



Connected Capital Area Broadband Consortium (CCABC)

Broadband Coverage in the Delta

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For further information contact:
David.Espinoza@ValleyVision.org
Trish.Kelly@ValleyVision.org
Isa.Avancena@ValleyVision.org

Background and Introduction

Beginning in 2014, the Delta Protection Commission (Commission) undertook the Delta Community Action Planning (CAP) project to increase civic vitality and preserve the values and character of historic Delta towns. Through the CAP process, broadband infrastructure was identified as an essential utility needed to serve residents, businesses (including agricultural operations), and visitors. In 2019, Valley Vision completed *Connecting the Delta: Broadband Action Plan*, a report prepared for the Commission to inform local governments and all those affected by the lack of high-speed internet service of recommended actions to improve broadband adoption and support.

According to the report, within the five legacy communities identified in the CAP project (Clarksburg, Courtland, Hood, Isleton, and Walnut Grove), approximately one-third of households did not have Internet subscriptions at the time of report preparation in 2019. Households and businesses within the legacy communities have very limited provider options. Additionally, 17% of households within Delta communities do not have access to a computing device (desktop, laptop, smartphone, or tablet). Access, quality, reliability, and cost all factor into this circumstance. The Delta is faced with many barriers and has several unserved and underserved areas lacking broadband service, compared to the surrounding greater metropolitan areas of Sacramento, Stockton-Tracy, and the San Francisco Bay Area.

At broadband workshops held in the Delta during 2018 and 2019, community members voiced broadband quality and access frustrations, equity discrepancies, and educational and safety concerns. Additionally, while not exclusive to broadband, it must be noted that each community also identified challenges with mobile wireless (i.e. cell phones) and lack of signal availability.

The 2019 action plan offered three recommendations for achieving improved broadband: (1) organize for action; (2) leverage existing opportunities; and (3) pursue and secure funding. As a preliminary step to organizing for action, the Commission is partnering with Valley Vision and the Connected Capital Area Broadband Consortium (CCABC) to assess the broadband coverage in the five legacy communities and an expanded area including Bethel Island, the Delta Loop, Freeport, Rio Vista, and Terminous.

The following report and maps will be used in three ways:

- To provide local governing bodies, committees, and councils the coverage profiles that broadband service providers have reported to the CPUC,
- To kick off a campaign to engage residents of these Delta communities to test and register their actual residential service download and upload speeds for comparison with the reported available speeds, and
- After reviewing testing results, identify areas where service most needs improvement, and work with the community leaders, appropriate broadband coalitions, Internet service providers and the CPUC to leverage existing opportunities for service improvement and seek funding support.

What's In the Report?

This report provides an assessment of the broadband coverage in the following communities and areas in the Delta Protection Commission region: Bethel Island, Clarksburg, Courtland, Delta Loop, Freeport, Hood, Isleton, Rio Vista, Terminous and Walnut Grove. The assessment uses publicly available broadband availability data from the California Public Utilities Commission (CPUC) and its California Broadband Interactive Map (<http://www.broadbandmap.ca.gov/>). The broadband service availability data are collected by the CPUC from a majority of broadband service providers in the State. **Most of the broadband availability is reported by last-mile providers.** Coverage data for wireline and fixed wireless providers are reported at the census block level. The data are mapped and validated for accuracy using CPUC's broadband validation methods.

For the communities or areas mentioned above, this report provides broadband coverage profiles which include the following information and maps:

- **Table of Broadband Services Providers:** This table lists broadband service providers that offer residential service to the communities or areas. It also includes the technology used to provide the service and maximum advertised downstream (download) and upstream (upload) speeds.
- **Fixed broadband service status map:** This map shows aggregated fixed broadband service coverage. The aggregation is defined as combining the coverage of the

broadband service providers listed in the providers table. A served area (green areas) is defined as broadband providers able to offer speeds at the current California broadband standard of minimum speeds of 6 Mbps downstream and 1 Mbps upstream. This map also shows served areas at speeds of 10 Mbps downstream and 1Mbps upstream (darker green areas), which are used in some Federal broadband programs. Unserved areas are shown in the map which includes areas both with slow service or no service. Slow service (yellow areas) is defined as speeds below the California standard (6Mbps/1Mbps), and no service (red areas) is defined as areas with not broadband service available at all.

- **Fixed broadband downstream speeds map:** This map shows aggregated speeds available for fixed broadband service. Again aggregation combines speeds from the broadband providers listed in the table and shows the highest speeds available at each census block. The **fixed broadband service** include both **wireline** and **fixed wireless** technologies. Wireline technologies include DSL, cable modem and/or fiber optics. Wireless technologies include licensed and/or unlicensed spectrum equipment which use antennas to reach households. The figure legend shows the different speeds and color codes.
- **Fixed wireless broadband downstream speeds map:** This map shows the aggregated speeds available of only fixed wireless providers. This map uses the same color codes for speeds than the fixed broadband map.
- **Wireline broadband downstream speeds map:** This map shows the aggregated speeds available of only wireline providers. This map uses the same color codes than the fixed broadband map.

It's important to note that this broadband coverage **does not include mobile broadband service** such as the ones provided by main mobile service carriers such as AT&T Wireless, Verizon, T-Mobile and Sprint, among other mobile carriers. The latest CPUC broadband availability data (service as of December 2018 and released in 2019) do not include mobile broadband data, therefore this report is not able to assess mobile broadband coverage. This report assess residential broadband service coverage for fixed, fixed wireless and wireline broadband services. As mentioned above, fixed broadband

service (as defined by the CPUC) includes combining both fixed wireless and wireline broadband services.

Bethel Island

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
AT&T California	ADSL2, ADSL2+	Residential	25 Mbps 10 Mbps	2 Mbps 6 Mbps
Comcast	Cable Modem - DOCSIS 3.1	Residential	986 Mbps	35 Mbps
SnowCrest Telephone Inc	VDSL ADSL2, ADSL2+	Residential	60 Mbps 24 Mbps	20 Mbps 1 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

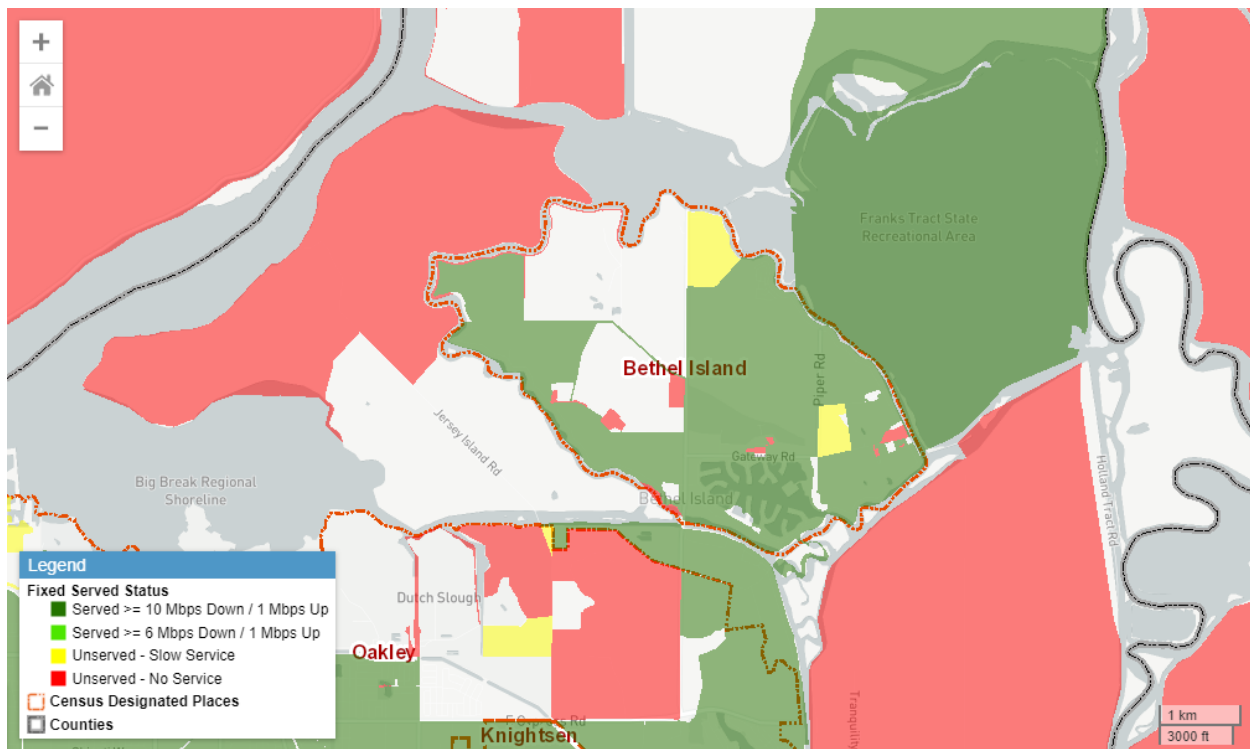


Figure 1. Aggregated fixed broadband service coverage in Bethel Island. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.

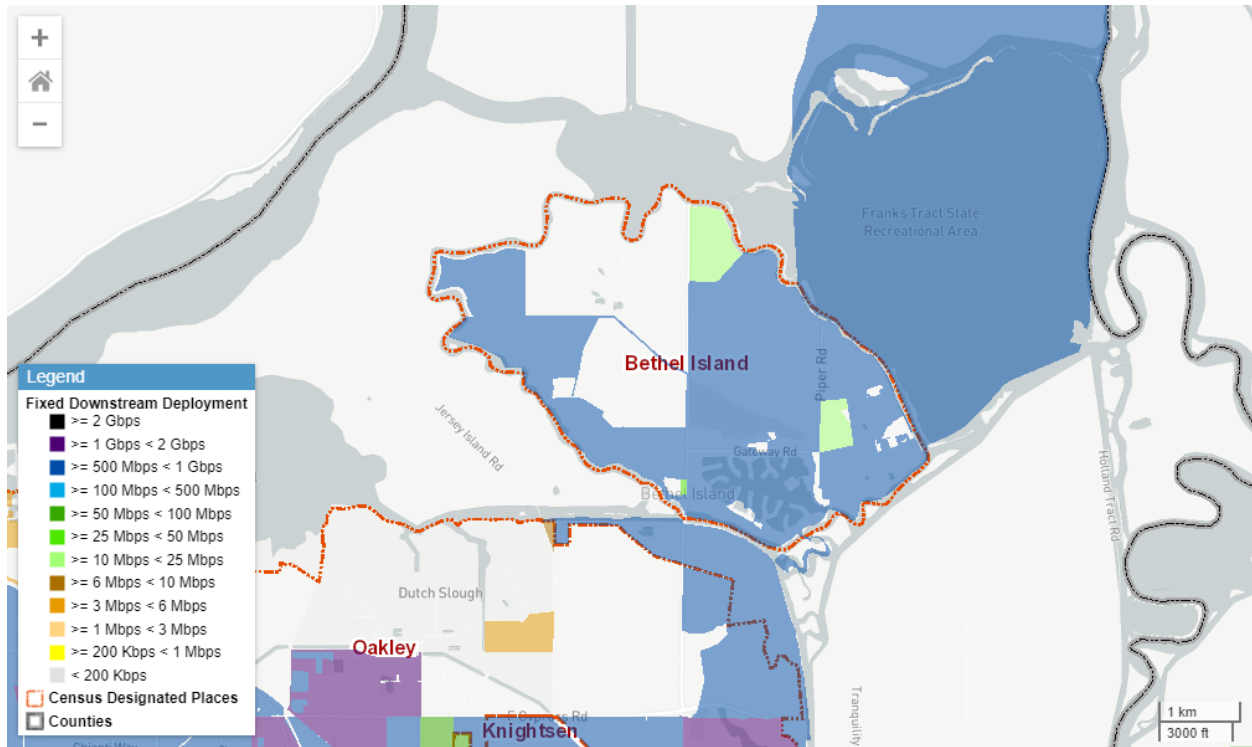


Figure 2. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Bethel Island.



Figure 3. Downstream speeds for the fixed wireless service coverage in Bethel Island.

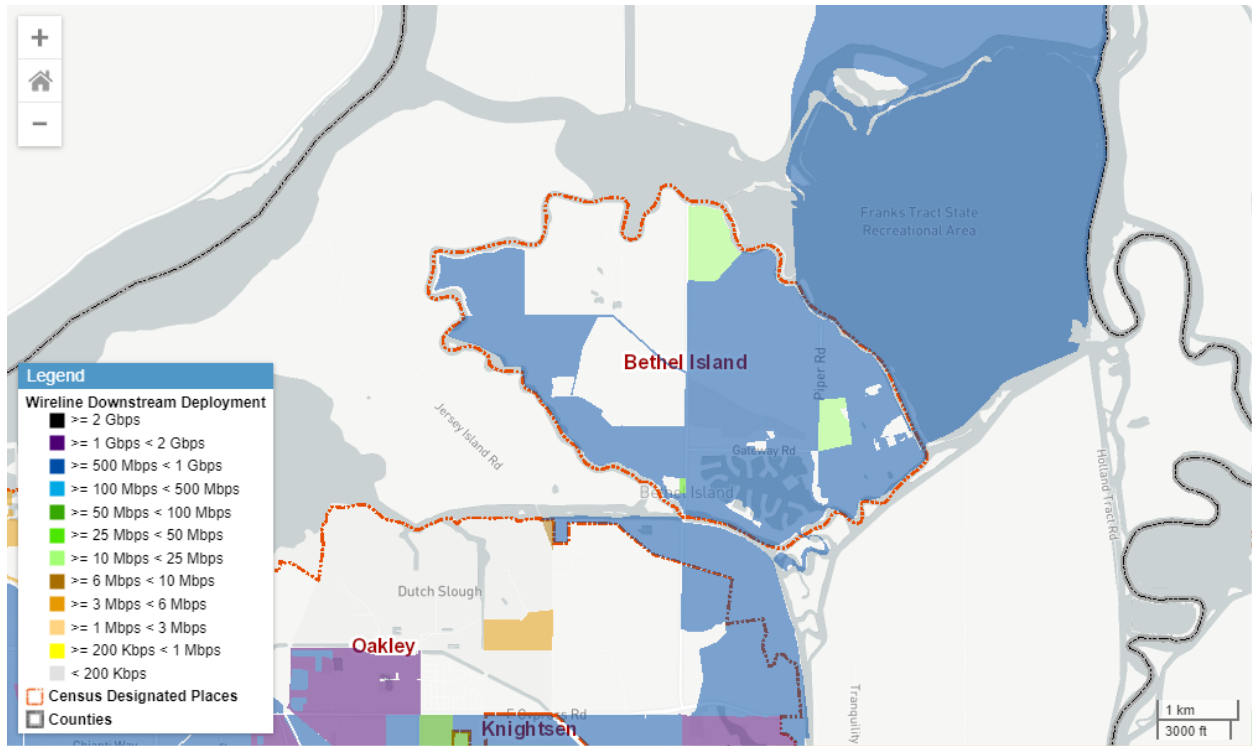


Figure 4. Downstream speeds for the wireline service coverage in Bethel Island.

Clarksburg

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
California Broadband Services	Terrestrial Fixed Wireless	Residential	30 Mbps	15 Mbps
Frontier Communications	Asymmetric xDSL, VDSL	Residential	25 Mbps 6 Mbps	3 Mbps 1 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

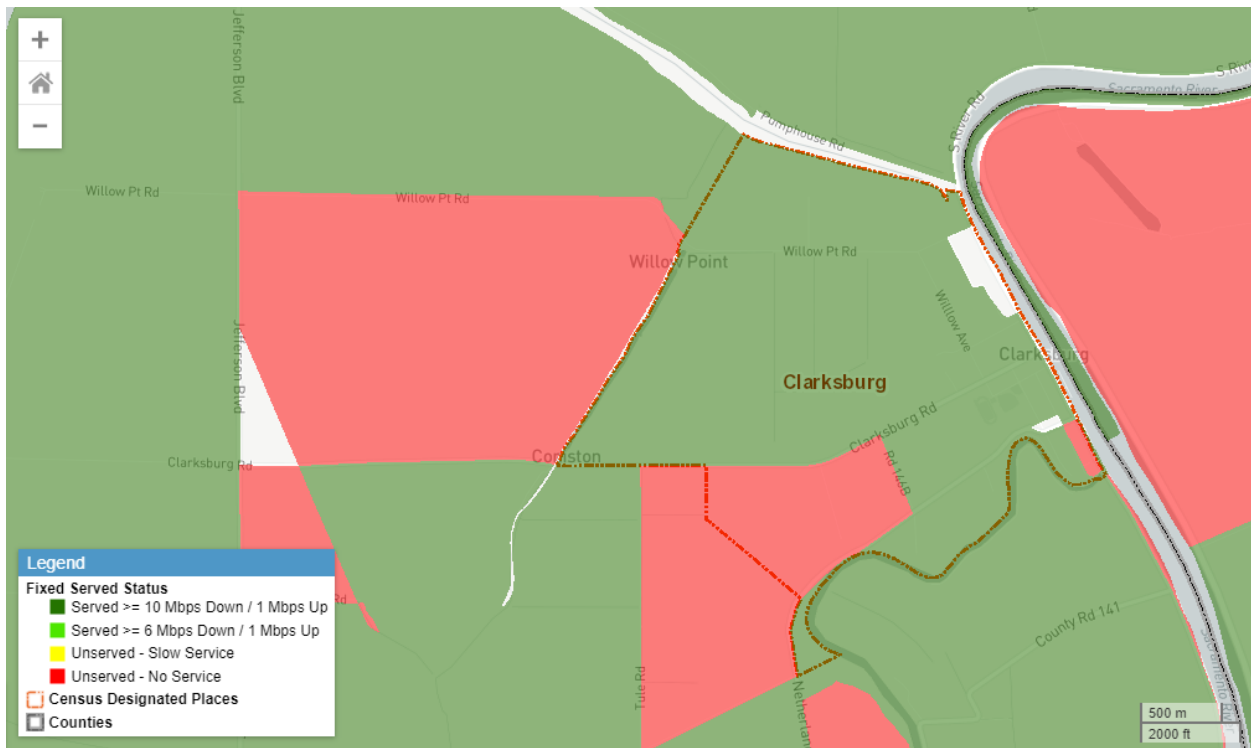


Figure 5. Aggregated fixed broadband service coverage in Clarksburg. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.

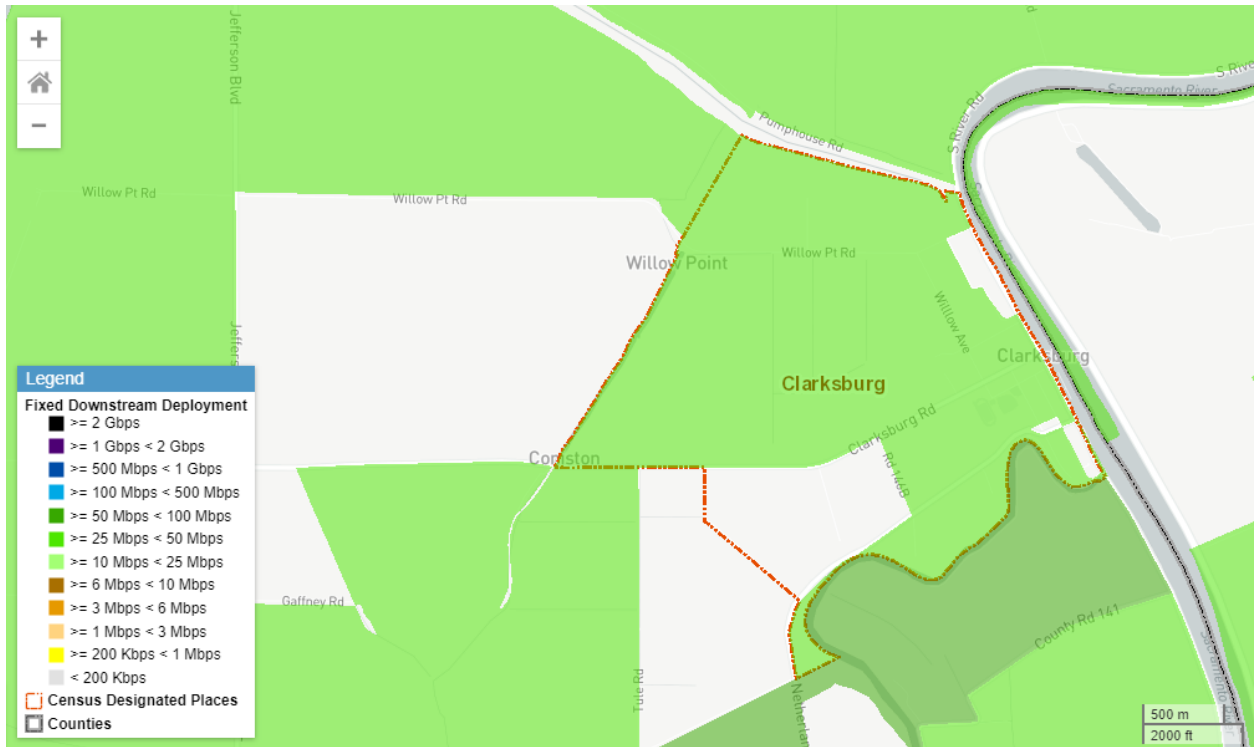


Figure 6. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Clarksburg.

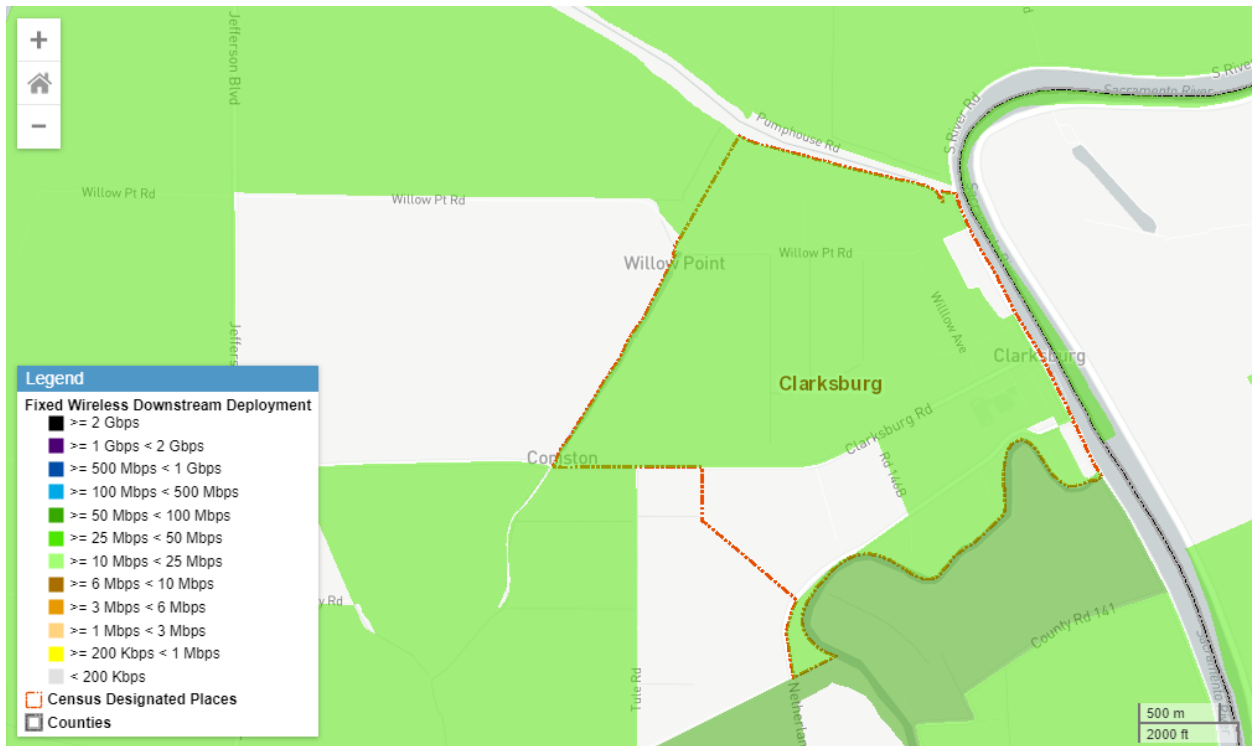


Figure 7. Downstream speeds for the fixed wireless service coverage in Clarksburg.

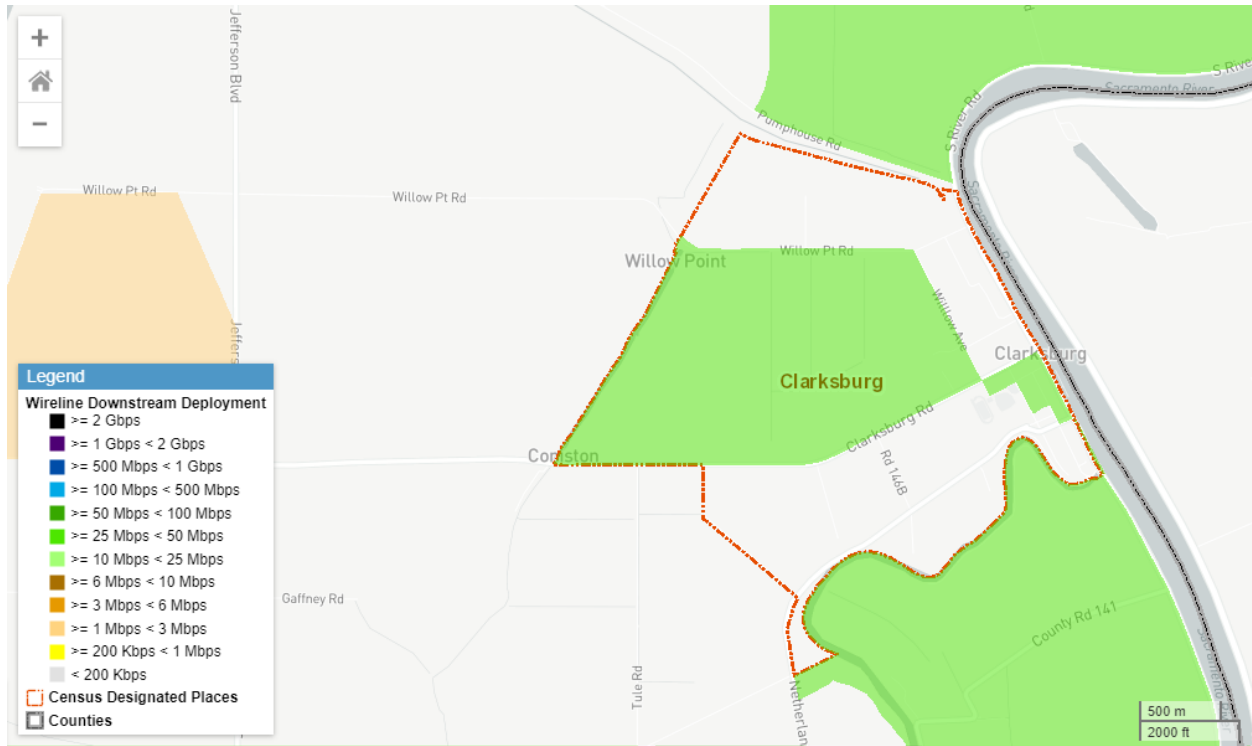


Figure 8. Downstream speeds for the wireline service coverage in Clarksburg.

Courtland

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
DigitalPath	Terrestrial Fixed Wireless	Residential	50 Mbps	10 Mbps
Frontier Communications	Asymmetric xDSL, ADSL2, ADSL2+	Residential	12 Mbps 6 Mbps	1 Mbps 1Mbps
GeoLinks	Terrestrial Fixed Wireless	Residential	1000 Mbps	1000 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

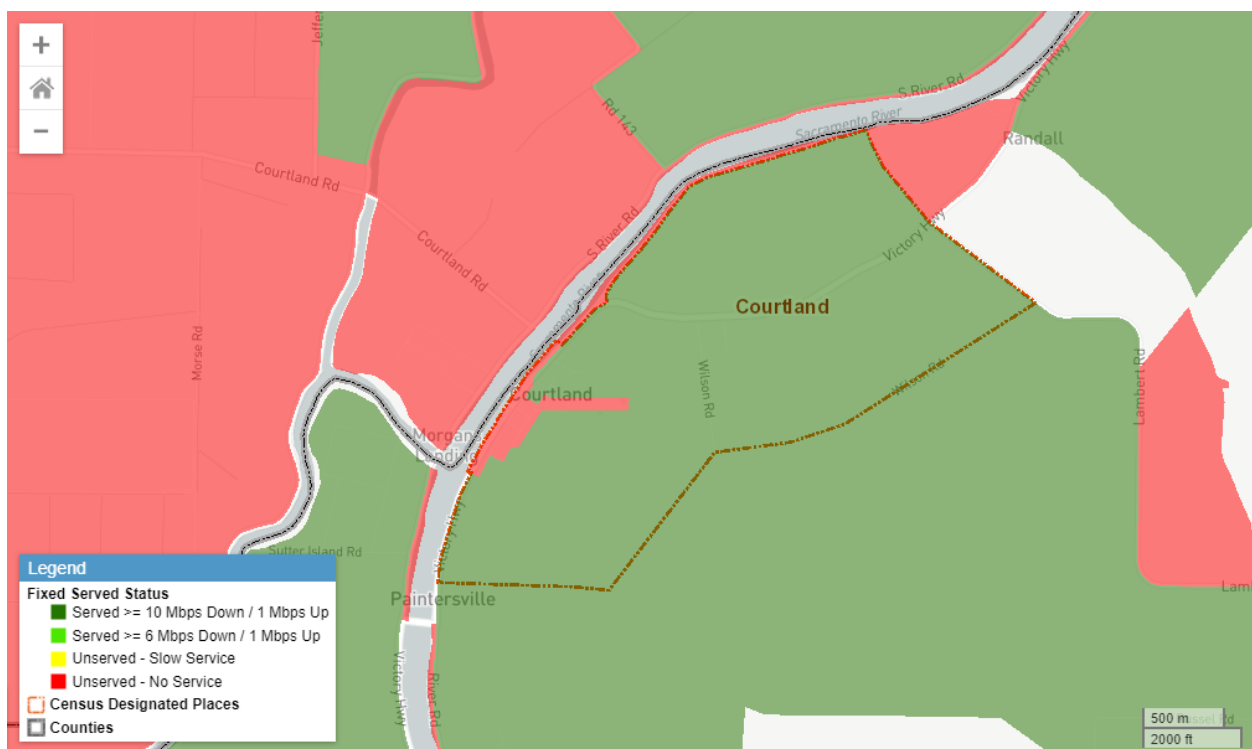


Figure 9. Aggregated fixed broadband service coverage in Courtland. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.



Figure 10. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Courtland.



Figure 11. Downstream speeds for the fixed wireless service coverage in Courtland.



Figure 12. Downstream speeds for the wireline service coverage in Courtland.

The Delta Loop

Broadband Service Provider	Technology	Service	Maximum Advertised DL Speed (Mbps)	Maximum Advertised UL Speed (Mbps)
Comcast	Cable Modem - DOCSIS 3.1	Residential	986 Mbps	35 Mbps
DigitalPath	Terrestrial Fixed Wireless	Residential	50 Mbps	10 Mbps
Frontier Communications	Asymmetric xDSL ADSL2, ADSL2+ ADSL2, ADSL2+ VDSL	Residential	6 Mbps 6 Mbps 12Mbps 25 Mbps	1 Mbps 1 Mbps 1 Mbps 3 Mbps
Softcom Internet Communications, Inc.	Terrestrial Fixed Wireless	Residential	50 Mbps	20 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

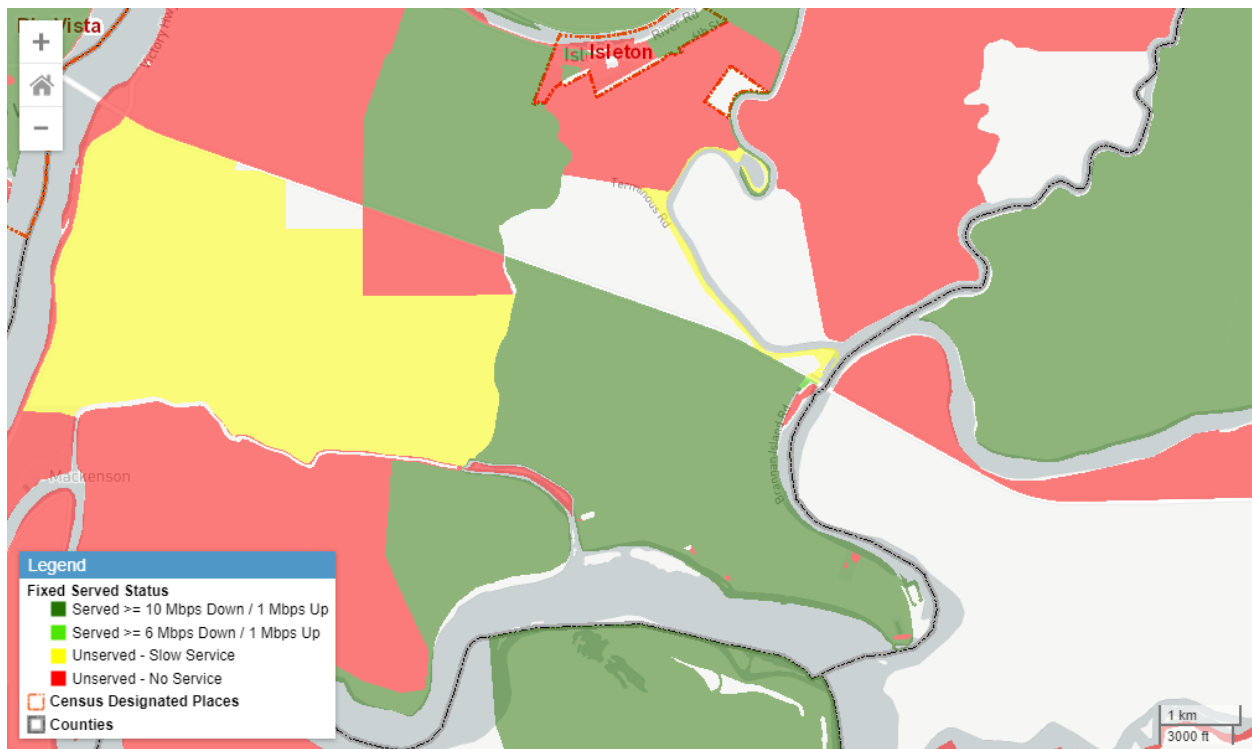


Figure 13. Aggregated fixed broadband service coverage in the Delta Loop. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.

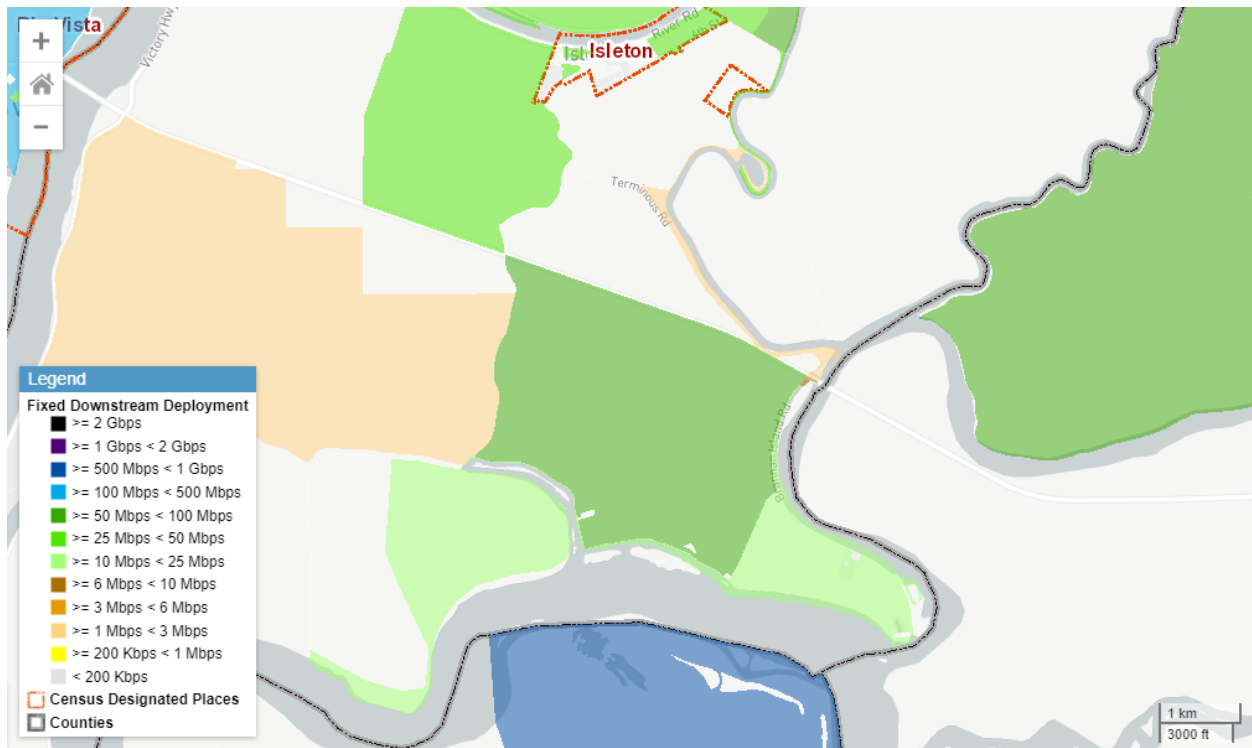


Figure 14. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in the Delta Loop.

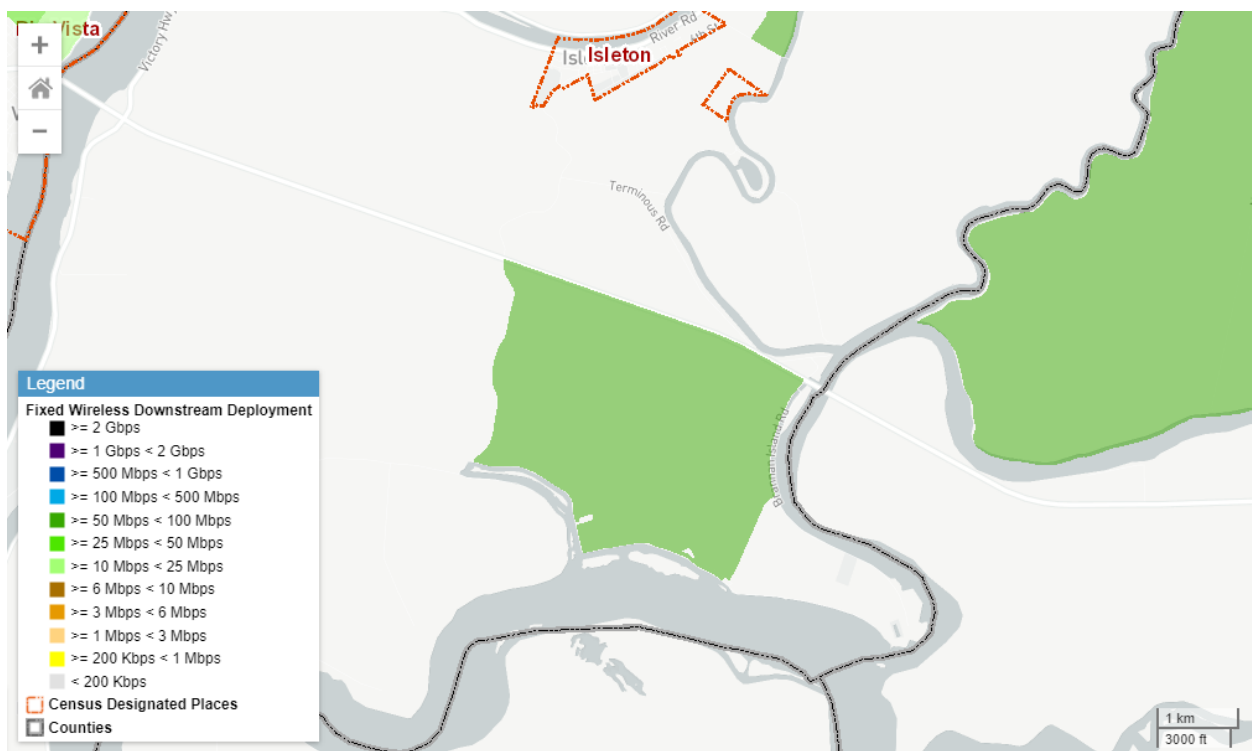


Figure 15. Downstream speeds for the fixed wireless service coverage in the Delta Loop.

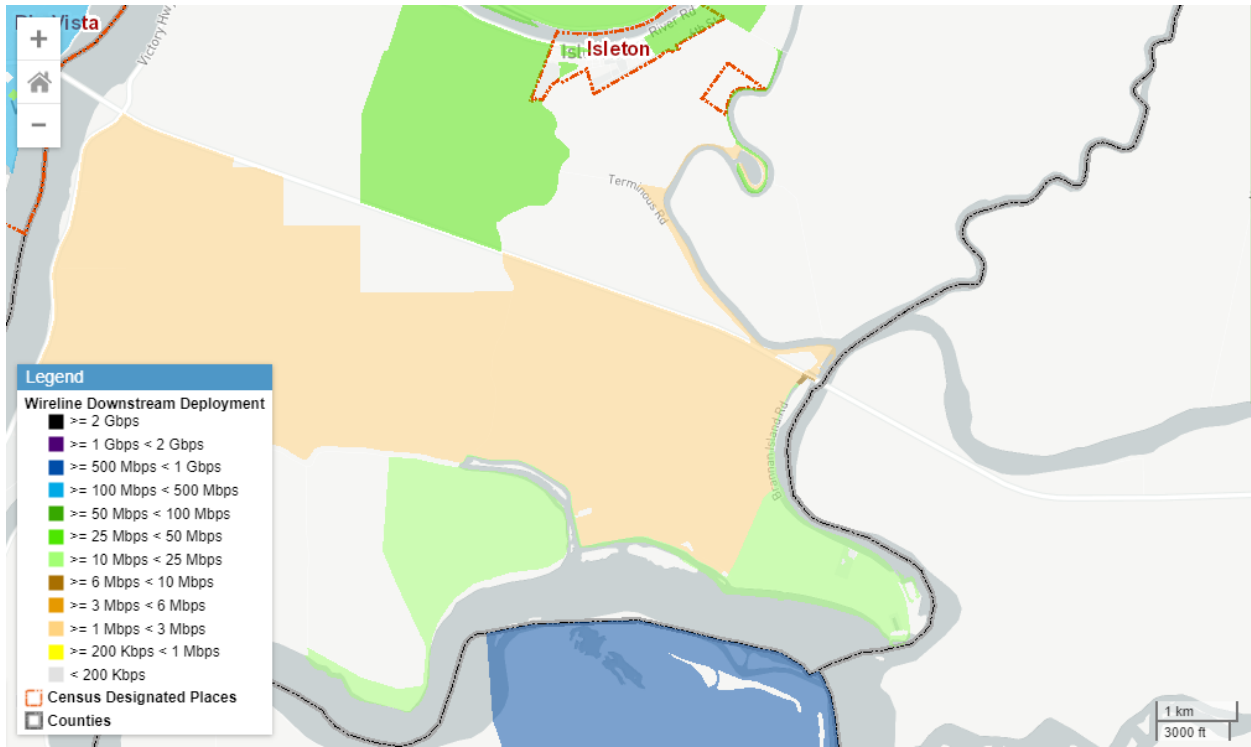


Figure 16. Downstream speeds for the wireline service coverage in the Delta Loop.

Freeport

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
-	-	-	-	-

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

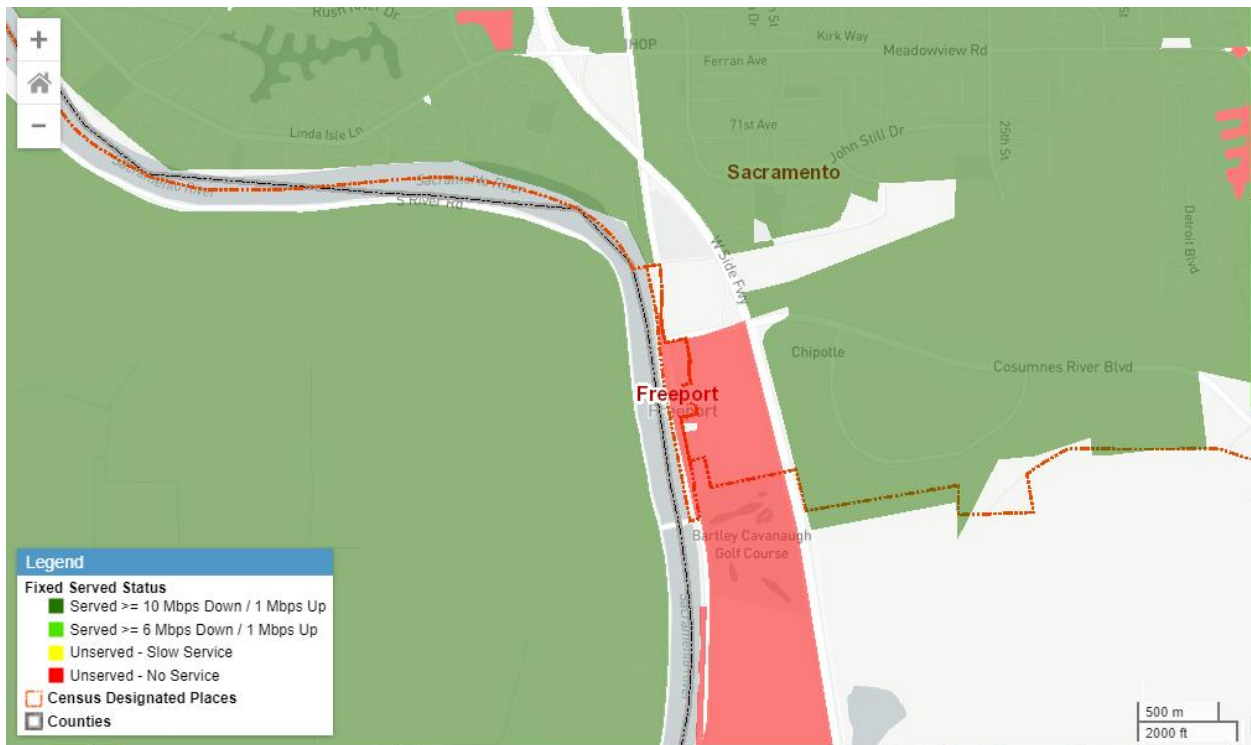


Figure 17. Aggregated fixed broadband service coverage in Freeport. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.

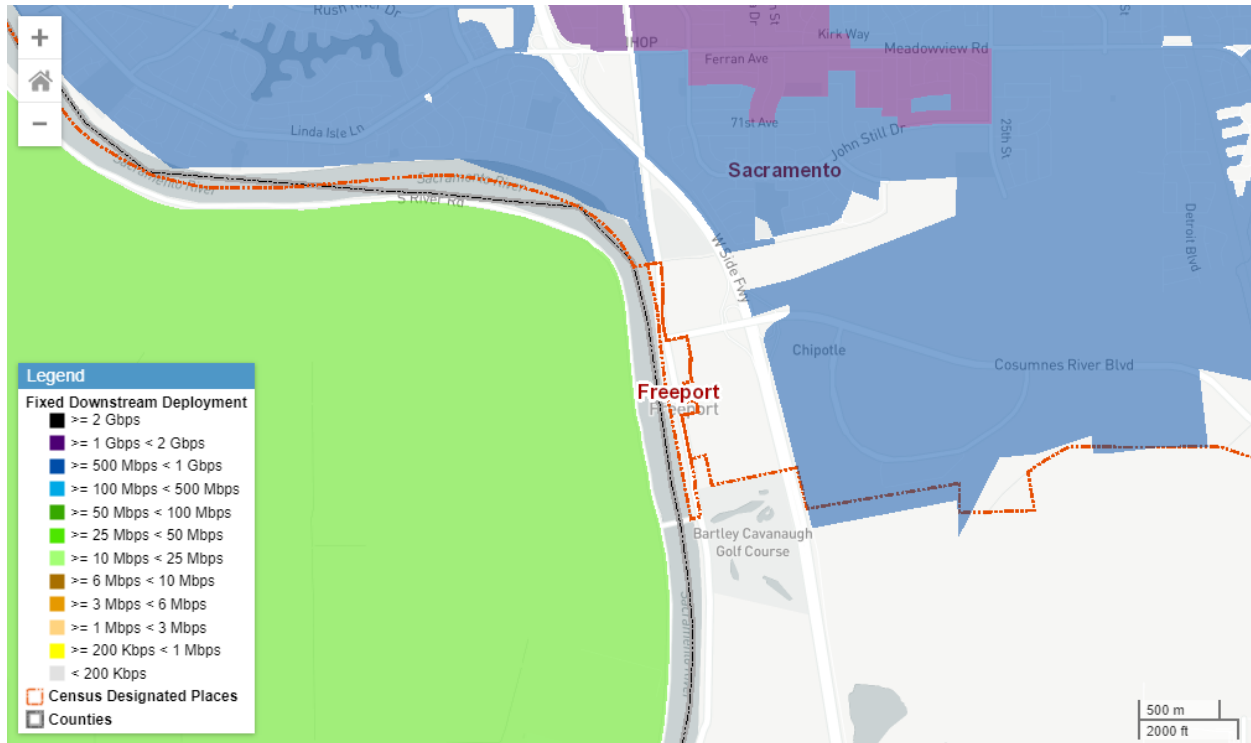


Figure 18. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in the Freeport.

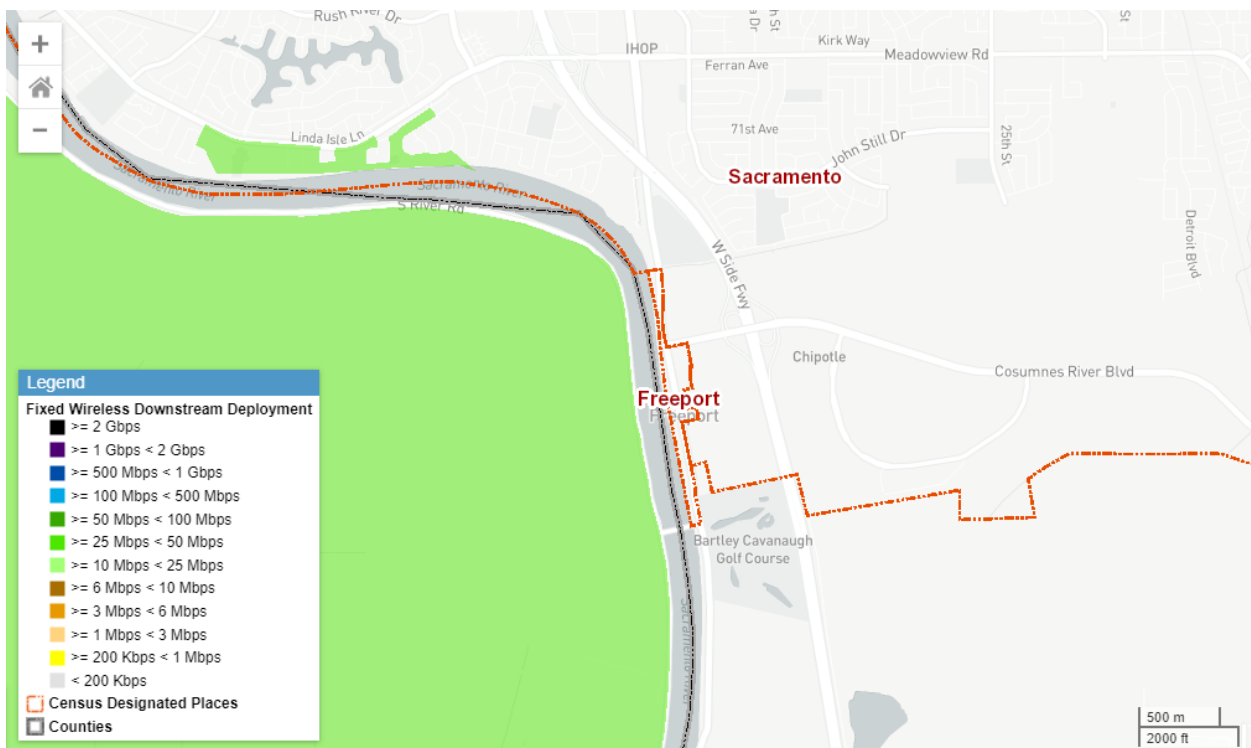


Figure 19. Downstream speeds for the fixed wireless service coverage in the Freeport.

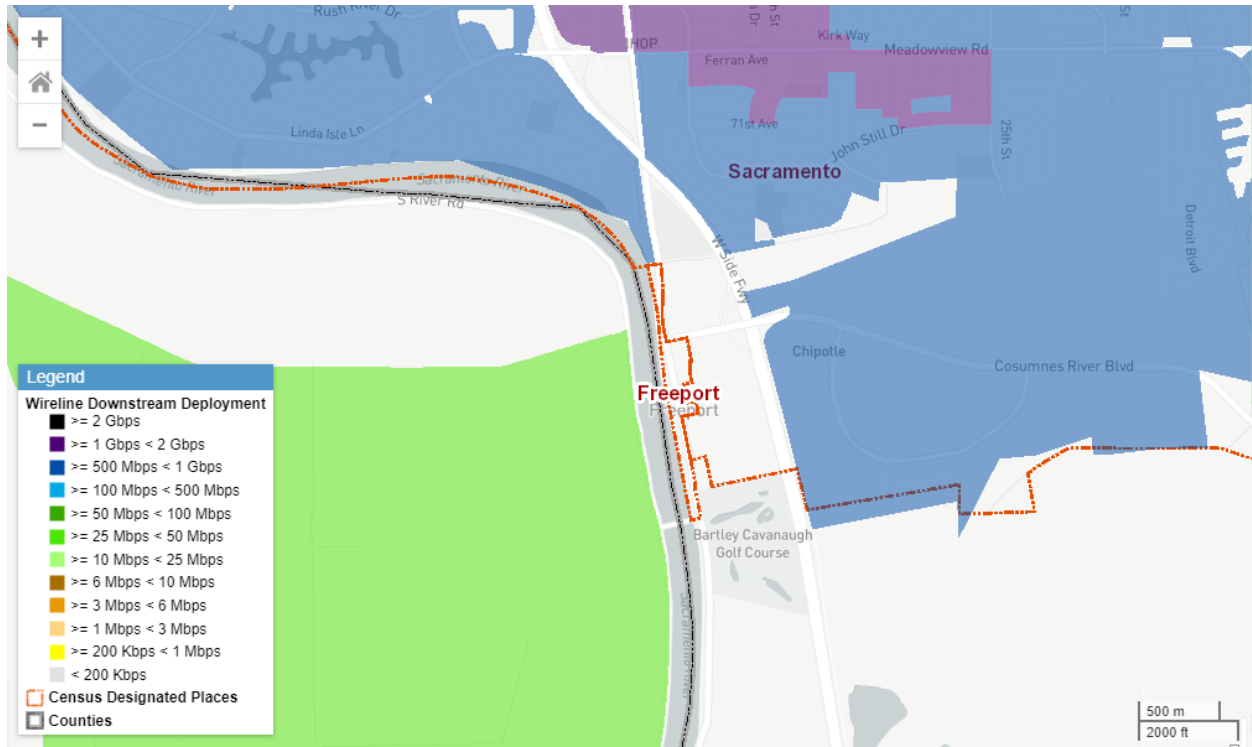


Figure 20. Downstream speeds for the wireline service coverage in Freeport.

Hood

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
California Broadband Services	Terrestrial Fixed Wireless	Residential	30 Mbps	15 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

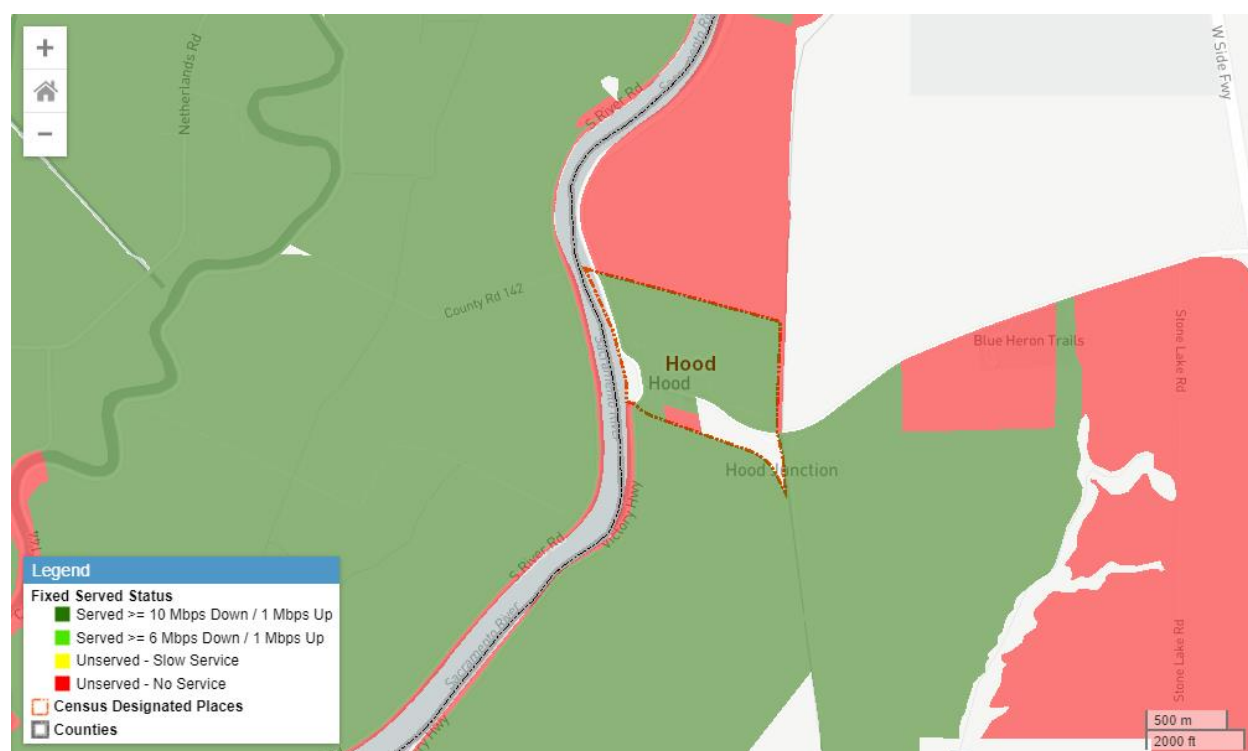


Figure 21. Aggregated fixed broadband service coverage in Hood. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.

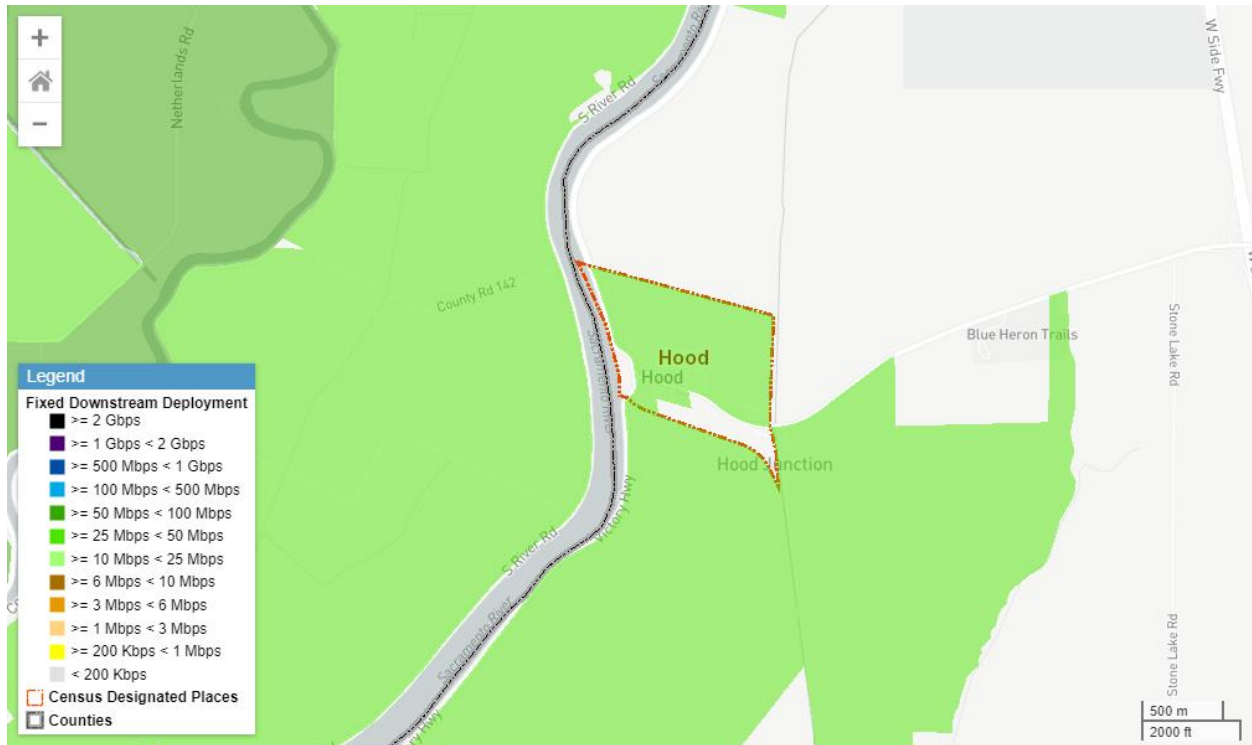


Figure 22. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Hood.

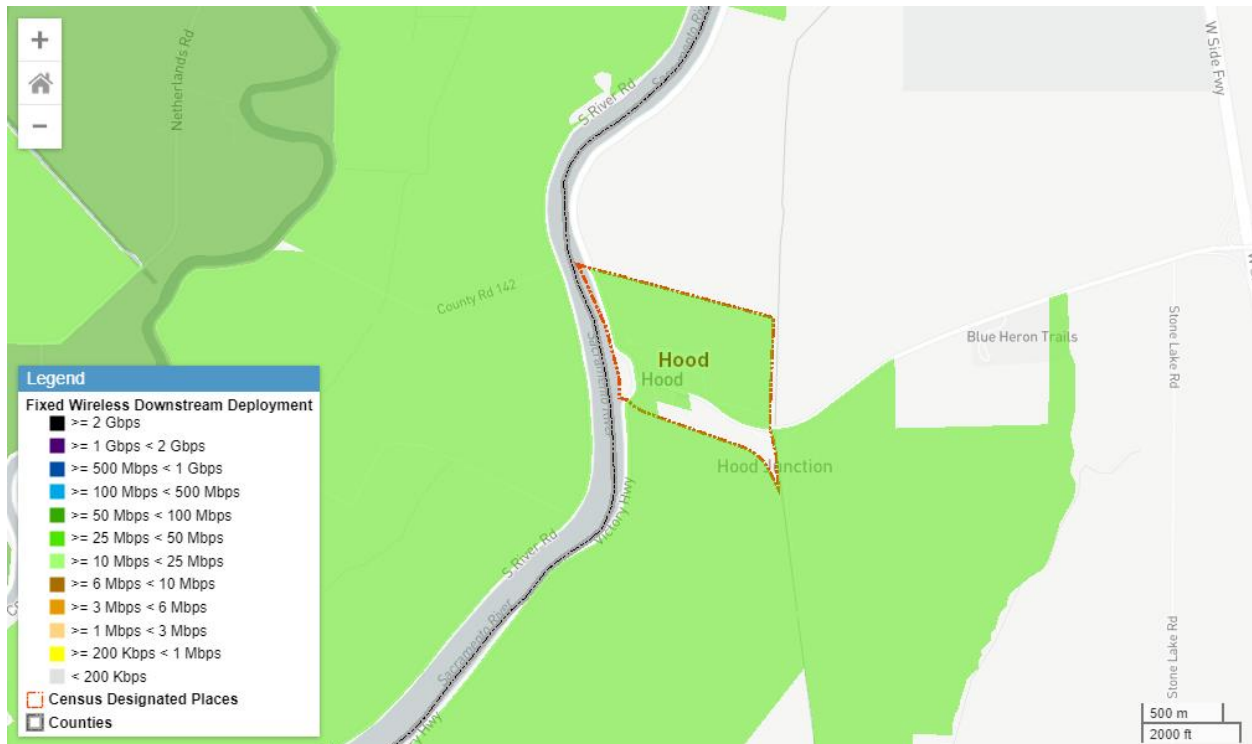


Figure 23. Downstream speeds for the fixed wireless service coverage in Hood.

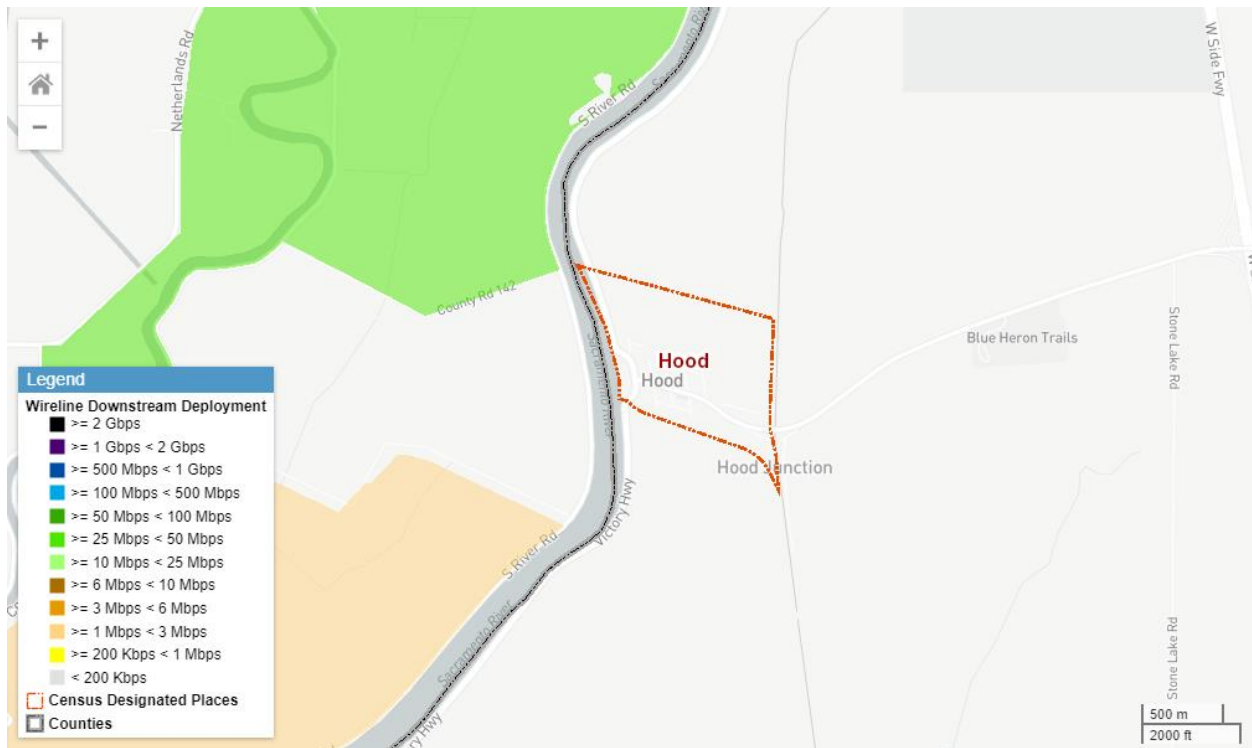


Figure 24. Downstream speeds for the wireline service coverage in Hood.

Isleton

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
Frontier Communications	Asymmetric xDSL, VDSL	Residential	6 Mbps 25 Mbps	1 Mbps 3 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis



Figure 25. Aggregated fixed broadband service coverage in Isleton. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.



Figure 26. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Isleton.

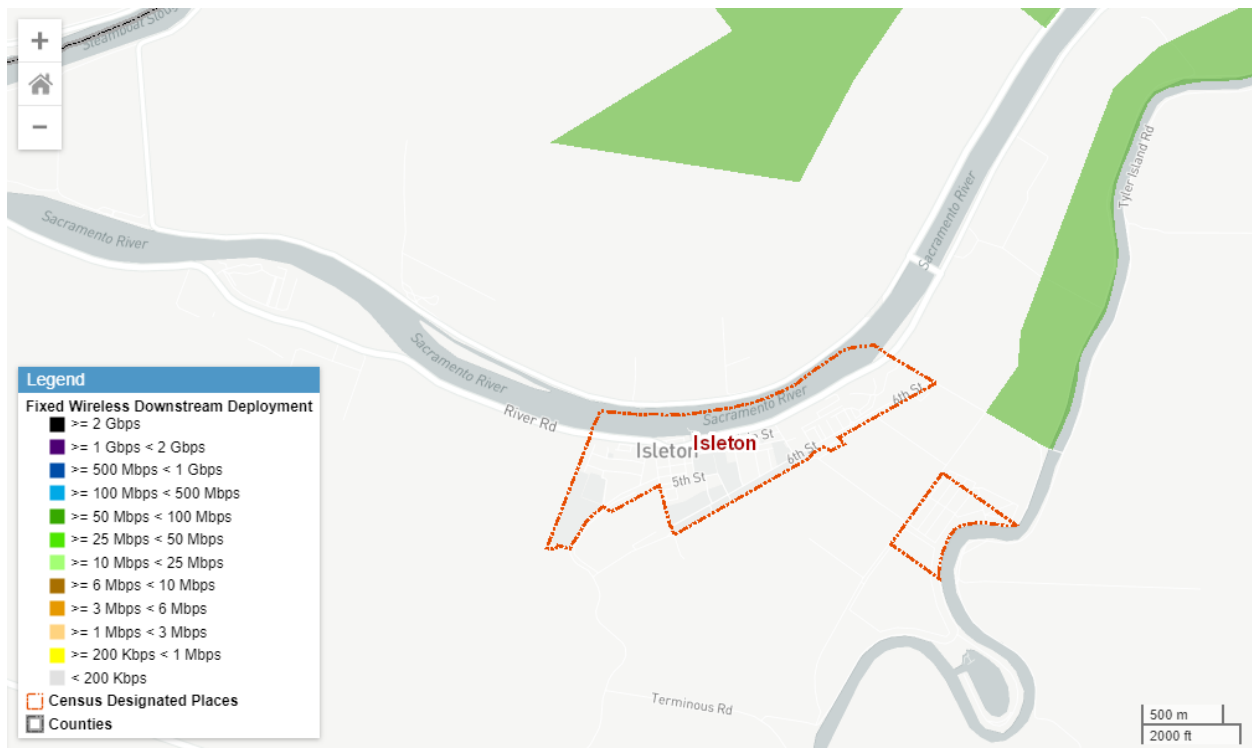


Figure 27. Downstream speeds for the fixed wireless service coverage in Isleton.



Figure 28. Downstream speeds for the wireline service coverage in Isleton.

Rio Vista

Broadband Service Provider	Technology	Service	Maximum Advertised DL Speed (Mbps)	Maximum Advertised UL Speed (Mbps)
Comcast	Cable Modem – DOCSIS 3.0 Cable Modem – DOCSIS 3.1	Residential	100 Mbps 986 Mbps	10 Mbps 35 Mbps
Frontier Communications	ADSL, ADSL2, ADSL2+ VDSL Optical Carrier/FTTX	Residential	6 Mbps 12, 25 Mbps 100 Mbps	1, 2 Mbps 3 Mbps 100 Mbps
Internet Free Planet	Terrestrial Fixed Wireless	Residential	30 Mbps	3 Mbps
Vista Broadband Networks	Terrestrial Fixed Wireless	Residential	20 Mbps	20 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

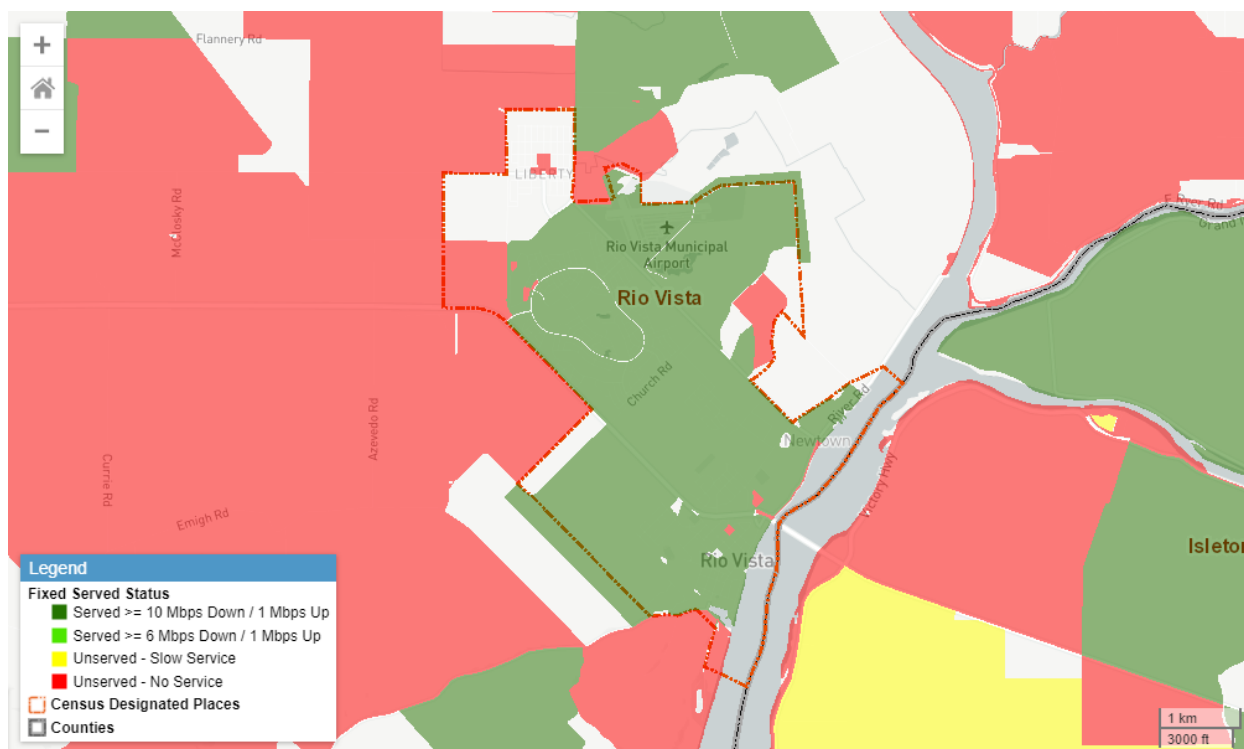


Figure 29. Aggregated fixed broadband service coverage in Rio Vista. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.



Figure 30. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Rio Vista.

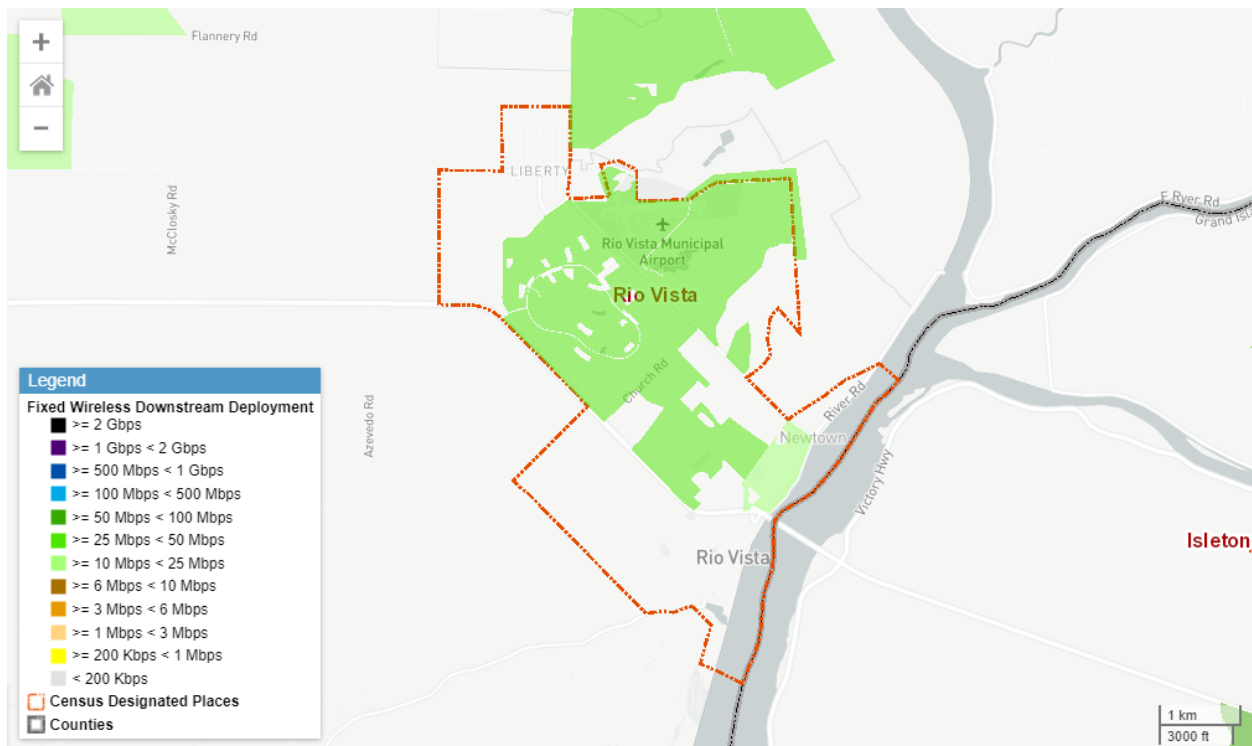


Figure 31. Downstream speeds for the fixed wireless service coverage in Rio Vista.

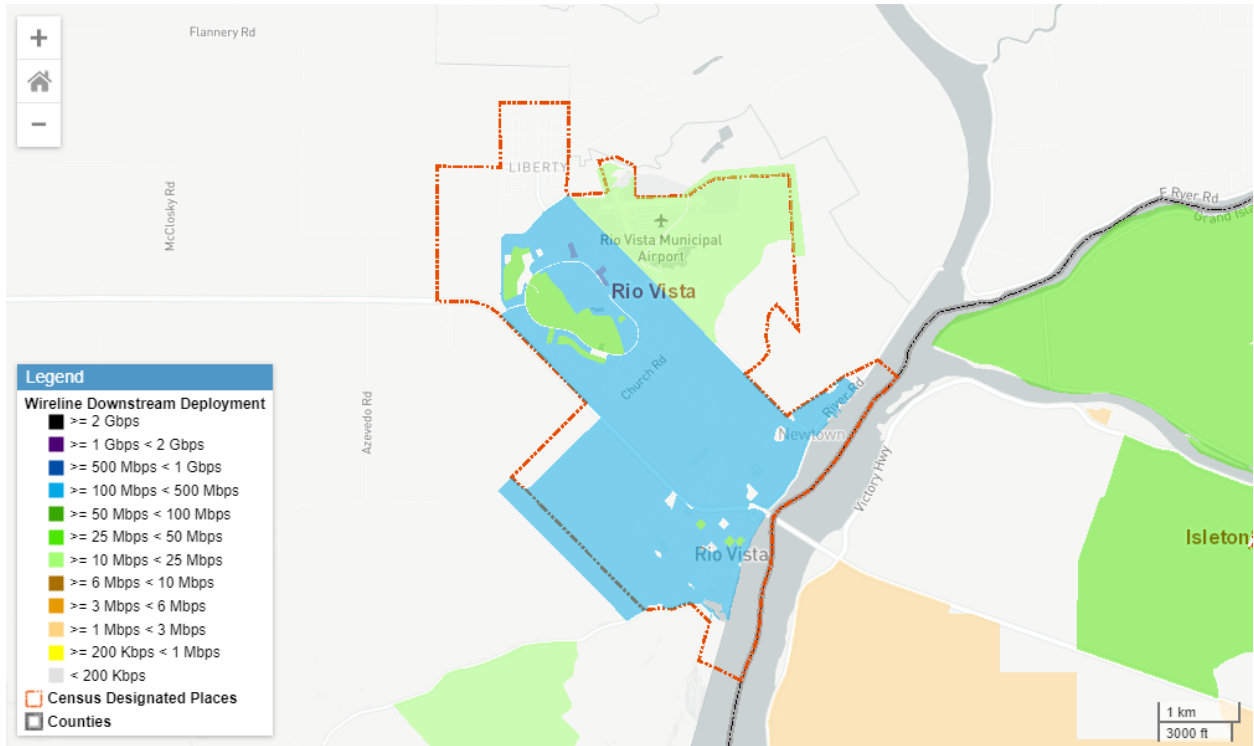


Figure 32. Downstream speeds for the wireline service coverage in Rio Vista.

Terminous

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
AT&T California	VDSL	Residential	100 Mbps	20 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

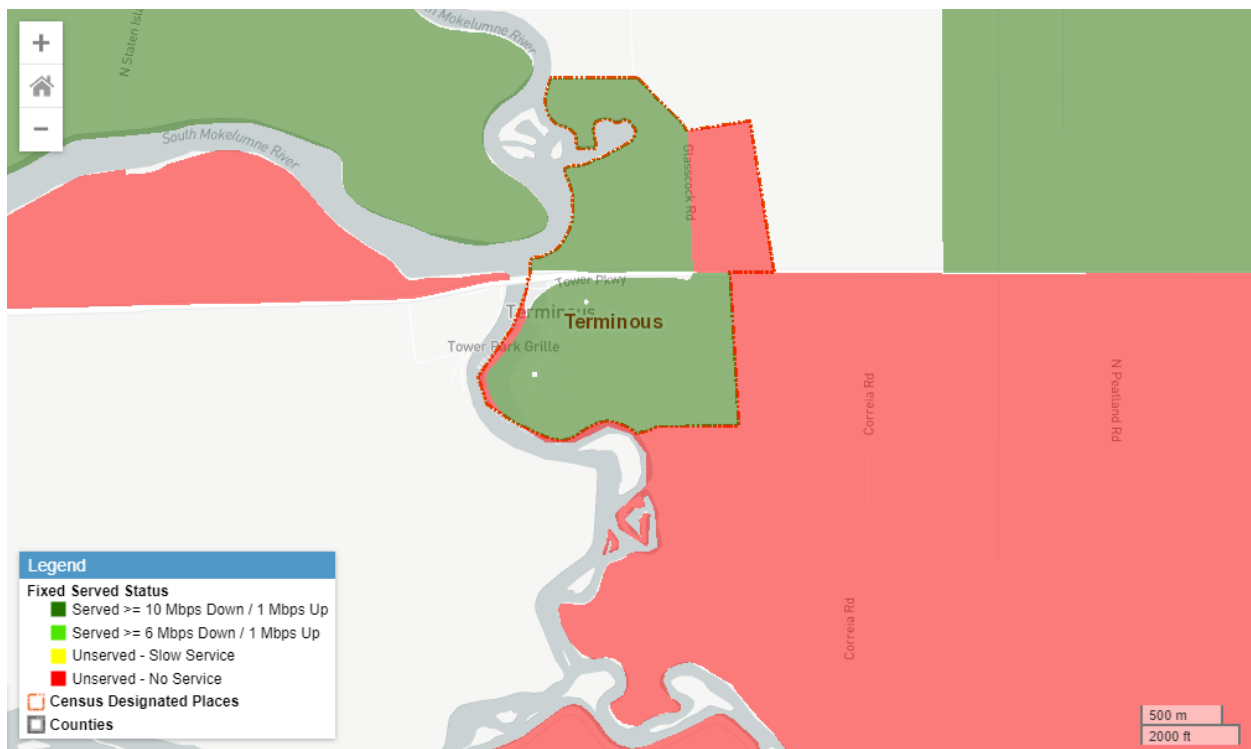


Figure 33. Aggregated fixed broadband service coverage in Terminous. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.

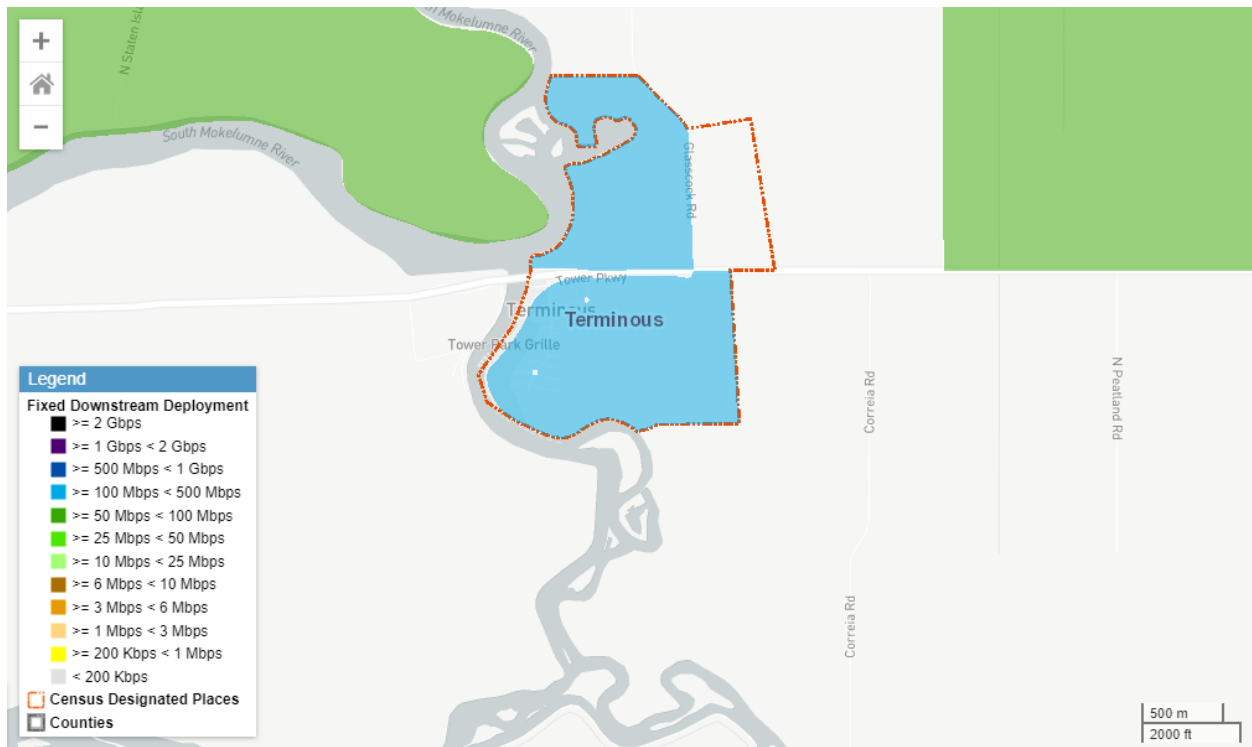


Figure 34. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Terminous.

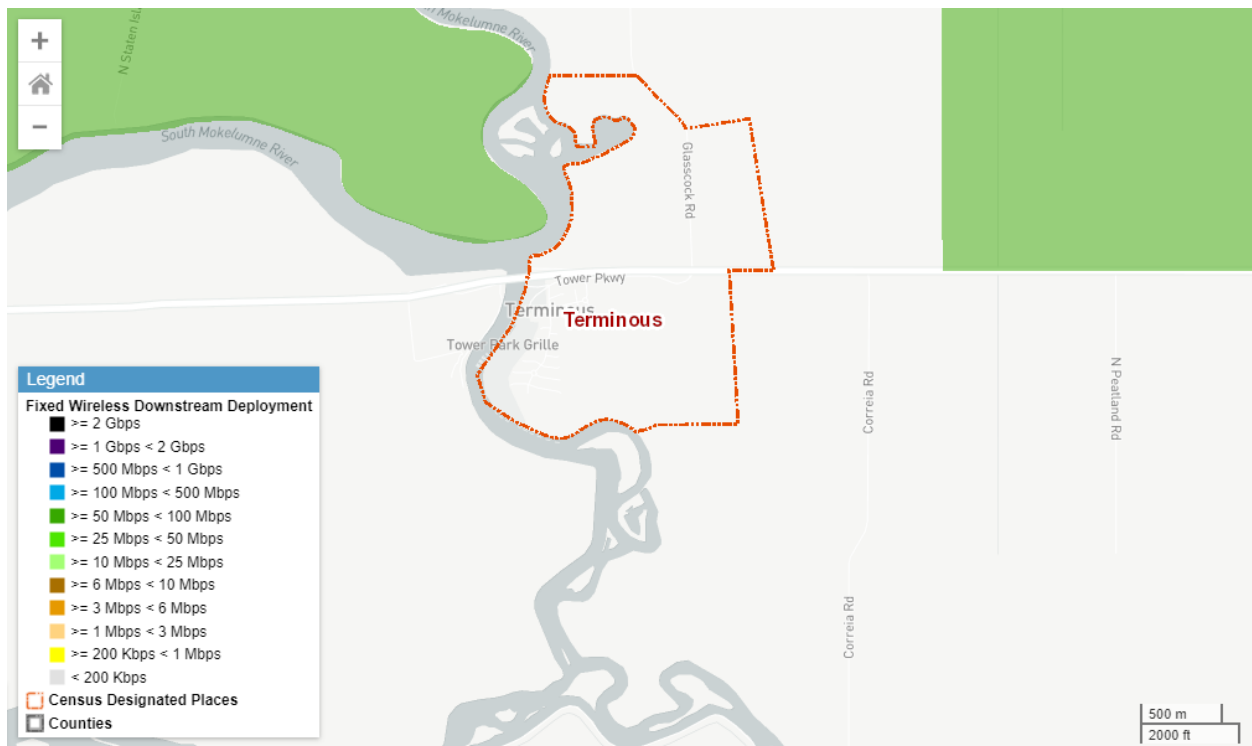


Figure 35. Downstream speeds for the fixed wireless service coverage in Terminous.

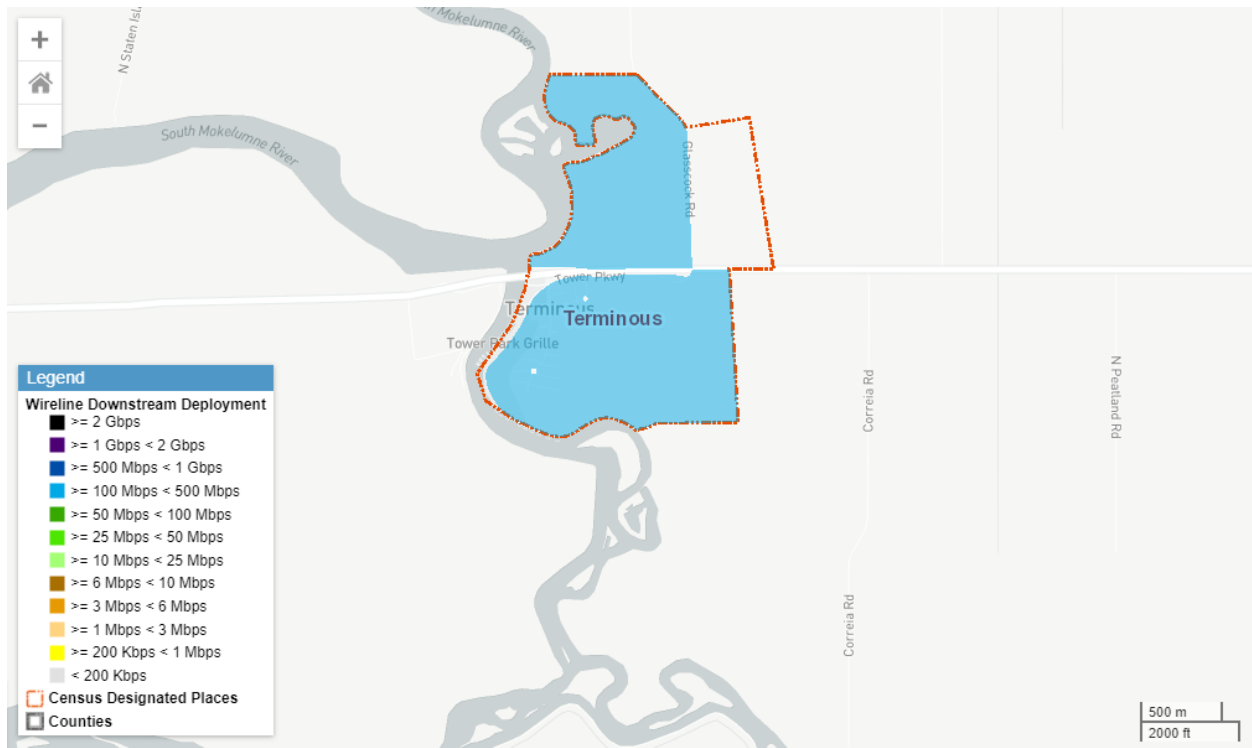


Figure 36. Downstream speeds for the wireline service coverage in Terminus.

Walnut Grove

Broadband Service Provider	Technology	Service	Maximum Advertised Download Speed (Mbps)	Maximum Advertised Upload Speed (Mbps)
Frontier Communications	Asymmetric xDSL, VDSL	Residential	6 Mbps 25 Mbps	1 Mbps 3 Mbps
DigitalPath	Terrestrial Fixed Wireless	Residential	50 Mbps	10 Mbps
Softcom Internet Communications, Inc.	Terrestrial Fixed Wireless	Residential	50 Mbps	20 Mbps
Vista Broadband Networks, Inc.	Terrestrial Fixed Wireless	Residential	20 Mbps	20 Mbps

Table and maps are based on 2019 CPUC Broadband Availability Data which are reported by ISPs on an annual basis

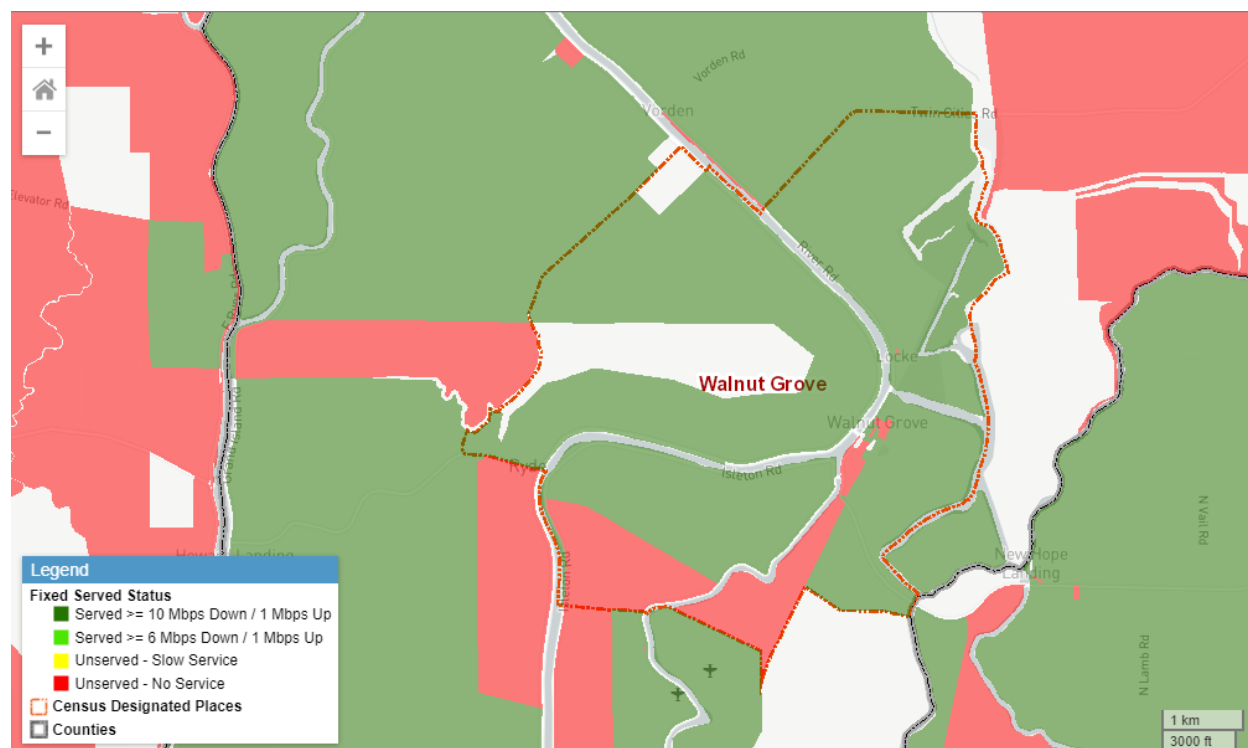


Figure 37. Aggregated fixed broadband service coverage in Walnut Grove. Fixed broadband include both wireline and fixed wireless technologies. Green areas show coverage at or above the California broadband standard (6Mbps downstream and 1Mbps upstream) and darker green areas show coverage at or above 10Mbps downstream and 1Mbps upstream. Green and darker green areas might overlap as might be served at both speeds. Yellow areas show coverage at speeds below the California standard, and red areas show no internet service available.



Figure 38. Downstream speeds for the aggregated fixed broadband (both wireline and fixed wireless) service coverage in Walnut Grove.

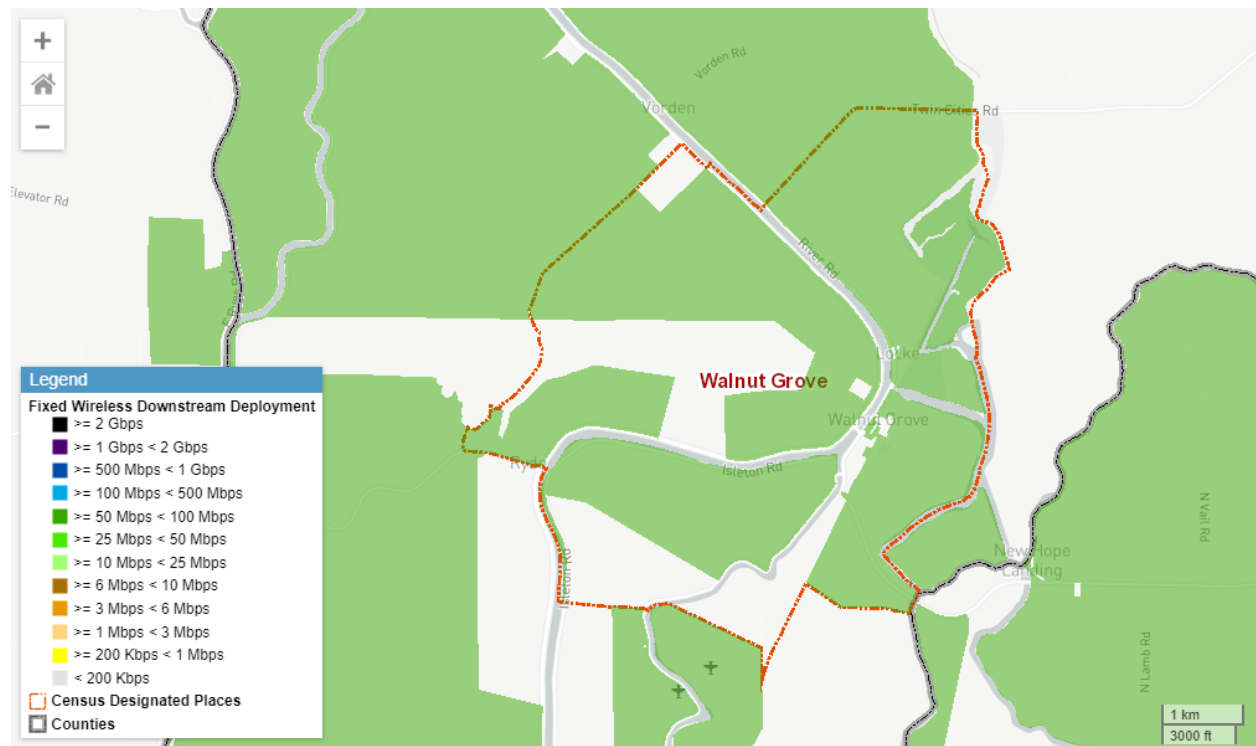


Figure 39. Downstream speeds for the fixed wireless service coverage in Walnut Grove.

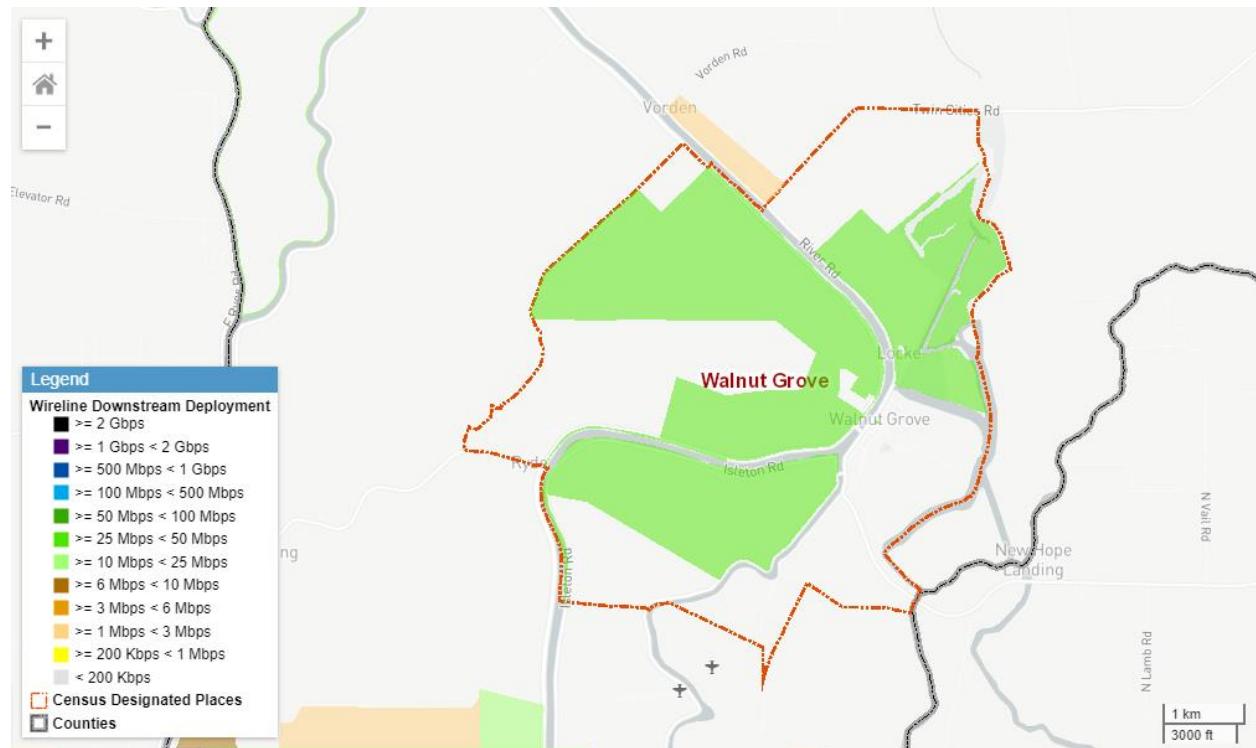


Figure 40. Downstream speeds for the wireline service coverage in Walnut Grove.