



Renewable Energy Transmission Co-Location in Highway Rights-of-Way

May 2023



THE
UNIVERSITY
OF RHODE ISLAND

This guide is a product of the Marine Affairs Institute at Roger Williams University School of Law and the Rhode Island Sea Grant Legal Program. Todd Amaral, Rhode Island Sea Grant Law Fellow, authored this study under the guidance of Emily Migliaccio, Staff Attorney. All errors and omissions are the responsibility of the Marine Affairs Institute. This study is provided only for informational and educational purposes and is not legal advice.

Table of Contents

1	Introduction.....	3
2	Glossary of Key Terms	5
3	Federal Programs for Transmission Co-Location	6
3.1	FHWA Utility Accommodation.....	6
3.1.1	Applicability	7
3.1.2	Program Requirements	7
3.2	Alternative Use of Highway Rights-of-Way	8
3.2.1	Applicability	8
3.2.2	Program Requirements	9
4	Select State UAPs.....	10
4.1	Longitudinal Installation	10
4.2	Freeways	11
4.3	Renewable Energy	12
5	State Laws and Other Actions	12
5.1	New Hampshire	12
5.2	Maine	13
5.3	Wisconsin.....	13
5.4	Minnesota	14
6	Conclusion.....	14
7	Appendix.....	15

This paper reviews the legal framework for utilizing existing highway rights-of-way for renewable energy high-voltage direct current transmission projects, also referred to generally as “co-location.” It reviews federal and state laws and regulations that govern such co-location and identifies and reviews other state actions that may promote it.

Section 1 provides an overview of the need for transmission to support renewable energy development and the observed opportunity for pursuing co-location as a means to develop it more quickly and with fewer impacts. Section 2 presents a glossary of key terms that explain the different types of roadways and transmission installation types frequently referred to in this paper. Section 3 discusses two federal regulations that enable installation of transmission lines in highway rights-of-way, explaining the applicability and requirements of each federal program. Section 4 explores certain components of select state utility accommodation policies and their impact on transmission line siting to support renewable energy generation. Specifically, it examines the utility accommodation policies of California, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Lastly, Section 5 identifies examples of other state laws that prioritize transmission line siting in highway rights-of-way.

1 Introduction

In 2021, in support of its broad clean energy goals, the Biden Administration announced a goal of installing thirty gigawatts (30GW) of offshore wind energy by 2030.¹ Delivering 30GW of offshore wind requires “adequate and timely transmission access.”² In particular, meeting this national offshore wind goal and other federal and state renewable energy goals and needs, “require[s] deploying interstate high-voltage lines connecting areas with significant renewable energy resources to demand centers and linking together independently operated grid regions.”³ To address the need for transmission to support renewable energy development, federal entities across the Department of Energy (DOE) are reviewing transmission siting options.⁴ In June 2020, the Federal Energy Regulatory Commission (FERC) published a report identifying opportunities and barriers for high-voltage transmission in the United States, including transmission siting that makes use of existing national transportation corridors.⁵ FERC recognized in its report that “there are several federal and state actions intended to create opportunities for energy infrastructure development” in such corridors.⁶ One recent federal action was the passage of the Infrastructure, Investment and Jobs Act (IIJA) in November 2021, which specifically authorized DOE, in its designation of “national interest electric transmission corridors” for potential transmission development, to consider if such corridors “maximize[] existing rights-of-way.”⁷ The DOE has since indicated its intent to do just that; that is, designate corridors for transmission development that, “to the greatest degree possible,

¹Press Release, FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs (May 18, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>.

² See *Atlantic Offshore Wind Transmission Study*, NAT'L RENEWABLE ENERGY LAB'Y, <https://www.nrel.gov/wind/atlantic-offshore-wind-transmission-study.html> (last visited May 18, 2023) [hereinafter *NREL Study*].

³ Notice of Intent, Building a Better Grid Initiative to Upgrade and Expand the Nation's Electric Transmission Grid to Support Resilience, Reliability, and Decarbonization, 87 Fed. Reg. 2769, 2770 (Jan. 19, 2022) [hereinafter BBGI]; see also STAFF OF THE FED. ENERGY REGUL. COMM'N, REPORT ON BARRIERS AND OPPORTUNITIES FOR HIGH VOLTAGE TRANSMISSION 3 (June 2020) [hereinafter FERC REPORT].

⁴ See, e.g., *NREL Study*, *supra* note 2; FERC REPORT, *supra* note 3; BBGI, *supra* note 3.

⁵ FERC REPORT, *supra* note 3, at 3, 15-17, 30-33.

⁶ *Id.* at 4.

⁷ IIJA, Pub. L. 117-58, sec. 40105(a)(3), 135 Stat. 429, 933 (2021) (codified as amended at 16 U.S.C. § 824p(a)(4)(G)(i)).

overlap with or utilize existing highway, rail, utility, and federal land rights-of-way.⁸ Despite the opportunities that may exist, there are still barriers to co-location. FERC noted in its report, for example, that state and local requirements, including routing limitations for safety and technical reasons, may hinder development in transportation corridors.⁹ There are, nonetheless, federal and state frameworks in place to support the use of existing transportation rights-of-way for transmission line siting.¹⁰

At the federal level, the Department of Transportation's Federal Highway Administration (FHWA) provides two paths for co-locating renewable energy transmission lines within existing transportation rights-of-way: (1) state accommodation of such lines as a "utility" through FHWA-required state utility accommodation policies (UAPs);¹¹ and (2) FHWA approval of such lines as an alternative use of the highway right-of-way under FHWA regulations.¹² This paper refers to the regulations governing the former approach as the "utility accommodation regulations," and those governing the latter approach as the "alternative use regulations." Both frameworks have existed for a long time, but the policy regarding their use has recently changed consistent with the broad federal support for considering co-location of energy-related uses in existing rights-of-way.

FHWA's utility accommodation regulations require state transportation departments (SDOTs) to establish their own UAPs for the installation of utilities within certain federal highway rights-of-way.¹³ States are given wide latitude to determine what qualifies as a "utility" such that the SDOT can accommodate, or co-locate, the utility in a federal highway right-of-way.¹⁴ The "alternative use of the highway right-of-way" approach, although not traditionally used for transmission projects, enables highway rights-of-way to be used for other, *non-utility* purposes, including the installation of renewable energy projects.¹⁵ In a guidance memorandum issued on April 27, 2021, FHWA expressed a preference for states to address transmission projects through their respective UAPs where practicable, but noted that if such projects do not meet a state's definition of a utility or otherwise cannot be installed using the state UAP process, the projects may utilize the alternative use approach (hereinafter, the guidance memorandum will be referred to as the "FHWA's 2021 Guidance").¹⁶ This preference for states utilizing their UAPs and keeping the approval process in-state makes some sense. SDOTs not only avoid the extra step of seeking FHWA approval, but they may be better equipped to review the site-specific nature of transmission projects given their familiarity with the

⁸ BBGI, *supra* note 3, at 2773.

⁹ FERC REPORT, *supra* note 3, at 3-4, 30-33.

¹⁰ *See id.* at 15.

¹¹ *See* 23 U.S.C. § 109(l) (authorizing the federal Department of Transportation to prescribe a framework for co-locating utilities along certain federal highways, after considering various impacts of doing so, such as impacts on safety); *see also* 23 C.F.R. §§ 645.201-.215 (2023) (FHWA regulations governing utility accommodation).

¹² 23 C.F.R. § 1.23 (2023); 23 C.F.R. § 710 (2023).

¹³ 23 C.F.R. § 645.209 (requiring SDOTs to establish a UAP); *id.* § 645.211 (establishing the minimum requirements for SDOT UAPs).

¹⁴ *Id.* § 645.211.

¹⁵ *Id.* § 710.405; *see also* Memorandum from FHWA Acting Adm'r to FHWA Div. Dir. on State DOTs Leveraging Alternative Uses of the Highway Right-of-Way Guidance (Apr. 27, 2021), https://www.fhwa.dot.gov/real_estate/right-of-way/corridor_management/alternative_uses_guidance.cfm [hereinafter FHWA 2021 Guidance].

¹⁶ FHWA 2021 Guidance, *supra* note 15; *see also* Press Release, FACT SHEET: Biden Administration Advances Expansion & Modernization of the Electric Grid (Apr. 27, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/27/fact-sheet-biden-administration-advances-expansion-modernization-of-the-electric-grid/> (Biden Administration announcing the release of the FHWA's 2021 Guidance and the intent that such guidance "will help [S]DOTs host transmission lines [and] build renewable energy projects" and "create revenue opportunities," among other benefits).

current and future needs of the highways that cross through their territory (for example, safety considerations and future transportation needs).

At the state level, in addition to any applicable UAP approach, some states, including New Hampshire, Maine, Wisconsin, and Minnesota, have laws promoting co-location of transmission lines within highway rights-of-way.¹⁷

2 Glossary of Key Terms

This section identifies key terms, including types of roadways and manners of transmission installation, frequently referred to in this paper. The terms are paraphrased from select federal authorities, including statutes, the utility accommodation regulations and alternative use regulations, and guidance from the American Association of State Highway and Transportation Officials' (AASHTO) that is incorporated or referred to in FHWA regulations.¹⁸ The terms may not apply or be relevant to every section in this paper. The FHWA frameworks discussed in this paper often allow states to substitute their own definitions. The paper notes when a state is permitted to substitute its own terms and definitions.

- **Highway:** The term “highway” is defined broadly by various federal authorities to include many types of public roadways and related areas and infrastructure connected with the highway.¹⁹ The FHWA frameworks discussed in this paper are applicable to highways or highway “projects” (which include completed highways) that receive or received federal aid or are under direct control of the federal government.²⁰ The utility accommodation regulations refer to such highways or projects as “federal-aid highway projects” and “direct federal highway projects,” respectively, while the alternative use regulations refer to “federal-aid highways” and “federal-aid projects.”²¹
- **Freeway:** The utility accommodation regulations consider a freeway as a type of highway, specifically a “divided arterial highway with full control of access.”²² An arterial highway is “[a] general term denoting a highway primarily for through traffic, usually on a continuous route.”²³ The term “full control of access” refers to the fact that the relevant transportation agency has full control of the public’s access to the highway.²⁴ Typically freeways and other

¹⁷ 23 C.F.R. § 645.211; *see also* N.H. REV. STAT. ANN. § 162-R:1-6; ME. STAT. 35-A § 3210-I(2); WIS. STAT. § 1.12; MINN. STAT. § 216E.03 (2022).

¹⁸ *See, e.g.*, 23 C.F.R. § 645.211 (instructing that “[t]he FHWA should use the current editions of the AASHTO publications, “A Guide for Accommodating Utilities Within Highway Right-of-Way” and “Roadside Design Guide” to assist in the evaluation of adequacy of STD utility accommodation policies”).

¹⁹ *See, e.g., id.* § 645.207 (defining “highway” as it applies to the utility accommodation regulations); *see also* 23 U.S.C. § 101(a)(11) (defining the term “highway” as it applies to “Highways” title of the U.S. Code); 23 C.F.R. § 645.207 (adopting definition in 23 U.S.C. § 101).

²⁰ *See id.* § 645.203 (applicability of the utility accommodation regulations); *id.* § 710.405(a)(1) (applicability of the alternative use regulations).

²¹ *Id.* § 645.203 (applicability of the utility accommodation regulations); *id.* § 645.207 (defining “direct federal highway projects” and “federal-aid highway projects”); *id.* § 710.405(a)(1) (applicability of the alternative use regulations); *id.* § 710.105(b) (defining “federal-aid project”); *see also* 23 U.S.C. § 101(a)(6) (defining “highway,” “federal-aid highway,” and “project”).

²² 23 C.F.R. § 645.207; *see also* AMERICAN ASS’N OF STATE HIGHWAY AND TRANS. OFFICIALS, A GUIDE FOR ACCOMMODATING UTILITIES WITHIN HIGHWAY RIGHT-OF-WAY 17 (2005) [hereinafter AASHTO GUIDE] (defining “freeway”).

²³ AASHTO GUIDE, *supra* note 22, at 16.

²⁴ *Id.*

highways that have “full control of access” have higher speed limits with public access points limited to on- and off-ramps.

- **Right-of-Way:** “[T]he term ‘right-of-way’ means any real property, or interest therein, acquired, dedicated, or reserved for the construction, operation, and maintenance of a highway.”²⁵ It can include land along and/or adjacent to a highway.
- **Longitudinal Installation:** Longitudinal installation refers to transmission lines that run along the length of, and/or parallel to a highway.²⁶ This type of installation is of particular relevance to the scope of this paper as it can allow transmission lines to make use of long-distance transportation corridors to bring electricity from far-off renewable sources to consumers.
- **Transverse Installation:** Transverse installation refers to transmission lines that cross on an angle or are perpendicular to a highway.²⁷
- **Utility Facility:** Under federal transportation law, “utility facility” is defined broadly as “any privately, publicly, or cooperatively owned line, facility, or system for producing, transmitting, or distributing . . . power [or] electricity . . . *which directly or indirectly serves the public.*”²⁸ However, the FHWA largely defers to SDOTs to determine if a proposed installation is a utility facility.²⁹

3 Federal Programs for Transmission Co-Location

FHWA regulations provide opportunities to site electricity transmission lines in new or existing highway rights-of-way through a state UAP or by FHWA approval as an alternative use. This section provides an overview of each regulation, discusses the applicability of each program particularly as they relate to renewable energy transmission line co-location, and explains pertinent requirements of each regulation.

3.1 FHWA Utility Accommodation

As introduced in Section 1, the FHWA’s utility accommodation regulations allow for accommodating utility facilities in certain highway rights-of-way and require SDOTs to implement their own UAPs pursuant to established minimum standards.³⁰ State plans and any subsequent changes to such plans are reviewed and approved, and periodically reviewed thereafter, by FHWA.³¹ Through their individual UAPs, states can accommodate facilities on certain federal highways without further input or approval from FHWA. As noted in Section 1, FHWA prefers that states utilize this approach for accommodating renewable energy and electric transmission projects (over the alternative use approach), if applicable and as long as it is consistent with state law.³²

²⁵ 23 U.S.C. § 109(l)(2)(B). *See also* 23 C.F.R. § 645.207 (defining the term as it applies to the utility accommodation regulations); *id.* § 710.105(b) (defining the term as it applies to the alternative use regulations); AASHTO GUIDE, *supra* note 22, at 18.

²⁶ NEW OXFORD AMERICAN DICTIONARY (2021) (defining “longitudinal”). Longitudinal and transverse installations are explained here because the FHWA allows for distinctions between them. *See* 23 C.F.R. § 645.205(c). The FHWA does not define longitudinal and transverse installations in their regulations.

²⁷ *Id.* (defining “transverse”).

²⁸ 23 U.S.C. § 109(l)(2)(A) (emphasis added); *see also* 23 C.F.R. § 645.207 (providing the same definition). The paper may use the terms “utility” and “utility facility” interchangeably.

²⁹ 23 C.F.R. § 645.209(m).

³⁰ *Id.* §§ 645.201, .211.

³¹ *Id.* § 645.215.

³² FHWA 2021 Guidance, *supra* note 15.

3.1.1 Applicability

FHWA’s utility accommodation regulations set forth the type of infrastructure and highways to which they apply. FHWA’s utility accommodation regulations apply to utility facilities, as defined in Section 2, and in certain situations, private lines, defined as privately-owned utility facilities “devoted exclusively to private use.”³³ FHWA’s broad definition of utility facility is “intended to cover [an] extensive array of uses,” and under it, renewable energy transmission projects that connect to the public grid would generally be considered a utility facility.³⁴ FHWA expressly confirmed that view in the FHWA’s 2021 Guidance, stating that renewable energy, electrical transmission, and other “clean energy and connectivity” (CEC) projects are considered utility facilities under the federal definition.³⁵ However, state laws and regulations may be narrower and may potentially exclude certain renewable energy transmission projects.³⁶ Recognizing that, the FHWA, in its FHWA 2021 Guidance, encouraged states to update their respective UAPs with a more inclusive definition of “utility facility” that incorporates renewable energy and other CEC projects, provided such change is consistent with state law.³⁷ Updating UAPs, however, could be a long process. SDOTs need to ensure any proposed changes are consistent with their required transportation priorities (like safety and feasibility); additionally, the action could require a state legislative action to change any statutory terms that dictate UAP definitions and requirements and/or an administrative notice and comment period.

As noted in Section 2, the type of highways to which the utility accommodation regulations apply are direct federal highways or federal-aid highways.³⁸

3.1.2 Program Requirements

The FHWA regulations declare that “it is in the public interest for utility facilities to be accommodated”—including longitudinally or transversely—on federal highway rights-of-way, as long as such uses “do not adversely affect highway or traffic safety or otherwise impair the highway or its aesthetic quality, and do not conflict with [other laws or regulations].”³⁹ When planning for co-location, the regulations note the importance of considering the compatibility of distinct uses in a particular setting.⁴⁰ Planning is particularly important “along high speed and high volume roads, such as major arterials and freeways, particularly those approaching metropolitan areas where space is

³³ 23 C.F.R. § 645.203 (describing the types of installations and facilities that are governed by the utility accommodation regulations); *id.* § 645.207 (defining “private lines”).

³⁴ FHWA 2021 Guidance, *supra* note 15; *see also* U.S. DEP’T OF TRANSP. FED. HIGHWAY ADMIN., QUICK GUIDE: FEDERAL HIGHWAY ADMINISTRATION (FHWA) REQUIREMENTS FOR RENEWABLE ENERGY PROJECTS IN HIGHWAY RIGHT-OF-WAY (ROW) (updated Dec. 21, 2018) [hereinafter FHWA QUICK GUIDE], https://www.fhwa.dot.gov/environment/sustainability/energy/publications/renew_energy_row_guide/renew_energy_row_guide.pdf (“Renewable energy projects that are connected to the public electricity grid or provide electricity used by a public agency such as the [SDOT] would generally be considered as serving the public.”).

³⁵ FHWA 2021 Guidance, *supra* note 15.

³⁶ FHWA QUICK GUIDE, *supra* note 34. *See also* 23 C.F.R. § 645.209(m) (“In determining whether a proposed installation is a utility or not, the most important consideration is how the [SDOT] views it under its own State laws and/or regulations.”); *id.* § 645.211(e) (“The [SDOT] also may develop such procedures, criteria and standards by class of utility. In defining utility classes, consideration may be given to distinguishing utility services by type, nature or function and their potential impact on the highway and its user.”).

³⁷ FHWA 2021 Guidance, *supra* note 15.

³⁸ 23 C.F.R. § 645.203 (applicability of utility accommodation regulations).

³⁹ *Id.* § 645.205(a),(c).

⁴⁰ *Id.* § 645.205(b).

increasingly limited.”⁴¹ In recognition of these policies, the FHWA sets out general requirements for safety, traffic control, installation design specifications (including aesthetics), and the agreements and authority needed to approve a project.⁴² The FHWA does not dictate whether or how much a state can charge a utility provider for the use of the right-of-way.⁴³

While the FHWA’s regulations create a standardized framework for states to administer their UAPs, states have leeway within the rule to implement their policies and approve individual applications for co-location.⁴⁴ For example, and relevant to transmission siting, the FHWA specifies that each state’s UAP must consider the state’s accommodation of utility infrastructure longitudinally within freeway rights-of-way,⁴⁵ but permits states to adopt more restrictive policies for longitudinal accommodation within freeways than the federal regulations.⁴⁶ A review of New England and other select state policies (see Section 4) shows that the states have adopted more restrictive postures with regard to longitudinal utility accommodation than the federal approach.⁴⁷

3.2 Alternative Use of Highway Rights-of-Way

For transmission projects that do not meet the definition of “utility facility,” the FHWA allows developers to apply for an alternative use of a highway right-of-way.⁴⁸ The FHWA alternative use approach, although not traditionally used for transmission projects, allows for the co-location of transmission projects that support renewable energy.⁴⁹

3.2.1 Applicability

The FHWA alternative use regulations allow for the “non-highway use of real property” on federal-aid highways.⁵⁰ Such alternative uses require approval on a project-by-project basis.⁵¹ FHWA is required to approve applications for alternative uses of interstate highways but may delegate its approval responsibilities to the states for such uses on all other highways.⁵² In any approval, the

⁴¹ *Id.* § 645.205(b).

⁴² *See id.* § 645.209(a) (safety); *id.* § 645.209(j) (traffic control); *id.* § 645.209(b),(c),(h),(l) (design specifications); and *id.* § 645.209(f),(g),(i) (agreements and approval authority). This paper does not detail all of the specific requirements, largely due to their technical nature.

⁴³ *See id.* § 710.403(e)(2) (providing an exception to FHWA’s rule for charging fair market value for the use or disposal of real property interests provided with federal DOT funding); *see also Utility Right-of-Way*, FED. HIGHWAY ADMIN. (updated Aug. 23, 2019), https://www.fhwa.dot.gov/real_estate/right-of-way/utility_rights-of-way/ (explaining the states’ traditional approach was to not charge a utility for the accommodation, or to only charge reimbursement fees, as a policy in support of “limiting the burden on taxpayers for basic municipal services”; noting, however, that “[d]emands for accommodating new technologies such as . . . renewable energy projects are causing many states and local governments to re-evaluate past policies and seek to gain benefits from their land assets by making their rights-of-way available for these uses”); FHWA 2021 Guidance, *supra* note 15 (stating that “[S]DOTs are not required to charge fair market rent or other fees for use of the ROW if accommodating the facility as a utility, and fees may be set at the discretion of the State”).

⁴⁴ 23 C.F.R. § 645.211(c)(5).

⁴⁵ *Id.* § 645.209(c)(1).

⁴⁶ *Id.* § 645.209(c)(3) (“Nothing in this part shall be construed as prohibiting a highway agency from adopting a more restrictive policy than that contained herein with regard to longitudinal utility installations along freeway right-of-way and access for constructing and/or for servicing such installations.”).

⁴⁷ *See id.* § 645.205 (declaring federal policy); *see also infra* Section 4 (discussion of state UAPs).

⁴⁸ FHWA 2021 Guidance, *supra* note 15.

⁴⁹ 23 C.F.R. § 710.405; *see also* FHWA 2021 Guidance, *supra* note 15.

⁵⁰ *Id.* § 710.405(a).

⁵¹ *Id.*

⁵² *Id.* (allowing for delegation to the states); *see also id.* § 710.403(a) (providing that any delegation to a state is governed by what is referred to as a “Stewardship/Oversight Agreement” between FHWA and the SDOT).

reviewing agency must find that such use: (1) “is in the public interest”; (2) “is consistent with the continued use, operations, maintenance, and safety of the facility”; and (3) “does not impair the highway or interfere with the free and safe flow of traffic.”⁵³ Importantly for renewable energy or electric transmission projects seeking such approval, the FHWA’s 2021 Guidance makes a blanket determination that such projects satisfy the “public interest” requirement, so long as the installations otherwise comply with the appropriate regulations.⁵⁴ FHWA’s rationale for this determination is that “[such] projects provide an opportunity to reduce carbon emissions and are an important tool to address climate change.”⁵⁵ This finding should make it easier for renewable energy and electric transmission projects to obtain an alternative use approval.

In practice, the FHWA reports that “[SDOTs] are increasingly exploring the use of highway right[s]-of-way to accommodate renewable energy technologies.”⁵⁶ Existing alternative use projects in New England are primarily renewable energy generation projects, specifically solar arrays, either alongside highway rights-of-way or at highway rest areas.⁵⁷ The FHWA encourages the use of rights-of-way for these projects, noting that they are “often close to electrical loads and have sometimes already been disturbed, potentially making these properties ideal locations for renewable energy applications.”⁵⁸ Though nothing in the regulation or guidance appears to limit the alternative use approach to energy generation, the FHWA encourages states to address renewable energy projects through accommodation as a utility installation rather than as an alternative use, as it can be an easier, less bureaucratic process for developers.⁵⁹

3.2.2 Program Requirements

Once a developer receives approval for a project making alternative use of a highway right-of-way, it may enter into a “right-of way use agreement” and is typically required to pay fair market value for such use.⁶⁰ Right-of-way alternative use agreements must be time-limited “because the real property interest may be needed in the future for highway . . . or other purposes.”⁶¹ The regulations mandate that other terms be addressed in the agreements, including adequate provisions for ensuring the safety and integrity of the facility and access rights for inspection and maintenance.⁶²

With respect to the requirement to charge fair market value for the use of a highway right-of-way, there are exceptions for projects that the FHWA considers to be in the public interest based on social, environmental, or economic benefits.⁶³ In the FHWA’s 2021 Guidance, FHWA determined that CEC projects qualify for an exception to that requirement “based on the environmental benefits

⁵³*Id.* § 710.405(a); *see also id.* § 1.23(c).

⁵⁴ FHWA 2021 Guidance, *supra* note 15; *see also id.* (“The FHWA will consider the installation of solar panels, electric vehicle charging stations, broadband deployment, and other CEC projects as acceptable alternative uses of the Interstate or non-Interstate highway ROW if they comply with Federal property management regulations at 23 CFR 1.23, 23 CFR Part 710, and 23 U.S.C 111.”).

⁵⁵ *Id.* at 15.

⁵⁶ *Renewable Energy in Highway Right-of-Way*, FED. HIGHWAY ADMIN., (updated Feb. 22, 2019), https://www.fhwa.dot.gov/real_estate/right-of-way/corridor_management/alternative_uses.cfm.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ FHWA 2021 Guidance, *supra* note 15.

⁶⁰ 23 C.F.R. §§ 710.405(a), .403(e).

⁶¹ *Id.* § 710.105(b) (providing definition of ROW agreement).

⁶² *Id.* § 710.405(b).

⁶³ *Id.* § 710.403(e)(1).

that would result from these [CEC project] installations.”⁶⁴ This provides another incentive for states to utilize this approach if their UAPs are not an option.

4 Select State UAPs

This section examines the SDOT UAPs for Rhode Island, Massachusetts, Connecticut, New Hampshire, Vermont, Maine, New York, and California and compares them to the FHWA utility accommodation regulation. Though the states title their UAPs in various ways, such as “policies,” “plans,” “manuals,” or “rules,” this paper refers to them uniformly as UAPs. In this review, certain key concepts related to transmission line siting in support of renewable energy are identified: (1) state treatment of longitudinal utility installations; (2) state differences pertaining to freeway installations; and (3) state definitions of utility facilities and whether the definition treats renewable energy generation or transmission differently. The following subsections will review each of those issues in turn and provide details on their differences, and the Appendix in Section 7 provides a table comparing at a high-level the reviewed state UAPs. As a reference point, all but one of the reviewed state UAPs were last updated *prior* to the publication of FHWA’s 2021 Guidance.⁶⁵ California, the state that updated its UAP after the publication of the FHWA’s 2021 Guidance, included new requirements for wired broadband installations that may have been in partial response to the Guidance.⁶⁶ Other states may plan to update their UAPs in response to the FHWA’s 2021 Guidance, but as noted in Section 3.1.1, the SDOTs have to consider many factors and may encounter hurdles that would delay the process.

4.1 Longitudinal Installation

In general, the posture of the reviewed state UAPs is more restrictive to longitudinal installation than the FHWA regulation.⁶⁷ All of the reviewed states’ UAPs include various restrictions, additional requirements, or conditions on new installation of longitudinal utilities.⁶⁸ At least one state UAP

⁶⁴ FHWA 2021 Guidance, *supra* note 15; *see also* 23 U.S.C. § 156(b) (providing an exception to the requirement to charge fair market value for the use of land “for a social, environmental, or economic purpose”).

⁶⁵ *See* N.Y. COMP. CODES R. & REGS. 17 pt. 131 (1994) [hereinafter NY UAP] and N.Y. DEP’T OF TRANSP., ACCOMMODATION PLAN FOR LONGITUDINAL USE OF FREEWAY RIGHT-OF-WAY BY UTILITIES (1995) [hereinafter NY ACCOM. PLAN FOR LONGITUDINAL USE ON FWY] (last updated Oct. 1995); CONN. DEP’T OF TRANSP., UTILITY ACCOMMODATION MANUAL (2009) [hereinafter CT UAP] (last updated Feb. 2009); MASS. DEP’T OF TRANSP., UTILITY ACCOMMODATION POLICY ON STATE HIGHWAY RIGHT OF WAY (2013) [hereinafter MA UAP] (last updated in 2013); VT. DEP’T OF TRANSP., LOCATION AND DESIGN STANDARDS (“UTILITY ACCOMMODATION PLAN”) (2016) [hereinafter VT UAP] (last updated Mar. 2016); N.H. DEP’T OF TRANSP., UTILITY ACCOMMODATION MANUAL (2017) [hereinafter NH UAP] (last updated Oct. 2017); 290-20 R.I. CODE R. § 5 (ACCOMMODATING UTILITY FACILITIES WITHIN PUBLIC FREEWAY RIGHTS-OF-WAY AND PUBLIC RAILROAD RIGHTS-OF-WAY) (last updated in 2018, refiled in 2022 with no changes); 17-229-210 ME. CODE R. (UTILITY ACCOMMODATION RULES) (2021) (last updated Apr. 5, 2021); CAL. DEP’T OF TRANSP., PROJECT DEVELOPMENT PROCEDURES MANUAL CH. 17 ENCROACHMENTS AND UTILITIES (2022) [hereinafter CA UAP] (last updated Mar. 2022).

⁶⁶ *See* Manual Change Transmittal on the Project Development Procedures Manual by the Cal. Dep’t of Transp. (Mar. 14, 2022), <https://dot.ca.gov/-/media/dot-media/programs/design/documents/mct-03142022-a11y.pdf> (summarizing recent changes made to state’s UAP); *see also* Memorandum regarding Accommodation of Wired Broadband Facilities within Access-Controlled State Highway Right-of-Way from Janice Benton, Chief of Caltrans Division of Design to Caltrans Deputy Directors, District Directors, and Division Chiefs (Mar. 25, 2022) (detailing rationale for a new accommodation policy for wired broadband facility installations within the access-controlled State highway right of-way).

⁶⁷ *See infra* notes 96-99 and accompanying text. *See also* table in Appendix, *infra* Section 7.

⁶⁸ *See, e.g.*, 290-20 R.I. CODE R. § 5.5.3(A) (“Longitudinal installations of utility facilities within a [f]reeway right-of-way . . . are permitted only when there is no feasible or prudent alternative to the installation of said facility.”); MA UAP, *supra* note 65, ch. 1(G)(1)(d) (“MassDOT shall permit utility facilities to occupy” highway rights-of-way so long as various conditions are met, including that “roadway has not been resurfaced within five years, or the accommodation

prohibits new longitudinal utilities based on the type of highway.⁶⁹ In contrast to longitudinal installations, many of the policies appear to offer a more permissive stance for transverse utility installations.⁷⁰ States often cite concerns about traffic and congestion as the reason for the more restrictive stance on longitudinal installations that would disrupt freeways.⁷¹

4.2 Freeways

States differ in the types of highways to which their UAPs apply. Some state UAPs only apply to freeways,⁷² or differentiate between freeways and other highways.⁷³ States are generally more restrictive with utility installations on freeways than on other highways, with the exception of New Hampshire that has relaxed certain restrictions on longitudinal installations along certain freeway corridors.⁷⁴ States may also restrict installation of utilities on freeway medians and/or provide for more specific requirements for median installations.⁷⁵ The states may also set out particular

method is a non-destructive installation”); 17-229-210 ME. CODE R. § 12(1)(A) (“New facilities will not normally be permitted longitudinally within Freeway [Controlled Access Highways]. Where special circumstances exist, MaineDOT may elect to permit such installations under strictly controlled conditions.”); NH UAP, *supra* note 65, § XIII(B)(2) (emphasis added) (“New longitudinal installations are not permitted within the ROW lines parallel to either the through roadway or ramps of a highway with freeway characteristics or proposed freeway characteristics except an underground facility in an energy infrastructure corridor.”); CT UAP, *supra* note 65, § 4.1 (“In general, new utility installations shall not be permitted longitudinally within the right-of-way of a limited access highway except that in special cases, the State may allow such occupancy under strictly controlled conditions.”); VT UAP, *supra* note 65, p. 2-3 (“Permits for placement of longitudinal and other utility facilities within the highway right-of-way may be issued with appropriate conditions by the Agency...”); NY ACCOM. PLAN FOR LONGITUDINAL USE ON FWY, *supra* note 65, § A (“The longitudinal use of freeways by utilities shall not be allowed except in accordance with [the NY UAP], which requires a case-by-case evaluation of individual requests . . .”).

⁶⁹ See, e.g., CA UAP, *supra* note 65, § 2, art. 2, p. 17-23 (providing that “[n]ew utilities are not allowed to be installed longitudinally on any highway identified as part of the freeway and expressway system[,]” with certain exceptions for wired broadband).

⁷⁰ See, e.g., MA UAP, *supra* note 65, ch. 8(B)(1) (permitting “[n]ew utility facility installations and relocations of existing utility facilities . . . to cross a freeway.”); CT UAP, *supra* note 65, § 4.3 (permitting, “[i]n general, new transverse utility installations . . . to cross a limited access highway right-of-way.”); 17-229-210 ME. CODE R. § 9(1)(F) (providing that “[t]o the extent feasible and practicable, Facility crossings of the Highway shall be generally perpendicular to the Highway alignment”); *but see* 290-20 R.I. CODE R. § 5.5.2(A) (providing the same restriction on transverse installation as longitudinal installation, i.e., that it is permitted “only where there is no prudent alternative to the installation of said facility within a Freeway right-of-way or a Railroad right-of-way”); *see also, e.g.*, NH UAP, *supra* note 65, § XIII(C) (placing conditions on transverse installations, i.e., crossings of limited access rights-of-way); VT UAP, *supra* note 65, p. 2-32 (allowing transverse crossings but with certain conditions depending on the type of highway and manner of crossing).

⁷¹ See, e.g., MA UAP, *supra* note 65, ch. 8(C)(1), (2)(a); 290-20 R.I. CODE R. § 5.5.3(C)(3)(a).

⁷² See, e.g., 290-20 R.I. CODE R. § 5.2 (providing that the regulations “apply to both Freeway and Railroad rights-of-way unless otherwise specified”); *see also* 290-20 R.I. CODE R. § 5.4(A)(8) (providing a list of “freeways” in Rhode Island to which the policy applies); *see also* NY ACCOM. PLAN FOR LONGITUDINAL USE ON FWY, *supra* note 65 (New York’s separate utility accommodation policy for longitudinal installation on freeways).

⁷³ See, e.g., MA UAP, *supra* note 65, ch. 8 (chapter on freeways); NH UAP, *supra* note 65, § VIII (section on general highway standards) and § XIII (section on limited and controlled access highways).

⁷⁴ See NH UAP, *supra* note 65, at § XIII(B)(4); *see also infra* Section 5.1.

⁷⁵ See, e.g., CT UAP, *supra* note 65, § 4.1(5)(b) (establishing as a condition for any new longitudinal installation that “[t]he median area of the highway will not be occupied in any way by the installation”); 290-20 R.I. CODE R. § 5.5.3(C)(1) (discouraging any installation in the median area of a freeway); NH UAP, *supra* note 65, § XIII(B)(5) (providing that “in no instance will utilities be allowed to be installed longitudinally within the median area of freeways”); VT UAP, *supra* note 65, p. 2-14 (prohibiting longitudinal installation of “poles, guys, or other related facilities” in a highway median, and establishing conditions for other types of installation in the median); MA UAP, *supra* note 65, ch. 6(C) (providing that, with limited exceptions, “[p]oles, guy, or other related facilities shall not be located in a highway median[,]” for “both crossing installations and longitudinal installations”).

requirements governing the ability of a developer to access freeway rights-of-way for installation and maintenance of utilities.⁷⁶

4.3 Renewable Energy

In their respective definitions of utility facility, none of the reviewed state UAPs preclude electric transmission or renewable energy facilities and some of the states (Massachusetts and Vermont) explicitly include renewable energy within the scope of their UAPs.⁷⁷ The state UAPs do not appear to offer renewable energy projects any easier path to accommodation in existing rights-of-way than other utility projects. Renewable energy projects, even in Massachusetts and Vermont, must comply with the standard processes for energy project approval in the state.⁷⁸ In short, nothing in the reviewed UAPs appears to exclude, or incentivize, accommodation of transmission lines for renewable energy projects.

5 State Laws and Other Actions

In addition to the FHWA-required state UAPs described in Section 4, various states have passed legislation promoting energy infrastructure development in existing rights-of-way. Legislation in New Hampshire, Maine, Wisconsin, and Minnesota provide examples of how states have taken additional steps to utilize existing rights-of-way for developing transmission infrastructure.

5.1 New Hampshire

New Hampshire has a law that retroactively went into effect in April 2018 designating energy infrastructure corridors in certain state-owned areas of highways as available for installing energy infrastructure projects such as electric transmission lines.⁷⁹ Under the law, developers have the option to use the designated corridors instead of privately-owned land for siting energy infrastructure projects, but are not required to use them.⁸⁰ The law requires SDOT to negotiate with a developer payment for the use of state land within an energy infrastructure corridor.⁸¹ Any projects within the designated corridors must comply with the state's UAP and the state energy facility siting approval process.⁸² Notably, however, the current UAP's restrictions on utility accommodations for longitudinal installations do not apply to designated infrastructure corridors.⁸³ The prior version of the UAP discouraged the use of limited-access highway corridors for infrastructure development, but was required to be updated as a condition of the corridor law taking effect.⁸⁴

⁷⁶ See, e.g., 290-20 R.I. CODE R. § 5.5.4 (providing requirements for access to utility facilities); MA UAP, *supra* note 65, ch. 4(E) (providing requirements for access to utilities); 17-229-210 ME. CODE R. § 12(1)(D) (providing requirements for access for constructing or servicing facilities); VT UAP, *supra* note 65, p. 2-55 (providing requirements for access to renewable energy facilities); CA UAP, *supra* note 65, § 2 art. 3 (detailing access restrictions).

⁷⁷ See MA UAP, *supra* note 65, ch. 5 (chapter on telecommunication and renewable energy) and VT UAP, *supra* note 65, pp. 2-52 - 2-57 (section on "renewable energy facilities located on limited access highways").

⁷⁸ See MA UAP, *supra* note 65, ch. 5(D) and VT UAP, *supra* note 65, p. 2-54.

⁷⁹ N.H. REV. STAT. ANN. § 162-R:1-6. See also H.B. 626, 2016 Gen. Ct. (N.H. 2016), sec. 218:4 and H.B. 4, 2019 Gen. Ct. (N.H. 2019), sec. 346:388 (regarding retroactive effective date).

⁸⁰ N.H. REV. STAT. ANN. § 162-R:2(III).

⁸¹ *Id.* § 162-R:6.

⁸² *Id.* § 162-R:3(I)(a) (requiring conceptual feasibility study request to include information in accordance with UAP); N *id.* § 162-R:4(II) (requiring compliance with the state energy facility siting approval process as set forth in N.H. REV. STAT. ANN. § 162-H).

⁸³ NH UAP, *supra* note 65, at § XIII(B)(2), (4) (providing exception for projects in designated energy infrastructure corridors).

⁸⁴ H.B. 626, 2016 Gen. Ct. (N.H. 2016), sec. 218:3 (requiring UAP to be updated); see also *An Act Authorizing Energy Infrastructure Development and Designating Energy Infrastructure Corridors: Hearing on H.B. 626 Before the S. Comm. on Energy and*

5.2 Maine

Maine has two laws of note—one that, like New Hampshire’s law, designated energy infrastructure corridors for developing energy infrastructure (since repealed), and one that requires the state’s energy siting agency to give preference to transmission project proposals seeking to utilize existing rights-of-way. With respect to the first law, Maine passed “An Act Regarding Energy Infrastructure Development” in 2007⁸⁵ that was later amended and set to automatically repeal in 2017.⁸⁶ The act designated energy infrastructure corridors on state-owned land at a former U.S. Air Force base and along interstate highways.⁸⁷ In passing the act, the legislature created an interagency review panel to oversee the use of infrastructure corridors and established procedures to approve applications for infrastructure projects.⁸⁸ The act also sets out the criteria for approving energy infrastructure proposals, requiring projects to: (1) enhance or at least not harm transmission opportunities in the state; (2) be “reasonably likely to reduce electric rates or other relevant energy prices or costs” or pay a fee to reduce such rates, prices or costs; and (3) be “in the long-term public interest of the State.”⁸⁹

More recently, in 2021, Maine passed a law establishing the “Northern Maine Renewable Energy Development Program,” to be administered by the state’s public utilities commission, in order to promote renewable energy development, including transmission infrastructure projects, in northern Maine.⁹⁰ The law, in part, requires the state public utilities commission to solicit proposals for the development of a transmission line “to connect renewable energy resources in northern Maine with the electric grid operated by New England independent system operator.”⁹¹ The commission is directed to evaluate such proposals on various enumerated criteria and give preference to proposals that, among other factors, “favor use, where practicable, of existing utility and other rights-of-way and other existing transmission corridors.”⁹²

5.3 Wisconsin

Wisconsin’s broad state energy policy, codified in the Wisconsin Statutes, includes a policy governing the siting of new electric transmission facilities such as high-voltage transmission lines.⁹³ The policy, included in a bill passed in 2003,⁹⁴ directs that certain prioritized corridors be utilized for siting new electric transmission facilities where feasible and consistent with “economic and engineering considerations, reliability of the electric system, and protection of the environment.”⁹⁵ The corridors listed as first- and second-priority are “existing utility corridors” and “highway and railroad corridors,” in that order.⁹⁶ The same bill that created the prioritization policy also directed

Nat. Res., 2015 Leg. Sess. 2 (N.H. 2016) (Representative Smith testifying that, under the prior UAP, “DOT ha[d] an accommodation manual that discourage[d] the use of these corridors” and that the “bill requests that the DOT rewrite their UAP”).

⁸⁵ An Act Regarding Energy Infrastructure Development, 2008 Me. Laws 2134, sec. A-2 (repealed 2017).

⁸⁶ 2013 Me. Legis. Serv. Ch. 360 (West) § 10.

⁸⁷ 2008 Me. Laws 2134, sec. A-2, § 122 (1)(F-2), (1-A) (repealed 2017).

⁸⁸ *Id.* § 122 (1-B) (repealed 2017).

⁸⁹ *Id.* § 122 (1-D) (repealed 2017).

⁹⁰ ME. STAT. tit. 35-A § 3210-I(1), (1)(B).

⁹¹ *Id.* § 3210-I(2).

⁹² *Id.* § 3210-I(2).

⁹³ WIS. STAT. § 1.12(6) (2023).

⁹⁴ 2003 Wis. Act 89, sec. 1.

⁹⁵ WIS. STAT. § 1.12(6).

⁹⁶ *Id.* § 1.12(6)(a), (b); *see also id.* at (c), (d) (listing as the other two corridors “[r]ecreational trails, to the extent that the facilities may be constructed below ground and that the facilities do not significantly impact environmentally sensitive areas,” and “[n]ew corridors,” in that order).

the state’s public service commission, department of natural resources, and department of transportation to implement the policy “in making all decisions, rules, and orders affecting the siting of new electric transmission facilities.”⁹⁷ As an example of this implementation, the public service commission requires transmission applicants to “[d]escribe how the transmission line siting priorities in [the transmission policy] were considered” and why the applied-for route was chosen.⁹⁸

By requiring all projects to consider existing transmission and highway rights-of-way, Wisconsin’s law drives the planning process to assess transmission routing on existing rights-of-way which could lead to the identification of a workable route that may not otherwise have been contemplated.

5.4 Minnesota

Minnesota law requires its public utilities commission to approve the route selected for any high-voltage transmission line, and, like Main and Wisconsin’s law, requires the commission to consider “potential routes that would use or parallel existing . . . highway rights-of-way.”⁹⁹ The law also requires the commission to “make specific findings that it has considered [co-locating such a line] on an existing high-voltage transmission route and the use of parallel existing highway right-of-way and, to the extent those are not used for the route, the commission must state the reasons.”¹⁰⁰ The requirement in Minnesota’s law to consider existing rights-of-way could, like Maine and Wisconsin’s law, have the effect of identifying less disruptive siting locations.

6 Conclusion

The federal government is taking steps to promote the co-location of utilities and other renewable energy projects in existing highway rights-of-way, however, for various reasons states generally have not followed suit. The available federal programs still largely defer to the states to determine the appropriateness of co-location, and certainly the need for states to consider safety, design standards, and future transportation needs within their highway rights-of-way will impact the viability of co-location. Not only do states have to account for safety concerns and transportation needs, but historically, they have viewed the highway rights-of-way they manage as encumbrances they must pay to maintain but that provide no value.¹⁰¹ Changing any state policy may be difficult as it may, for example, require state legislative action. Not only can policy be slow to change, but it can be slow to implement. The proper solution for any given transmission line may continue to be state- or project-specific. However, as the federal government has more recently encouraged the utilization of highway rights-of-way for siting transmission facilities, states and developers may see more potential in co-location. Models exist for states to follow if they decide to take a more active role in promoting transmission co-location in rights-of-ways.

⁹⁷ 2003 Wis. Act 89, sec. 4, § 23.09(22m) (department of natural resources); *id.* sec. 27, § 85.02(2) (department of transportation); *id.* at sec. 30, § 196.025(1m) (public service commission).

⁹⁸ PUBLIC SERVICE COMMISSION OF WISCONSIN, APPLICATION FILING REQUIREMENTS TRANSMISSION LINE PROJECTS (2017) §§ 5.1.1, 5.1.3.

⁹⁹ MINN. STAT. §§ 216E.03(1), (7)(b)(8). *See also id.* § 216E.03(7)(a) (indicating the policy that “[t]he commission’s site and route permit determinations must be guided by the state’s goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state’s electric energy security through efficient, cost-effective power supply and electric transmission infrastructure”).

¹⁰⁰ MINN. STAT. § 216E.03(7)(e). *See also* MINN. R. 7850.4100(J) (2009) (when assessing a permit for a high voltage transmission line, the commission is required to consider the “use of existing transportation, pipeline, and electrical transmission systems or rights-of-way”).

¹⁰¹ *Making ROWs a Source of Opportunity, Not Hassle*, AASHTO JOURNAL (Nov. 5, 2021), <https://aashtojournal.transportation.org/making-rows-a-source-of-opportunity-not-hassle/>.

7 Appendix

Summary of State Utility Accommodation Policy Elements						
State	Date of Policy ¹⁰²	Longitudinal Restrictions ¹⁰³	Freeway Restrictions ¹⁰⁴	Transmission Lines ¹⁰⁵	Renewable Energy ¹⁰⁶	Other Active State Laws/Policies
RI	July 1, 2018 ¹⁰⁷	✓	✓	✓		
MA	May 1, 2013	✓	✓	✓	✓	
ME	April 5, 2021	✓	✓	✓		✓
NH	October 1, 2017	✓	✓ ¹⁰⁸	✓		
VT	March 1, 2016	✓	✓	✓	✓	
CT	February 1, 2009	✓	✓	✓		
NY	October 1, 1995	✓	✓	✓		
CA	March 1, 2022	✓	✓	✓		

¹⁰² The FHWA 2021 Guidance was issued April 27, 2021. *See* FHWA 2021 Guidance, *supra* note 15.

¹⁰³ Checkmark indicates that a state in some way restricts longitudinal installation or places special conditions on installation as allowed by 23 C.F.R. § 645.209(C)(3) (2023).

¹⁰⁴ Checkmark indicates that a state in some way places more restrictions on utility accommodation in freeway rights-of-way compared with other types of highways.

¹⁰⁵ Checkmark indicates that the state definition of utility facility includes transmission lines.

¹⁰⁶ Checkmark indicates that the state UAP explicitly includes renewable energy projects.

¹⁰⁷ 290-20 R.I. CODE R. §5 (periodic refile of the 2018 policy made with no changes on Jan. 4, 2022).

¹⁰⁸ New Hampshire allows freeway installation in designated infrastructure corridors. *See* N.H. REV. STAT. ANN. § 162-R; NH UAP, *supra* note 65, § XIII(B)(4).