

# Public Perceptions of Urban Infrastructure

Addressing “wire blight” to “go green”

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# Sustainability requires (more) wires

- ASCE, “Infrastructure Report Card,” D+ for Energy
- Dept. of Energy: \$900 billion to overhaul infrastructure by 2030
- New lines to address vulnerabilities to unpredictable weather and cyberattacks
- Superconductive materials can lower transmission losses and connect regions
- A large-scale network of super high-voltage renewable transmission lines could reduce carbon emissions by 80% from 1990 levels.[ii]



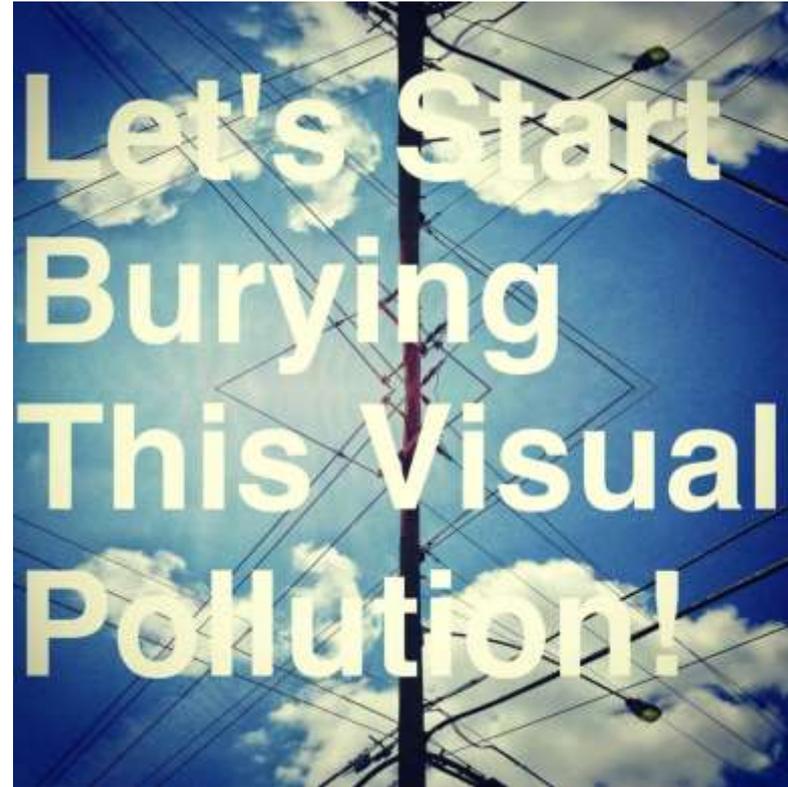
# Public Opposition

-Resistance is rooted in concerns about health, property values, safety, costs, accountability, process, and aesthetics

-“NIBMYism” is real, but label is often applied without distinction

-Pylons are symbols of governmental control, cooperate interest, industrial pollution, and the possibility of sudden social collapse.

-Widespread opposition- Auxiliary information about renewable grid development can lessen public resistance, but 34% will “definitely not accept [a new transmission line] without opposition.”[iii]



# Professor Morse's Great Historical Picture.

“Electricity” ↔ “Landscape”



YANKEE DOODLE expressed himself much pleased with the unity of design displayed in this great national historical work of art.

# Electrification, the “Greatest Engineering Achievement” of 20<sup>th</sup> Century, looks like blight

*Power Over People*, Louise B. Young, 1973

*Power-Line: The First Battle in America's Energy War*, Barry Casper and Paul Wellstone, 1981

*The Great Power-Line Cover-Up*, Paul Brodner, 1993

*The Grid: The Fraying Wires Between Americans and Our Energy Future*, Gretchen Bakke, 2016

[O.H.M.S. \(1980\)](https://youtu.be/8rNqBJ9pNU0)  
<https://youtu.be/8rNqBJ9pNU0>

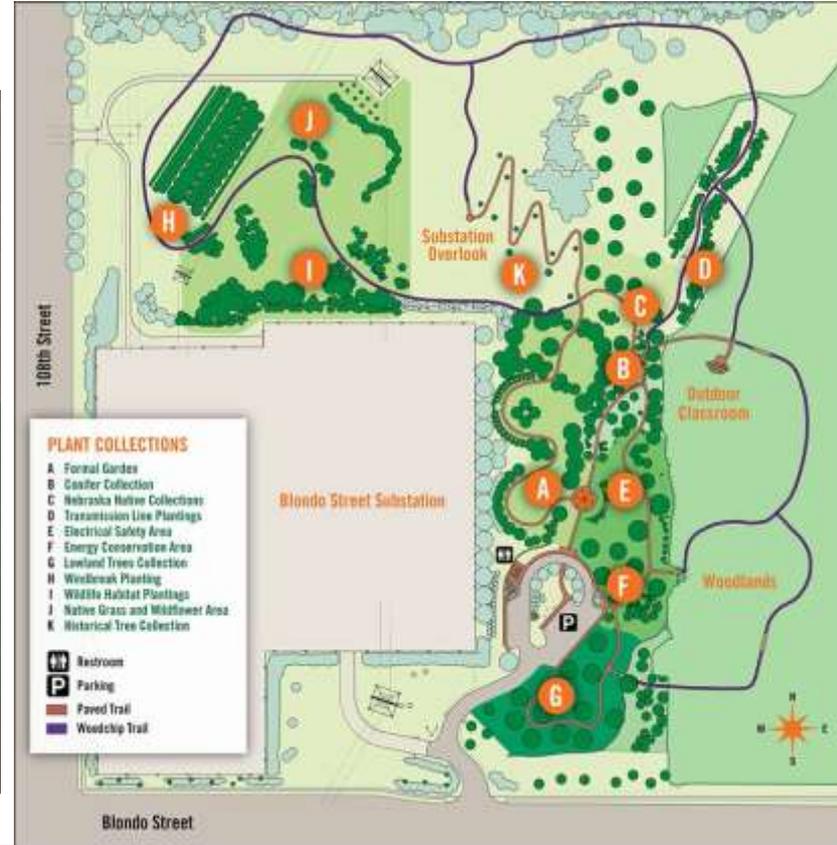


# **“From Wire Evil to Power Line Poetics: The Ethics and Aesthetics of Renewable Transmission”**

<https://vimeo.com/176371484>



# Arboretum, 1980s to Today



# Goals of Qualtrics Survey

- 1) Gauge beliefs about the overall environmental quality of Omaha (including its overhead infrastructure) and the visual salience of transmission and distribution lines (i.e. How often and accurately do individuals notice them)
  - 2) Measure participants' feelings about what actions should be taken with regard to transmission and distribution lines and acceptance of a hypothetical grid expansion.
  - 3) Gather general observations about the utility and identify individuals willing to give formal follow up interviews.
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On a scale of 0-10, rate quality of where you live based upon

	<b>Mean</b>
Architecture	6.06
Noise from industry, construction, or traffic	6.18
<b>Access to parks, trails, or green space</b>	6.69
Air quality	6.95
Maintenance of roads and sidewalks	5.48
<b>Landscape</b>	6.46



## In general, which of the following four reactions should your neighbors adopt in response to overhead transmission and distribution lines?

Answer	%
We should tolerate the existing and any new overhead lines as they are necessary for maintaining electricity, phone, and Internet service.	37%
We should embrace the existing and any new overhead lines as they are symbolic of our society's ability to reliably transmit electricity and keep us all connected	5%
We should try our best to ignore the existing and any new lines and not to complain about them	13%
We should come together to <b>remove or bury the existing and any new overhead lines</b> as they are dangerous eyesores that can do damage to our property values, health, and aesthetic environment	45%



# How do you feel about the location of power lines with regard to your daily activities?

Answer	%
They are an eyesore	40.51%
They are health hazards	15.19%
<b>They don't bother me</b>	<b>50.63%</b>
They are too close to where I live	17.72%
I hate them	12.66%
I worry about them falling on me	10.13%



# Hypothetical expansion

Please imagine that your local government announced a large program of local infrastructure investments, contributing to the enhancement of the power grid in the whole of the United States. As part of this program, during the next year, a high-voltage power line with standard pylons would be built in your neighborhood. **This power lines (including poles and/or towers) would be up to 198-feet high, and be built at a distance of at least 800 feet from your home. How do you think YOU would react to the announcement of this power infrastructure program?**



Answer	Omaha	EU
Definitely not accept without opposition	32%	34%
Probably not accept without opposition	43%	
Probably accept without opposition	23%	
Definitely accept without opposition	2%	



Chino Hills, California. 198-foot 500kv line. In 2014, utility was force to bury it underground