Trees in the strip, from lidar

Sample Line · 26 spans from sample_road.geojson · Prepared by LineGuard · November 7, 2026

For every span, this measures how much of a 20 ft strip centered on the line (10 ft each side) has trees taller than 10 ft, from the State Library's 2016 lidar, and compares it with the 10 ft band just outside the strip on each side. Lidar measures height, so grass and low brush don't count. Where the cleared corridor runs a few feet to one side of the mapped line, the strip is measured where the corridor is, and the span is listed for a mapping check. Primary and secondary spans are listed separately, using the gs_subtype field in your NISC export (1 = primary, 2 = secondary). Use it to decide where to look first, not as a measurement of clearance.

What stands out

- **23 primary spans** measured with lidar (1.5 miles).
- **Every primary span measured has a cleared corridor** or runs through open ground.
- **5 spans have their cleared corridor 10 to 20 ft to one side of the mapped line**: 1 (13 ft east), 2 (16 ft east), 3 (10 ft east), 4 (10 ft east), 20 (10 ft southeast). They are measured where the corridor is. The pole positions in the GIS are worth checking there.
- Of the primary spans with a cleared corridor, **1 has trees over 10 ft in 30% or more of the strip**, 6 in 15 to 29%, and 13 under 15%. 3 more run through open ground with few trees either side.
- **Secondary spans** (3 measured) are listed separately so they don't crowd out the primaries.
- A breakdown by substation and feeder follows the map.

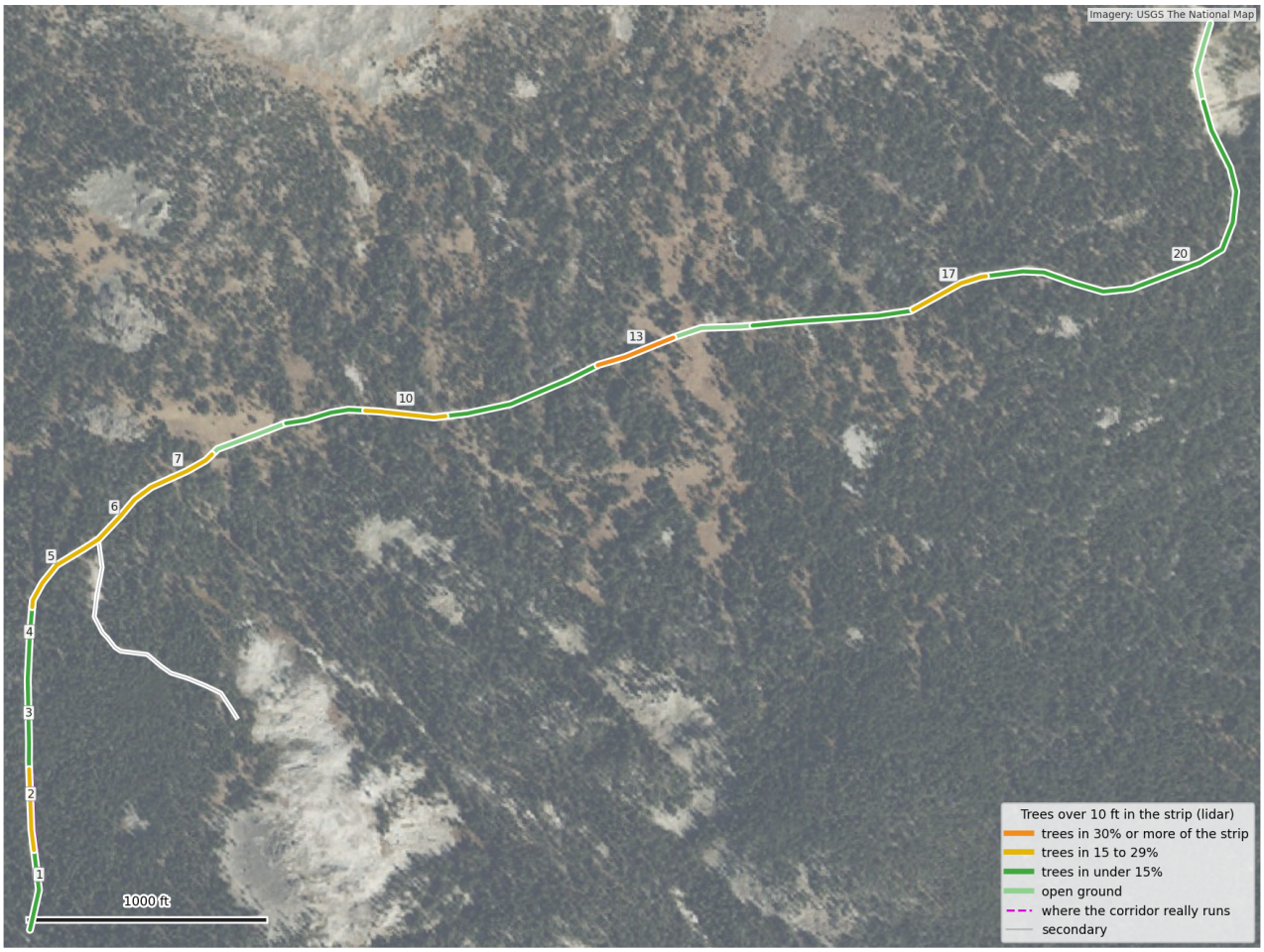
Most trees in a cleared strip (primary spans)

Span	Object ID	Length (ft)	Trees >10 ft in strip	Beside it	Trees >25 ft in strip	Strip height, 90th pct (ft)	Note
13	13	344	33%	45%	23%	39	
5	5	344	27%	48%	15%	29	
6	6	344	24%	50%	13%	29	
17	17	344	21%	42%	6%	21	
7	7	344	21%	41%	2%	19	
10	10	343	20%	35%	5%	21	
2	2	344	16%	53%	9%	24	corridor 16 ft east of the mapped line
1	1	344	14%	36%	9%	23	corridor 13 ft east of the mapped line
3	3	344	14%	55%	9%	23	corridor 10 ft east of the mapped line
4	4	344	13%	48%	7%	22	corridor 10 ft east of the mapped line
19	19	344	13%	32%	2%	13	
21	21	344	11%	45%	0%	13	
11	11	344	10%	22%	3%	11	
16	16	343	10%	35%	1%	11	
15	15	343	9%	29%	0%	8	

Trees >10 ft = share of the 20 ft strip with canopy over 10 ft; beside it = the same in the 10 ft band outside the strip on each side. Wires and poles are filtered out. The 90th percentile height is the canopy height that 10% of the strip rises above.

Where they are

Whole line



Cleared corridor off the mapped line

The scan slides the strip sideways a metre at a time, up to 20 ft each way, and moves it only when the corridor there clearly stands out: at least 10 ft off, with at most half the trees of the mapped strip. If the poles really are where the GIS has them, these spans run beside a cleared corridor rather than in it.

Span	Object ID	Type	Corridor is	Trees >10 ft on the mapped line	At the corridor	Status there
1	1	primary	13 ft east	31%	14%	cleared corridor
2	2	primary	16 ft east	48%	16%	cleared corridor
3	3	primary	10 ft east	35%	14%	cleared corridor
4	4	primary	10 ft east	27%	13%	cleared corridor
20	20	primary	10 ft southeast	28%	9%	cleared corridor

By substation and feeder

substation	feeder	Measured	Miles	No cleared corridor	Trees in 30%+ of strip	Corridor off the line	No lidar
Sample Substation	Ridge Road Primary	23	1.5	0	1	5	0

Counts are primary spans

Secondary spans with the most trees in the strip

Span	Object ID	Length (ft)	Trees >10 ft in strip	Beside it	Trees >25 ft in strip	Strip height, 90th pct (ft)	Note
25	25	373	48%	71%	23%	31	
26	26	373	40%	68%	3%	21	
24	24	374	15%	25%	7%	18	

What this can and can't tell you

- Lidar is a snapshot from when it was flown (2016 for most spans here). Trees cut since then still show; growth since then doesn't.
- It counts canopy over 10 ft. Young regrowth under 10 ft isn't counted at all, even where it is thick.
- A crown overhanging the strip counts the same as a tree growing in it, which is usually what matters to a crew. It does not measure the distance from a branch to the wire, because the wire's height isn't known.
- Thin features (wires, poles, a single narrow treetop) are filtered out before counting, so a lone narrow tree can be missed.
- The corridor search reaches 20 ft either side. A line mapped further off than that shows as no cleared corridor. Where a cut runs at an angle to the mapped line it is listed, but the span keeps its reading on the mapped line.
- Pieces shorter than 49 ft are listed but not ranked.
- It does not replace your patrols. It is meant to help decide which spans to look at first, and to keep a dated record of what the lidar showed.

How it was measured

Canopy height: Montana State Library SWEETGRASS_2016_StillwaterCmplx (2016), quads 45110d1. Heights were read on a 1 m grid; features narrower than about 3 m were taken out (an opening filter) before counting trees over 10 ft. A span is "no cleared corridor" when trees cover 25% or more of the strip and at least 80% as much of it as beside it, and "open ground" when both are under 10%. The strip is moved to the corridor only when the corridor is 3 to 6 m (10 to 20 ft) off the mapped line and has at most 50% of the mapped strip's trees and at least 10 points fewer. Line type comes from the gs_subtype field in your NISC export (1 = primary, 2 = secondary).

All 23 primary spans in order: no cleared corridor first, then the most trees in the strip

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16	16	343	10%	35%	1%	11	
15	15	343	9%	29%	0%	8	
20	20	344	9%	58%	0%	5	corridor 10 ft southeast of the mapped line
12	12	344	8%	35%	0%	9	
9	9	344	8%	29%	0%	1	
18	18	344	7%	30%	1%	1	
22	22	344	0%	12%	0%	1	
14	14	344	8%	9%	4%	1	
23	23	344	1%	5%	0%	1	
8	8	344	1%	5%	0%	0	