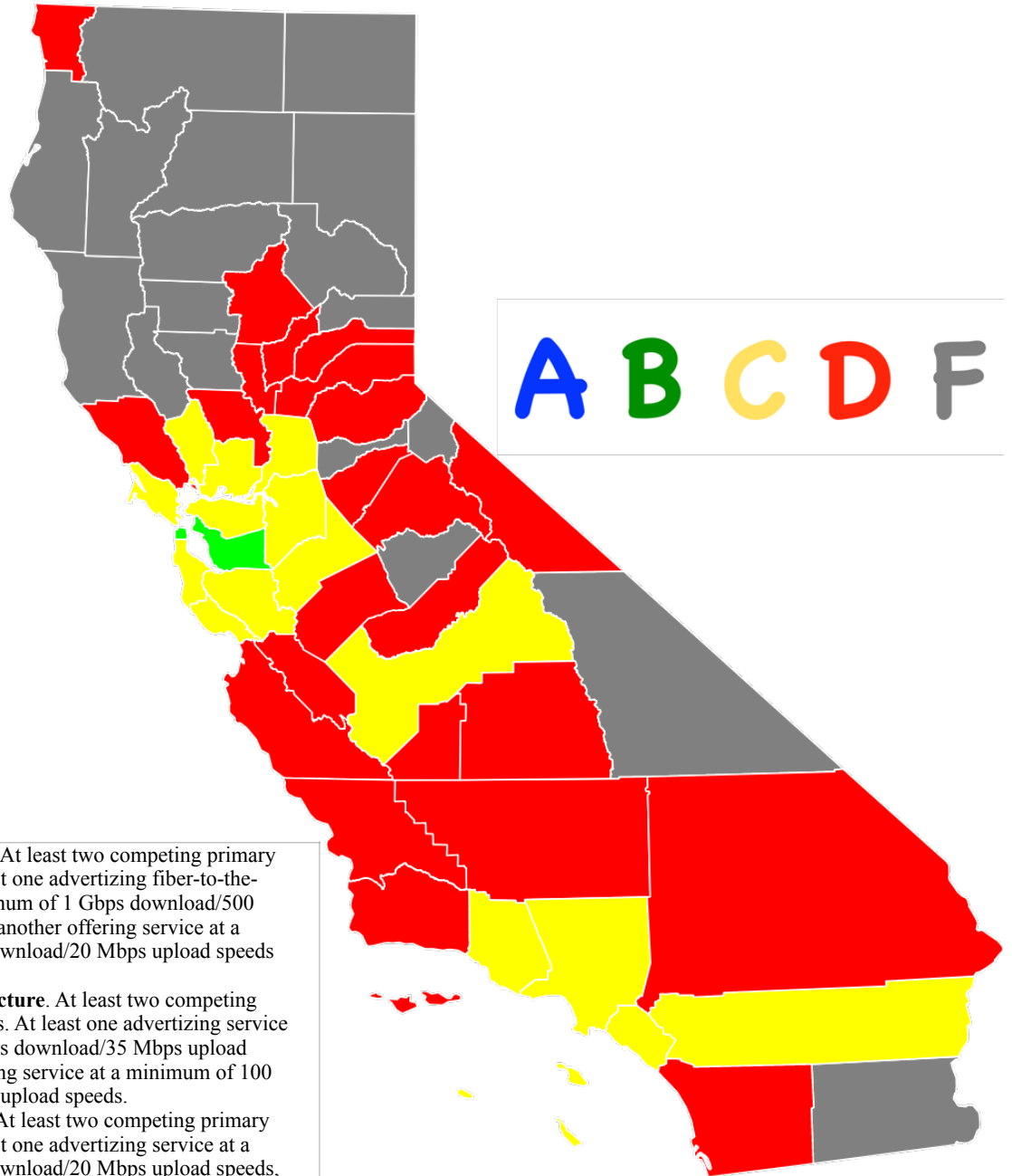


California Broadband Infrastructure Report Card



- A** **Superior infrastructure.** At least two competing primary wireline providers. At least one advertising fiber-to-the-premise service at a minimum of 1 Gbps download/500 Mbps upload speeds, and another offering service at a minimum of 400 Mbps download/20 Mbps upload speeds using any technology.
- B** **Above average infrastructure.** At least two competing primary wireline providers. At least one advertising service at a minimum of 900 Mbps download/35 Mbps upload speeds, and another offering service at a minimum of 100 Mbps download/20 Mbps upload speeds.
- C** **Average infrastructure.** At least two competing primary wireline providers. At least one advertising service at a minimum of 400 Mbps download/20 Mbps upload speeds, and another offering service at a minimum of 30 Mbps download/5 Mbps upload speeds.
- D** **Barely passing.** At least one wireline provider that meets the Central Coast Broadband Consortium/Monterey Bay Economic Partnership minimum standard of 100 Mbps download and 20 Mbps upload speeds.
- F** **Fail.** At least one wireline provider offers service, but no service is available that meets the Central Coast Broadband Consortium/Monterey Bay Economic Partnership minimum standard of 100 Mbps download and 20 Mbps upload speeds.
- F-** **Unserviced.** No broadband service available

Data used in this analysis was submitted by Internet service providers to the California Public Utilities Commission and the Federal Communications Commission, and is current as of 31 December 2018.

The Central Coast Broadband Consortium's online map shows Report Card and other broadband infrastructure data for California:

[Central Coast Broadband Consortia online map](#)

Tabular data are here:
[Central Coast Broadband Consortium wireline broadband availability analysis \(22 March 2020 revision\)](#)

County	Grade	GPA	Median HH income	Population 2019	Pop at Zero service	Pop at 6/1	Pop at 10/1	Pop at 25/3	Pop at 100/20	Pop at 1000/500
Alameda	B-	2.77	\$96,623	1,669,301	42,183	1,625,420	1,625,420	1,625,328	1,624,526	777,443
Alpine	F	0.04	\$63,330	1,162	964	184	184	93	93	0
Amador	F+	0.61	\$59,360	38,294	7,304	29,955	29,955	29,704	16,273	8,794
Butte	D-	0.68	\$48,900	226,466	17,220	202,173	202,173	202,021	202,015	908
Calaveras	D-	0.84	\$43,709	45,117	6,395	37,631	37,598	36,481	32,803	7,333
Colusa	F+	0.62	\$55,333	22,117	9,972	11,912	11,902	11,687	8,724	3,125
Contra Costa	C+	2.40	\$99,646	1,155,879	16,123	1,137,941	1,137,941	1,137,817	1,135,594	271,988
Del Norte	D-	0.78	\$46,327	27,401	2,298	25,103	25,103	25,094	24,967	0
El Dorado	D-	0.70	\$66,814	191,848	29,090	155,560	155,147	152,277	118,455	18,770
Fresno	C-	1.86	\$53,004	1,018,241	58,250	928,507	928,474	911,406	892,284	416,031
Glenn	F+	0.41	\$44,677	29,132	6,582	19,415	19,415	18,855	18,855	0
Humboldt	F	0.01	\$43,351	135,333	19,729	111,202	111,186	110,201	4,656	2,678
Imperial	F+	0.52	\$44,003	190,266	22,872	165,968	165,968	163,093	161,599	0
Inyo	F	0.17	\$49,545	18,593	2,898	15,685	15,685	15,685	3,161	1,086
Kern	D+	1.41	\$52,777	916,464	60,629	853,571	853,232	851,993	812,876	227,405
Kings	D	1.25	\$44,243	153,710	31,351	117,502	117,502	116,989	116,867	21,557
Lake	F+	0.50	\$39,489	65,071	8,931	49,561	49,561	49,073	49,044	5
Lassen	F	0.02	\$40,141	30,150	16,885	11,393	11,044	8,970	1,420	780
Los Angeles	C	2.09	\$71,244	10,253,715	123,278	10,117,079	10,114,383	10,099,184	10,020,081	1,491,396
Madera	D	0.96	\$53,976	159,536	21,563	136,909	136,906	120,396	106,634	22,030
Marin	C-	1.70	\$103,955	262,879	10,142	251,262	251,247	251,244	247,958	44,016
Mariposa	F	0.01	\$53,020	18,068	4,270	13,332	13,332	1,621	665	545
Mendocino	F+	0.39	\$49,229	89,009	22,110	64,377	64,377	63,241	60,134	165
Merced	D	1.24	\$45,356	282,928	29,758	240,454	240,371	236,197	235,308	64,661
Modoc	F	0.01	\$46,453	9,602	4,815	4,501	4,281	3,560	212	21
Mono	D-	0.72	\$51,725	13,616	1,806	11,761	11,761	11,758	11,748	3,978
Monterey	D+	1.63	\$66,576	445,414	25,796	415,779	415,779	413,959	411,606	64,361
Napa	C-	1.85	\$81,413	140,779	9,643	129,893	129,893	129,555	129,080	23,844
Nevada	D-	0.69	\$63,475	98,904	16,681	75,129	75,129	74,480	61,265	18,871
Orange	C	1.97	\$90,950	3,222,498	95,492	3,117,814	3,117,810	3,114,447	3,102,956	631,080
Placer	D-	0.77	\$69,455	396,691	23,527	364,684	364,684	358,814	254,737	72,227
Plumas	F	0.13	\$54,063	19,779	6,980	12,685	12,459	7,696	4,562	4,050
Riverside	C-	1.85	\$61,520	2,440,124	70,900	2,363,555	2,362,246	2,358,462	2,311,946	138,013
Sacramento	C+	2.30	\$65,857	1,546,174	32,382	1,501,390	1,501,158	1,495,666	1,485,576	278,441
San Benito	D	1.17	\$77,834	62,296	7,179	53,627	53,627	53,345	53,109	3,597
San Bernardino	D+	1.47	\$53,008	2,192,203	62,384	2,125,625	2,122,675	2,113,136	2,094,985	61,085
San Diego	D+	1.33	\$75,775	3,351,785	146,198	3,193,656	3,193,599	3,188,076	3,174,047	809,031
San Francisco	B-	2.73	\$105,602	883,869	5,654	875,514	875,514	875,499	875,243	434,942
San Joaquin	C-	1.89	\$61,184	770,385	39,920	724,429	724,213	722,354	717,529	115,364
San Luis Obispo	D-	0.71	\$71,439	280,393	30,464	238,007	237,958	235,704	231,472	6,627
San Mateo	C+	2.63	\$109,450	774,485	5,530	767,981	767,981	767,959	765,051	356,271
Santa Barbara	D-	0.86	\$73,141	454,593	20,794	433,088	432,028	430,158	423,978	36,981
Santa Clara	C+	2.27	\$114,959	1,954,286	56,749	1,894,086	1,893,868	1,892,893	1,879,862	493,878
Santa Cruz	C-	1.67	\$79,281	274,871	15,745	258,099	258,094	257,890	255,805	61,596
Shasta	F+	0.49	\$47,020	178,773	22,906	145,334	144,613	140,654	128,288	4,295
Sierra	F	0.03	\$49,899	3,213	2,817	131	131	131	131	131
Siskiyou	F	0.00	\$43,244	44,584	7,476	35,199	35,199	21,685	106	48
Solano	C-	1.79	\$77,349	441,307	23,178	416,332	416,289	416,184	392,264	40,362
Sonoma	D+	1.56	\$75,627	500,675	17,307	479,842	479,840	479,385	475,062	23,238
Stanislaus	C-	1.88	\$56,162	558,972	23,859	529,325	529,000	526,042	522,228	106,628
Sutter	D+	1.51	\$60,713	97,490	4,920	90,688	90,688	90,064	89,972	11,647
Tehama	F+	0.32	\$44,185	64,387	21,362	34,336	34,172	31,531	31,298	236
Trinity	F	0.00	\$38,118	13,688	11,379	1,865	1,865	1,865	0	0
Tulare	D+	1.34	\$45,565	479,112	44,568	419,298	418,925	403,208	400,619	134,853
Tuolumne	D-	0.80	\$53,722	54,590	12,280	38,533	38,533	38,267	37,892	9,495
Ventura	C-	1.72	\$82,761	856,598	19,476	834,276	833,405	832,061	826,581	18,218
Yolo	D-	0.72	\$64,825	222,581	19,234	199,757	199,652	195,318	141,673	20,589
Yuba	D+	1.39	\$54,145	77,916	11,541	62,426	62,426	62,282	61,688	13,597
California total	C-	1.69	\$68,011	39,927,313	1,491,734	38,170,740	38,157,599	37,982,739	37,247,563	7,378,314

County	Grade	GPA	Median HH income	Population 2019	% Pop at Zero service	% Pop at 6/1	% Pop at 10/1	% Pop at 25/3	% Pop at 100/20	% Pop at 1000/500
Alameda	B-	2.77	\$96,623	1,669,301	3%	97%	97%	97%	97%	47%
Alpine	F	0.04	\$63,330	1,162	83%	16%	16%	8%	8%	0%
Amador	F+	0.61	\$59,360	38,294	19%	78%	78%	78%	42%	23%
Butte	D-	0.68	\$48,900	226,466	8%	89%	89%	89%	89%	0%
Calaveras	D-	0.84	\$43,709	45,117	14%	83%	83%	81%	73%	16%
Colusa	F+	0.62	\$55,333	22,117	45%	54%	54%	53%	39%	14%
Contra Costa	C+	2.40	\$99,646	1,155,879	1%	98%	98%	98%	98%	24%
Del Norte	D-	0.78	\$46,327	27,401	8%	92%	92%	92%	91%	0%
El Dorado	D-	0.70	\$66,814	191,848	15%	81%	81%	79%	62%	10%
Fresno	C-	1.86	\$53,004	1,018,241	6%	91%	91%	90%	88%	41%
Glenn	F+	0.41	\$44,677	29,132	23%	67%	67%	65%	65%	0%
Humboldt	F	0.01	\$43,351	135,333	15%	82%	82%	81%	3%	2%
Imperial	F+	0.52	\$44,003	190,266	12%	87%	87%	86%	85%	0%
Inyo	F	0.17	\$49,545	18,593	16%	84%	84%	84%	17%	6%
Kern	D+	1.41	\$52,777	916,464	7%	93%	93%	93%	89%	25%
Kings	D	1.25	\$44,243	153,710	20%	76%	76%	76%	76%	14%
Lake	F+	0.50	\$39,489	65,071	14%	76%	76%	75%	75%	0%
Lassen	F	0.02	\$40,141	30,150	56%	38%	37%	30%	5%	3%
Los Angeles	C	2.09	\$71,244	10,253,715	1%	99%	99%	98%	98%	15%
Madera	D	0.96	\$53,976	159,536	14%	86%	86%	75%	67%	14%
Marin	C-	1.70	\$103,955	262,879	4%	96%	96%	96%	94%	17%
Mariposa	F	0.01	\$53,020	18,068	24%	74%	74%	9%	4%	3%
Mendocino	F+	0.39	\$49,229	89,009	25%	72%	72%	71%	68%	0%
Merced	D	1.24	\$45,356	282,928	11%	85%	85%	83%	83%	23%
Mocdoc	F	0.01	\$46,453	9,602	50%	47%	45%	37%	2%	0%
Mono	D-	0.72	\$51,725	13,616	13%	86%	86%	86%	86%	29%
Monterey	D+	1.63	\$66,576	445,414	6%	93%	93%	93%	92%	14%
Napa	C-	1.85	\$81,413	140,779	7%	92%	92%	92%	92%	17%
Nevada	D-	0.69	\$63,475	98,904	17%	76%	76%	75%	62%	19%
Orange	C	1.97	\$90,950	3,222,498	3%	97%	97%	97%	96%	20%
Placer	D-	0.77	\$69,455	396,691	6%	92%	92%	90%	64%	18%
Plumas	F	0.13	\$54,063	19,779	35%	64%	63%	39%	23%	20%
Riverside	C-	1.85	\$61,520	2,440,124	3%	97%	97%	97%	95%	6%
Sacramento	C+	2.30	\$65,857	1,546,174	2%	97%	97%	97%	96%	18%
San Benito	D	1.17	\$77,834	62,296	12%	86%	86%	86%	85%	6%
San Bernardino	D+	1.47	\$53,008	2,192,203	3%	97%	97%	96%	96%	3%
San Diego	D+	1.33	\$75,775	3,351,785	4%	95%	95%	95%	95%	24%
San Francisco	B-	2.73	\$105,602	883,869	1%	99%	99%	99%	99%	49%
San Joaquin	C-	1.89	\$61,184	770,385	5%	94%	94%	94%	93%	15%
San Luis Obispo	D-	0.71	\$71,439	280,393	11%	85%	85%	84%	83%	2%
San Mateo	C+	2.63	\$109,450	774,485	1%	99%	99%	99%	99%	46%
Santa Barbara	D-	0.86	\$73,141	454,593	5%	95%	95%	95%	93%	8%
Santa Clara	C+	2.27	\$114,959	1,954,286	3%	97%	97%	97%	96%	25%
Santa Cruz	C-	1.67	\$79,281	274,871	6%	94%	94%	94%	93%	22%
Shasta	F+	0.49	\$47,020	178,773	13%	81%	81%	79%	72%	2%
Sierra	F	0.03	\$49,899	3,213	88%	4%	4%	4%	4%	4%
Siskiyou	F	0.00	\$43,244	44,584	17%	79%	79%	49%	0%	0%
Solano	C-	1.79	\$77,349	441,307	5%	94%	94%	94%	89%	9%
Sonoma	D+	1.56	\$75,627	500,675	3%	96%	96%	96%	95%	5%
Stanislaus	C-	1.88	\$56,162	558,972	4%	95%	95%	94%	93%	19%
Sutter	D+	1.51	\$60,713	97,490	5%	93%	93%	92%	92%	12%
Tehama	F+	0.32	\$44,185	64,387	33%	53%	53%	49%	49%	0%
Trinity	F	0.00	\$38,118	13,688	83%	14%	14%	14%	0%	0%
Tulare	D+	1.34	\$45,565	479,112	9%	88%	87%	84%	84%	28%
Tuolumne	D-	0.80	\$53,722	54,590	22%	71%	71%	70%	69%	17%
Ventura	C-	1.72	\$82,761	856,598	2%	97%	97%	97%	96%	2%
Yolo	D-	0.72	\$64,825	222,581	9%	90%	90%	88%	64%	9%
Yuba	D+	1.39	\$54,145	77,916	15%	80%	80%	80%	79%	17%
California total	C-	1.69	\$68,011	39,927,313	4%	96%	96%	95%	93%	18%

County	Grade	GPA	Median HH income	Housing Units 2019	HU at Zero service	HU at 6/1	HU at 10/1	HU at 25/3	HU at 100/20	HU at 1000/500
Alameda	B-	2.77	\$96,623	605,977	12,617	592,666	592,666	592,627	592,237	286,659
Alpine	F	0.04	\$63,330	1,783	782	980	980	533	533	0
Amador	F+	0.61	\$59,360	18,278	1,608	16,178	16,178	15,966	8,366	4,380
Butte	D-	0.68	\$48,900	85,447	7,856	74,805	74,805	74,738	74,736	294
Calaveras	D-	0.84	\$43,709	28,210	3,640	23,882	23,866	23,346	21,107	3,824
Colusa	F+	0.62	\$55,333	8,195	3,741	4,362	4,356	4,272	3,299	1,241
Contra Costa	C+	2.40	\$99,646	416,062	5,712	409,642	409,642	409,577	408,523	92,540
Del Norte	D-	0.78	\$46,327	11,352	1,236	10,116	10,116	10,113	10,055	0
El Dorado	D-	0.70	\$66,814	91,987	14,887	73,246	73,073	71,455	48,900	8,058
Fresno	C-	1.86	\$53,004	334,239	18,746	306,626	306,615	301,474	291,820	144,122
Glenn	F+	0.41	\$44,677	11,310	2,860	7,247	7,247	7,025	7,025	0
Humboldt	F	0.01	\$43,351	63,138	10,705	50,211	50,202	49,704	1,918	1,166
Imperial	F+	0.52	\$44,003	58,002	7,312	49,967	49,967	48,944	48,204	0
Inyo	F	0.17	\$49,545	9,532	2,005	7,520	7,520	7,520	1,586	526
Kern	D+	1.41	\$52,777	299,674	16,184	282,640	282,489	281,933	265,138	75,189
Kings	D	1.25	\$44,243	46,414	4,851	40,028	40,028	39,853	39,804	7,402
Lake	F+	0.50	\$39,469	34,409	5,020	25,889	25,889	25,565	25,542	5
Lassen	F	0.02	\$40,141	12,763	5,743	6,089	5,913	4,564	637	285
Los Angeles	C	2.09	\$71,244	3,568,898	39,424	3,524,367	3,523,182	3,516,837	3,484,265	514,205
Madera	D	0.96	\$53,976	50,496	5,025	45,046	45,045	36,548	30,416	5,476
Marin	C-	1.70	\$103,955	112,394	2,949	108,659	108,652	108,650	105,980	19,755
Mariposa	F	0.01	\$53,020	10,489	3,094	7,120	7,120	793	308	252
Mendocino	F+	0.39	\$49,229	40,760	11,160	28,500	28,500	28,030	25,968	63
Merced	D	1.24	\$45,356	86,955	8,966	73,992	73,964	72,586	72,304	20,843
Modoc	F	0.01	\$46,453	5,272	2,779	2,335	2,209	1,844	118	12
Mono	D-	0.72	\$51,725	14,106	1,955	12,103	12,103	12,042	12,029	2,431
Monterey	D+	1.63	\$66,576	141,007	8,313	131,465	131,465	130,996	130,053	20,034
Napa	C-	1.85	\$81,413	55,180	3,499	51,036	51,036	50,982	50,728	10,229
Nevada	D-	0.69	\$63,475	53,984	8,448	41,913	41,913	41,631	35,482	9,192
Orange	C	1.97	\$90,950	1,104,164	39,232	1,057,955	1,057,953	1,056,522	1,052,637	202,491
Placer	D-	0.77	\$69,455	167,548	10,761	152,028	152,028	149,130	102,866	28,479
Plumas	F	0.13	\$54,063	15,895	5,900	9,930	9,779	6,410	2,899	2,549
Riverside	C-	1.85	\$61,520	847,851	31,634	814,638	814,008	812,432	793,068	40,936
Sacramento	C+	2.30	\$65,857	574,449	11,831	557,682	557,595	555,532	551,336	112,613
San Benito	D	1.17	\$77,834	19,395	2,558	16,352	16,352	16,216	16,149	1,069
San Bernardino	D+	1.47	\$53,008	723,783	30,913	691,137	690,339	686,634	678,374	20,968
San Diego	D+	1.33	\$75,775	1,219,460	43,908	1,170,774	1,170,750	1,168,513	1,163,371	316,880
San Francisco	B-	2.73	\$105,602	399,372	1,359	396,384	396,384	396,383	396,197	178,384
San Joaquin	C-	1.89	\$61,184	246,521	12,360	231,858	231,791	231,175	229,588	39,238
San Luis Obispo	D-	0.71	\$71,439	122,810	10,856	107,109	107,095	106,091	104,254	2,387
San Mateo	C+	2.63	\$109,450	279,248	2,357	276,455	276,455	276,445	275,305	127,039
Santa Barbara	D-	0.86	\$73,141	160,111	5,216	154,599	154,120	153,272	150,840	14,826
Santa Clara	C+	2.27	\$114,959	671,439	17,035	653,208	653,139	652,821	648,034	171,945
Santa Cruz	C-	1.67	\$79,281	105,862	3,777	101,706	101,705	101,620	100,729	26,930
Shasta	F+	0.49	\$47,020	78,027	11,430	61,973	61,625	59,874	54,024	1,793
Sierra	F	0.03	\$49,899	2,352	2,062	77	77	77	77	77
Siskiyou	F	0.00	\$43,244	24,200	4,600	18,600	18,600	11,560	43	20
Solano	C-	1.79	\$77,349	159,586	6,382	152,512	152,497	152,455	142,971	15,420
Sonoma	D+	1.56	\$75,627	204,976	7,611	195,511	195,509	195,254	192,112	9,610
Stanislaus	C-	1.88	\$56,162	182,514	8,107	172,452	172,362	171,300	169,830	37,677
Sutter	D+	1.51	\$60,713	34,398	2,062	31,600	31,600	31,359	31,323	4,094
Tehama	F+	0.32	\$44,185	27,655	9,655	14,417	14,328	13,025	12,921	96
Trinity	F	0.00	\$38,118	8,942	7,695	843	843	843	0	0
Tulare	D+	1.34	\$45,565	150,622	16,142	130,046	129,932	125,732	124,840	41,734
Tuolumne	D-	0.80	\$53,722	31,624	7,256	21,208	21,208	21,066	20,899	4,735
Ventura	C-	1.72	\$82,761	289,647	7,060	281,613	281,308	280,728	278,329	5,559
Yolo	D-	0.72	\$64,825	77,679	4,561	72,156	72,156	71,163	52,216	7,630
Yuba	D+	1.39	\$54,145	28,650	5,099	21,937	21,937	21,877	21,636	4,848
California total	C-	1.69	\$68,011	14,235,093	550,536	13,575,389	13,570,218	13,495,657	13,163,951	2,648,209

County	Grade	GPA	Median HH income	Housing Units 2019	% HU at Zero service	% HU at 6/1	%HU at 10/1	% HU at 25/3	% HU at 100/20	% HU at 1000/500
Alameda	B-	2.77	\$96,623	605,977	2%	98%	98%	98%	98%	47%
Alpine	F	0.04	\$63,330	1,783	44%	55%	55%	30%	30%	0%
Amador	F+	0.61	\$59,360	18,278	9%	89%	89%	87%	46%	24%
Butte	D-	0.68	\$48,900	85,447	9%	88%	88%	87%	87%	0%
Calaveras	D-	0.84	\$43,709	28,210	13%	85%	85%	83%	75%	14%
Colusa	F+	0.62	\$55,333	8,195	46%	53%	53%	52%	40%	15%
Contra Costa	C+	2.40	\$99,646	416,062	1%	98%	98%	98%	98%	22%
Del Norte	D-	0.78	\$46,327	11,352	11%	89%	89%	89%	89%	0%
El Dorado	D-	0.70	\$66,814	91,987	16%	80%	79%	78%	53%	9%
Fresno	C-	1.86	\$53,004	334,239	6%	92%	92%	90%	87%	43%
Glenn	F+	0.41	\$44,677	11,310	25%	64%	64%	62%	62%	0%
Humboldt	F	0.01	\$43,351	63,138	17%	80%	80%	79%	3%	2%
Imperial	F+	0.52	\$44,003	58,002	13%	86%	86%	84%	83%	0%
Inyo	F	0.17	\$49,545	9,532	21%	79%	79%	79%	17%	6%
Kern	D+	1.41	\$52,777	299,674	5%	94%	94%	94%	88%	25%
Kings	D	1.25	\$44,243	46,414	10%	86%	86%	86%	86%	16%
Lake	F+	0.50	\$39,489	34,409	15%	75%	75%	74%	74%	0%
Lassen	F	0.02	\$40,141	12,763	45%	48%	46%	36%	5%	2%
Los Angeles	C	2.09	\$71,244	3,568,898	1%	99%	99%	99%	98%	14%
Madera	D	0.96	\$53,976	50,496	10%	89%	89%	72%	60%	11%
Marin	C-	1.70	\$103,955	112,394	3%	97%	97%	97%	94%	18%
Mariposa	F	0.01	\$53,020	10,489	29%	68%	68%	8%	3%	2%
Mendocino	F+	0.39	\$49,229	40,760	27%	70%	70%	69%	64%	0%
Merced	D	1.24	\$45,356	86,955	10%	85%	85%	83%	83%	24%
Modoc	F	0.01	\$46,453	5,272	53%	44%	42%	35%	2%	0%
Mono	D-	0.72	\$51,725	14,106	14%	86%	86%	85%	85%	17%
Monterey	D+	1.63	\$66,576	141,007	6%	93%	93%	93%	92%	14%
Napa	C-	1.85	\$81,413	55,180	6%	92%	92%	92%	92%	19%
Nevada	D-	0.69	\$63,475	53,984	16%	78%	78%	77%	66%	17%
Orange	C	1.97	\$90,950	1,104,164	4%	96%	96%	96%	95%	18%
Placer	D-	0.77	\$69,455	167,548	6%	91%	91%	89%	61%	17%
Plumas	F	0.13	\$54,063	15,895	37%	62%	62%	40%	18%	16%
Riverside	C-	1.85	\$61,520	847,851	4%	96%	96%	96%	94%	5%
Sacramento	C+	2.30	\$65,857	574,449	2%	97%	97%	97%	96%	20%
San Benito	D	1.17	\$77,834	19,395	13%	84%	84%	84%	83%	6%
San Bernardino	D+	1.47	\$53,008	723,783	4%	95%	95%	95%	94%	3%
San Diego	D+	1.33	\$75,775	1,219,460	4%	96%	96%	96%	95%	26%
San Francisco	B-	2.73	\$105,602	399,372	0%	99%	99%	99%	99%	45%
San Joaquin	C-	1.89	\$61,184	246,521	5%	94%	94%	94%	93%	16%
San Luis Obispo	D-	0.71	\$71,439	122,810	9%	87%	87%	86%	85%	2%
San Mateo	C+	2.63	\$109,450	279,248	1%	99%	99%	99%	99%	45%
Santa Barbara	D-	0.86	\$73,141	160,111	3%	97%	96%	96%	94%	9%
Santa Clara	C+	2.27	\$114,959	671,439	3%	97%	97%	97%	97%	26%
Santa Cruz	C-	1.67	\$79,281	105,862	4%	96%	96%	96%	95%	25%
Shasta	F+	0.49	\$47,020	78,027	15%	79%	79%	77%	69%	2%
Sierra	F	0.03	\$49,899	2,352	88%	3%	3%	3%	3%	3%
Siskiyou	F	0.00	\$43,244	24,200	19%	77%	77%	48%	0%	0%
Solano	C-	1.79	\$77,349	159,586	4%	96%	96%	96%	90%	10%
Sonoma	D+	1.56	\$75,627	204,976	4%	95%	95%	95%	94%	5%
Stanislaus	C-	1.88	\$56,162	182,514	4%	94%	94%	94%	93%	21%
Sutter	D+	1.51	\$60,713	34,398	6%	92%	92%	91%	91%	12%
Tehama	F+	0.32	\$44,185	27,655	35%	52%	52%	47%	47%	0%
Trinity	F	0.00	\$38,118	8,942	86%	9%	9%	9%	0%	0%
Tulare	D+	1.34	\$45,565	150,622	11%	86%	86%	83%	83%	28%
Tuolumne	D-	0.80	\$53,722	31,624	23%	67%	67%	67%	66%	15%
Ventura	C-	1.72	\$82,761	289,647	2%	97%	97%	97%	96%	2%
Yolo	D-	0.72	\$64,825	77,679	6%	93%	93%	92%	67%	10%
Yuba	D+	1.39	\$54,145	28,650	18%	77%	77%	76%	76%	17%
California total	C-	1.69	\$68,011	14,235,093	4%	95%	95%	95%	92%	19%

STATEWIDE INFRASTRUCTURE GRADES BY CDP/ROC

INFRASTRUCTURE GRADES - COUNTY

GRADE A

A

A-

GRADE B

B+

B

B-

GRADE C

C+

C

C-

GRADE D

D+

D

D-

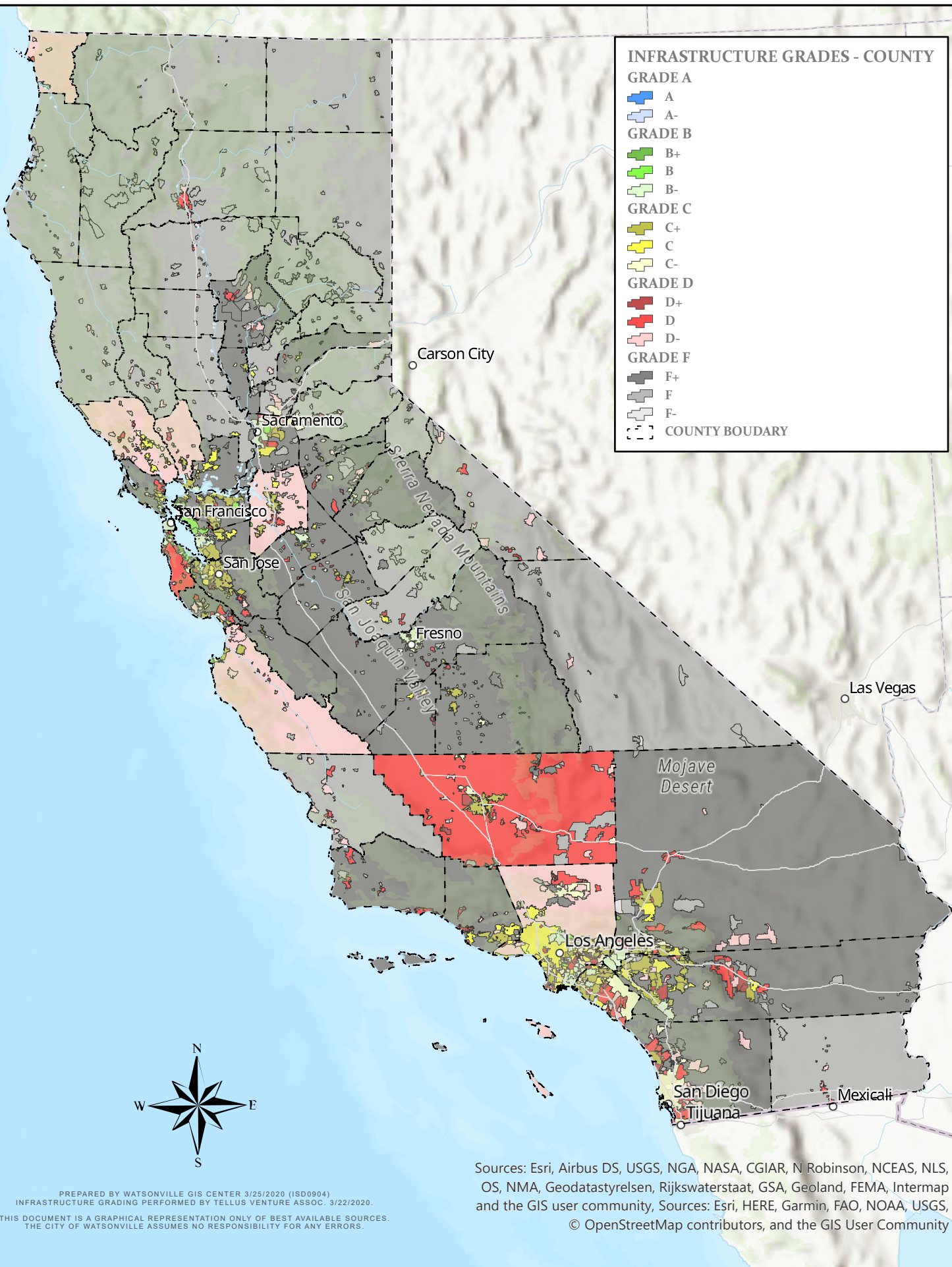
GRADE F

F+

F

F-

COUNTY BOUDARY



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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Central Coast Broadband Consortium Broadband Infrastructure Grading Methodology

Broadband infrastructure grades compare the primary, wireline infrastructure in a region, county, town or census block to the Californian average:

- A Superior infrastructure.** At least two competing primary wireline providers. At least one advertising fiber-to-the-premise service at a minimum of 1 Gbps download/500 Mbps upload speeds, and another offering service at a minimum of 400 Mbps download/20 Mbps upload speeds using any technology.
- B Above average infrastructure.** At least two competing primary wireline providers. At least one advertising service at a minimum of 900 Mbps download/35 Mbps upload speeds, and another offering service at a minimum of 100 Mbps download/20 Mbps upload speeds.
- C Average infrastructure.** At least two competing primary wireline providers. At least one advertising service at a minimum of 400 Mbps download/20 Mbps upload speeds, and another offering service at a minimum of 30 Mbps download/5 Mbps upload speeds.
- D Barely passing.** At least one wireline provider that meets the Central Coast Broadband Consortium/Monterey Bay Economic Partnership minimum standard of 100 Mbps download and 20 Mbps upload speeds.
- F Fail.** At least one wireline provider offers service, but no service is available that meets the Central Coast Broadband Consortium/Monterey Bay Economic Partnership minimum standard of 100 Mbps download and 20 Mbps upload speeds.
- F- Unserved.** No broadband service available

In a study conducted for the East Bay Broadband Consortium (EBBC) in 2013¹, in cooperation with the Central Coast Broadband Consortium, core broadband infrastructure was evaluated in Alameda, Contra Costa and Solano Counties using data submitted to the California Public Utilities Commission by Internet service providers. A comparative report card was developed, with the average grade – “C” – set at the most prevalent infrastructure, and corresponding service levels, available to residents of California: a combination of relatively high speed cable modem and mid-range telephone company DSL facilities.

This methodology was subsequently used by the Central Coast Broadband Consortium to evaluate Californian broadband infrastructure and service on a statewide basis, on behalf of the California Emerging Technology Fund and the California Center for Rural Policy, and to do in-depth analysis of broadband service and infrastructure in Monterey, Santa Cruz and San Benito counties.

The primary data for assessing the quantity and quality of broadband infrastructure comes from the California Public Utilities Commission, which collects service level reports submitted by providers to the Federal Communications Commission annually, and then runs that data through a validation process. The most recent data available was submitted by carriers as of 31 December 2017. This data can be broken down to the census block level, and shows what level of service Internet companies claim to provide, but not necessarily what they deliver. The accuracy of this data and the definition of

¹ *East Bay Broadband Report Card*, Tellus Venture Associates, 28 January 2014.

service levels varies from company to company, although it is generally consistent within any given company. In other words, if Company Z exaggerates the speeds and availability of home Internet service, it tends to do so to more or less the same extent everywhere. By using a comparative system for ranking, rather than using the absolute values provided, the variation in the accuracy of the data can be smoothed out and an apples-to-apples comparison can be achieved.

Consumer-grade service throughout California was assessed, and the averages of available service (median, mode and mean) used as one of the two primary grading benchmarks. The other benchmark was the minimum level of service of 100 Mbps download and 20 Mbps upload speeds, which was determined by a 2018 study conducted by the Central Coast Broadband Consortium and the Monterey Bay Economic Partnership² to be the minimum necessary to conduct business, do homework, enjoy online entertainment and otherwise fully participate in today’s digital economy.

Upload speed was given equal weight to download speed because upload speed provides a reliable indication of the capacity of the underlying infrastructure. It is increasingly important to consumers and businesses alike. When a service provider skimps on upload speeds, as frequently happens, it is usually because its cables and other core equipment have a limited capacity.

The data was examined, and irrelevant data points that skewed results were removed. Grades were then assigned according to the criteria in the table above.

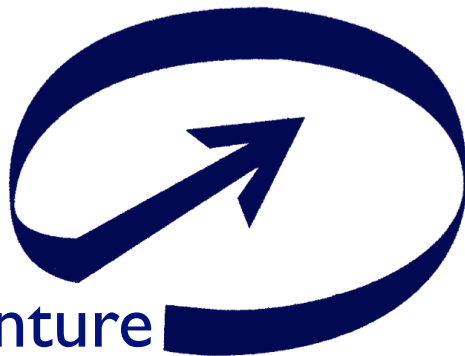
A "C" grade indicates that consumer grade broadband service, and consequently the underlying core infrastructure, in a given area meets the statewide average. A "D" grade means it meets the minimum service standard determined by the CCBC/MBEP study. "F" grades indicate full or partial failure. "A" and "B" grades show that service in an area is superior to the California average.

The first step in grading was to give a letter grade to each census block in California. Then, the grade points were tallied, weighted by population and averaged for the census blocks within cities, counties and unincorporated areas, to produce a numerical grade on a four point scale, which was rounded to the nearest tenth.

The numerical grade point average for an area was then converted to a letter grade on the following scale:

Infrastructure Grade Point Scale					
A	4.0	C+	2.3-2.6	D-	0.7-0.9
A-	3.7-3.9	C	2.0-2.2	F+	0.3-0.6
B+	3.3-3.6	C-	1.7-1.9	F	0.0-0.2
B	3.0-3.2	D+	1.3-1.6	F-	No service available
B-	2.7-2.9	D	1.0-1.2		

² *Achieving Ubiquitous Broadband Coverage in the Monterey Bay Region*, Monterey Bay Economic Partnership, November 2018.



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