Summary

Broadband networks are built on a mix of public and private property. Accessing public property typically entails receiving permission from a government entity, usually in the form of a permit, to place equipment in a right-of-way. When a deployment requires use of private property and no sufficient existing property right applies, an ISP generally must obtain permission from the private property owner, often through an easement or other agreement.

BEAD deployment routes are not public, and states' Final Proposal data show only the locations in a funded project, so an engineering-level estimate of easement need is not possible. Instead we measure, in the states where parcel data allows it, the share of BEAD locations whose parcel cannot reach a public road without crossing land someone else owns. A location whose parcel fronts a public road is much more likely to be servable without an easement. A location that can only reach a public road across parcels under different ownership is much more likely to need one, or an equivalent agreement, before an ISP can serve it.

Across the 1.33 million BEAD locations we analyzed in 17 states, 14.8% must cross at least one private parcel to reach a public road, and 0.6% must cross two or more. State rates range from 4.9% in Massachusetts to 33.0% in North Carolina.

Results by State

Table 1. BEAD locations by access to public road, share of covered locations[1]

State	Locations	Coverage	Fronts public road	Crosses public land only	Crosses private	1 parcel	2+ parcels
Arkansas	72,536	93%	88.2%	0.7%	7.2%	7.0%	0.3%
Colorado	78,997	82%	71.7%	4.4%	23.4%	22.3%	1.1%
Florida	73,941	100%	67.6%	5.4%	26.5%	25.5%	1.0%
Indiana	122,819	100%	87.8%	1.1%	11.0%	10.6%	0.4%
Maryland	8,042	100%	78.2%	3.5%	18.1%	17.7%	0.3%
Massachusetts	2,565	100%	87.1%	3.2%	4.9%	4.4%	0.5%
Minnesota	58,713	79%	86.5%	2.8%	9.3%	8.5%	0.8%
Mississippi	93,068	100%	89.8%	0.5%	9.6%	9.3%	0.3%
Montana	68,310	100%	83.0%	3.5%	13.4%	13.1%	0.3%
New York	33,012	62%	84.4%	4.0%	11.2%	10.7%	0.5%
North Carolina	92,926	100%	65.1%	1.7%	33.0%	31.8%	1.3%
Ohio	83,991	100%	91.2%	0.7%	8.0%	7.8%	0.2%
Tennessee	35,741	81%	84.5%	0.6%	14.6%	14.1%	0.6%
Texas	239,892	100%	84.7%	0.5%	14.4%	13.7%	0.7%
Vermont	15,298	100%	85.7%	1.5%	12.8%	12.6%	0.2%
West Virginia	71,295	100%	75.3%	0.7%	23.7%	22.6%	1.1%
Wisconsin	174,961	100%	89.6%	1.8%	8.4%	8.1%	0.3%
All states	**1,326,107**		**82.9%**	**1.7%**	**14.8%**	**14.2%**	**0.6%**

[1]Coverage is the share of each state's BEAD locations that sit in counties with parcel data. The rest are excluded. Shares do not sum to 100%. The remainder have no land path to a road (mostly islands) or no matched parcel.

Crossing Locations

Table 2. Access outcomes, all states

Outcome	Locations	Share
Fronts a public road	1,099,676	82.9%
Crosses public land only	23,010	1.7%
Crosses one private parcel	188,478	14.2%
Crosses two or more private parcels	7,949	0.6%
No land route, or no matched parcel	6,994	0.5%
Total	**1,326,107**	**100.0%**

Of the 196,427 locations that must cross private land, 96.0% cross exactly one parcel, and 66.3% sit on shared lanes, subdivision streets, or other roads that are not in the public road inventory. The rest sit behind parcels that front a public road.

Method

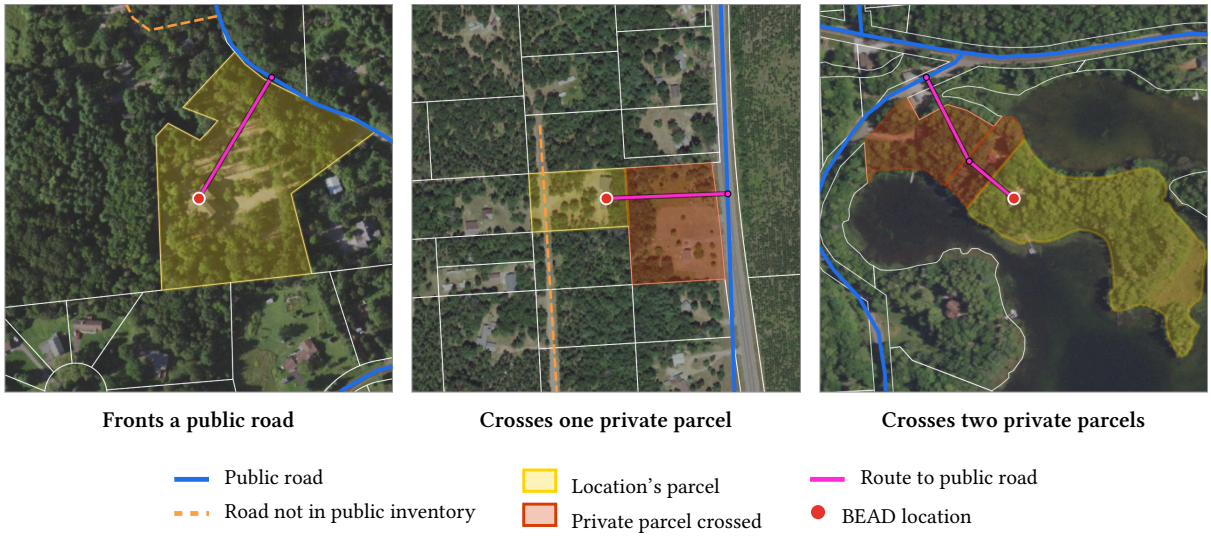
We place each BEAD Final Proposal location with FCC Broadband Fabric coordinates and match it to the parcel it sits on. Parcels come from publicly available statewide data for each state. Public roads come from FHWA's national road inventory (HPMS), with state road data added where HPMS is incomplete. We then check whether the location's parcel touches a public road, counting adjacent parcels held by the same owner as part of it. If it does not, we count the fewest separately owned private parcels between the location parcel and a public road under the modeled connection. Government-owned land along the way does not count. We do not model actual broadband routes, so these shares measure potential private-property access, not the number of easements a build will require.

The analysis covers every BEAD-funded location, whatever technology the state awarded it. Across the 17 states, 64.1% of locations are assigned to wired technologies, 25.7% to satellite and 10.3% to fixed wireless. Crossing rates are similar across the three: 14.3% for wired, 13.8% for fixed wireless and 16.5% for satellite. Wired locations account for 121,306 of the 196,427 crossings. Private-property access is most likely to be relevant where a build runs a physical line to the location.

Several other states were dropped: four whose parcel data does not include owner names, and two whose public road data is materially incomplete.

A county is included only where most of its locations match a parcel. The share retained appears as coverage in Table 1.

Figure 1. Three BEAD locations and the route from each to the nearest public road



Data Sources and Validation

Table 3. Data sources[2]

Data	Source	Vintage
BEAD locations	State Final Proposal attachments	read 2026-09-25
Location coordinates	FCC Broadband Fabric v5	BDC 2024-06-30
Public roads	FHWA HPMS (ARNOLD)	2024
Other roads	Census TIGER/Line	2025
Parcels	State sources (Table 4)	collected 2026-09
Validation imagery	USGS NAIP	current mosaic
Validation road ownership	NCDOT Road Characteristics	2025 Q4

Table 4. Parcel data source by state

State	Parcel source	State	Parcel source
Arkansas	GIS Office	New York	State GIS Program Office
Colorado	Office of Information Technology	North Carolina	NC OneMap
Florida	Department of Revenue	Ohio	Geographically Referenced Information Program
Indiana	IndianaMap	Tennessee	Comptroller of the Treasury
Maryland	Department of Planning	Texas	Geographic Information Office
Massachusetts	MassGIS	Vermont	Center for Geographic Information
Minnesota	Geospatial Commons	West Virginia	GIS Technical Center
Mississippi	Automated Resource Information System	Wisconsin	State Cartographer's Office
Montana	State Library		

Three checks support the results. We reviewed a random sample of 196 locations against aerial imagery. That sample implies a modeled private-property crossing rate of 14.3% (95% confidence interval 11.4% to 19.9%), consistent with the 14.8% reported here. The other two checks are possible only where a state publishes road data of its own. North Carolina has the highest rate of any state analyzed, and it publishes road ownership. Only 0.6% of the roads we treat as private in our calculation appear in the state's public road inventory. Vermont publishes its own statewide road inventory, so we can vary both the road source and the frontage tolerance. Doing so moves Vermont's rate only between 12.6% and 13.7%.

[2]Public roads come from HPMS in every state. Vermont adds its E911 road centerlines, so Class 4 town highways and legal trails count as public there.