



Photo Credit: <http://www.mandarinoriental.com/newyork/>

# New York City

# 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.

**Fiber**Locator



**STRUCTURE  
RESEARCH**

**LATHROP & GAGE**LLP

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

# Table of Contents

	Page		Page
Tax Incentives	4-5	Regional Carrier Hotels	19-20
National Industry Trends	6-7	Regional Metro Networks	21
Regional Industry Trends	8-9	Network Latency	22
Outsourcing Trends	10	Local Weather Factors	23-26
Public Data Centers Comparison	11-12	Utility Service Territories	27
Data Center Directory	13-17	National Power Connections	28
Regional Peering Exchanges	18	Leading Businesses	29

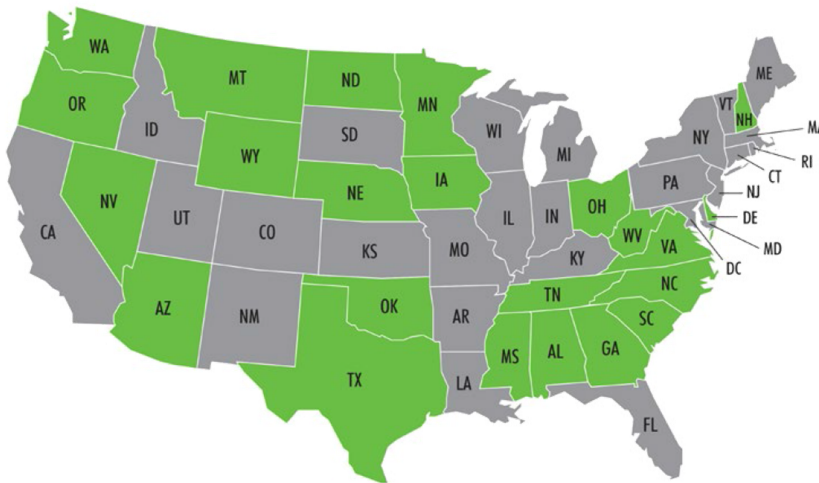
# Tax Incentives

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



## Sales & Property Taxes

A Data Center Operator in New York State is exempt from paying sales tax on the purchase or use of machinery, equipment, and certain tangible personal property.

A few examples include computer hardware, servers, routers, software, storage racks, and any property "necessary to maintain the appropriate climate-controlled environment," such as air-conditioning equipment, power generators, raised flooring, purchase or use of machinery and equipment.

Property related to building systems that are designed for an internet data center, thus, interior fiber optic and copper cables, fire suppression equipment, and protective barriers are also exempt.

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



# Tax Incentives

Emerging Technologies and Cash Incentives are both of value to clients that are looking to expand operations and establish a data center presence in New York State.

**Emerging Technologies.** New York State has enacted tax incentives for Investors in Qualified Emerging Technology Companies (QETCs), job creation by QETCs, and R&D Investment, R&D expenses, and qualified high technology training costs incurred by QETCs. \*

**Cash Incentives.** New York State offers low-cost loans and grants to companies that invest significant capital in the State, and commit to the creation and retention of private sector jobs. Terms can be customized to each project. Other criteria apply. \*

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

\*\*Source: New York State, Department of Taxation & Finance, "Internet Data Centers Tax Bulletin," [https://www.tax.ny.gov/pubs\\_and\\_bulls/tg\\_bulletins/st/internet\\_data\\_centers.htm](https://www.tax.ny.gov/pubs_and_bulls/tg_bulletins/st/internet_data_centers.htm)

# 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

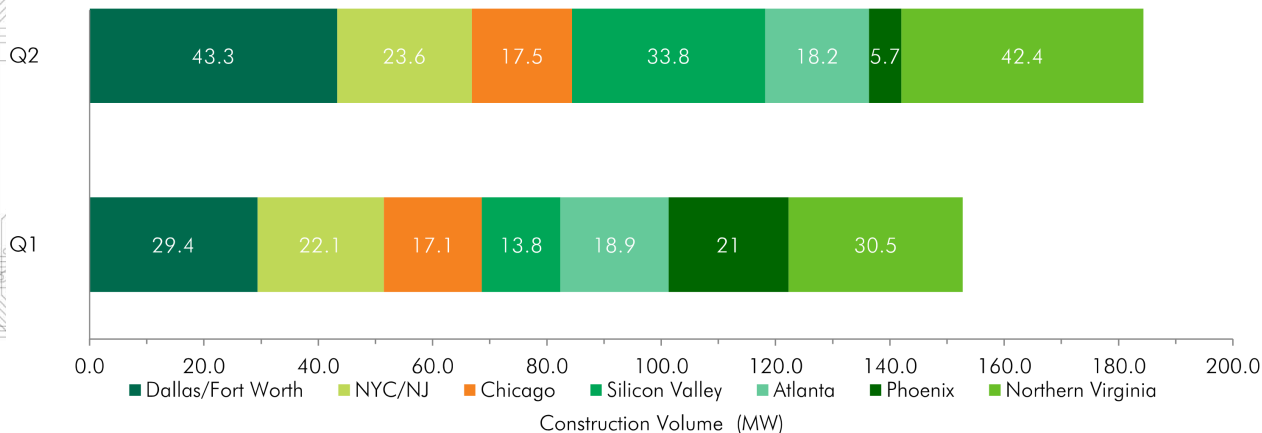
Market	Quarter	Inventory	Vacancy	Absorption	Rental Rates (kW/mo)*
Northern Virginia	Q1	417 MW (▲ 15.0 MW)	21.2 MW / 5.1% (▼ 24.1%)	20.8 MW (▲ 11.9 MW)	\$130-\$145
	Q2	421 MW (▲ 3.6 MW)	15.5 MW / 3.7% (▼ 27.7%)	9.4 MW (▼ 11.4 MW)	\$130-\$145
Phoenix	Q1	218 MW (▲ 5.0 MW)	4.1 MW / 1.87% (▼ 0.1%)	5.0 MW (▲ 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

## CyrusOne Reports Record 2015, Plans Big New Jersey Expansion

"CyrusOne closed its \$400 million acquisition of Cervalis, a colocation and DR data center provider with extensive operations in the New York market. Many Wall Street firms were key customers with financial services representing two-thirds of its revenue. On an earnings call, Wojtaszek revealed that CyrusOne is now looking to expand into "God's country," aka Northern New Jersey." \*

## Line-of-Sight Antenna Paves New Data Routes for NYC

"In the latest signal that everything old is new again, the biggest news in New York City data centers may be the completion of a very large antenna complex. Its apex extends to 560 feet over lower Manhattan, at the crest of what had been one of the city's properties, at 375 Pearl Street, at the foot of the Brooklyn Bridge. Its current principal owner, Sabey Data Center Properties, is taking full advantage of its nearly unobstructed location...providing line-of-sight, wireless data center access to the boroughs, the financial district, and mid-town Manhattan." \*\*

\*Source: <http://www.datacenterknowledge.com/archives/2016/02/25/cyrusone-reports-record-2015-plans-big-new-jersey-expansion>

\*\*Source: <http://www.datacenterknowledge.com/archives/2016/08/02/line-sight-antenna-paves-new-data-routes-nyc/>

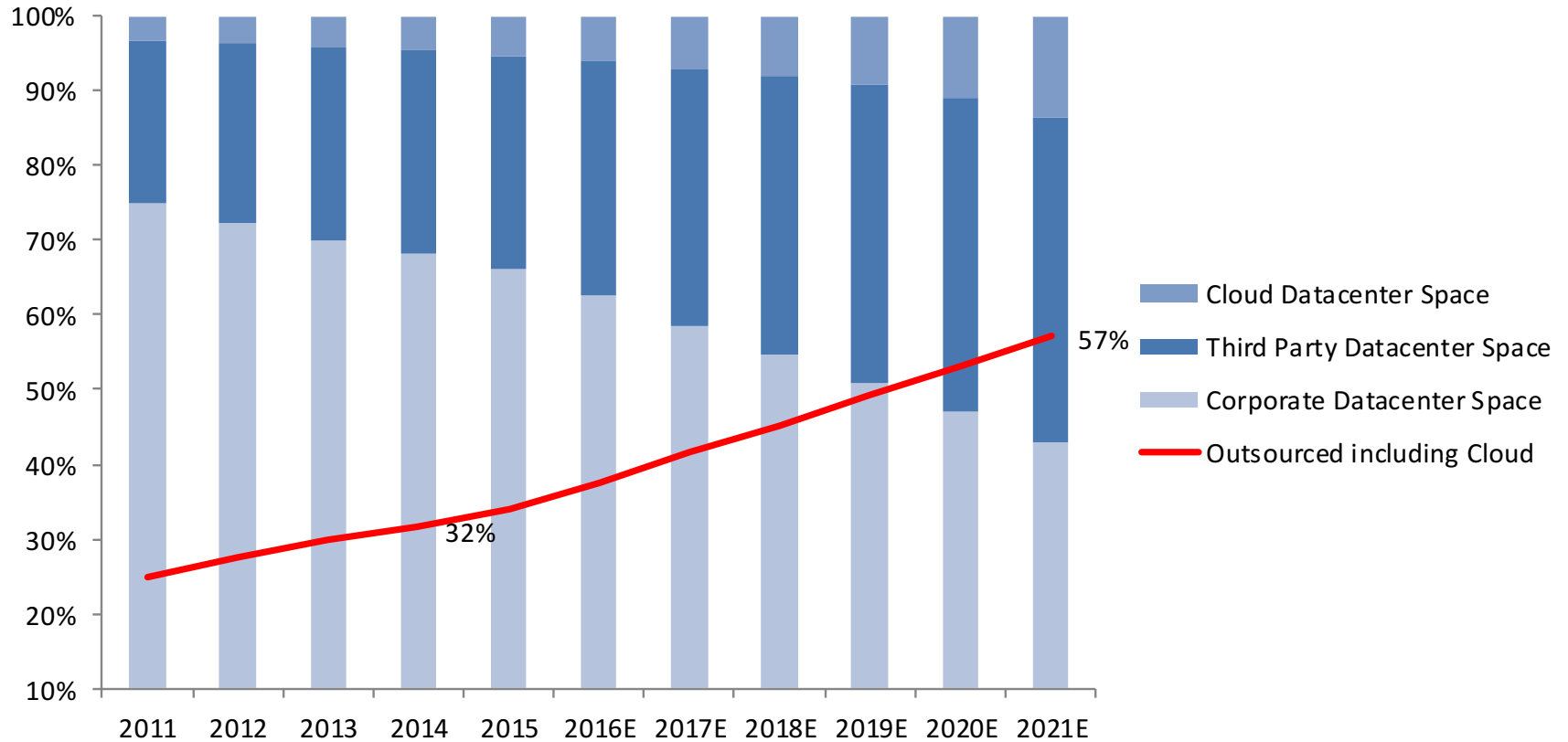


# Regional Industry Trends

**54** Commercial Data Centers House **29** Different Providers Within the New York City Area



# 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	State
111 TSP	x	x		Regional	Private	111 Town Square Place	Jersey City	NJ
1547 CSR		x		National	Private	1 Ramland Drive	Orangeburg	NY
365 DataCenters	x	x		National	PE Backed	65 Broadway	New York	NY
Atlantic Metro #1	x		x	Regional	Private	325 Hudson St.	New York	NY
Atlantic Metro #2	x		x	Regional	Private	32 Avenue of the Americas	New York	NY
Atlantic Metro #3	x		x	Regional	Private	5851 Westside Ave.	North Bergen	NJ
Atlantic Metro #4	x		x	Regional	Private	300 Boulevard East	Weehawken	NJ
Cologix Parsippany #1	x		x	National	PE Backed	200 Webro Road	Parsippany	NJ
Cologix Parsippany #2	x		x	National	PE Backed	1719 Route 10	Parsippany	NJ
Cologix Cedar Knolls #1	x		x	National	PE Backed	9 Wing Drive	Cedar Knolls	NJ

\*Source: peeringdb.com.

# Data Center Directory

Name	Retail	Wholesale	Hosting	Location(s)	TYPE (TICKER: EXCHANGE)	Address	City	State
ColoGuard	x		x	Local	Private	882 3rd Ave.	Brooklyn	NY
CoreSite #1	x			National	Public REIT (COR: NYSE)	32 Avenue of the Americas	New York	NY
CoreSite #2	x	x		National	Public REIT (COR: NYSE)	2 Emerson Lane	Secaucus	NJ
DataGryd		x		Local	Private	60 Hudson St.	New York	NY
Digital Realty Trust #1		x		Global	Public REIT (DLR: NYSE)	111 8th Ave.	New York	NY
Digital Realty Trust #2		x		Global	Public REIT (DLR: NYSE)	300 JFK Boulevard East	Weehawken	NJ
Equinix NY4	x			Global	Public (EQIX: NASDAQ)	755 Secaucus Road	Secaucus	NJ
Equinix NY5	x			Global	Public (EQIX: NASDAQ)	800 Secaucus Road	Secaucus	NJ
Equinix NY8	x			Global	Public (EQIX: NASDAQ)	60 Hudson Street	New York	NY
Equinix NY9	x			Global	Public (EQIX: NASDAQ)	111 8th Ave.	New York	NY
Equinix NYX	x			Global	Public (EQIX: NASDAQ)	65 Broadway 3rd floor	New York	NY

\*Source: peeringdb.com.

# Data Center Directory

Name	Retail	Wholesale	Hosting	Location(s)	TYPE (TICKER: EXCHANGE)	Address	City	State
Internap #1	X		x	Global	Public (INAP: NASDAQ)	76 9 <sup>th</sup> Ave.	New York	NY
Internap #2	X	X	X	Global	Public (INAP: NASDAQ)	One Enterprise Ave. North	Secaucus	NJ
New York Internet (NYI) #1	x		x	Local	Private	100 Williams St.	New York	NY
New York Internet (NYI) #2	x	x	x	Local	Private	999 Frontier Road	Bridgewater	NJ
Peer1	x		x	Global	Public (CGO: TSX)	75 Broad St.	New York	NY
QTS	x		x	National	Public REIT (QTS: NYSE)	95 Christopher Columbus Dr.	Jersey City	NJ
Sabey	x	x		National	Private	375 Pearl St.	New York	NY
Sentinel Data Centers	x	x		National	PE Backed	155 Corporate Dr.	Orangeburg	NY
Sungard AS	x	x		National	Public	2310 43 <sup>rd</sup> Ave.	Queens	NY

\*Source: peeringdb.com.

# Data Center Directory

Name	Retail	Wholesale	Hosting	Location(s)	TYPE (TICKER: EXCHANGE)	Address	City	State
Telehouse #1	x			Global	Private (division of KDDI)	85 10th Ave.	New York	NY
Telehouse #2	x	x		Global	Private (division of KDDI)	7 Teleport Dr.	Staten Island	NY
Telx NYC1	x			National	PE Backed	60 Hudson St.	New York	NY
Telx NYC2	x			National	PE Backed	111 8th Ave.	New York	NY
Telx NYC3	x			National	PE Backed	32 Avenue of the Americas	New York	NY
Telx NJR1	x			National	PE Backed	300 Boulevard East	Weehawken	NJ
Telx NJR2+3	x			National	PE Backed	100 Delawanna Ave Bldg 1+2	Clifton	NJ
Tierpoint	x		X	National	PE Backed	11 Skyline Drive	Hawthorne	NY

\*Source: peeringdb.com.



# Data Center Directory

Name	Retail	Wholesale	Hosting	Location(s)	TYPE (TICKER: EXCHANGE)	Address	City	State
vXchnge #1	x			National	PE Backed	75 Broad St.	New York	NY
vXchnge #2	x			National	PE Backed	882 3rd Ave.	Brooklyn	NY
vXchnge #3	x			National	PE Backed	200B Meadowlands Parkway	Secaucus	NJ
vXchnge #4	x			National	PE Backed	111 Town Square Place	Jersey City	NJ
zColo #1	x			National	PE Backed	60 Hudson Street	New York	NY
zColo #2	x			National	PE Backed	111 8th Avenue	New York	NY
zColo #3	x			National	PE Backed	165 Halsey	Newark	NJ

\*Source: peeringdb.com.

# Regional Peering Exchanges

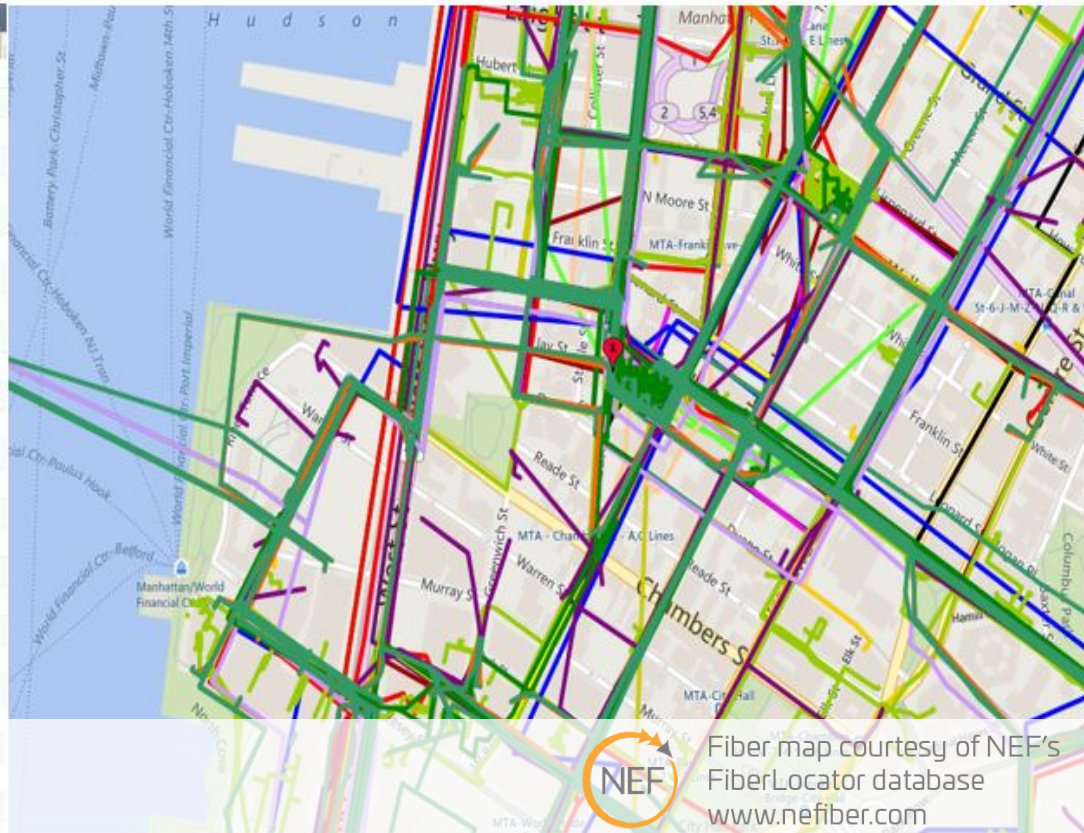
List of Major Peering Exchanges In and Around New York City

Exchange Name	Long Name	City/Region
AMS-IX NY	AMS-IX New York	New York
Big-APE	The Big Apple Peering Exchange	New York
COR	CoreSite - Any2 New York	New York
DE-CIX	DE-CIX, the New York / New Jersey Internet Exchange	New York / New Jersey
DLR	Digital Realty New York Internet Exchange (Telx)	New York / New Jersey
EQIX	Equinix Internet Exchange New York	New York
NYCX	Free NYIIX Alternative	New York
NYIIX	New York International Internet eXchange	New York

# Regional Carrier Hotels

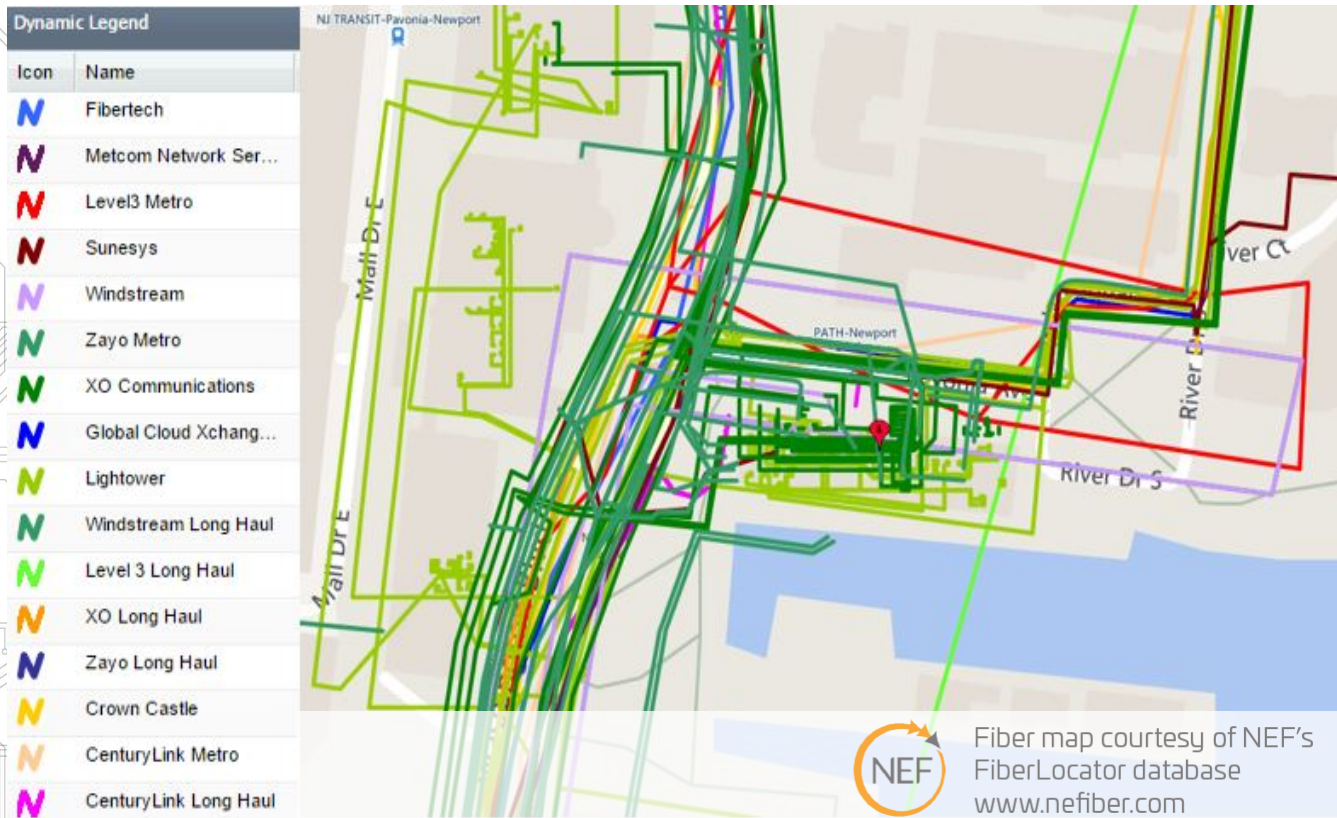
60 Hudson Street, New York City  
1 Mile View

Dynamic Legend	
Icon	Name
	Global Cloud Xchang...
	OCG
	Mobilite Fiber
	Metcom Network Ser...
	Lighttower
	RCN
	Spectrum Business
	XO Communications
	Zayo Metro
	Windstream
	Transit Wireless
	Sunesys
	Level3 Metro
	Phoenix Fiber
	Sprint Long Haul
	Verizon Long Haul
	Level 3 Long Haul
	EarthLink Long Haul
	Cogent Long Haul
	Windstream Long Haul
	Zayo Dark Long Haul
	First Communications
	Fibertech
	Crown Castle
	CenturyLink Metro
	CenturyLink Long Haul



# Regional Carrier Hotels

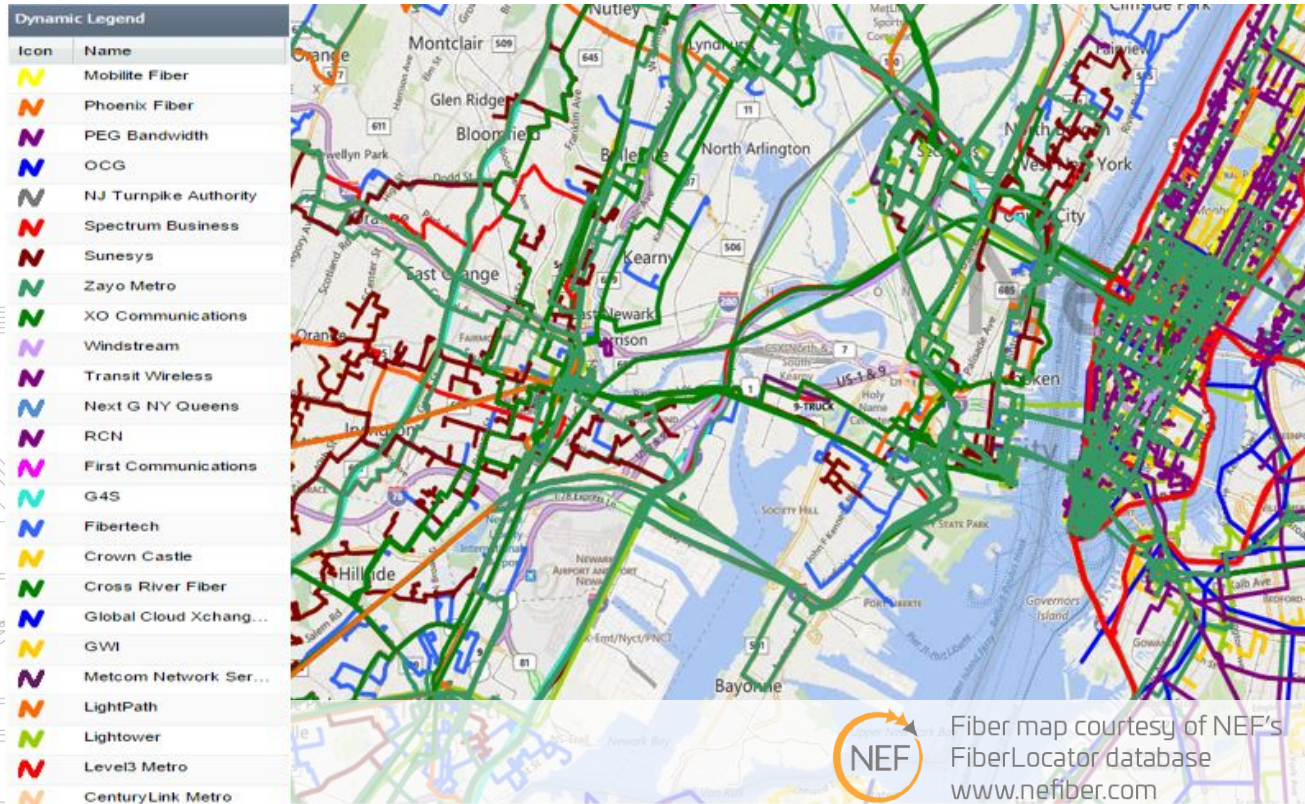
111 Town Square Place, Jersey City, NJ  
1 Mile View





# Regional Metro Networks

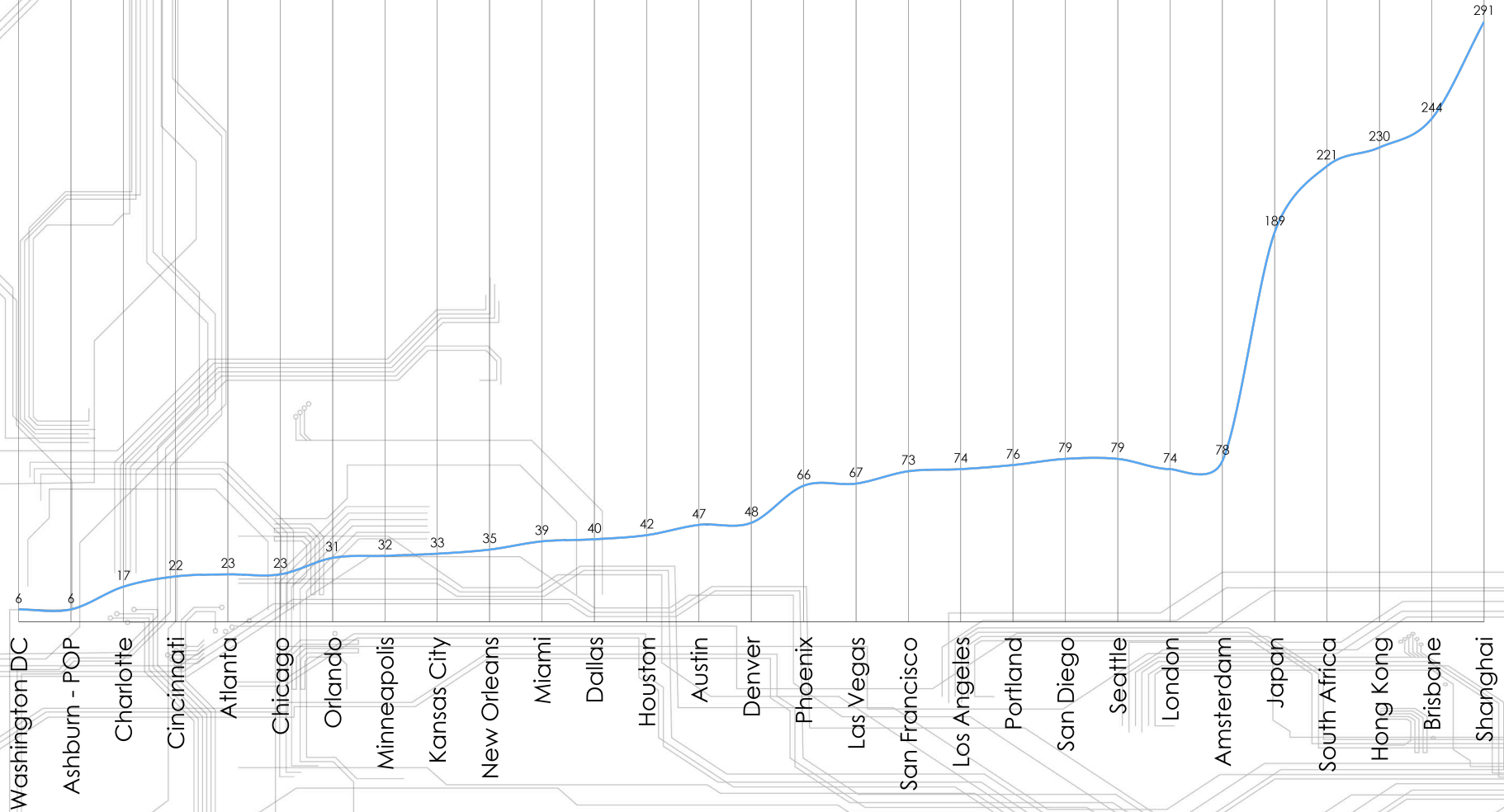
20 Mile Metro Networks





# Network Latency

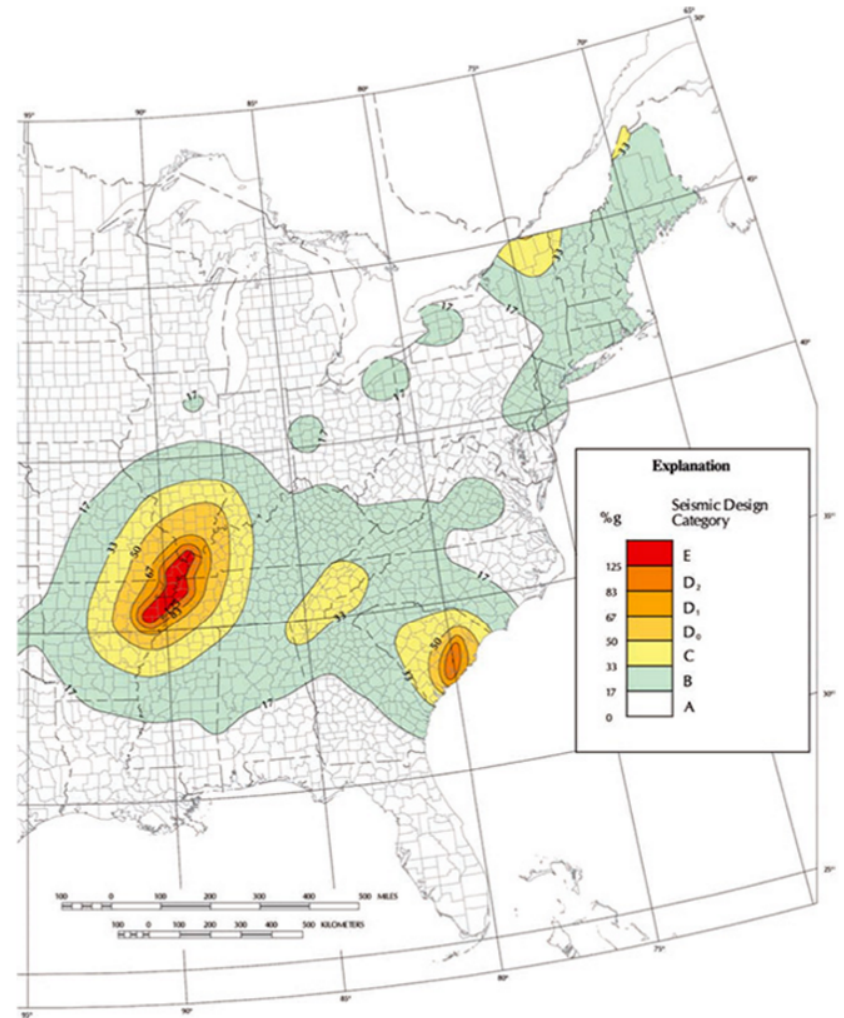
-Latency in milliseconds, from NYC



# Local Weather Factors

## Low Earthquake Risk

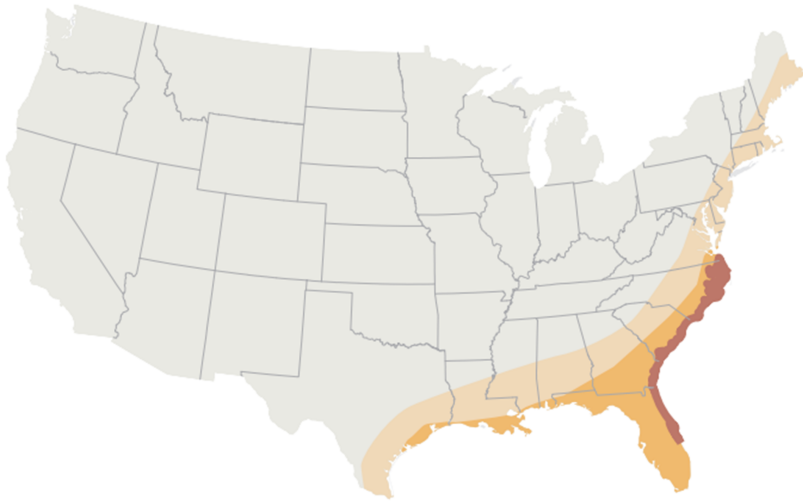
SDC	EARTHQUAKE HAZARD
A	Very small probability of experiencing damaging earthquake effects.
B	Could experience shaking of moderate intensity.
C	Could experience strong shaking.
D0	
D1	Could experience very strong shaking (the darker the color, the stronger the shaking).
D2	
E	Near major active faults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



# Local Weather Factors

## Hurricane Risk

Lower  Higher



Although Hurricane Sandy wreaked havoc on New York City, and the surrounding region, the overall frequency of hurricanes in the area remains moderate compared to the southeast and most southern states.

Hurricane Sandy exposed the region's risk and the extensive damage that hurricanes and related disasters can cause. A number of large commercial data centers lost power due to flooding or related factors, both during and after the storm hit.

An important lesson to be learned is that even natural disasters that are likely to only occur once every 100, 500, or even 1,000 years, can and do occur despite the low odds.

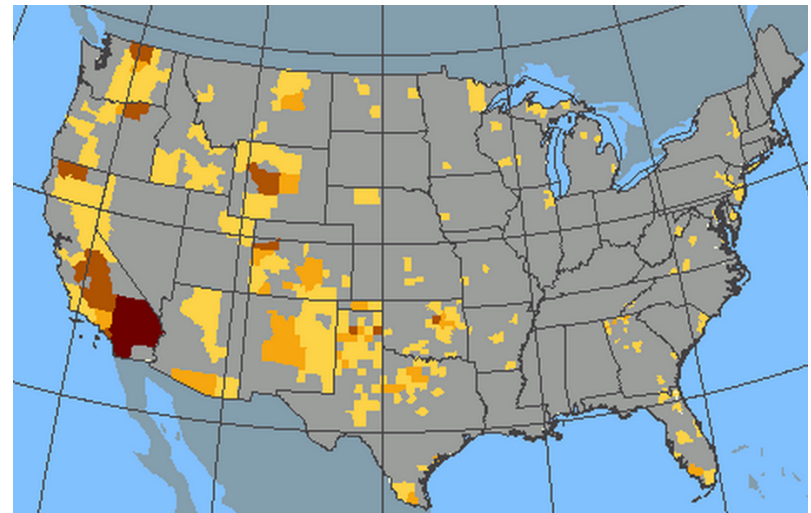
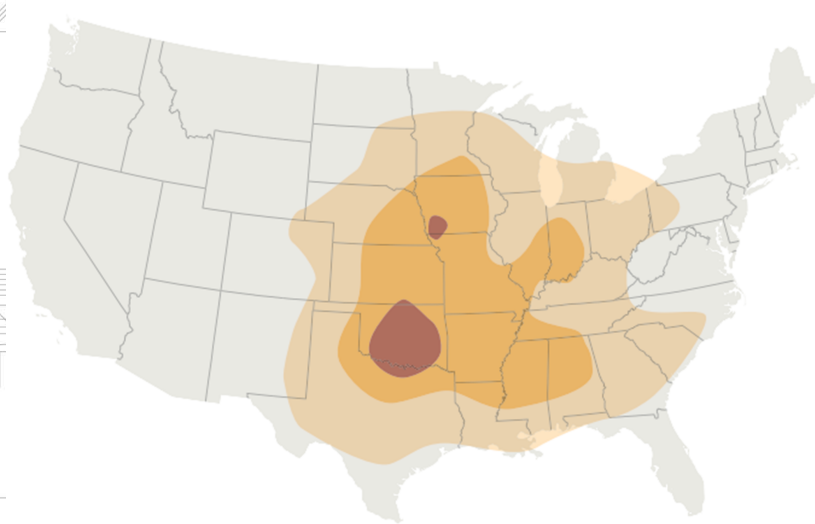
\*Source: Matthew Erickson, Joe Burgess, and Bill Marsh of The New York Times. Accessed online, [nationalatlas.gov](http://nationalatlas.gov)

# Local Weather Factors

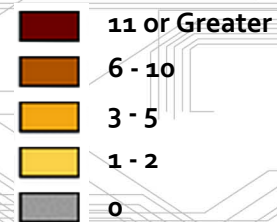
Low Tornado Risk

No Wildfire Risk

Lower  Higher



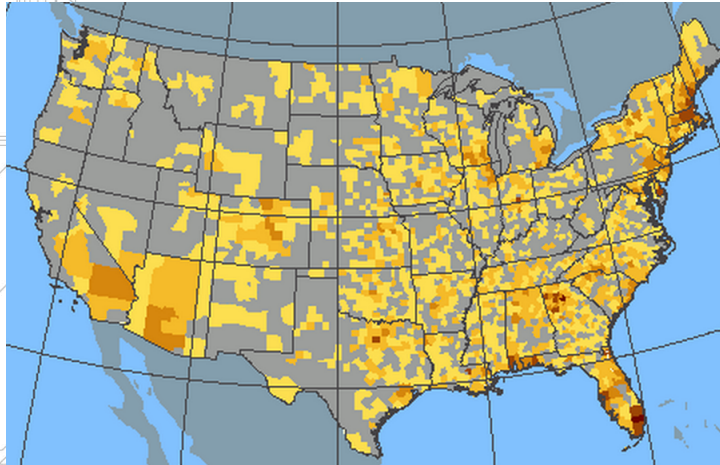
Wildfires: Number of events that resulted in damage



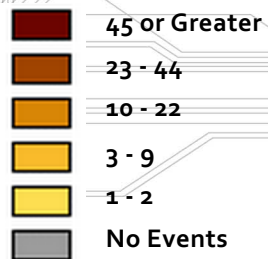
\*Source: Matthew Erickson, Joe Burgess, and Bill Marsh of The New York Times. Accessed online, [nationalatlas.gov](http://nationalatlas.gov)

# Local Weather Factors

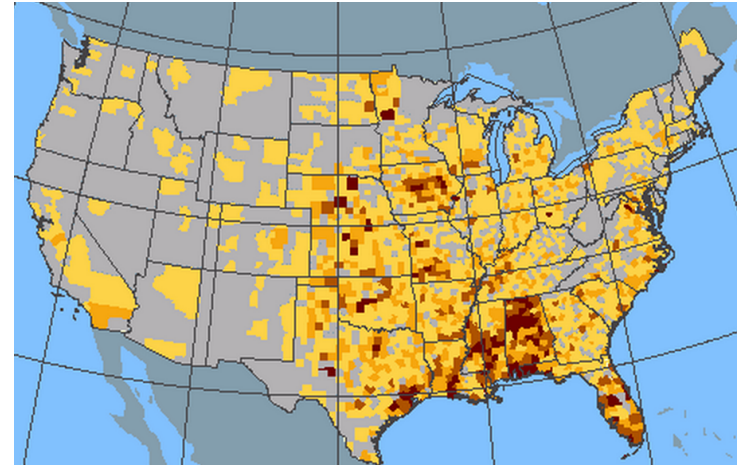
## Moderate Lightning Risk



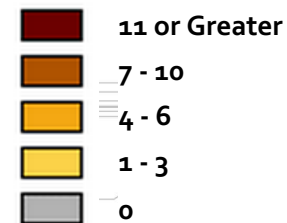
Lightning: Number of events that resulted in damage



## Moderate Thunderstorm Risk



Thunderstorm: Number of damage-causing events

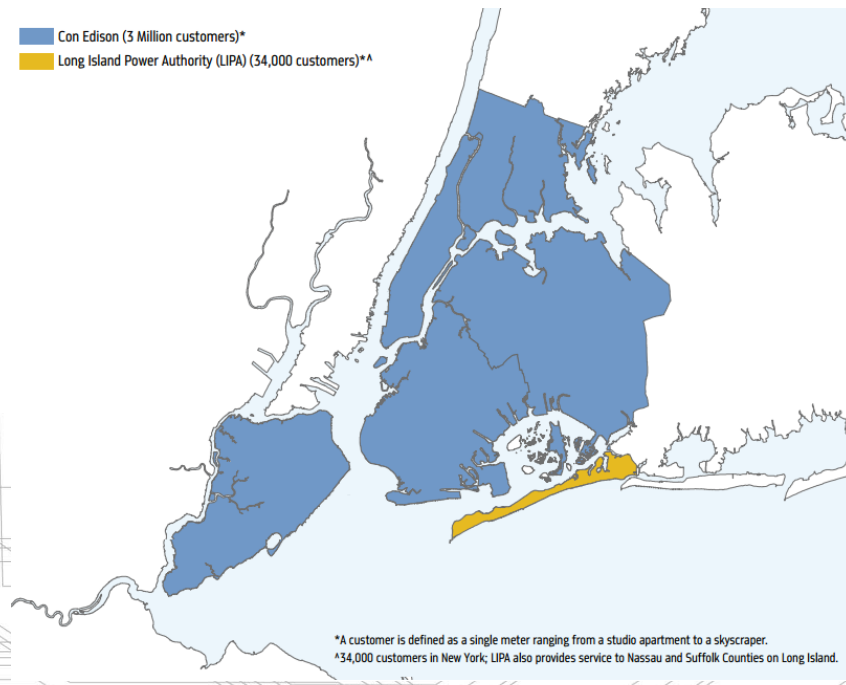
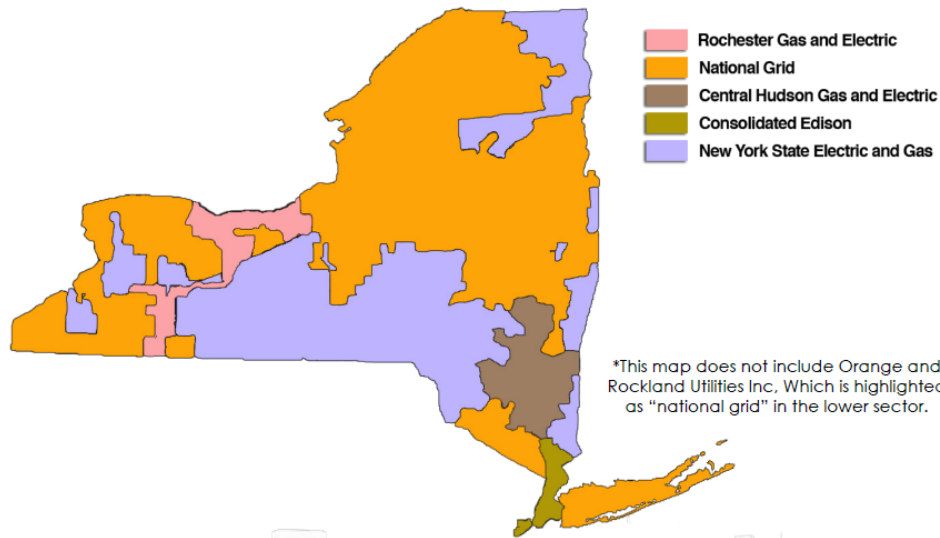


\*Source: [nationalatlas.gov](http://nationalatlas.gov)



# Utility Service Territories

## New York Energy Service Territories



\*Source: <http://www.atlanticpowerandgas.com>



# National Power Connections

## EXISTING LINES

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

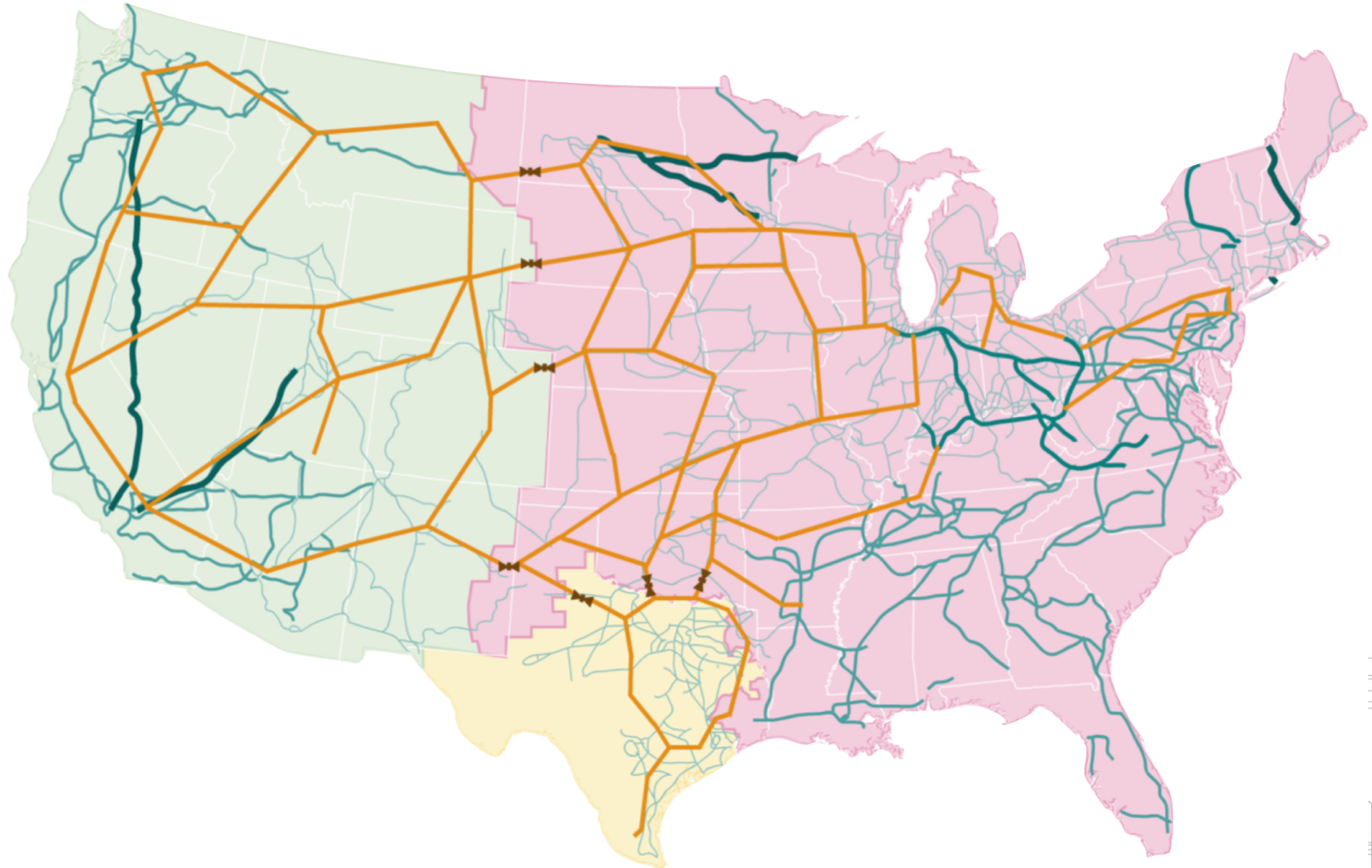
## PROPOSED LINES

- 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 New York State

Alcoa	Goldman Sachs Group	McGraw-Hill
American Express	Guardian Life Ins. Co. of America	MetLife
American International Group	Henry Schein	Morgan Stanley
Assurant	Hess	New York Life Insurance
Avon Products	Icahn Enterprises	News Corp.
Bank of New York Mellon Corp.	Intl. Business Machines	Omnicom Group
Barnes & Noble	Interpublic Group	Pepsico
BlackRock	INTL FC Stone	Pfizer
Bristol-Myers Squibb	J.P.Morgan Chase	Philip Morris International
Cablevision Systems	Jarden	Polo Ralph Lauren
CBS	JetBlue Airways Corporation	PVH
Citigroup	L-3 Communications	TIAA-CREF
Colgate-Palmolive	Leucadia National Corp.	Time Warner
Consolidated Edison	Loews	Time Warner Cable
Corning	Marsh & McLennan	Travelers Cos.
Estee Lauder	MasterCard	Verizon Communications
Foot Locker		Viacom

\*Source: <http://www.bvandhold.com/bh/en/research/states/NY.html>

# 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.