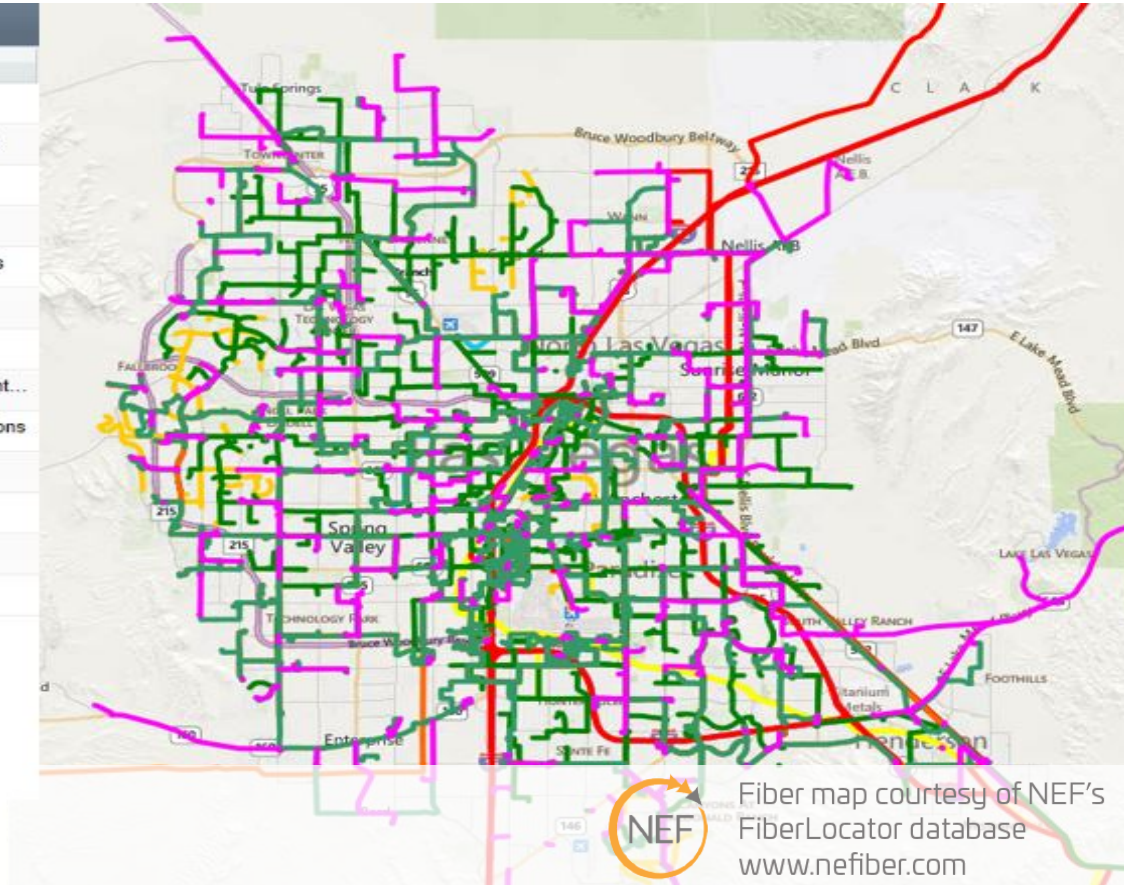
302 Carson Ave , Las Vegas, NV
1 mile View



Regional Metro Networks

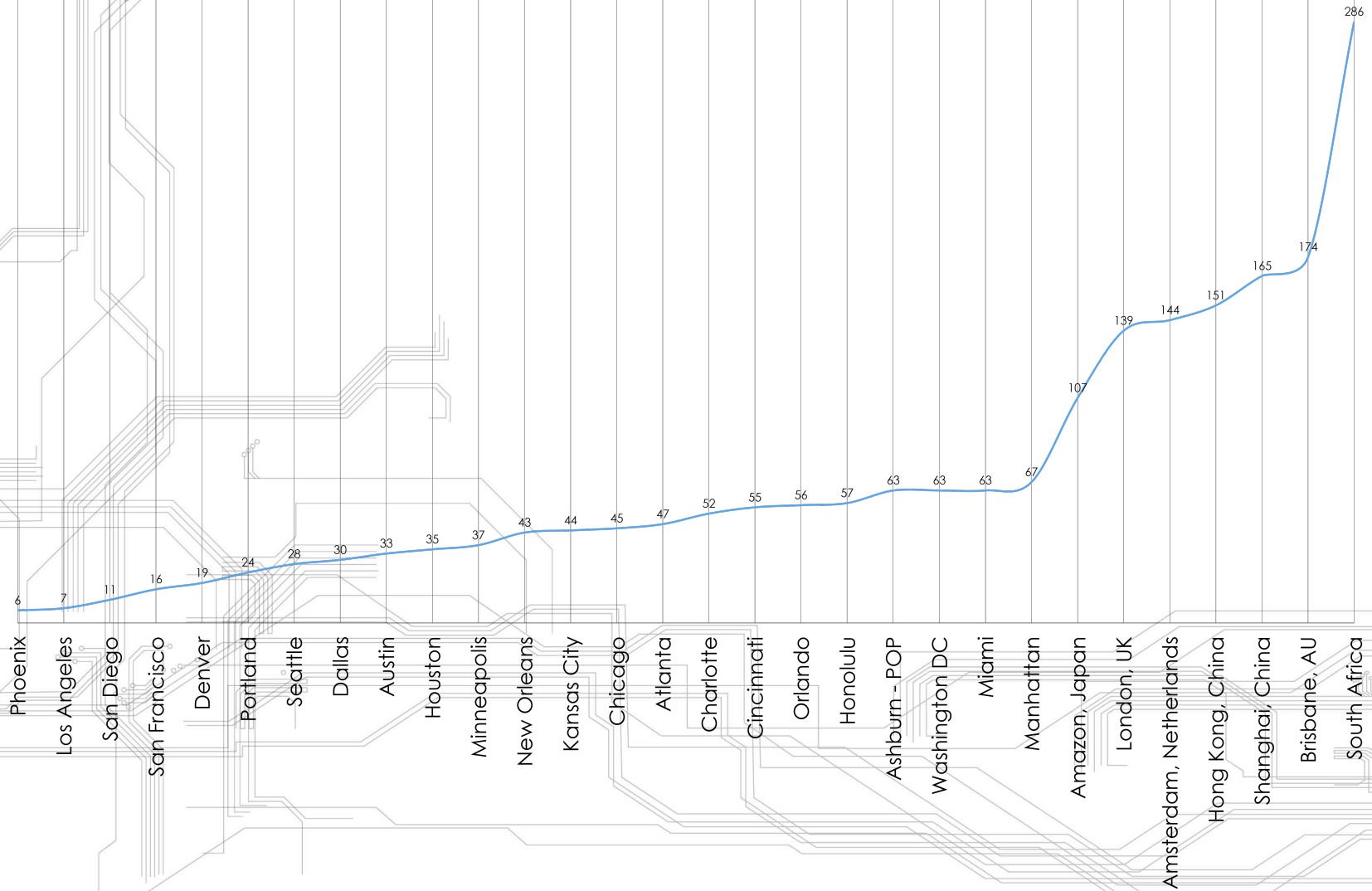
20 Mile Metro Networks

Dynamic Legend	
Icon	Name
	Spectrum Business
	XO Communications
	Zayo Dark
	Zayo Metro
	Zayo Planned Routes
	Syringa Networks
	Telepacific
	Electric Lightwave (Int...)
	Edison Carrier Solutions
	Integra
	Level3 Metro
	PinPoint
	Crown Castle



Network Latency

-Latency in milliseconds, from Las Vegas

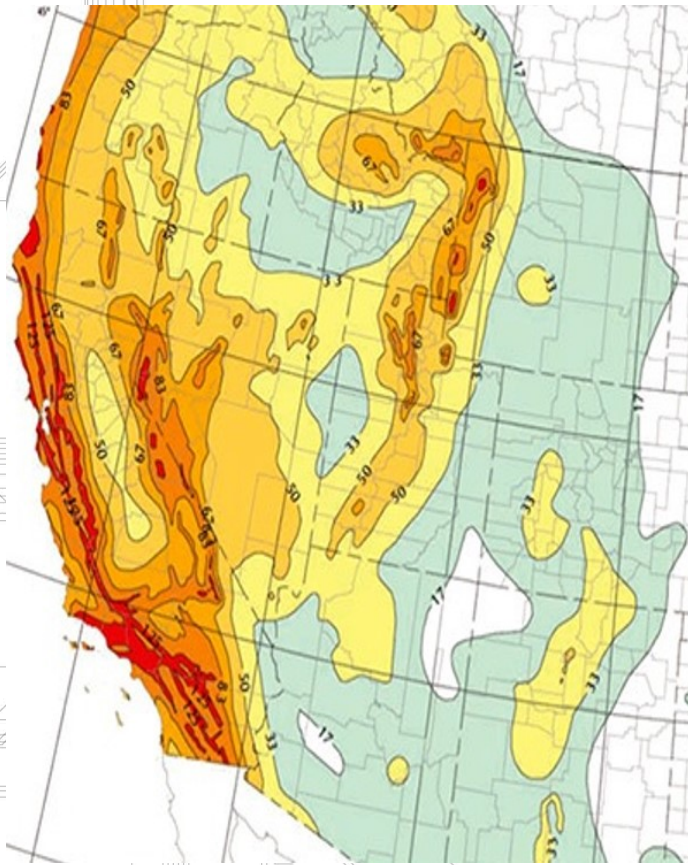


Environment & Industry

Las Vegas has a variety of positive variables stacked in its favor including the limited geological risk, favorable tax structure, relatively low cost of real estate, and of course the myriad of extra curricular activities offered in the area. As such, it currently serves as the traditional “go to” for west coast corporate disaster recovery environments.

Although the number of viable players in the region are extremely limited, the facilities there are large, extremely well-connected and offer some of the highest security and most redundant infrastructure available in the market today.

Local Weather Factors



Moderate Earthquake Risk

SDC	EARTHQUAKE HAZARD
A	Very small probability of experiencing damaging earthquake effects.
B	Could experience shaking of moderate intensity.
C	Could experience strong shaking.
D0	Could experience very strong shaking (the darker the color, the stronger the shaking).
D1	
D2	
E	Near major active faults capable of producing the most intense shaking.

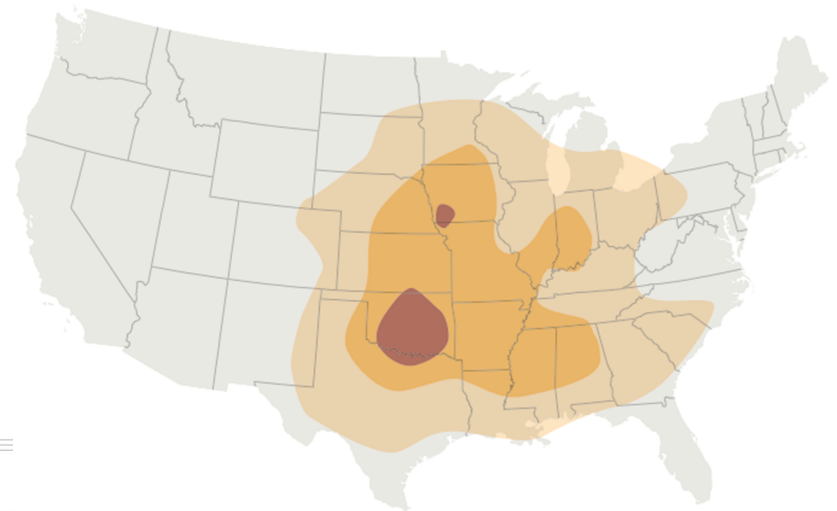
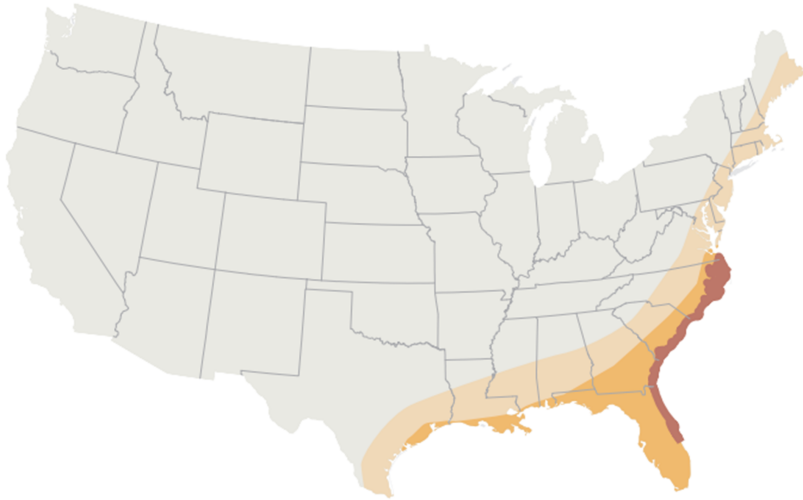
Local Weather Factors

No Hurricane Risk

Low Tornado Risk

Lower  Higher

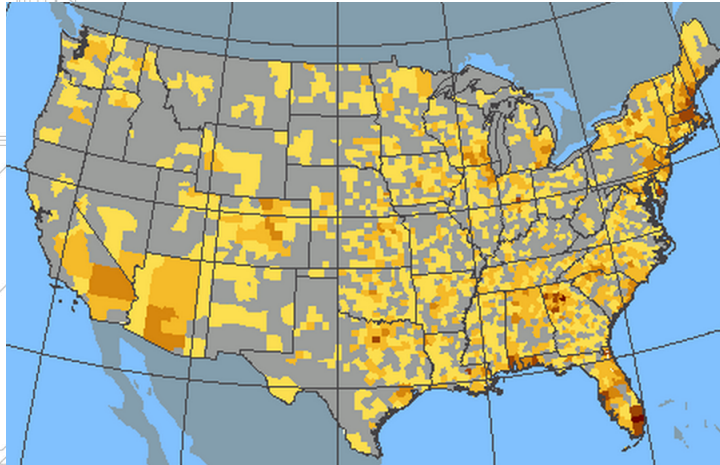
Lower  Higher



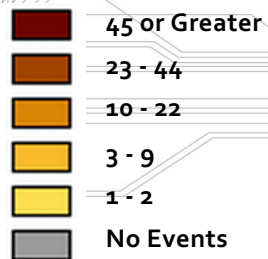
*Source: Matthew Erickson, Joe Burgess, and Bill Marsh of The New York Times. Accessed online, nationalatlas.gov

Local Weather Factors

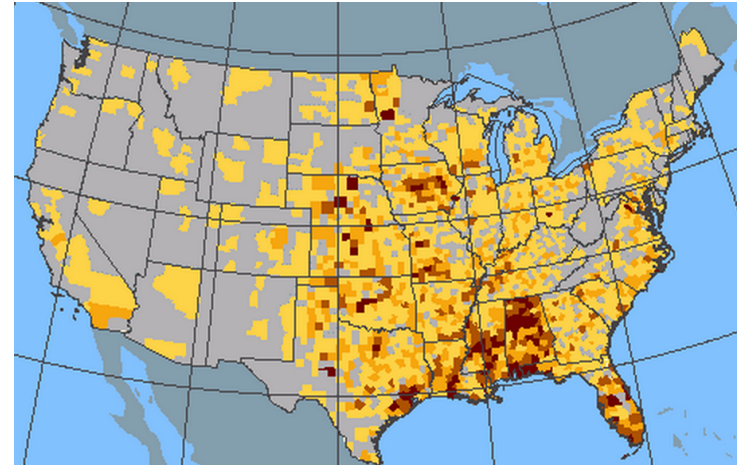
Moderate Lightning Risk



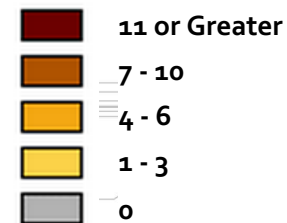
Lightning: Number of events that resulted in damage



Low Thunderstorm Risk



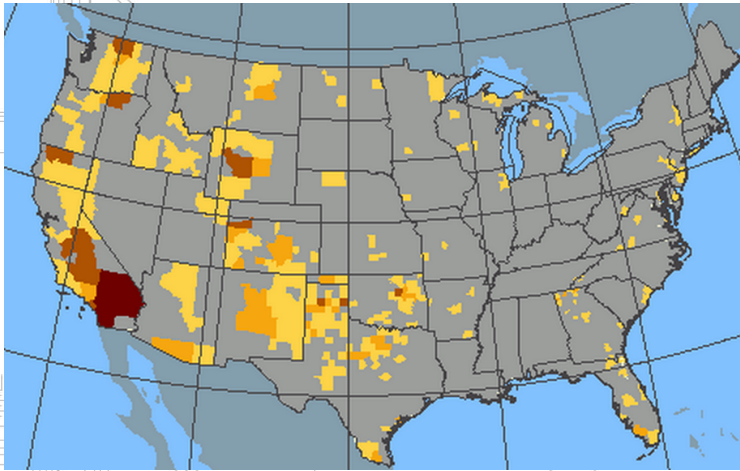
Thunderstorm: Number of damage-causing events



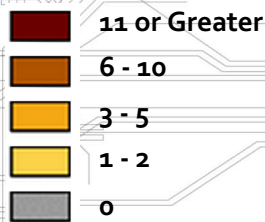
*Source: nationalatlas.gov

Local Weather Factors

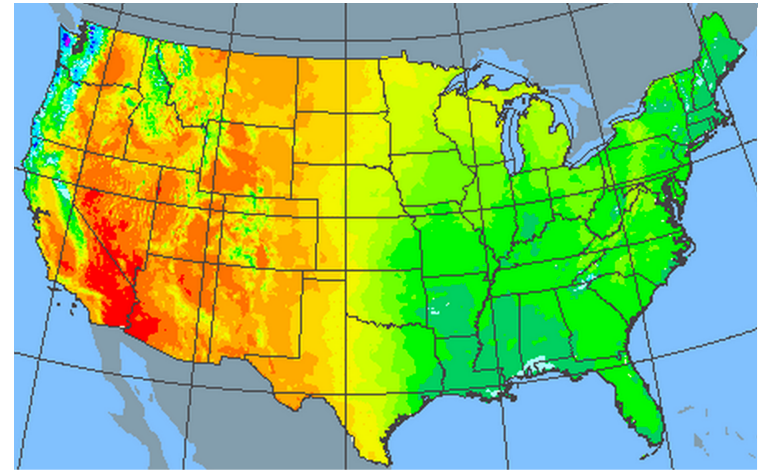
Low Wildfire Risk



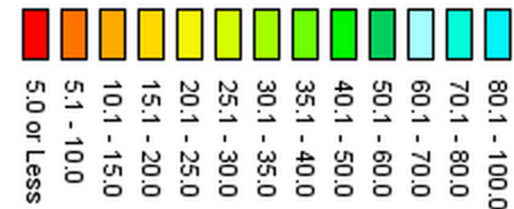
Wildfires: Number of events that resulted in damage



Low Precipitation



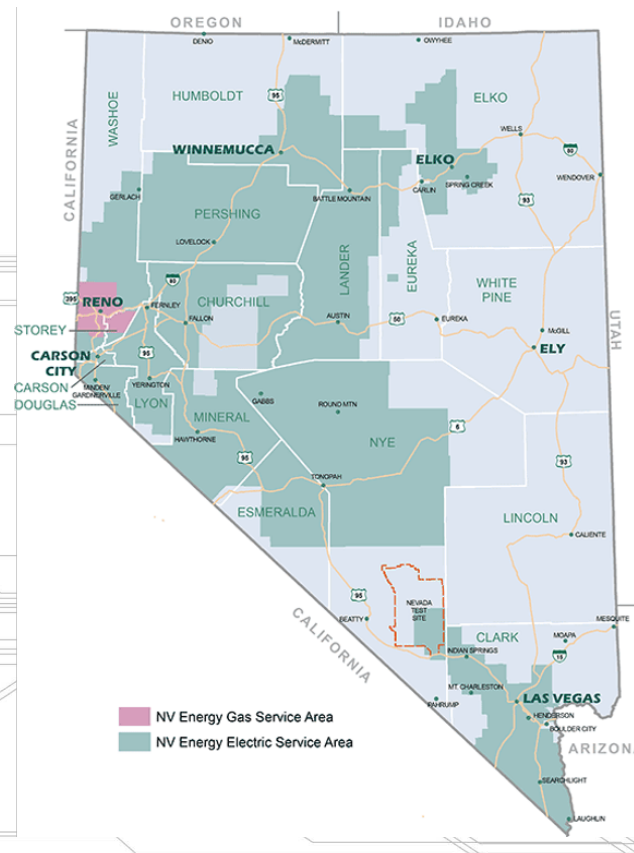
Average Annual Precipitation
(in inches)



*Source: nationalatlas.gov

Utility Service Territories

Nevada Energy Service Area Map



National Power Connections

EXISTING LINES

- 345-499 kV
- 500-699 kV
- 700-799 kV
- 1,000 kV (DC)

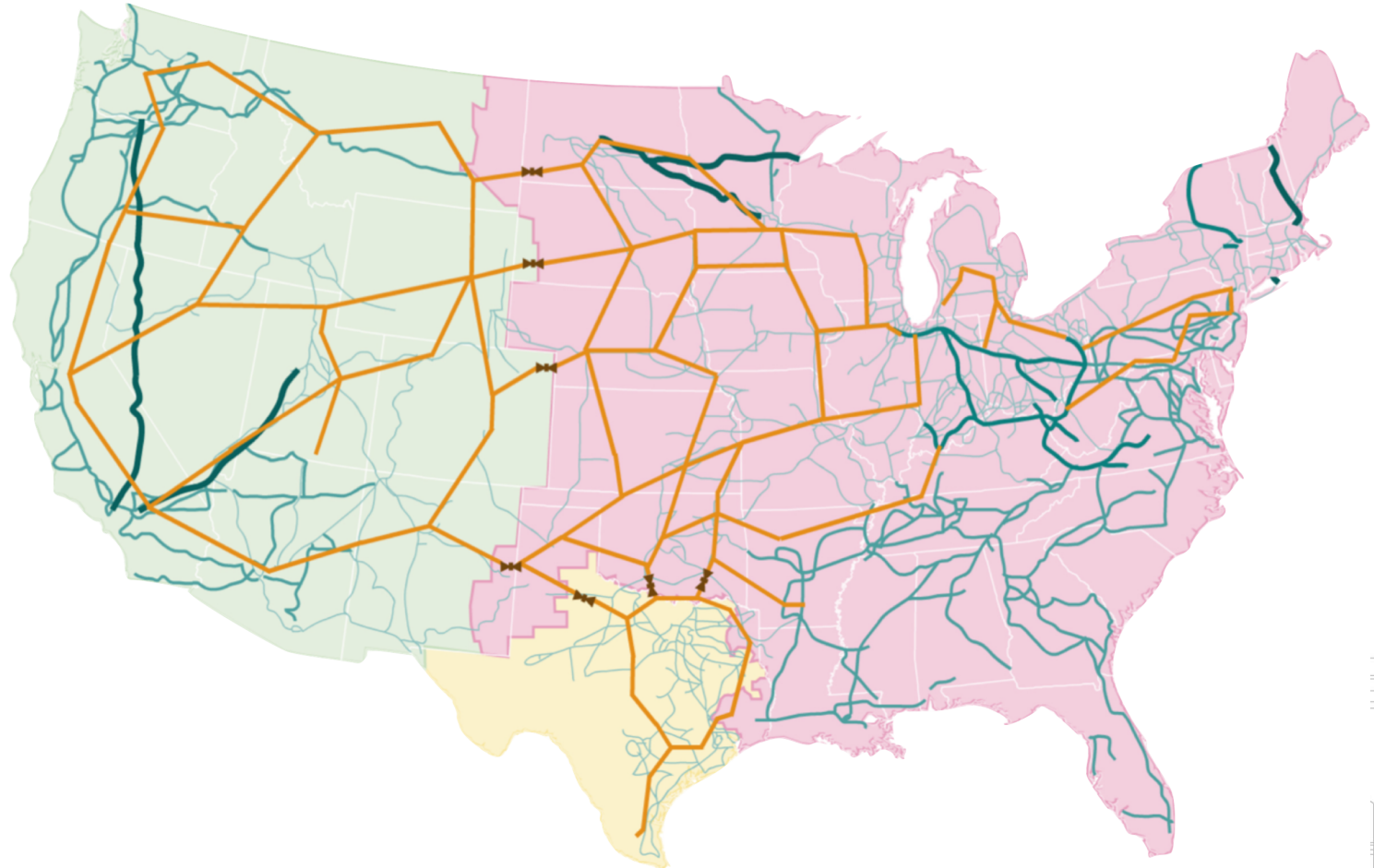
PROPOSED LINES

- New 765 kV
- AC-DC-AC Links

INTERCONNECTIONS

Major sectors of the U.S. electrical grid

- Eastern
- Western
- Texas (ERCOT)



Leading Businesses

Fortune 500 Companies in Nevada

MGM Mirage

Caesars Entertainment

Las Vegas Sands

WYNN Resorts

Regardless of How You Learn, We've Got You Covered.

Whether you want to attend a live conference, or study online at your own pace, we're here to help.
Want a more personalized touch? We do that too.



For access to additional reports, to find out about upcoming events, or speak with one of our consultants, visit our website, follow us on LinkedIn, or contact us directly.