

Broadband Deployment in Vermont

Maps and Statistics issued 10/31/2021

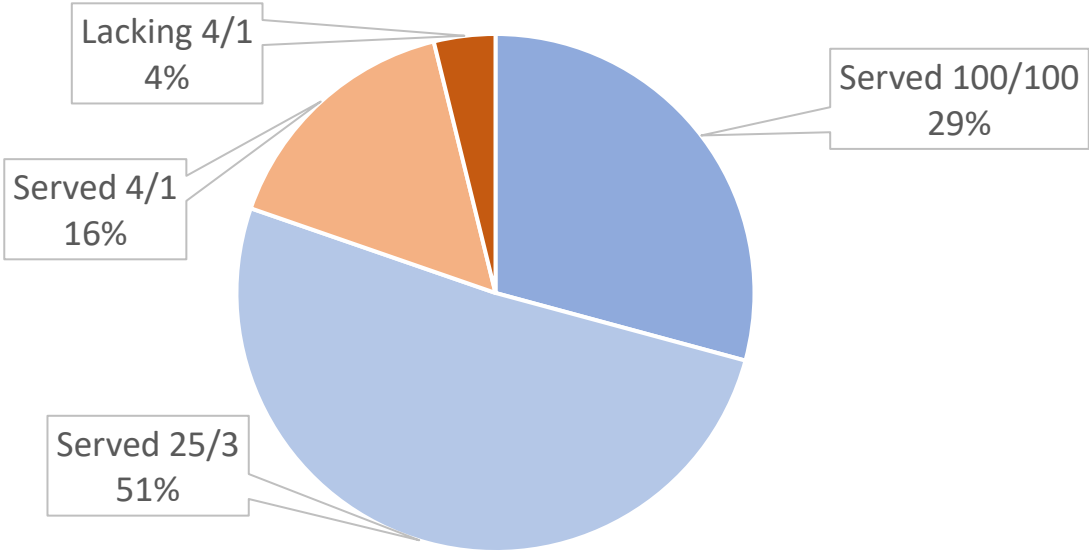
Presentation prepared for 11/15/21 VCBB meeting

Purpose

- Pursuant to 30 V.S.A. § 202e
- Based on voluntary submissions by broadband service providers
- Includes cable television plant route maps required pursuant to 30 V.S.A. § 514
- Analysis at each business and residential building location
- Based on public E-911 Address layer
- Route layers based on E-911 Road Centerline layer

Statewide Statistics

Speed Tier	Served		Not Served	
100/100 Mbps	90,728	29.2%	219,905	70.8%
25/3 Mbps	249,439	80.3%	61,194	19.7%
4/1 Mbps	298,719	96.2%	11,914	3.8%



310,633 total business and residential locations

Deployment Submission Review

- ILECs and CLECs
 - Speeds reported by address
 - Geocode addresses
 - Review Unmatched, unreconciled ignored
 - Review Missing
- Cable and fiber
 - Cable or fiber routes or deployed areas
 - Select all locations within 500' of route or in area
 - Fiber = 100/100 Mbps, Cable = 25/3 Mbps
 - Select road segments within 500' of route
- WISP
 - 4/1 Mbps on propagation
 - 25/3 Mbps only CI grants, supported by speed tests

Analysis Steps

1. Resolve all submissions to determine ESITE ID
 - Over 950,000 individual reports
2. Determine which locations are “buildings”
 - 310,633 unique locations
 - multi unit dwellings are counted as one building
3. For each building ESITE ID, determine fasted speed tier available
4. Summarize statistics by Town and Speed Tier
 - 100/100 Mbps, 25/3 Mbps, 4/1 Mbps, Lacking 4/1

30 Participating Providers

Provider	Type	Provider	Type
Burlington Telecom	Cable	Topsham Communications, LLC	CLEC
Charter Communications Inc.	Cable	Consolidated Communications of Northland Company	ILEC
Comcast, LLC	Cable	Consolidated Communications of Vermont Company, LLC	ILEC
Duncan Cable	Cable	Franklin Telephone Company, Inc.	ILEC
Fibercast	Cable	Shoreham Telephone Company	ILEC
Southern Vermont Cable Company	Cable	TDS Telecommunications Corporation	ILEC
Stowe Cablevision	Cable	Topsham Telephone Company	ILEC
Trans-Video Cable	Cable	Vermont Telephone Company	ILEC
ECFiber	CLEC	Waitsfield and Champlain Valley Telecom	ILEC
FirstLight	CLEC	Cloud Alliance, LLC	WISP
Hub66	CLEC	Netafy	WISP
Kingdom Fiber	CLEC	New England Wireless Co. LLC	WISP
Lumen	CLEC	North Branch Networks	WISP
Mansfield Community Fiber	CLEC	VTel Wireless	WISP
Tilson	CLEC	Wireless Partners	WISP

E-911 SITETYPE - Included

AIR SUPPORT / MAINTENANCE FACILITY	115	GATED W/BUILDING	204	PRISON / CORRECTIONAL FACILITY	13
AIRPORT TERMINAL	5	GOLF COURSE	84	PRIVATE AND EXPRESS SHIPPING FACILITY	6
AMBULANCE SERVICE	53	GOVERNMENT	646	PSAP	2
AUDITORIUM / CONCERT HALL / THEATER	48	GROCERY STORE	81	RACE TRACK / DRAGSTRIP	7
BANK	190	HARBOR / MARINA	7	RAILROAD STATION	8
BORDER CROSSING	32	HEALTH CLINIC	352	RESIDENTIAL FARM	50
BORDER PATROL	5	HISTORIC SITE / POINT OF INTEREST	74	REST STOP / ROADSIDE PARK	30
BREWERY	48	HOSPITAL / MEDICAL CENTER	15	RESTAURANT	381
BUS STATION / DISPATCH FACILITY	10	HOUSE OF WORSHIP	954	RETAIL FACILITY	494
CAMP	22302	ICE ARENA	11	SCHOOL K / 12	565
CAMPGROUND	740	INDUSTRIAL	699	SEASONAL HOME	1477
CITY / TOWN HALL	51	INSTITUTIONAL RESIDENCE / DORM / E	250	SHOOTING RANGE	18
COAST GUARD	1	LANDFILL	5	SINGLE FAMILY DWELLING	205690
COLLEGE / UNIVERSITY	404	LAW ENFORCEMENT	64	SKI AREA / ALPINE RESORT	203
COMMERCIAL	12155	LIBRARY	117	SPORTS ARENA / STADIUM	23
COMMERCIAL CONSTRUCTION SERVICE	28	LODGING B&B / HOTEL / MOTEL / INN	1462	STATE CAPITOL	1
COMMERCIAL FARM	1550	LUMBER MILL / SAW MILL	61	STATE GARAGE	49
COMMERCIAL GARAGE	186	MANUFACTURING FACILITY	61	STATE GOVERNMENT FACILITY	67
COMMERCIAL W/RESIDENCE	504	MOBILE HOME	22767	STATE PARK	97
COMMUNITY / RECREATION FACILITY	373	MORGUE	18	TOWN GARAGE	150
CONDOMINIUM	6967	MULTI-FAMILY DWELLING	19795	TOWN OFFICE	139
COURT HOUSE	20	MUSEUM	74	TRANSFER STATION	56
CULTURAL	167	NATIONAL GUARD / ARMORY	146	US FOREST FACILITY	13
DAY CARE FACILITY	42	NURSING HOME / LONG TERM CARE	94	US GOVERNMENT FACILITY	50
EDUCATIONAL	321	OFFICE BUILDING	320	UTILITY	387
FAIR / EXHIBITION/ RODEO GROUNDS	22	OIL / GAS FACILITY	56	VETERINARY HOSPITAL / CLINIC	36
FIRE STATION	282	OTHER COMMERCIAL	2002	VISITOR / INFORMATION CENTER	29
FISH FARM / HATCHERY	4	OTHER RESIDENTIAL	2704	WAREHOUSE	73
FITNESS FACILITY	16	OUTPATIENT CLINIC	4	WASTE / BIOMASS FACILITY	3
FOOD DISTRIBUTION CENTER	7	PHARMACY	29	WASTEWATER TREATMENT PLANT	124
GAS STATION	282	POST OFFICE	141	YOUTH CAMP	173

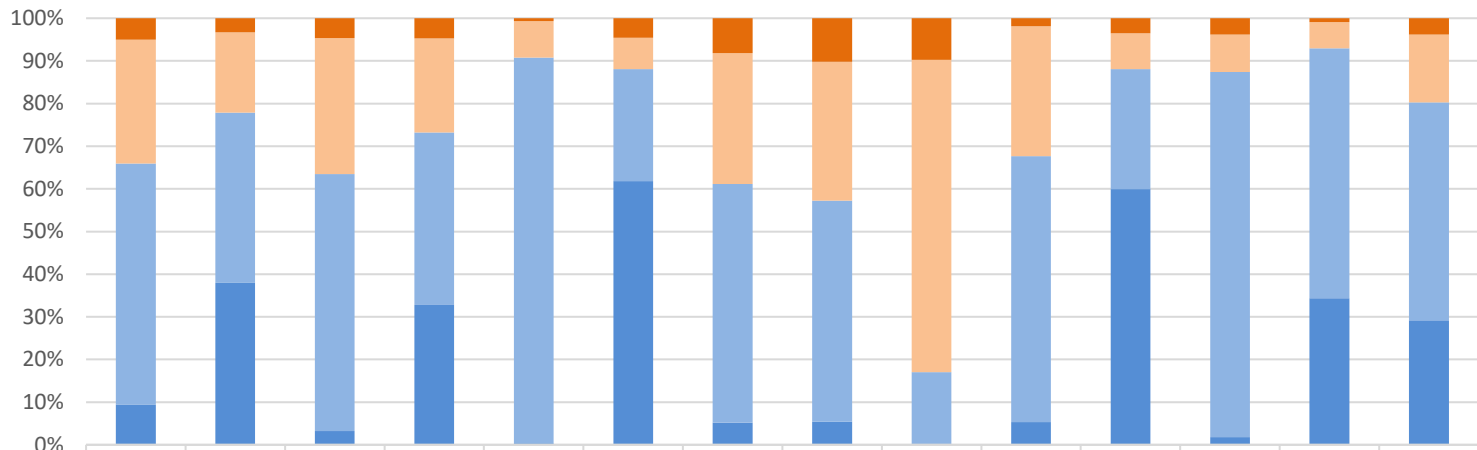
E-911 SITETYPE NOT included

Class	Locations
Included	310,641*
Not included	32,541
Total	343,182
* 8 ESITEs not in VT	

The	176	PICNIC AREA	49
ACCESS POINT	711	PUBLIC BEACH	30
ACCESSORY BARN	1587	PUBLIC GATHERING	728
ACCESSORY BUILDING	15778	PUBLIC TELEPHONE	413
BOAT RAMP / DOCK	288	PUBLIC WATER SUPPLY INTAKE	9
CEMETERY	585	PUBLIC WATER SUPPLY WELL	31
COMMUNICATION BOX	288	PUMP STATION	261
COMMUNICATION TOWER	750	RV HOOKUP	983
DEVELOPMENT SITE	3933	SOLAR FACILITY	340
EBS TOWER	3	STORAGE UNITS	236
EMERGENCY PHONE / CALLBOX	2	SUBSTATION	296
GATED W/O BUILDING	147	SUGARHOUSE	540
GRAVEL PIT / QUARRY / MINE	198	TEMPORARY STRUCTURE	55
GREENHOUSE / NURSERY	61	TRAILHEAD	311
HAZARDOUS MATERIALS FACILITY	1	UNKNOWN	145
HELIPAD / HELIPORT / HELISPOT	713	UTILITY POLE W/PHONE	519
HYDROELECTRIC FACILITY	82	WATER TANK	84
LOOKOUT TOWER	6	WATER TOWER	32
OTHER	2041	WIND FACILITY / WIND TOWER	76
PARK AND RIDE / COMMUTER LOT	49	HAZARDOUS STORAGE FACILITY	4

Locations by CUD

Broadband Deployment Tier by CUD



	Addison CUD	CVFiber	CVFiber/ECFiber	Deerfield Valley CUD	Deerfield Valley CUD/Southern Vermont CUD	ECFiber	Lamoille FiberNet CUD	NEK Broadband	NEK Broadband/Lamoille FiberNet CUD	Northwest CUD	Otter Creek CUD	Southern Vermont CUD	No CUD	Total
■ Lacking 4/1	875	868	29	1,151	21	1,426	953	3,744	85	332	798	691	941	11,914
■ Served 4/1	5,024	4,922	198	5,408	271	2,272	3,570	11,887	640	5,465	1,893	1,569	6,161	49,280
■ Served 25/3	9,784	10,439	375	9,889	2,862	8,165	6,512	18,957	149	11,159	6,342	15,308	58,770	158,711
■ Served 100/100	1,640	9,916	20	8,025	12	19,202	607	1,978	-	961	13,529	319	34,519	90,728
Total Buildings	17,323	26,145	622	24,473	3,166	31,065	11,642	36,566	874	17,917	22,562	17,887	100,391	310,633

Cable and Fiber road segment layers

- Based on Vermont E-911 Road Centerline layer
- Small providers: manual selection of segments
- Large providers: clipped around routes
- Many segments clipped
- Includes some long driveways

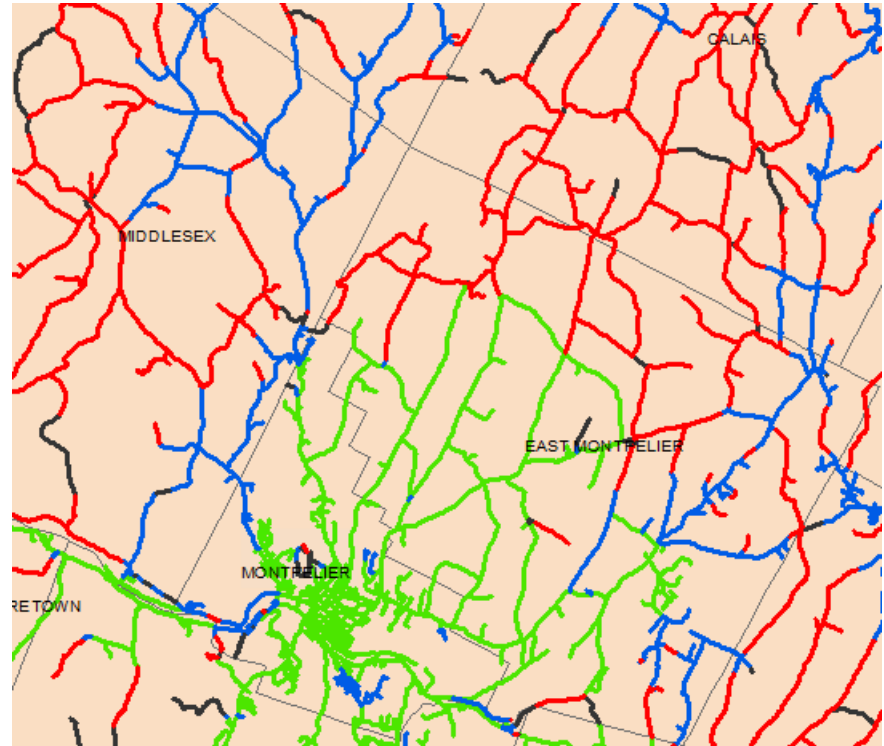
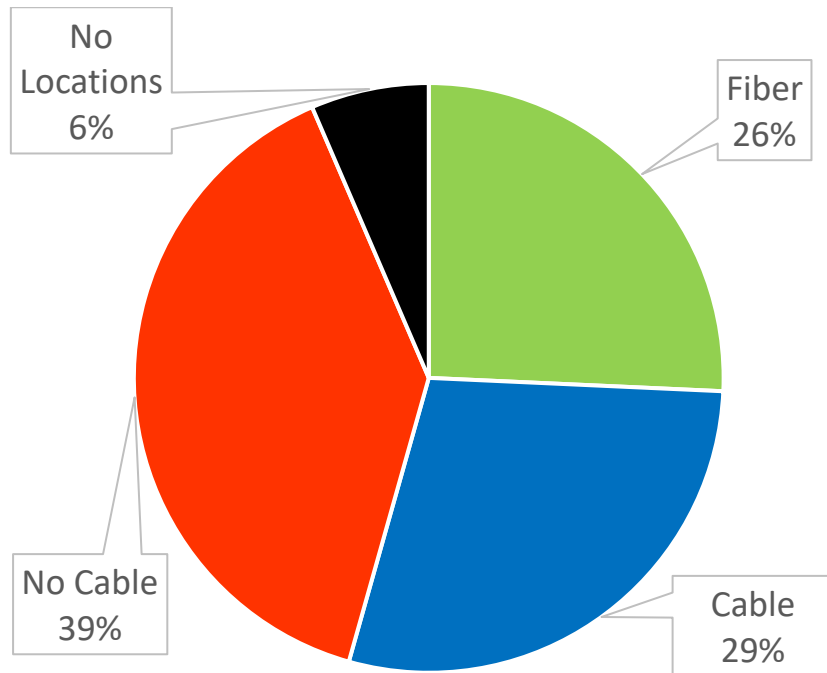
Included AOT Classes

ID	AOTClass	SEGMENTID
1	Town Highway Class 1	1550
2	Town Highway Class 2	8429
3	Town Highway Class 3	29573
4	Town Highway Class 4	2916
5	State Forest Highway	338
6	National Forest Highway	352
8	Private Road - No Show	18
9	Private Road	14594
30	State Highway	5301
40	US Highway	1828
Total		64899

AOT Classes NOT included

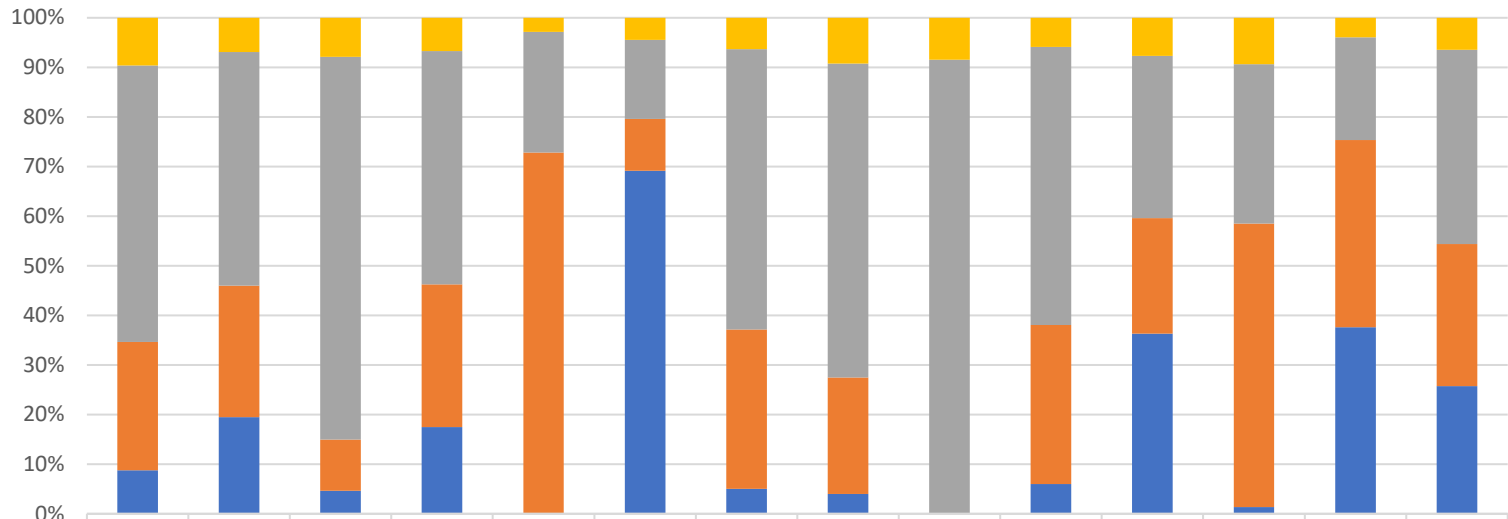
ID	AOTClass	SEGMENTID
7	Legal Trail	452
25	Town Highway Class 2 On/Off Ramp	17
34	State Highway - West Bound	1
35	State Highway On/Off Ramp	53
41	US Highway - North Bound	29
42	US Highway - South Bound	33
43	US Highway - East Bound	36
44	US Highway - West Bound	43
45	US Highway - On/Off Ramp	72
46	US Highway - Emergency U-Turn	12
47	US Highway - Rest Area	2
50	Interstate Highway	3
51	Interstate Highway - North Bound	429
52	Interstate Highway - South Bound	435
53	Interstate Highway - East Bound	5
54	Interstate Highway - West Bound	2
55	Interstate Highway - On/Off Ramp	355
56	Interstate Highway - Emergency U-Turn	205
57	Interstate Highway - Rest Area	35
59	Interstate Highway - Other	32
65	Ferry	35
83	Proposed Town Highway Class 3	3
89	Proposed Private Road	34
92	Military - no public access	55
97	Discontinued Now Private	3
Total		2381

Road Mile Analysis



18,679 total road miles, Most Fiber segments also served by Cable
"No Locations" includes road segments with no associated E911 building

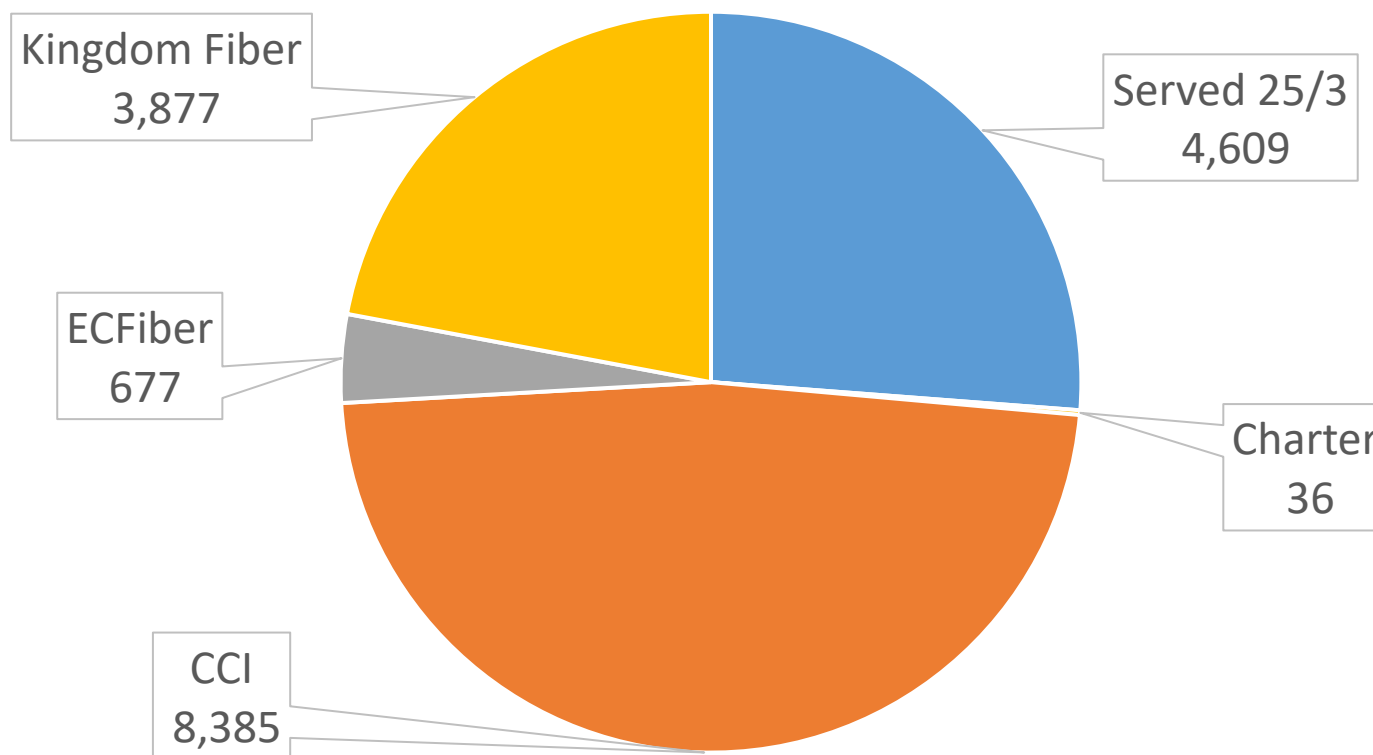
Road Miles by CUD



	Addison CUD	CVFiber	CVFiber/ECFiber	Deerfield Valley CUD	Deerfield Valley CUD/Southern Vermont CUD	ECFiber	Lamoille FiberNet CUD	NEK Broadband	NEK Broadband/Lamoille FiberNet CUD	Northwest CUD	Otter Creek CUD	Southern Vermont CUD	No CUD	Statewide
■ No Locations	122	104	7	109	5	119	48	283	7	64	81	87	174	1210
■ No Cable	703	708	65	764	43	424	426	1941	73	615	342	297	911	7313
■ Cable	326	398	9	467	129	279	243	721		351	243	528	1658	5351
■ Fiber	111	293	4	284	0	1840	38	122		66	380	13	1653	4805
Total	1262	1502	85	1624	178	2663	755	3068	80	1096	1045	925	4396	18679

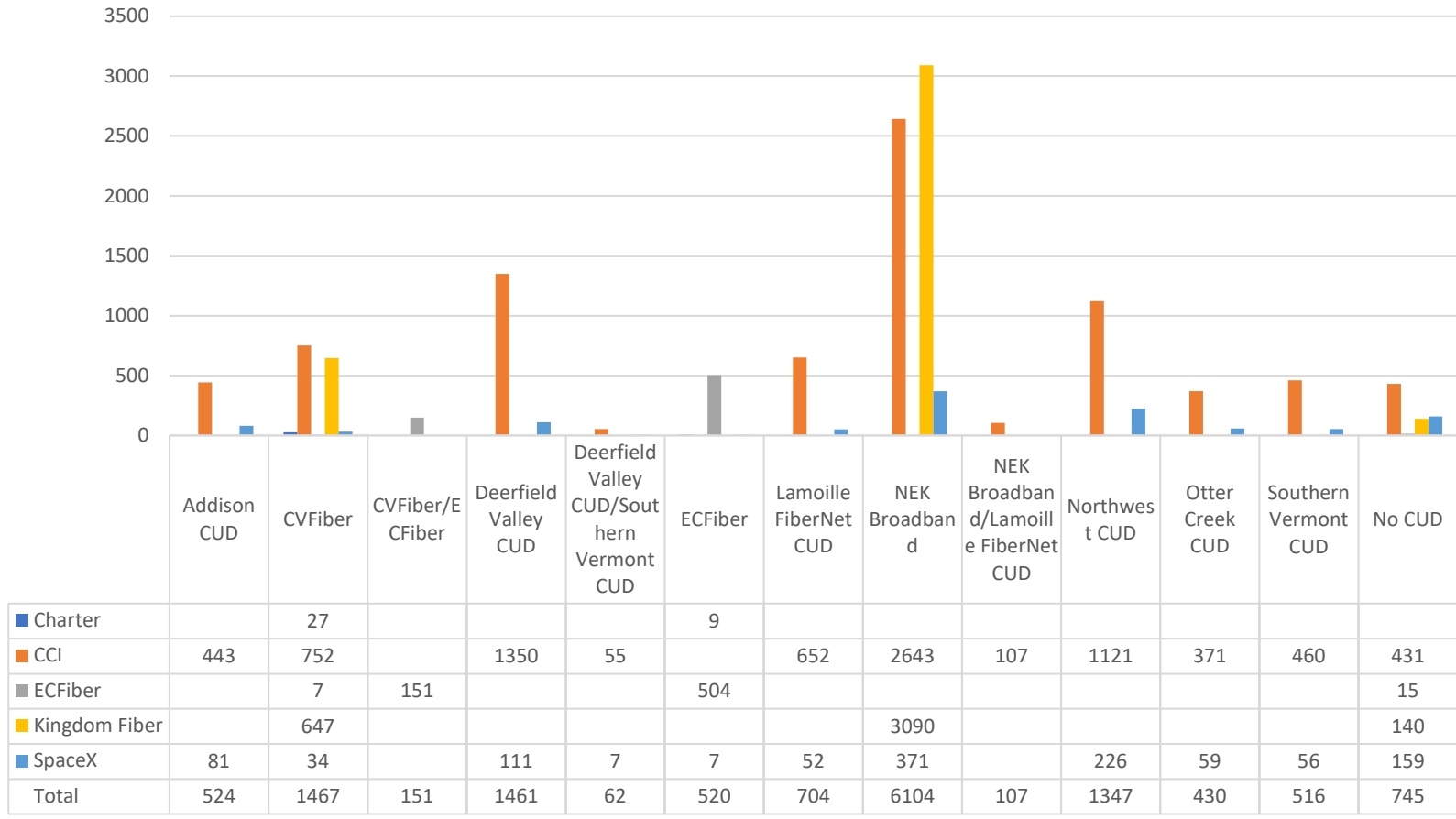
RDOF

-FCC Rural Digital Opportunities Fund locations



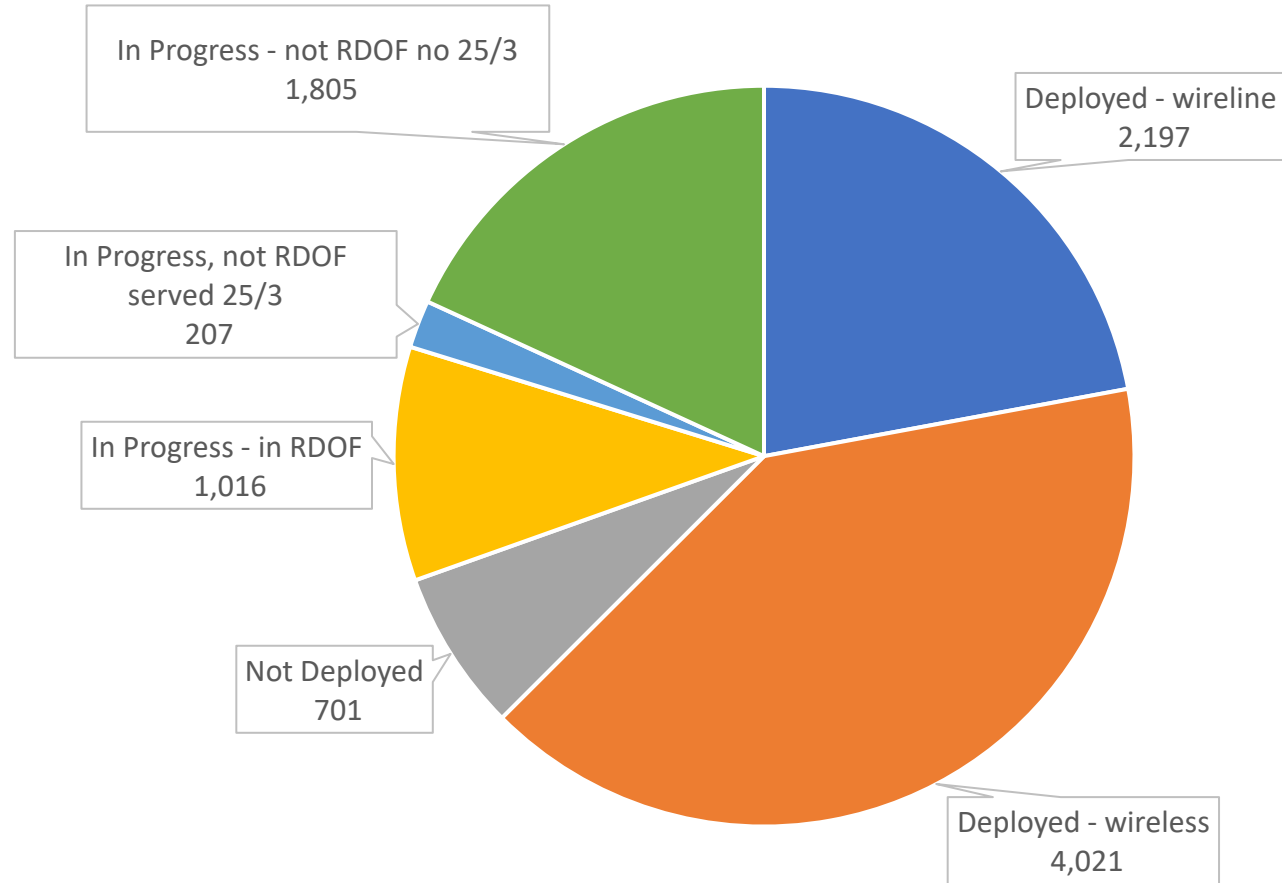
18,747 total locations in RDOF territory, 14,138 lack 25/3

RDOF: Locations Lacking 25/3 Mbps



14,138 locations in RDOF lack 25/3 Mbps

2020 Connectivity Initiative

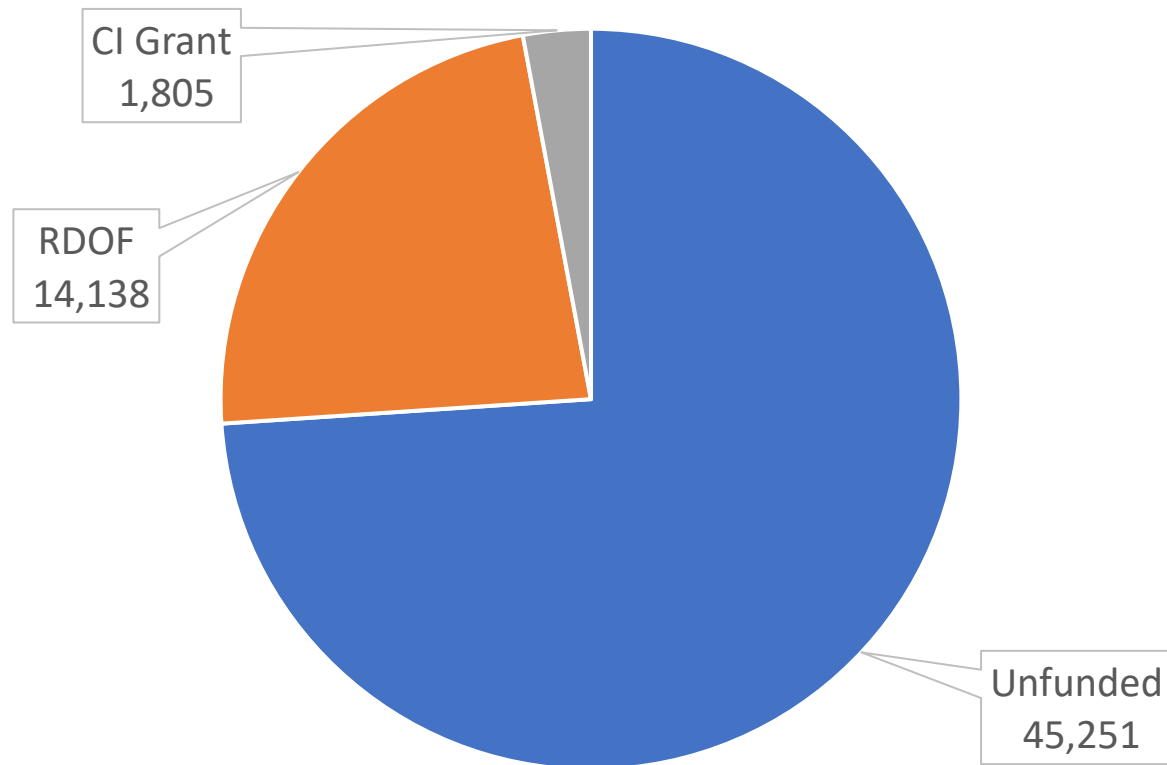


9,947 total funded locations

- 29% of deployed wireless also now served 25/3 by wireline provider

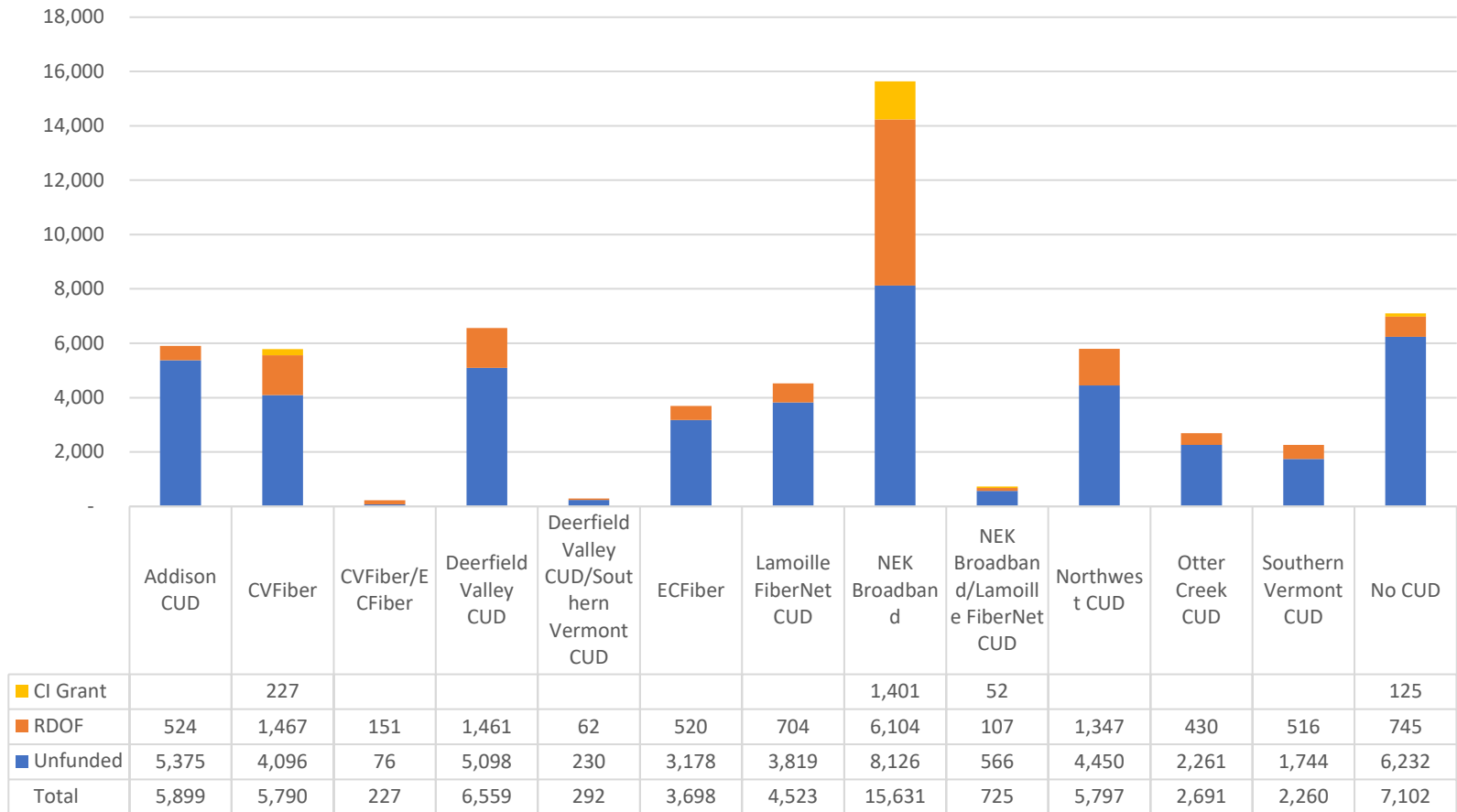
Locations lacking 25/3

- with projects in process



61,194 total locations lacking 25/3 Mbps

Locations lacking 25/3 Mbps by CUD



61,194 total locations lacking 25/3 Mbps