



OFFICE OF NATIVE AMERICAN PROGRAMS CASE STUDY



Bering Straits Regional Housing Authority's Title VI Housing in Savoonga

**Four energy-efficient single-family homes and one duplex,
built through force account in Savoonga on
St. Lawrence Island, Alaska.**

Table of Contents

Map.....2

Background.....3

First Steps.....4

How it Began.....5

Regional Housing Authorities6

Planning6

Financing.....7

Housing Design.....8

Results.....10

Lessons Learned.....11

Future Plans11

Timeline12



“We have the issues faced by the rural US but the costs faced by urban US.”

- Chris Kolerok, President/CEO, Bering Straits Regional Housing Authority 2016-2019



Background

The Bering Straits Regional Housing Authority (BSRHA), located in Nome, administers the housing funds for 18 Alaska Native tribes on the west coast of Alaska.

The Native Villages of Savoonga and Gambell, on the St. Lawrence Island, are two of those communities. The island in the Bering Sea, 150 miles from Nome, is closer to Russia than to the Alaska coast. Many residents of Savoonga still speak their Yupik language and get 75 percent of their calories from subsistence harvests from the ocean – whale, walrus, halibut, and salmon. Costs are high for items that come from outside—\$10 for a gallon of milk—since

Savoonga and Gambell are accessible only by air and water.

Using a Title VI loan and a force account crew allowed BSRHA to build six resilient, energy-efficient homes (and a lift station) in Savoonga. The difficulty of reaching and building in this remote location adds to the already high construction costs.



The new homes were the first built on the island in 10 years.

First Steps

Plan, Plan and Then Plan Some More. For Savoonga, BSRHA staff spent 6 months estimating costs to determine what could be built and 12 months planning overall. Having gone through the process, though, they would have allowed even more time. Typically, projects for Alaska start 15-24 months in advance; this allows time for projects to scale up or down. A housing authority should determine the date that procurement needs to get on the barge and count backward to set a timeline.

Budget for Today's Project, but Don't Forget Tomorrow. Bank loans are important to being able to build on the scale to meet need. But budget to keep the loan repayments affordable even if something in the housing entity's financial situation changes.

Stories Are at Least as Powerful as Numbers. Big issues, like overcrowding, may look different in Native communities than elsewhere and may not be widely understood. Research, data, and storytelling can build a complex picture that educates, touches hearts, and supports funding efforts.



How It Began

Severe Overcrowding. Savoonga has between 100-130 housing units (of which BSRHA administers 40), but a population of more than 700 residents. Residents live with overcrowding that exceeds HUD's definition of severe (more than 1.5 persons per room). BSRHA staff shared a story of a family with three children who moved into a new house in Savoonga. Years later, the children were grown and starting their own families, but found no vacant houses to move into. They stayed put, renaming their childhood bedrooms Apartment A, B, and C. The lack of housing is a common dilemma in Savoonga, where 44 percent of the total population is under age 18.

It is not unusual for 13 people to share a 3- or 4-bedroom home. Having generations live together is a cultural tradition, but this overcrowding is not a choice. The harsh environment creates pressure to shelter family and friends, since being outside would mean death. One homeowner spoke of the struggle to allow her adult daughter the space to parent the grandchildren in her own way while under the grandmother's roof. Often residents have to sleep in shifts: children in school and adults with morning jobs get preference for night. These situations create unhealthy, stressful conditions, which are linked to health problems, behavioral and educational issues, economic hardship, relationship issues, and stress on the culture. It is against this background that BSRHA began to plan new housing units in 2016.



On land, residents travel by snow machine in winter and all-terrain vehicle in summer.

Regional Housing Authority

Established in 1974, BSRHA covers a region including about 12,000 residents over a geographic area about the size of Maryland. BSRHA has a combined budget of approximately \$7-10 million and total Indian Housing Block Grant (IHBG) funding of \$6.1 million. BSRHA has 16 employees and about 75 additional construction or repair staff. The HA operates on a consortium model. There's no strict segregation of funds between communities. "If we did that we'd never get anything developed," says BSRHA President and CEO Chris Kolerok. IHBG funds are combined each year to develop housing at a different location.

Planning

First Housing in 10 Years. Each year Chris sits down with his 5-person board to discuss planning for the next couple of years. The board, which is appointed by Kawerak, the Bering Straits' regional nonprofit corporation, consists of representatives from some of the member communities. The planning process includes a detailed matrix where communities receive points based on items including date of last housing built, presence of dock or storage facilities, completed housing designs, status of the waitlist and tenant accounts receivables (TARs), and status of lot surveys. The more work that has been done in advance, the easier it is to build, the higher the points assigned, but all communities have to understand that the cost, the great need, and the difficulty of building guarantee that there will be time between building in each community. The housing built in Savoonga was the first new construction in 10 years.



By law, when construction ended, BSRHA had to have all building waste hauled away – a \$700,000 freight cost.

Over the past 5 years, BSRHA had undertaken the following:

- **2014** – Seven houses in Shishmaref, three in White Mountain, and two each in Koyuk and St. Michael.
- **2015** – Partnered with Cold Climate Housing Research Center to build five units in Brevig Mission – first use of Title VI loan.
- **2016-2018** – Built six units each in Gambell and Savoonga.

Budgeting for Alaska's Reality. The process of planning to build in Savoonga followed a fast-track with housing plans already completed, but still took more than a year. With hindsight, Chris says that he would devote even longer to the planning process. Currently, for the project in Shaktoolik, planning began in November 2018 with a planned construction start date in June 2020. "Time should not be the driver, getting it right should be the driver," Chris emphasizes.

Freight and transportation of materials add up to 30 percent additional cost to projects in Alaska in remote communities accessed by barge from Seattle or by air. Through long-term planning, BSRHA tries to keep the cost down while still including the “what can go wrongs” and “what ifs.” They make plans to send as many materials by barge as possible since it is more affordable, but the barge has its own constraints: It travels only between May and August. The first barge arrives in June and the building season begins.

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Thus the procurement process is scheduled to meet the barge sail date and include plenty of time to source the big ticket items and allow for a protest window. Ideally, a staff person flies to Seattle before the sailing date to ensure that all ordered materials are loaded.

Transporting by air is much more expensive and limited to items that are light weight or are emergency purchases. "If it is sent by air, the \$10 box of nails becomes a \$25 box of nails," Chris says.

Financing

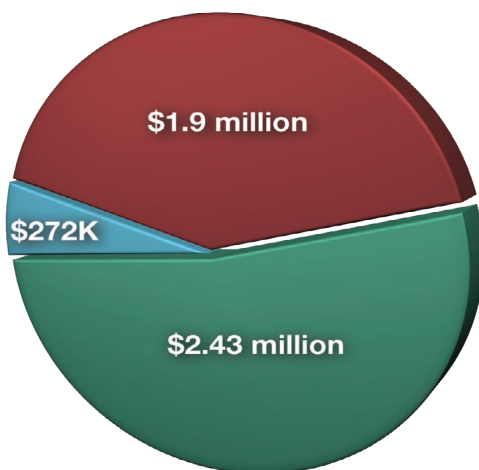
Title VI Loan Application. Chris came to housing from a financial background, but was new to federal housing development. His board, however, had incorporated the Title VI loan guarantee funds successfully into an earlier housing development and was interested in continuing the practice.

BSRHA began the application process by sending a letter to HUD requesting a Title VI loan guarantee. They then engaged in a series of conversations with their Area Office in Anchorage. These preliminary discussions centered on ensuring that the BSRHA could adequately define its need, budget, and project. "The Area Office didn't just have a checklist. They walked us through the checklist," Chris says.

Next, he sent a letter to the HUD Office of Loan Guarantee (OLG) to request a preliminary letter of acceptance (PLA) and began a series of discussions with OLG. With the PLA, BSRHA shopped for a lender. Within Alaska only one bank offered Title VI loans, but BSRHA could also have used a national bank.

The Title VI loan amount for Savoonga was \$1.9 million, which is 5 times the need portion of Savoonga's IHBG, and approximately 40 percent of the total project cost. The loan has a 10-year payoff period. Because BSRHA operates as a consortium, the project budget also included the combined annual BSRHA IHBG funding.

53% Leveraged Funds



- Title VI Loan (\$1.9M)
- Indian Housing Block Grant (\$2.43M)
- Alaska Housing Finance Corporation grant (\$272K)

Housing Design

The homes in Savoonga need to withstand a battering from storms out of the Bering Sea. They need to last a long time because it is difficult and costly to build in Savoonga. In a community with an average per capita income of \$7,000 a year, the housing units also need to be affordable for the homeowners to live in. Chris planned for housing that would be both energy-efficient and weather resilient. In addition, he also considered appliances, fixtures, surfaces that were low maintenance and relatively simple to fix because homeowners will be responsible for their own repairs. In Savoonga, as in many remote communities throughout Alaska, residents may have to wait and pay a substantial fee for specialized repair professionals and replacement parts.

Energy Efficient Measures. The walls, ceiling, and floors of the homes are constructed of structural insulated panels (SIPs). A SIP consists of plywood boards on either side of a foam block. These SIPs feature a heavy-duty 8-lb foam block, which strengthens the frame of the house. This material is not the least expensive building choice, but it is highly energy efficient and easy to put up – important considerations when working with a short construction window and a new force account crew.

Other energy efficiency measures:

- Metal roof rated for heavy snow load. Snow fall or drifts as high as the roof and children run over the roofs so they need to be tough.
- Light Emitting Diode (LED) lighting.

- Double pipe oil burners, which do not require making an additional hole for combustion, keep the envelope tighter.
- Five Star windows with three glass panes. BSRHA switched from windows with argon gas between plastic panes because argon is considered a hazardous material, raising its shipping cost. On the south side of houses, the plastic center pane had not aged well.
- Radiant floor heating included SIPs covered with concrete.

Longevity Features. BSRHA is constructing sturdy housing to accommodate family needs. The lease on the land is for 25 years with an additional automatic extension of 25 years so the housing needs to last.

The units include gravity system toilets, which are cheaper to purchase and to repair than vacuum systems. The houses sit on helical piers to protect them from shifts in the earth as permafrost heaves and moves with warming and cooling of the environment. Helical piers are easier to put together and install than triadetic piers, also common in Alaska. The piers drill down 7 to 22 feet to hook into the bedrock, adding additional stability.

The new homes include features that will support the cultural needs of the community. Each housing unit has an arctic entry, which provides a sheltered area where residents can change out of winter outerwear and boots, store gear, and process or hang food. (It also saves on energy.)



Helical piers stabilize the structure in this climate where a traditional foundation is not possible.



BSRHA shared their designs, specs, and prepared housing pads to lower the health corporation's cost for developing clinic staff housing.

The living room and dining room of the homes were designed to be larger than in past models to increase space for special family get-togethers. The larger space also recognizes the extreme overcrowding and the possibility that homeowners may house additional family or other community members because of the housing shortage.

Results

BSRHA constructed the following in Savoonga:

One Duplex - Each 2-bedroom unit is 900 square feet.

Two Three-bedrooms - 1,232 square feet.

Three Four-bedrooms - 1,344 square feet.

The total cost of the project was \$4.6 million, which was \$1.8 million under the lowest general contractor bid of \$6.4 million. BSRHA was able to make some rooms units a bit larger than in the past, build quality homes, and ensure energy efficiency, while still keeping the cost of each unit under HUD total development cost limits.

Chris credits the cost savings to his staff, from the new force account crew to the long-term housing authority staff, with an average tenure of 10 years. They carried out tasks capably and efficiently from planning to construction, to accounting, compliance, logistics, and administration. The cost savings provided BSRHA with wiggle room to make any needed changes.

The efficiency in the units also benefits homeowner budgets. An older well-maintained home in Savoonga may use 30 gallons of fuel in a month; these new energy-efficient homes use 7-12 gallons in the middle of winter. This drops a homeowner's heating cost from \$172 to between \$40-69.

Lessons Learned

When Need is Great, Innovate (in Moderation). Doing what has always been done, can't shrink wait lists. Housing authorities and tribes need to keep trying innovation in funding sources and building technologies to find what works for them. BSRHA successfully tried Title VI loans to be able to construct more housing units than they could build with IHBG alone. On the other hand, they tried concrete floors in Savoonga. The floors do provide extra structural support and keep the houses warmer, but the concrete was hard to pour and heavy (costly) to transport. BSRHA will try different flooring in its next project.

Getting It Right Is the Goal. When Chris started this project, he focused on hitting the dates on the schedule. He has realized since that making sure the homes are ready for the residents and that the new homeowners have a good experience is most important.

Make the Community Your Partner.

When BSRHA arrives in a remote community to build, the community might not know their own role. After all, construction doesn't take place every year.

If BSRHA shares how community support and coordination can contribute to an additional house being built, community leaders are willing to take on extra work. BSRHA also contributes to the local economy as much as possible. They contract to use local community equipment – dump trucks, loaders – rather than renting and barging in equipment. They may pay for repairs to improve the quality of the equipment. The cost savings are minimal, but the local economy is in better shape when BSRHA leaves.

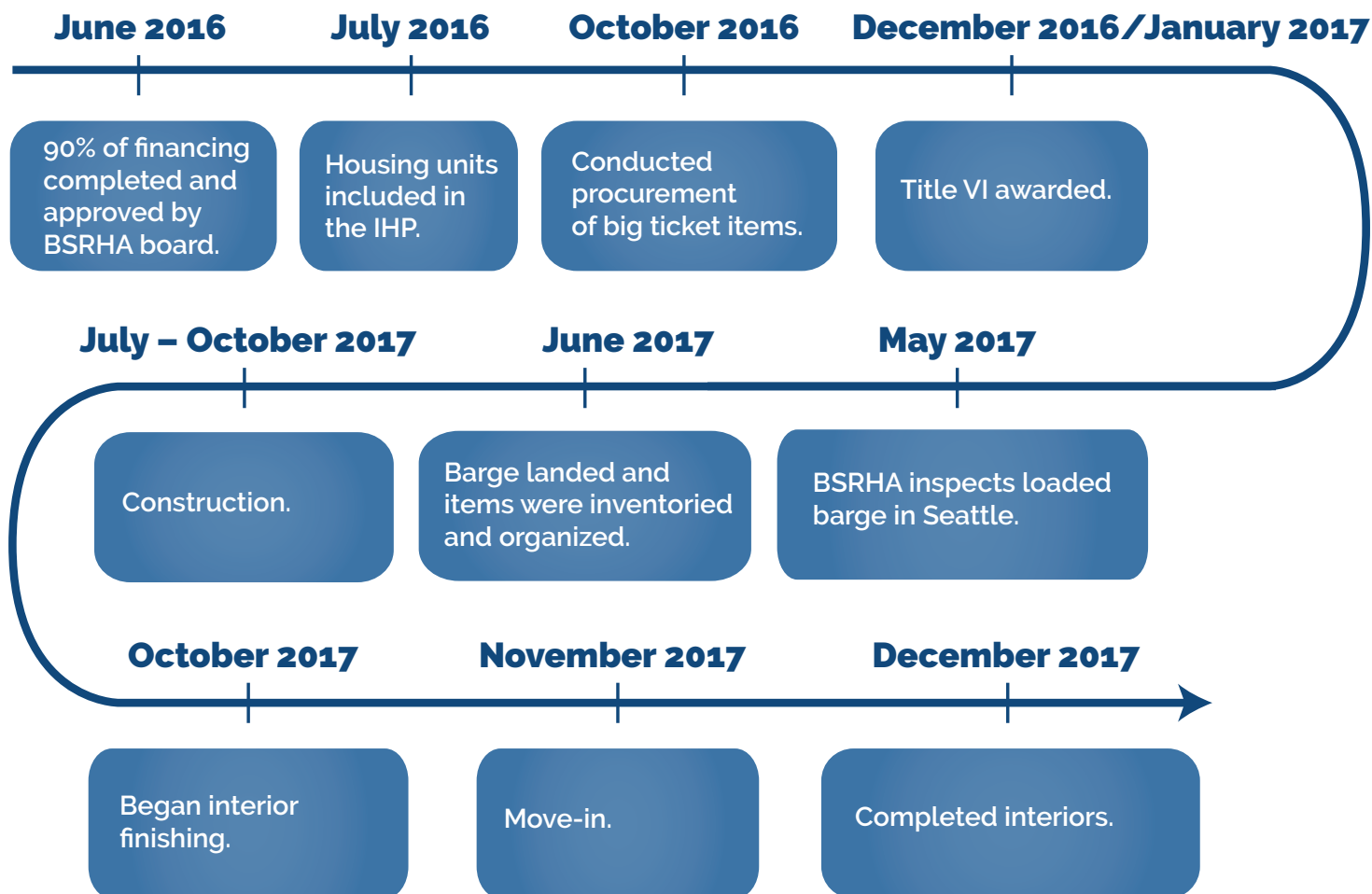
Doing It Yourself Can Save. This was the first time that BSRHA had used a force account crew. It saved them money on transportation, kept costs below TDC, and provided local employment. Of the 32 crew members, 80 percent were local from Savoonga and the neighboring town of Gambell.

Future Plans

The tight envelope created moisture concerns in some units. BSRHA is addressing the concern by installing heat recovery ventilation (HRV) units in those homes.

BSRHA is currently preparing for the construction of three housing units in Nome for the King Island Tribe in 2019. Planning is underway to construct three housing units in Shaktoolik on the western coast of Alaska on the Norton Sound. Shaktoolik is a community facing significant erosion issues. BSRHA is also beginning an intense planning process for three of its especially hard to construct in communities.

Timeline



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