

# The Societal Value of Co-Locating Electric Transmission Infrastructure in Highway Rights-of-Way

As the nation seeks to reduce carbon emissions across all sectors of the economy, the NextGen Highways (NGH) initiative aims to convert the nation's highways from one of the nation's largest sources of GHG emissions into one of our best decarbonization assets. We can accomplish this aim by co-locating needed infrastructure in the existing highway rights-of-way (ROW). Existing infrastructure ROWs provide a pathway for new transmission and communications infrastructure to be sited more expeditiously and with less burden on private landowners and neighboring communities.

## Transportation and electricity: two distinct types of networks

- The U.S. Interstate Highway System is a network of [controlled-access highways](#) that form part of the [National Highway System](#) and extends throughout the [contiguous United States](#), with additional routes in [Hawaii](#), [Alaska](#), and [Puerto Rico](#). As of 2020, the highway system has a total length of 48,756 miles.
- The U.S. electric bulk power grid consists of around 200,000 circuit miles of power lines, mostly alternating current (AC) lines, that deliver power from where it is generated to local distribution systems, where it can be used by consumers. Roughly 17 percent of the grid is owned and managed by the federal government.

While the interstate system is a nearly seamless network of publicly owned roadways, the power grid is largely privately owned and operated, consisting of separate regional grids with limited interconnections.

## Benefits of co-location

- As the energy and telecommunications industries make significant investments needed to modernize communications and energy infrastructure, state leaders have an opportunity to leverage efficiency and economies of scale by promoting coordination.

- New transmission line projects are often challenged because of their use of private lands. By co-locating broadband and electric transmission in existing highway ROW, states can reduce the amount of land needed to site these lines and, by extension, reduce the need for land that can only be acquired through eminent domain.
- Many proposed transmission projects have been blocked by strong resistance from affected communities concerned about the environmental and aesthetic impacts. Co-location of transmission in existing highway right-of-way (ROW) could aid significantly in overcoming those concerns and attracting local support.

## Electric transmission infrastructure in highway ROW

Co-location of electric transmission would put transmission infrastructure in the highway ROW, not just adjacent to the highway. Wisconsin is the only state that has been co-locating transmission in the ROW, thanks to Act 89, passed in 2003.

At this time, several projects locating buried High-Voltage Direct-Current (HVDC) transmission in the highway ROW are at various stages of planning, permitting, and construction. Two New York State projects that are in the approval process will deploy buried HVDC transmission cable using existing transmission, waterways, and highway ROW. These projects will provide significant insights on the economic and reliability benefits of both the use of HVDC cable and existing rights of way.

The first step to is fostering greater engagement and coordination between the transportation, electric utility and communications sectors.

## SOURCES

- [Electric Transmission in the Highway Right of Way: State of Play](#) (NexGen Highways)
- [2003 Wisconsin Act 89](#)
- [Transmission Planning for 100 Percent Clean Electricity](#) (Energy Systems Integration Group)

### **About NextGen Highways**

*The NextGen Highways is a collaborative initiative promoting the use of highways and other existing rights-of-way as infrastructure corridors where electric and communications infrastructure are strategically and safely co-located in existing highway right-of-way. Learn more at <http://www.NextGenHighways.org>*