APRIL 6, 2022

Overview of Last-Mile Broadband Infrastructure Project Administration and Funding

PRESENTED TO: Assembly Committee on Communications and Conveyance
Hon. Sharon Quirk-Silva, Chair

LEGISLATIVE ANALYST'S OFFICE

Order of Presentation

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Overview of 2021-22 Multiyear Broadband Infrastructure Agreement

▶ In 2021, the Administration and Legislature Reached a Three-Year, Multibillion Dollar Broadband Infrastructure Agreement

- In July 2021, the administration and the Legislature agreed to spend $6 billion total funds over three fiscal years (starting in 2021-22) on broadband infrastructure. Of the $6 billion, $4.3 billion comes from federal American Rescue Plan (ARP) fiscal relief funds and $1.7 billion from the General Fund. (The use of ARP fiscal relief funds comes with extensive reporting requirements to the federal government; there also are dates by which these funds must be allocated and then liquidated. The figure below provides the details of the three-year spending plan for the agreement.)

2021-22 Broadband Infrastructure Three-Year Spending Plan[a]

(In Millions)

	2021-22					All Fiscal Years		
Project or Program	**Total Funds**	**General Fund**	**Federal Funds**	**2022-23 Total Funds[b]**	**2023-24 Total Funds[b]**	**Total Funds**	**General Fund**	**Federal Funds**
Middle-mile network	$3,250	—	$3,250[c]	—	—	$3,250	—	$3,250
Last-mile projects	1,072	—	1,072[d]	$125	$803	2,000	$928	1,072
Broadband Loan Loss Reserve Account	50	$50	—	125	575	750	750	—
Totals	**$4,372**	**$50**	**$4,322**	**$250**	**$1,378**	**$6,000**	**$1,678**	**$4,322**

[a] This spending plan is pursuant to the 2021-22 budget agreement between the administration and the Legislature.

[b] All funding in 2022-23 and 2023-24 is General Fund.

[c] The $3.250 billion in federal funds for the middle-mile network in 2021-22 is appropriated to the California Department of Technology out of the state's American Rescue Plan (ARP) fiscal relief allocation.

[d] Of the $1.072 billion in federal funds for last-mile projects in 2021-22, $550 million is the state's allocation from the ARP's Coronavirus Capital Projects Fund and $522 million is some of the state's ARP fiscal relief allocation.

Overview of 2021-22 Multiyear Broadband Infrastructure Agreement

(Continued)

▶ Three Broadband Infrastructure Programs/Projects Funded by the Spending Plan

- The spending plan funds three broadband infrastructure programs/projects:
  - ***$3.25 Billion for the Statewide Open-Access Middle-Mile Network.*** The spending plan provides $3.25 billion from the state's ARP fiscal relief allocation in 2021-22 to the California Department of Technology to implement (in coordination with other entities) the middle-mile network.
  - ***$2 Billion for Last-Mile Projects.*** The spending plan allocates $2 billion ($1.072 billion federal funds, $928 million General Fund) to the California Public Utilities Commission (CPUC) to offer last-mile broadband infrastructure project grants through the CPUC's California Advanced Services Fund (CASF) program. The remainder of the handout will focus on these broadband infrastructure projects.
  - ***$750 Million for Broadband Loan Loss Reserve Fund.*** The spending plan allocates $750 million (General Fund) for a new Broadband Loan Loss Reserve Fund within CPUC's CASF program.

Chapter 112 of 2021 (SB 156, Committee on Budget and Fiscal Review) Implements the Broadband Infrastructure Agreement

- In July 2021, the Legislature also passed (and the Governor signed) SB 156 to implement the broadband infrastructure agreement. An overview of state law changes related to the implementation of last-mile broadband infrastructure projects is provided on pages 9 and 10.

Last-Mile Broadband Infrastructure

Broadband Infrastructure Has Various Components

- High-speed Internet often is provided to communities and households using broadband infrastructure. Broadband infrastructure can be categorized into three groups based on distance covered, from longest to shortest distance:
  - ***Backbone or Long-Haul.*** Often consisting of high-capacity fiber-optic cables laid over hundreds or thousands of miles to connect countries, states, and/or regions.
  - ***Middle-Mile.*** Often consisting of fiber-optic cables laid over tens or hundreds of miles that, once connected to by an Internet service provider, can help deliver local high-speed Internet service.
  - ***Last-Mile.*** Often consisting of antennae, cables, poles, wires, and other components that help connect middle-mile infrastructure to individual communities and households.

CASF: Historical Accounts and Funding

CPUC authorized the CASF program in December 2007 and the Legislature codified it (and Governor signed it into law) in September 2008. The CASF program supports projects that provide broadband services to unserved and underserved areas of the state through a number of program accounts.

CASF Funds Broadband-Related Grants Through Five Accounts

- ***Broadband Infrastructure Grant Account.*** This account provides the largest amount of grant funding for last-mile broadband infrastructure projects at this time. Telecommunications companies are the primary recipients of these grant funds, though other entities (such as local governmental agencies) are eligible in some cases. Pages 7 and 8 provide a breakdown by county of the awards and payments from this account since it was formally established in 2008.
- ***Broadband Adoption Account.*** This account provides grants to local governments, organizations, and schools to increase access to publicly available broadband and digital literacy programs.
- ***Broadband Public Housing Account.*** This account provides both grants and loans to publicly subsidized multifamily housing developments to finance broadband adoption and infrastructure projects.
- ***Rural and Urban Regional Broadband Consortia Grant Account.*** This account funds grants that assist eligible consortium grant applicants (that is, representatives from various organizations organized by geography and/or region) with planning of broadband infrastructure projects and completion of the grant application process.
- ***Line Extension Pilot Program.*** This pilot project (technically within the Broadband Infrastructure Grant Account) provides grants to individual household and/or property owners to offset the costs of connecting their household and/or properties to existing or proposed broadband providers.

CASF: Historical Accounts and Funding

(Continued)

CASF Funded by Revenues Collected by Telecommunications Companies

- ***Surcharge Assessed on Revenues Collected by Telecommunications Companies From End-Users of Particular Services.*** Each of the CASF accounts described above are funded by a surcharge rate on revenues that are collected by telecommunications companies from end-users of intrastate telecommunications services. Historically, the amount of surcharge monies collected have been capped at an aggregate amount over time, but recent legislative changes (which we briefly describe later in the handout) now cap it at a certain amount on an annual basis.

CASF: Broadband Infrastructure Grant Account Awards and Payments

Broadband Infrastructure Grant Account Awards and Payments (Since 2008 Inception)

County	Awards	Amount Awarded	Amount Paid
Alameda	—	—	—
Alpine	1	$95,919	—
Amador	—	—	—
Butte	—	—	—
Calaveras	1	640,698	$527,676
Colusa	2	12,168,756	—
Contra Costa	—	—	—
Del Norte	3	1,994,074	—
El Dorado	2	2,495,074	1,154,907
Fresno	7	4,832,662	3,957,453
Glenn	—	—	—
Humboldt	4	29,567,633	4,704,446
Imperial	2	3,326,534	2,285,393
Inyo	—	—	—
Kern	7	25,593,454	16,002,618
Kings	—	—	—
Lake	—	—	—
Lassen	2	14,682,683	1,274,839
Los Angeles	3	1,294,871	859
Madera	1	1,755,042	—
Marin	2	3,359,959	1,491,078
Mariposa	1	35,816	24,963
Mendocino	5	7,353,640	256,347
Merced	1	62,000	39,555
Modoc	—	—	—
Mono	3	14,355,090	12,602,998
Monterey	1	177,954	177,954
Napa	—	—	—
Nevada	3	24,273,081	14,540,691
Orange	2	1,644,466	—
Placer	3	1,777,425	273,606
Plumas	7	13,084,537	3,147,815
Riverside	4	5,634,280	4,458,520
Sacramento	—	—	—
San Benito	2	940,664	180,277
San Bernardino	9	45,656,033	40,539,014
San Diego	1	93,896	43,985
San Francisco	—	—	—
San Joaquin	1	137,416	45,541
San Luis Obispo	—	—	—

(Continued)

CASF: Broadband Infrastructure Grant Account Awards and Payments

(Continued)

County	Awards	Amount Awarded	Amount Paid
San Mateo	—	—	—
Santa Barbara	—	—	—
Santa Clara	1	1,076,062	968,456
Santa Cruz	1	2,445,153	—
Shasta	2	2,842,357	1,431,209
Sierra	—	—	—
Siskiyou	—	—	—
Solano	2	3,702,681	3,665,235
Sonoma	1	100,444	99,130
Stanislaus	1	7,687,016	7,687,016
Sutter	—	—	—
Tehama	—	—	—
Trinity	—	—	—
Tulare	—	—	—
Tuolumne	—	—	—
Ventura	3	3,170,701	—
Yolo	—	—	—
Yuba	—	—	—
Multiple counties[a]	17	109,987,080	51,232,560
Statewide	**108**	**348,045,151**	**172,814,141**

a These awards were made for broadband infrastructure projects that span multiple counties. The allocations to each county from these awards is not reflected in the table, but the following counties (listed in alphabetical order) were identified as having received at least some funds: Alpine, Amador, Calaveras, Colusa, Humboldt, Kern, Lassen, Los Angeles, Mariposa, Modoc, Nevada, Placer, Plumas, San Bernardino, Santa Barbara, Sierra, Sutter, Trinity, Tuolumne, and Yolo.

Recent Legislation Impacting Implementation of Last-Mile Projects

SB 156 Adds to and Changes State Law to Allocate New Funding and Support Additional Last-Mile Projects

- ***Establishes New CASF Federal Funding Account.*** Senate Bill 156 creates a new Federal Funding Account to receive $2 billion ($1.072 billion ARP fiscal relief funds, $928 million General Fund) over three fiscal years, starting in 2021-22, to fund grants for last-mile broadband infrastructure projects. Senate Bill 156 requires funding be allocated as follows:
  - Allocate $1 billion to urban counties, with each urban county receiving a first allocation of $5 million. Remaining funds will be allocated to urban counties based on their proportionate share of California households (within the group of urban counties) without broadband Internet access at a speed of at least 100 Megabits per second (Mbps) downstream.
  - Allocate *at least* $1 billion to rural counties, with each rural county receiving a first allocation of $5 million. Remaining funds will be allocated to rural counties based on their proportionate share of California households (within the group of rural counties) without broadband Internet access at a speed of at least 100 Mbps downstream.
- ***Sets Federal Funding Account Applicant Encumbrance Deadline of June 30, 2023.*** Any allocated funding that is not encumbered by applicants will be made available for CPUC to allocate for last-mile project grants anywhere in the state.

Recent Legislation Impacting Implementation of Last-Mile Projects

(Continued)

- ***Changes CASF Infrastructure Account Program Definitions and Requirements.*** Major program changes include, but are not limited to:
  - A new definition of unserved area; that is, an area that does not offer at least one tier of service at 25 Mbps downstream and 3 Mbps upstream with sufficient low latency to allow real-time interactive applications (such as video conferencing).
  - A new speed requirement for projects to qualify; that is, 100 Mbps downstream and at least 20 Mbps upstream, or the most current broadband benchmark speed set by the Federal Communications Commission (FCC).
  - Serviceable locations (which are more granular), as opposed to census designated blocks, as the basis for CASF program methodologies.

Other Significant Legislation With Impacts on Last-Mile Project Administration and Funding

- ***Chapter 671 of 2021 (SB 4, Gonzalez).*** Senate Bill 4 directs the Governor's Office of Business and Economic Development to explore streamlining of the permitting and approval processes required to construct broadband infrastructure projects. The bill also authorizes CPUC to collect more surcharge monies—from a maximum of $330 million while the program is authorized in statute to up to $150 million *each year.*
- ***Chapter 658 of 2021 (AB 14, Aguiar-Curry).*** Assembly Bill 14 extends CPUC's authorization to impose the surcharge that funds existing CASF accounts from the end of calendar year 2022 to the end of calendar year 2032.

CASF: Federal Funding Account Rulemaking Proceeding

CPUC uses rulemaking proceedings to establish policies and procedures for, in this case, the broadband programs and services under its jurisdiction.

CASF Accounts Are Subject to CPUC Rulemaking Proceedings

- ***Two Significant Rulemaking Proceedings Are Currently Underway.*** Rulemaking proceedings 20-08-021 and 20-09-001 relate to the administration and the Legislature's broadband infrastructure agreement.
  - ***Rulemaking 20-08-021—Order Instituting Rulemaking Regarding Revisions to the CASF.*** This rulemaking proceeding modifies CASF account rules pursuant to changes made by, for example, SB 156 and works on new policies and procedures for the Broadband Loan Loss Reserve Fund.
  - ***Rulemaking 20-09-001—Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment.*** This rulemaking proceeding works on new policies and procedures for the CASF Federal Funding Account, including the allocation of the $2 billion between rural and urban counties.
    - ***Proposed Decision Identifies Rural and Urban Counties.*** CPUC issued a proposed decision on March 2, 2022 that would allocate Federal Funding Account funds between 27 counties identified as "rural counties" and 31 counties identified as "urban counties." Stakeholders proposed various methodologies for deciding which counties are rural or urban, but all of them agreed on designations for 41 of the 58 counties. Designations for 11 of the remaining counties reached near consensus, while CPUC agreed to 6 counties being designated rural because their unserved households reside primarily in rural areas of their counties.

CASF: Federal Funding Account Rulemaking Proceeding

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- ***Proposed Decision Provides for a Higher Cost Per Household in Rural Counties.*** While CPUC does estimate there are more unserved and underserved households in the urban counties, CPUC also anticipates there are higher costs per household in the rural counties. We provide relevant data on unserved and underserved households over the next several pages of the handout. (These data, however, do not exactly match the data in the proposed decision because of data sources and timing.)

Unserved and Underserved Households: Definitions

- ***Unserved Household Definition.*** Unserved households can be defined as areas that do not offer at least one tier of service at 25 Mbps downstream and 3 Mbps upstream with sufficient low latency to allow real-time interactive applications (such as video conferencing). This definition is consistent with the current federal definition of broadband Internet service set by the FCC. We use this definition together with CPUC data to provide a list of unserved households by county on the next two pages of the handout.
- ***Underserved Household Definition.*** Definitions for underserved households vary, but the definition we use for this handout is households that do not have access to service at 100 Mbps downstream and at least 20 Mbps upstream. This definition is consistent with guidance from the U.S. Department of the Treasury on the use of ARP fiscal relief funds for broadband infrastructure projects. We use this definition together with CPUC data to provide a list of underserved households by county on pages 16 and 17 of the handout.

Unserved Households: Numbers and Percentages by County

Unserved Households by County as of December 31, 2020[a]

County	Total Households[b]	Unserved Households[c]	Percent Unserved
Alameda	585,588	8,940	2%
Alpine	481	357	74
Amador	15,448	1,717	11
Butte	79,384	4,007	5
Calaveras	18,518	1,668	9
Colusa	7,569	952	13
Contra Costa	398,387	11,309	3
Del Norte	10,061	701	7
El Dorado	76,578	4,716	6
Fresno	315,997	9,210	3
Glenn	10,501	751	7
Humboldt	57,263	3,351	6
Imperial	51,004	4,977	10
Inyo	8,125	780	10
Kern	276,769	9,791	4
Kings	44,860	2,123	5
Lake	26,266	2,567	10
Lassen	9,410	1,734	18
Los Angeles	3,382,896	47,301	1
Madera	46,537	1,774	4
Marin	105,395	3,055	3
Mariposa	8,126	1,776	22
Mendocino	35,567	3,886	11
Merced	82,951	4,220	5
Modoc	3,877	2,542	66
Mono	5,558	668	12
Monterey	127,268	6,923	5
Napa	48,684	2,514	5
Nevada	42,895	2,455	6
Orange	1,058,090	32,210	3
Placer	151,405	3,416	2
Plumas	8,819	713	8
Riverside	751,584	18,344	2
Sacramento	552,252	13,385	2
San Benito	19,487	754	4
San Bernardino	649,259	20,546	3
San Diego	1,160,772	23,158	2
San Francisco	376,352	1,298	>1
San Joaquin	238,577	5,711	2
San Luis Obispo	109,471	2,072	2

(Continued)

Unserved Households: Numbers and Percentages by County

(Continued)

County	Total Households[b]	Unserved Households[c]	Percent Unserved
San Mateo	266,650	4,137	2
Santa Barbara	152,067	8,603	6
Santa Clara	648,665	18,618	3
Santa Cruz	97,667	3,460	4
Shasta	71,219	4,967	7
Sierra	1,479	571	39
Siskiyou	19,738	4,694	24
Solano	152,877	4,081	3
Sonoma	189,316	7,454	4
Stanislaus	173,311	3,138	2
Sutter	32,303	968	3
Tehama	24,904	2,936	12
Trinity	6,174	3,340	54
Tulare	142,580	6,426	5
Tuolumne	22,458	1,499	7
Ventura	276,493	6,109	2
Yolo	76,555	2,672	3
Yuba	27,185	1,449	5
Statewide	**13,339,672**	**353,494**	**3%**

[a] Unserved households is defined as households without access to broadband Internet service at the benchmark speed of 25 Mbps downstream and 3 Mbps upstream.

[b] Number of households based on Department of Finance data from January 1, 2021.

[c] Number of unserved households based on ISP data validated by CPUC.

Mbps = Megabits per second; ISP = Internet service provider; and CPUC = California Public Utilities Commission.

Underserved Households: Numbers and Percentages by County

Underserved Households by County as of December 31, 2020[a]

County	Total Households[b]	Underserved Households[c]	Percent Underserved
Alameda	585,588	13,872	2%
Alpine	481	442	92
Amador	15,448	11,835	77
Butte	79,384	10,740	14
Calaveras	18,518	14,708	79
Colusa	7,569	4,700	62
Contra Costa	398,387	14,035	4
Del Norte	10,061	923	9
El Dorado	76,578	18,916	25
Fresno	315,997	33,255	11
Glenn	10,501	3,698	35
Humboldt	57,263	9,399	16
Imperial	51,004	5,378	11
Inyo	8,125	7,326	90
Kern	276,769	13,699	5
Kings	44,860	5,356	12
Lake	26,266	3,423	13
Lassen	9,410	3,454	37
Los Angeles	3,382,896	54,392	2
Madera	46,537	16,705	36
Marin	105,395	5,207	5
Mariposa	8,126	6,686	82
Mendocino	35,567	31,970	90
Merced	82,951	13,303	16
Modoc	3,877	3,873	100
Mono	5,558	825	15
Monterey	127,268	9,044	7
Napa	48,684	3,690	8
Nevada	42,895	15,929	37
Orange	1,058,090	34,925	3
Placer	151,405	17,768	12
Plumas	8,819	5,375	61
Riverside	751,584	31,184	4
Sacramento	552,252	23,632	4
San Benito	19,487	809	4
San Bernardino	649,259	27,449	4
San Diego	1,160,772	28,840	2
San Francisco	376,352	3,734	1
San Joaquin	238,577	17,920	8
San Luis Obispo	109,471	10,192	9

(Continued)

Underserved Households: Numbers and Percentages by County

(Continued)

County	Total Households[b]	Underserved Households[c]	Percent Underserved
San Mateo	266,650	6,284	2
Santa Barbara	152,067	10,715	7
Santa Clara	648,665	25,805	4
Santa Cruz	97,667	31,277	32
Shasta	71,219	17,336	24
Sierra	1,479	1,187	80
Siskiyou	19,738	16,836	85
Solano	152,877	6,617	4
Sonoma	189,316	10,874	6
Stanislaus	173,311	12,848	7
Sutter	32,303	3,408	11
Tehama	24,904	12,536	50
Trinity	6,174	6,132	99
Tulare	142,580	22,306	16
Tuolumne	22,458	1,715	8
Ventura	276,493	6,719	2
Yolo	76,555	5,742	8
Yuba	27,185	6,439	24
Statewide	**13,339,672**	**743,387**	**6%**

[a] Underserved households is defined as households without access to broadband Internet service at the target benchmark speed of 100 Mbps downstream and at least 20 Mbps upstream.

[b] Number of households based on Department of Finance data from January 1, 2021.

[c] Number of underserved households based on ISP data validated by CPUC.

Mbps = Megabits per second; ISP = Internet service provider; and CPUC = California Public Utilities Commission.

Issues for Legislative Consideration

Based on the data and information in this handout, we provide some issues for legislative consideration on last-mile broadband infrastructure project administration and funding.

- ***Use of Additional Funding From the Federal Infrastructure Investment and Jobs Act.*** The recent federal Infrastructure Investment and Jobs Act includes $65 billion for broadband infrastructure programs and projects. Nearly two-thirds of the funding ($42.45 billion) is for grants to fund broadband infrastructure projects in states and territories. Each state and territory will receive a minimum allocation of $100 million. The remaining funding will be allocated to states and territories based on a formula under development that considers, at a minimum, the number of unserved locations (as identified by the FCC) and "high-cost" locations in the state. How the Legislature appropriates and directs the use of this additional federal funding, together with its current investments in broadband infrastructure, will be important over the next several months.
- ***Evaluation of Federal Funding Account Grants to Ensure Households Connect to New Infrastructure.*** Some grants made through existing CASF program accounts are evaluated to determine whether the estimated number of households served included in the grant application tracks the actual number of households that subscribed. Due to the large number of last-mile project grants likely to be made through the CASF Federal Funding Account, the Legislature might want to consider how to evaluate these grants to monitor whether unserved and underserved households subscribe to broadband Internet service once new broadband infrastructure is available.
- ***Equitable Distribution of Grant Funding.*** Some research suggests communities of color, low-income households and individuals, and rural areas were less able than others to access Internet service before and during the COVID-19 public health emergency than others. Since the current distribution of grant funding focuses on rural and urban counties, the Legislature might consider whether other criteria should be considered to achieve more equitable distribution of funding in these communities and households.

Issues for Legislative Consideration

(Continued)

- ***Changes in Reporting Requirements as State Broadband Infrastructure Programs Are Implemented.*** Senate Bill 156 requires, for example, annual reports to the Legislature on project expenditures. Given the continued evolution of these programs through, for example, the CPUC rulemaking proceedings, the Legislature might want to consider additional reporting requirements to inform their investments going forward. For example, the Legislature could consider whether the requisite amount of demographic and socioeconomic data is being collected to equitably distribute funding to those communities and households least able to access Internet service.