

# The Affordability of Residential Water and Sewer Rates across Rural Alaska in 2022



Village Safe Water Program  
Division of Water  
Alaska Department of Environmental Conservation

# The Affordability Framework

**Introduction.** Setting affordable rates is key to ensuring long-term access of households to water and sewer services. Households that cannot afford utility rates will be unable to pay their bills. In response, the utility may disconnect service to accounts that have become uncollectible. Consequently, unaffordable rates harm both customers and utilities: households lose access to water and sewer services, while utilities must try to cover their costs with a shrinking revenue base.

**What is Affordability?** Affordable rates for water and sewer utilities are broadly defined as rates that residential users *are able to pay*. The Affordability Framework report defines affordable residential water and sewer rates as rates lower-income households within a community can pay them without giving up other essential goods and services, such as rent, food, fuel and electricity. If rates are affordable for lower-income households, it follows that they are also affordable for the higher-income households within the same community.

**The Affordability Framework.** The Alaska Affordability Framework was developed by the Alaska Department of Environmental Conservation Village Safe Water Program (VSW) to produce affordability assessments at the community level. The framework is specifically designed for rural Alaska; it is easy to use, interpret and update.

## The Affordability Framework

		Residential Indicator		
		Low Burden > 0% to ≤ 2%	Medium Burden > 2% to ≤ 5%	High Burden > 5%
Financial Capability Indicator	Strong > 2.5 to ≤ 3.0	Low Burden	Low Burden	Medium Burden
	Mid-Range > 1.5 to ≤ 2.5	Low Burden	Medium Burden	High Burden
	Weak ≥ 1.0 to ≤ 1.5	Medium Burden	High Burden	High Burden

The Affordability Framework has two parts: The Residential Indicator (RI) and the Financial Capability Indicator (FCI). The RI produces a score based on the average annual water and sewer utility bills as a percentage of household income at varying income levels within a community. The FCI is the weighted score of socio-economic indicators for the community published by the American Community Survey. Affordability is determined by finding the intersection of the RI and FCI on the matrix. The result is a determination that current rates are either a high, medium or low financial burden for the community of interest.

**The 2022 Affordability Assessments.** The Affordability Framework was used to assess the affordability of the known residential rates of water and sewer utilities in 2022. The framework was also used to estimate the maximum affordable rate (which is the highest medium burden rate) and the highest low burden rate which utilities can charge. This report contains the 2022 affordability assessments and the data used for communities that are eligible for VSW funding. To learn more about the Affordability Framework, please go to [Alaska.gov/go/To4H](https://Alaska.gov/go/To4H).

## Metadata for Communities with Known Residential Rates

Header	Explanation	Source
Monthly Residential Rate	Monthly rate for water and sewer services, unless indicated otherwise	RUBA, ARUC, community websites
Affordability Assessment	How affordable are the current residential rates	Framework
Maximum Affordable Residential Rate	A higher rate will be a high burden	Framework
Maximum Low Burden Residential Rate	A higher rate will be a medium or high burden (* ) indicates that any fee will be a low burden in this community	Framework
<b>Maximum Income of Household Groups</b>	Income Quintile Thresholds	ACS 5 Yr-estimate
Households with Lowest Income	Income Quintile 1 (Lowest Income Quintile)	ACS 5 Yr-estimate B19080
Households with Second Lowest Income	Income Quintile 2 (Second Lowest Income Quintile)	ACS 5 Yr-estimate B19081
Households with Middle Income	Income Quintile 3 (Middle Quintile)	ACS 5 Yr-estimate B19082
<b>Annual Rates as Percentage of Household Income (RI)</b>	RI calculations for each quintile	Framework
Households with Lowest-Income	RI calculations for quintile 1: Fee/Income Quintile 1	Framework
Households with Second Lowest Income	RI calculations for quintile 2: Fee/Income Quintile 2	Framework
Households with Middle Income	RI calculations for quintile 3: Fee/Income Quintile 3	Framework
Community RI	Average of RI scores for Income Quintiles 1-3	Framework
<b>Socioeconomic Overview</b>	Socioeconomic indicators	Average of 2015-2018 ACS 5-year estimate
Households on SNAP	Percentage of households on SNAP in a village	ACS 5 Yr-estimate S2201
Households below Poverty Level	Percentage of households living below the poverty level in a village	ACS 5 Yr-estimate S2201
Working-age adults with full time jobs	Percentage of people between the ages of 16-64 who worked full-time	ACS 5 Yr-estimate S2303
<b>Scores of Socioeconomic Indicators (FCI)</b>	Scores of socioeconomic indicators to use in FCI	Framework
Households on SNAP	FCI Score of SNAP value	Framework
Households below Poverty Level	FCI Score of Poverty level	Framework
Working-age adults with full time jobs	FCI Score of adults with full-time jobs	Framework
Community FCI	Average of FCI scores	Framework





## Metadata for Communities with Unknown Residential Rates

Header	Explanation	Source
Maximum Affordable Residential Rate	A higher rate will be a high burden	Framework
Maximum Low Burden Residential Rate	A higher rate will be a medium or high burden (* indicates that any fee will be a low burden in this community)	Framework
<b>Maximum Income of Household Groups</b>	Income Quintile Thresholds	Average of 2015-2018 ACS 5 Yr-estimate
Households with Lowest Income	Income Quintile 1 (Lowest Income Quintile)	ACS 5 Yr-estimate B19080
Households with Second Lowest Income	Income Quintile 2 (Second Lowest Income Quintile)	ACS 5 Yr-estimate B19081
Households with Middle Income	Income Quintile 3 (Middle Quintile)	ACS 5 Yr-estimate B19082
<b>Socioeconomic overview</b>	Socioeconomic indicators	ACS 5-year estimate
Households on SNAP	Percentage of households on SNAP in a village	ACS 5 Yr-estimate S2201
Households below Poverty Level	Percentage of households living below the poverty level in a village	ACS 5 Yr-estimate S2201
Working-age adults with full time jobs	Percentage of people between the ages of 16-64 who worked full-time	ACS 5 Yr-estimate S2303
<b>Scores of Socioeconomic Indicators (FCI)</b>	Scores of socioeconomic indicators to use in FCI	Framework
Households on SNAP	FCI Score of SNAP value	Framework
Households below Poverty Level	FCI Score of Poverty level	Framework
Working-age adults with full time jobs	FCI Score of adults with full-time jobs	Framework
Community FCI	Average of FCI scores	Framework

## Affordability Thresholds for Communities With Unknown Residential Rates in 2022

Overview			Maximum Income of Household Groups			Socioeconomic Overview			Scores of Socioeconomic Indicators (FCI)			
Community	Frameworks' Maximum Affordable Fee	Frameworks' Maximum Fee for Low Burden	Households with Lowest-Income	Households with Second Lowest-Income	Households with Average Income	Households on SNAP	Households below Poverty Level	Working-age adults with full time jobs	Households on SNAP	Households below Poverty Level	Working-age adults with full time jobs	Community FCI
Anvik	\$44.75	*	\$16,121.60	\$35,163.40	\$47,000.00	26.1%	19.2%	29.2%	1	2	1	1.33
Clark's Point	\$24.97	*	\$9,058.40	\$19,603.40	\$25,730.00	31.0%	52.1%	10.3%	1	1	1	1.00
Craig	\$194.79	\$77.92	\$30,808.20	\$52,469.80	\$79,020.20	11.9%	12.3%	50.1%	2	2	3	2.33
Deering	\$60.39	*	\$25,400.00	\$40,910.00	\$52,671.60	32.2%	14.8%	28.5%	1	2	1	1.33
Dillingham	\$233.19	\$93.28	\$36,451.00	\$64,527.60	\$93,703.40	12.5%	11.2%	57.3%	2	2	3	2.33
Galena	\$218.93	\$87.57	\$34,692.20	\$60,183.00	\$85,792.80	15.2%	11.7%	56.9%	2	2	3	2.33
Kasigluk	\$46.62	*	\$17,352.80	\$31,027.80	\$57,528.60	70.6%	39.3%	17.5%	1	1	1	1.00
Levelock	\$38.35	*	\$16,033.40	\$23,263.40	\$39,950.00	39.9%	27.1%	16.6%	1	1	1	1.00
Nelson Lagoon	\$201.27	\$80.51	\$33,433.40	\$53,057.25	\$74,916.60	17.1%	8.4%	50.0%	2	3	2	2.33
Nikolski	\$124.19	\$49.67	\$21,125.00	\$33,687.50	\$42,312.50	5.4%	17.5%	20.3%	3	2	1	2.00
Noorvik	\$56.47	*	\$20,717.40	\$39,316.80	\$67,395.00	49.5%	32.5%	20.5%	1	1	1	1.00
Nunam Iqua	\$46.91	*	\$19,775.00	\$31,328.60	\$41,515.40	57.0%	42.5%	19.7%	1	1	1	1.00
Takotna	\$37.93	*	\$15,925.00	\$22,866.60	\$39,520.75	61.1%	44.0%	38.0%	1	1	2	1.33
Whittier	\$154.14	*	\$23,314.00	\$43,326.40	\$66,134.80	22.1%	10.2%	46.1%	1	2	2	1.67

(\*) In this community, any rate will be at least a medium burden.



## Affordability Thresholds for Unserved Communities in 2022

Overview			Maximum Income of Household Groups			Socioeconomic Overview			Scores of Socioeconomic Indicators (FCI)			
Community	Maximum Affordable Residential Rate	Maximum Low Burden Residential Rate	Households with Lowest Income	Households with Second Lowest Income	Households with Middle Income	Households on SNAP	Households below Poverty Level	Working-age adults with full time jobs	Households on SNAP	Households below Poverty Level	Working-age adults with full time jobs	Community FCI
Alatna	\$271.80	\$169.87	\$33,333.00	\$41,625.00	\$51,125.00	0.0%	0.0%	32.3%	3	3	2	2.67
Allakaket	\$27.58	*	\$10,458.40	\$19,150.00	\$29,916.60	50.3%	41.0%	19.2%	1	1	1	1.00
Arctic Village	\$26.56	*	\$8,406.25	\$23,125.00	\$38,357.60	64.5%	43.9%	11.5%	1	1	1	1.00
Atmautluak	\$36.19	*	\$12,218.75	\$28,553.40	\$46,925.00	65.8%	36.0%	29.9%	1	1	1	1.00
Birch Creek	Missing Data	*	Missing Data	Missing Data	Missing Data	33.4%	100.0%	Missing Data	1	1	Missing Data	1.00
Chalkyitsik	\$39.07	*	\$17,433.40	\$25,312.00	\$32,151.40	49.4%	38.4%	21.5%	1	1	1	1.00
Chefornak	\$61.02	*	\$24,337.60	\$40,711.20	\$61,416.80	51.7%	17.7%	14.1%	1	2	1	1.33
Circle	\$26.83	*	\$10,812.60	\$17,471.00	\$27,312.50	54.4%	53.9%	20.2%	1	1	1	1.00
Crooked Creek	\$32.68	*	\$11,075.00	\$24,691.60	\$45,050.00	56.8%	45.3%	9.6%	1	1	1	1.00
Diomedea	\$22.55	*	\$8,512.60	\$14,066.60	\$30,150.00	54.1%	43.1%	29.6%	1	1	1	1.00
Eagle	\$120.47	\$48.19	\$19,970.00	\$29,495.60	\$50,562.50	17.5%	16.1%	21.2%	2	2	1	1.67
Eagle Village	\$103.05	\$41.22	\$14,305.25	\$31,935.20	\$49,808.40	11.4%	17.3%	30.7%	2	2	2	2.00
Kipnuk	\$36.04	*	\$12,508.60	\$27,099.20	\$45,685.80	60.3%	38.1%	15.9%	1	1	1	1.00
Kivalina	\$62.27	*	\$23,174.00	\$43,821.40	\$69,833.40	58.5%	28.7%	30.9%	1	1	2	1.33
Kongiganak	\$57.23	*	\$22,990.60	\$38,207.20	\$56,483.40	58.4%	22.9%	14.8%	1	1	1	1.00
Koyukuk	\$23.64	*	\$8,688.40	\$16,162.60	\$28,920.20	32.5%	34.9%	19.1%	1	1	1	1.00
Lime Village	\$19.57	*	\$7,500.00	\$12,500.00	\$23,750.00	66.0%	39.3%	0.0%	1	1	1	1.00
Newtok	\$43.27	*	\$17,265.00	\$26,660.00	\$49,682.60	43.4%	32.7%	9.2%	1	1	1	1.00
Oscarville	\$54.50	*	\$18,395.75	\$43,216.60	\$70,187.50	35.8%	34.9%	26.1%	1	1	1	1.00
Platinum	\$77.45	\$30.98	\$12,875.00	\$14,500.00	\$67,750.00	38.1%	16.7%	33.0%	1	2	2	1.67
Ruby	\$41.12	*	\$16,955.00	\$26,459.80	\$40,298.60	35.2%	27.7%	25.3%	1	1	1	1.00
Shageluk	\$17.89	*	\$6,083.33	\$14,520.75	\$21,614.50	55.6%	56.2%	37.5%	1	1	2	1.33
Shishmaref	\$48.56	*	\$18,869.80	\$33,227.80	\$50,317.80	55.0%	36.6%	27.3%	1	1	1	1.00
Stebbins	\$44.80	*	\$15,578.25	\$34,902.40	\$53,268.40	57.9%	35.6%	25.1%	1	1	1	1.00
Stevens Village	\$6.91	*	\$2,500.00	\$5,583.50	\$6,916.50	54.3%	54.3%	0.0%	1	1	1	1.00
Stony River	\$75.27	*	\$31,650.00	\$47,550.00	\$72,450.00	29.1%	42.6%	8.4%	1	1	1	1.00
Teller	\$38.34	*	\$14,864.60	\$25,250.00	\$42,462.60	51.1%	37.6%	31.0%	1	1	2	1.33
Tuluksak	\$30.66	*	\$11,298.40	\$20,805.80	\$37,716.60	75.9%	58.9%	35.0%	1	1	2	1.33
Tuntutuliak	\$44.71	*	\$17,853.00	\$30,456.00	\$43,521.00	67.9%	41.1%	18.7%	1	1	1	1.00
Tununak	\$47.35	*	\$19,816.60	\$31,053.40	\$43,592.80	60.6%	37.5%	13.9%	1	1	1	1.00
Venetie	\$25.77	*	\$7,243.20	\$28,733.20	\$47,175.00	56.2%	49.4%	36.0%	1	1	2	1.33
Wales	\$40.68	*	\$16,528.40	\$26,652.80	\$40,175.00	48.0%	29.6%	24.9%	1	1	1	1.00

Detailed Calculations

(\*) In this community, any rate will be at least a medium burden.