Sustainable Statewide Backhaul Program Draft Plan

Researched and Compiled by

Zender Environmental Health and Research Group

For

Booz | Allen | Hamilton

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Working Draft May 25, 2017

Prologue

The US Environmental Protection Agency (EPA) funded the development of the Sustainable Statewide Backhaul Program Draft Plan through a contract with Booz Allen Hamilton and their subcontractor Zender Environmental Health and Research Group. The plan was developed to support stakeholders throughout Alaska make progress towards the establishment of a self-sustaining rural Alaska waste backhaul program. This plan consolidates the input provided over the past two years by individuals representing tribes, transporters, recyclers, non-profit organizations, regional entities, state and federal government agencies, individuals, and others.

While the contents of this plan reflect the information obtained from a wide variety of stakeholders, additional work is needed to validate the contents of the plan and further develop information gaps. EPA intends for this document to be used as a tool to advance discussions on how to implement the Sustainable Statewide Backhaul Program. As discussions on how to implement the program progress, EPA acknowledges that the contents of this plan will need to be updated. Thus, the plan will remain a working draft and EPA will revise it as needed.

If you have input to the plan, questions, or wish to become further involved, please contact Gabriela Carvalho, EPA Region 10 Tribal Solid and Hazardous Waste Program Coordinator and project lead, at Carvalho.Gabriela@epa.gov.

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1 Introduction

What would happen if all Alaskans decided to come together and solve a problem? The problem would be solved.

That truth is the genesis and crux of this sustainable statewide backhaul plan. Our rural landfills are unlined and untreated waste burning is commonplace and legal. Alaska's villages are the only communities in the United States where this type of landfill is still legal. Due to the extreme nature of Alaska's transportation logistics and geography, the expense and engineering logistics involved in constructing and maintaining a landfill that conforms to ordinary standards are infeasible.

The specter of hazardous wastes leaching contaminants into the waterways of our rural residents, or burning toxics released to the air they breathe, challenges us. We as Alaskans recognize the harsh realities of living here, and we lend a hand to strangers, whether stranded hunting, low on winter firewood, or a shot transmission in the middle of nowhere. In Alaska's extremeness, it doesn't take just a village, it takes the full state: villages, organizations, individuals, and groups.

This plan ("Plan") is intended for those disparate entities, the stakeholders such as the transportation industry, state and federal agencies, Alaska Native organizations and corporations, state and federal legislators, housing authorities, health infrastructure, and construction and environmental engineering businesses, as well as the concerned parties at large, such as tourism businesses, conservation groups, philanthropic groups, and individuals that simply wish to lend a helping hand.

The Sustainable Statewide Backhaul Program ("Program") Plan presented here is the product of a series of efforts by individuals, organizations, and communities across the state. The concept of an organized, statewide sustainable backhaul program that takes advantage of cross-regional carrier efficiencies, economy of scale, and a devoted stakeholder group took root October 2014. Several groups and meetings were formative. The Fall 2014 Alaska Tribal Conference on Environmental Management (ATCEM) precipitated the establishment of the Solid Waste Alaska Taskforce (SWAT), whose primary mission is to find a path to sustainable village backhaul. SWAT consists of members from the State Solid Waste Program, RurALCAP, Zender Environmental, Alaska Native Tribal Health Consortium (ANTHC), and the Kawerak Backhaul Program. At about the same time, Senator Murkowski, via a panel of experts, began to develop a framework for her concept of an "Adopt a Barge" program, whereby the private sector would help to sponsor backhaul. That concept was conceived spontaneously during a conversation at the Bethel airport. The Senator relayed the sight of large piles of wastes in a village she had just visited to a constituent who showed her pictures of much the same thing in another village.

SWAT determined that the "Adopt a Barge" logistical groundwork identified how to efficiently operate a statewide backhaul program. This structure was then presented by SWAT at an October 14, 2015 meeting of community backhaul experts from each ANCSA region as a

potential framework, with the aim of determining its viability as a working model at the regional level. Attendees were positively responsive to the framework and stated their priority concern as the issue of regional differences in training needs. This consideration and others were then incorporated into a more fleshed out version of the framework.

On January 27-29, 2016 a panel of recyclers, carriers, and community backhaul representatives, vetted and approved the framework. They also formulated additional detail as to how the Program's main precepts could work at the local and regional levels, while stressing the importance of the following considerations in developing a final Program plan.

- Backhaul from villages is not a money-making venture, and villages should not be burdened with wastes or the expectation that they can make backhaul a financially sustainable program on their own. Disposal of certain wastes in place results in unacceptable public health risks, as well as risks to subsistence resources that are the village way of life.
- The waste stream created by every project, program, and facility that comes into the village should be considered by agencies and their contractors. Each waste contribution should be acknowledged and an equivalent burden on the villages be lifted.
- Backhaul support must be continued in the interim while developing the statewide Program. Backhaul creates jobs that people can do. These jobs are lifesaving for several families in the community.

The resulting framework ("Framework") involves five main precepts designed to make the process of backhaul as efficient as possible to minimize partner time and program cost.

1. **Coordinating Logistics:** The Program seeks to minimize time in port, maximize the leveraged partnership opportunities for highest revenue, and optimize routing logistics. Less fuel and personnel time, and greater cost savings result, and backhaul cost is reduced. A third-party logistics coordinator called the "Control Tower" manages these logistics and routes carriers to end-destinations.
2. **Preparing for Backhaul in Villages:** To receive the anticipated discounted rates that accrue to the Program, Villages meet a backhaul readiness "Checklist" vetted by carriers and recyclers, which includes training, certification, necessary equipment and supplies, and community involvement.
3. **Coordinating Village Backhaul:** Regional Coordinators assist villages in meeting the Checklist, communicate on routing needs, and they and a Statewide Coordinator work with the Control Tower on routing logistics.
4. **Ensuring Uniformity:** Uniform training, packing and loading steps, and forms are used to minimize the liability and regulatory risk to carriers and end-vendors. With less risk, companies have the ability to offer greater discounts and more backhaul opportunities.
5. **Securing Partnerships:** Maximum advantage is taken of "good will" opportunities with carriers. In-kind assistance from agencies, contractors, and organizations interfacing with rural village projects, facilities, and services are crucial to getting the wastes out. A

third-party assets company handling financial transactions and strategic donations from a wide array of entities is integral.

On February 11, 2016, a stakeholder meeting was again held, this time with representation from 21 state and federal agencies, backhaul coordinators representing all the Alaska off-road regions excepting North Slope and Southeast, and several carriers and recyclers. Its purpose was to introduce the issue of backhaul, present the proposed Program Framework, discuss the Framework's merits and weaknesses, and identify ways in which agencies might collaborate and contribute.

General approval of the Framework was elicited, along with several suggestions and questions. That feedback is incorporated into the Plan details, contained in Chapters 2 – 6.

2 Program Organization and Flow

This Chapter provides an overview of how the Sustainable Statewide Backhaul Program ("Program") is organized. The first section includes an organization chart, and a description of the flow of information, materials, and assets. The second section discusses corporate structures and the advantages and disadvantages of each as they relate to how the Program is legally chartered and operated. Section 2.3 discusses the concept of a logistics routing hub, called the "Control Tower", and Section 2.4 describes the profile of, and need for, a third-party assets company "Assets Company" used to handle finances.

2.1 General Structure of Program – Organization Chart

Figure 2.1 depicts the organization of the Sustainable Statewide Backhaul Program. **Orange arrows** denote the flow of information.

A **maroon background** denotes the Program board and staff. From top:

- An **Executive Committee**, comprised of individuals from different entities heavily experienced in Alaska village backhaul and waste management, oversees the Program. They develop and/or have final say on Program policies, contracts (i.e. Control Tower, Assets Company, and others) and direct the State Coordinator.
- The **State Coordinator** is the lead in tying together the different Program aspects, including quality control of a village tracking database used by the Control Tower. They also track and seek out in-kind and monetary donations and assist the donors with documentation. They work as the point of contact for the Regional Coordinators and assist them in their duties when needed.
- The **Regional Coordinators** coordinate with the Program villages in their region, in assessing and assisting village readiness for backhaul. They enter village status information into the village tracking database, and work with them to assure proper packaging and efficient loading time in port or airstrip. They provide a regional familiarity and may modify Program policies to reflect unique circumstances in their area.

In **purple background**, are noted the entities that are contracted by the Sustainable Statewide Backhaul Program to perform primary Program functions.

- **Control Tower**, an assets neutral logistical transportation routing company that matches prepared villages and their materials cargo with carrier opportunities and qualified end-destination price offerings. Volume discounting for village backhaul supplied is also arranged.
- **Assets Company,** a third-party bank, accounting entity, or assets company that handles grant and donations income, savings, materials revenue, invoicing, and IRS donation documentation.

A **blue background** reflects entities and organizations that are not overseen or contracted directly by the Program:

- Participant **Villages**, these potentially 180 plus villages are the central piece of the Program — their desire and commitment to protect community health and develop economic opportunity is a Program linchpin.
- **Carriers** are the barge, plane, rail, and truck lines participating in the program, and they transport the materials. They inform the Control Tower when they will be in a village, what they can transport, and how much they will charge/discount.
- **Recycler/End-Destination** are the entities that pay for the materials of positive value, and/or accept materials of neutral or negative value. They apprise the Control Tower of their policies and prices. For the purposes of this Plan, a recycler is a company that accepts materials for recycle or reuse, either as an intermediary or as a processor itself. Depending on the value of the materials, recyclers may pay out monies. Recyclers are technically end-destinations as well. However, the universe of end-destinations includes landfills and incinerators, where appropriate. These end-destinations do not pay for materials, and likely charge to receive them.
- Supply **Vendors** sell items that are necessary to conduct backhaul, such as safety gear, collapsible totes, banding, etc. They are only part of the Program logistics when a bulk discounting opportunity exists that clearly saves village and/or Program resources, at which point the Control Tower will optimize supply shipping logistics to villages needing them.

Figure 2-2 depicts the flow of information **(orange),** materials **(blue),** and assets/money **(green).** The appropriately colored text boxes on the page following the Figure contain narrative primers on each flow.

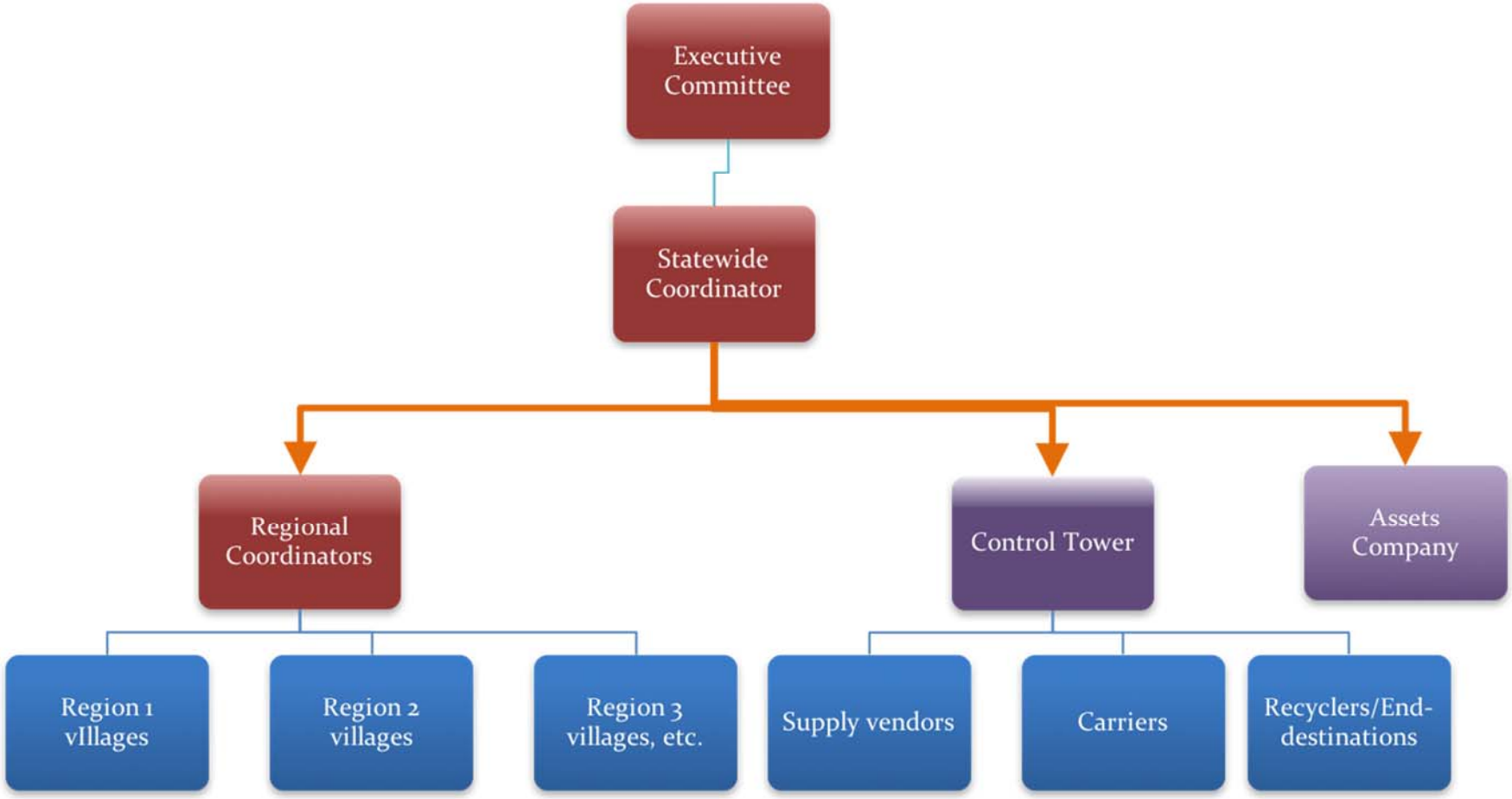

Figure 2-1 Sustainable Statewide Backhaul Program Organization Chart. Program Board and Staff (Maroon), Subcontractors (Purple), Other Program Related Entities (Blue). See text for details of responsibilities for each entity.

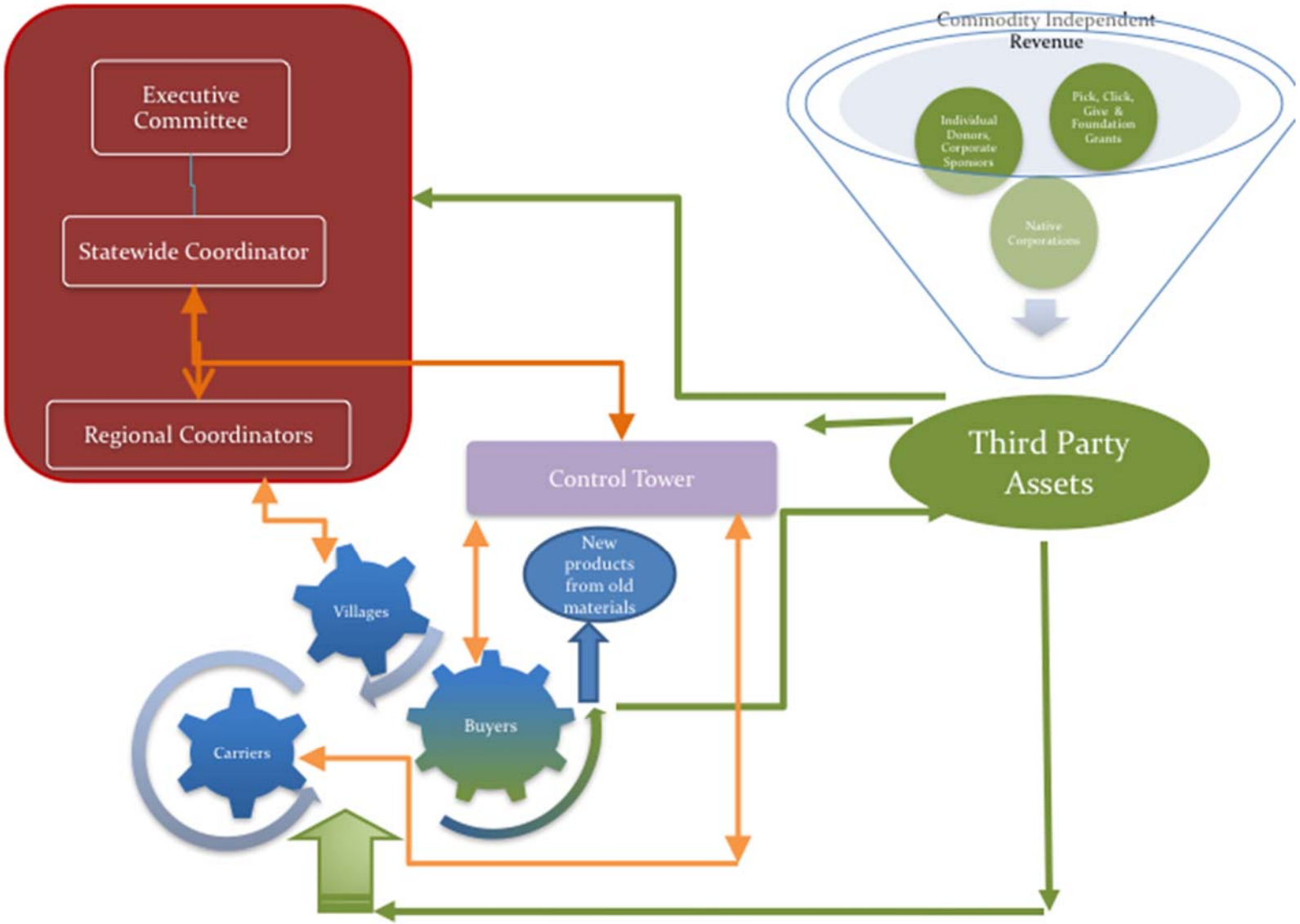

Figure 2-2 Program Flow of Information (Orange Arrows), Materials (Blue Arrows), and Financial Assets (Green).

Information Flow Primer

- The Carriers provide the Control Tower their port routing and available space.
- The Regional Coordinators populate a shared database, electronically accessible by the Control Tower that contains details on which villages are ready for backhaul, and the type(s) and volume of material they have. In emergent or exigent situations, information is shared via phone, text, or email.
- The Control Tower optimizes the Recyclers/End-Destinations and Carrier/Routing available. The logistics are optimized based on cost, with constraints such as environmental responsibility, reliability history, and any long-term contract favorability. The Control Tower informs the Regional Coordinator of the Carrier and End-Destination, via database, or in exigent situations via phone or text. The State Coordinator serves as backup for the Regional Coordinator.
- The Regional Coordinator works with the Village to ensure they are ready for the carrier arrival time, materials are packaged, forms are filled out, any special requirements by the recycler and carrier are met, and loading assistance is ready as per the carrier's needs.
- The Control Tower keeps track of the Carrier's ETA and any updates are relayed to coordinators, and coordinators relay to village. In some instances, particularly for night arrivals, the carrier will relay their ETA directly to the coordinator and/or village.

Assets Flow Primer

- Donors send funds to the Program via deposit to the Assets Company, which also acts as accountant.
- In-kind donations are tracked by the State Coordinator and submitted to the Assets Company for documentation.
- The Recyclers send the Assets Company any materials-generated revenue. The Assets Company sends a portion to the respective Village(s).
- Carriers and Vendors invoice the Program rather than the Village.
- The Control Tower works on a contract basis, either as a percentage of the shipping traffic volume, flat rate, or other.
- If Program assets are low, only revenue-generating or neutral-cost transactions take place. Technical assistance is still provided to villages.

Materials Flow Primer

- Villages collect discarded and spent waste materials, and package them properly, into or onto a container, such as a tote, connex, flat, or pallet, ready for Carrier backhaul. A container may have multiple material types or a single type.
- Packaged materials are loaded onto Carriers (planes, barges, truck, rail) and transported to the recycling or waste disposal vendors. The trip may be one leg with one carrier, or multiple legs with different carriers and transportation modes
- The Vendors receive the materials for commodity recovery or waste disposal, and they are eventually processed into new consumer products.
- In some instances, the Program will purchase backhaul supplies directly and send to the village(s). As the Program matures, increasing advantage will be taken of bulk supply discounts.

2.2 Phases in Program Development

The many components and complexities involved in the Program, and the need for securing suitable funds, necessitate a phased development and implementation plan. Figure 2-3 depicts the five general phases envisioned and their approximate duration. The Initial Setup phase includes planning and the initial setup of the Program to the point of the "Pilot Program" readiness. Securing pilot funding, developing a structure able to accept donations, and filling in missing information gaps to the extent possible are all primary Initial Setup phase components. The Pilot Program phase is implementing the Pilot Program, with a primary purpose of determining more accurate Program costs, developing and testing best coordination protocols between all the various entities involved at each level (Villages, Coordinators, Control Tower, Carriers/Recyclers), and vetting how well the Uniform Training and Village Checklist work in allaying risk to Industry. The remaining three phases are Full Program phases, beginning with the Initial Phase of best procedures and lessons learned being applied to a larger set of villages, proceeding to an expanded Development Phase that slowly introduces promising ideas such as market feasibility, bulk supply procurement, and freight brokering. The last phase—the Market Phase—brings in villages with more complex logistics and less capacity, building market involvement and self-sufficiency via any identified means, including tax and fee offsets whose negotiation and affordability may be more feasible at that point in time due to market upswings, etc.

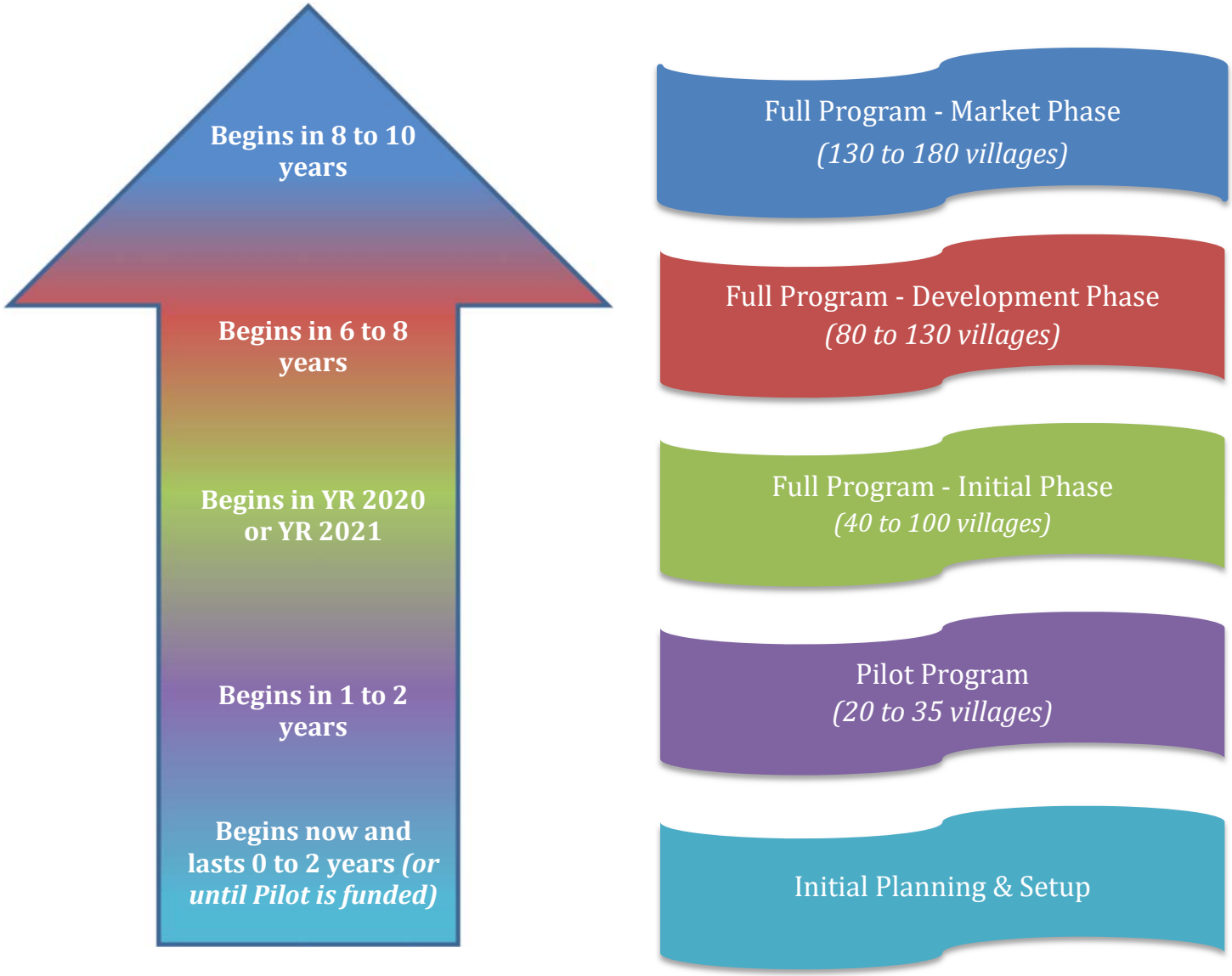

Figure 2-3 Program Phases and Their Anticipated Timeframe

2.3 Corporate Structure of Program

There are four main corporate structures for consideration in employing the Program.

2.3.1 Organizing as an Association

In this structure, the Executive Committee members and other interested parties operate as a group of individuals that have come together for a "public benefit", namely assisting villages with backhaul. An association can be unincorporated or incorporated. There are additional fiscal issues related to an association, both positive and negative, but the following considerations are most germane to the Program:

Advantages:

- Easy to form, particularly if unincorporated. Can be an initial structure to quickly begin a donation drive.

Disadvantages:

- Generally difficult to obtain an IRS 501(c)3 determination letter. Without the letter, donations are not tax deductible. Additionally, nearly all Federal and State grants require the letter.
- Maximum limits placed on revenue before incorporation required.
- Liability of the association's Executive Committee is relatively high.
- Unclear whether IRS will agree with program eligibility. Projects of associations are generally meant to be short-lived or small compared to the activities of this association itself, and not the reason for the association's formation.
- Would require individuals to formally commit.

2.3.2 Incorporation as a 501(c)3 Non-Profit Organization

Section 501(c)(3) is one of the tax law provisions granting exemption from the federal income tax to nonprofit organizations that exist for educational, charitable, and other, purposes.

Advantages:

- Donations are tax deductible.
- No cap on revenue or other trigger threshold.
- Eligible for most state and federal grants.
- Ability to manage the organization to maximize revenue that is put back into backhaul.
- Uniform OMB Guidance allows De Minimis 10% Indirect for first-time 501(c)3 organizations, reducing paperwork burden considerably, as well as audit triggers.
- While lobbying is restricted somewhat, education on the issues is not.

- 501(c)3 application assistance is available from several businesses, offering inexpensive assistance from filling out forms to providing templates for the various required policies.

Disadvantages:

- To retain status, with no fines levied, several requirements must be met.
- Lobbying cannot be a substantial portion of the work or expenditures (generally less than 20%).
- The process of becoming a 501(c)3 is time-consuming and somewhat burdensome. Due to the strict requirements, several policies and procedures, such as bylaws, conflict of interest policies, etc., must be developed prior to incorporation, requiring a committed Executive Committee with sufficient free time.
- Without sufficient preparation, a relatively high risk of rejection by the IRS exists. While the program clearly is eligible for 501(c)3 status, it is unusual, so it may elicit IRS scrutiny prior to granting the exemption.

2.3.3 Fiscal Sponsorship

Here, the Program would operate initially and possibly long-term under an established 501(c)3 organization. Legally and formally, the Program becomes a project of the fiscal sponsor. So long as the Program meets the fiscal sponsor's mission, it is legal for any 501(c)3 to "adopt" the Sustainable Statewide Backhaul Program, including Alaska non-profits that serve environmental aims, and/or possibly rural economic development aims. Some organizations nationwide are set up specifically for fiscal sponsorship. Typically, the Sponsor charges a flat percent of the operating budget – from 9% to 15% for the first year, and as little as 6% afterwards. Services provided by this fee can include Grants Management, Human Resource Management, Financial Management, Risk Management, and Payroll Management.

Advantages:

- The paperwork for a 501(c)3 is avoided.
- All the legal and financial benefits of a 501(c)3 are retained.
- Much, if not all, of the liability issues transfer to the fiscal sponsor.
- Experienced sponsors operate a tight organization and ensure fiscal soundness.
- No need to contract an assets company, human resources, or payroll staff.
- A good fiscal sponsor allows clients to conduct their work autonomously and to choose how much they reveal in their materials about the sponsorship relationship.
- The fiscal sponsor's long track record of grant performance and fiscal stewardship is examined versus the newly formed 501(c)3 or association, potentially ranking grant and donation proposals more highly.
- An established and larger fiscal sponsor organization can act as the Assets Company, because they offer separate accounting and assets handling, under their own policies, in

which the Executive Committee and Sustainable Statewide Backhaul Program staff have no decision-making authority. This arrangement could save monies.

Disadvantages:

- Some autonomy and thus control is lost. While the Executive Committee would serve essentially the same function and the Program could theoretically operate exactly as if it were a 501(c)3, the legally recognized board of directors with ultimate decision making power is that of the sponsoring organization. All policies and rules must conform to the sponsoring organization, and some of these may differ from what the Executive Committee would otherwise find ideal.
- Some confusion could result with the donation vehicle, although minimal.
- Many fiscal sponsors have an eligibility requirement of a minimum amount of committed funding. For example, the Tides Foundation requires $100,000 to start and a minimum $250,000 operating budget.
- It is unclear whether a separate Assets Company would work better with this structure. By selecting an organization that is established for fiscal sponsorship, separate accounting is included. In handling funds, the Assets Company would need to work with the fiscal sponsor versus the Program *per se*.
- The Program reputation for performance and financial management is tied to the fiscal sponsor. While this is an advantage if the sponsor is vetted wisely, a poor or unlucky choice could harm the Program's ability to collect donation or grant money.
- The choice of fiscal sponsorship adds another layer of decision-making that may have some political issues mixed in. For example, organizational competition between various non-profits in Alaska and their supporters might surface. If the Sponsor is not an Alaska company, some partners may balk at their lack of experience and understanding of unique Alaska factors, and while likely still eligible, the Program's eligibility for the State's *Pick Click Give* program is not guaranteed.

2.3.4 For-Profit (S or K Corporation, LLC)

Advantages:

- No limits on lobbying. With for-profit status, the program can be operated to maximize revenues to become self-sustaining, and/or haul out more waste, and serve more communities.
- More flexibility in policies and procedures.
- Fewer operating requirements.

Disadvantages:

- Donors cannot receive a tax write-off.
- The program would not be exempt from any federal taxes.

- Villages, Donors, and other partner entities are less likely to trust and perceive the program as favorably as a charitable institution. Participation in the program is almost certainly impacted negatively to a significant degree.
- Should the program be able to obtain foundation or corporate support, these funds will typically have the same policies and procedures requirements emplaced on them as would a 501(c)3. Some of the advantage in less restrictive operating and structural requirements may be forfeited.

2.3.5 Discussion of Corporate Structure

An association is not an ideal vehicle for a corporate structure because the Program would be constricted operationally in the effort to meet the IRS definition. Also, because a 501(c)3 status determination is necessary to receive sufficient donation and grant funding, its main advantage of an easy start-up is lost once the program begins in earnest. While an unincorporated entity is a possibility initially, members are placed at liability risk, and it is unclear whether the Program could attract individuals who are willing to shoulder this burden.

The excessive impact on program donations and grant monies with any type of for-profit company structure dooms its financial viability, and rules out this organizational form. However, opportunities for market forces are discussed in Chapter 3. There may be a future time when the Program can be operated as a for-profit, but not in the near-term 5-year planning horizon.

The best models are either forming a separate 501(c)3 entity, or using the 501(c)3 status of another organization via fiscal sponsorship. Other than the selection issue of a fiscal sponsor, Table 2-1 provides a simplified matrix of the main issues in deciding between the two, with a checkmark signifying a more favorable status.

In reference to autonomy, Alaska is notoriously independent, and given that the entire program is based on rural Alaska and its conditions and circumstances, flexibility in approach may be key. Under the auspices of the Fiscal Sponsor's financial management staff, the Sustainable Statewide Backhaul Program financial accounts are managed separately from Program staff and operations. But financial control of the Program by the Sponsor may be subject to objectivity questions from potential partners. With a separate 501(c)3 corporation, startup funds aren't required to begin operation, so Program startup is straightforward.

Obtaining an established fiscal sponsorship company without startup funds may be difficult. On the other hand, it may be easier to obtain startup funds with a fiscal sponsor because most foundations and agencies evaluate projects partly on the applicant's administrative capacity record. Additionally, the Program already has some startup funding, qualifying it for several sponsorship companies. Without a demonstrated record, proposals tend to score less. Alaska non-profit environmental or village economic development entities that are interested in serving as a fiscal sponsor may require less funding than a company whose sole purpose is to serve as a fiscal sponsorship, as they may be more familiar with the issue, and could see it as aligning specifically with their mission. But a large fiscal sponsor has economy of scale and specialized departments and personnel to handle administrative functions, so that this

structure can actually cost the Program less. A major advantage for the sponsorship structure is that fundraising and operations can begin right away.

Table 2-1 Comparison Matrix of 501(c)3 Incorporation and Fiscal Sponsorship

Issue	Separate 501(c)3	Fiscal Sponsor
Autonomy	√ Significantly more autonomy in most administrative program features.	Significantly less in administrative procedures, but the same degree of autonomy in daily operations and decision making.
Third-Party Assets Company	√ Contracted separately and truly a separate entity *but costlier than the alternative.*	Likely a department/ branch of the fiscal sponsor √ *but less costly.*
Startup Funding	√ None required.	Possibly a significant threshold required if selecting a dedicated and reputable fiscal sponsorship company.
Ability to Secure Foundation and Government Startup Grants	Lesser ability due to untried administrative capability.	√ Greater ability, due to established record of fiscal sponsor.
Startup Operation	Obtaining 501(c)3 status may take 3 months to 1 year and is not guaranteed at all.	√ Fundraising and operations can begin immediately once the sponsor is obtained.
Program Operation Costs	Compared to a larger established fiscal sponsorship, operation might cost more. Compared to a small sponsor, it would cost about the same, or less.	√ With an established fiscal sponsorship company, operations costs may be less. Rates are as little as 6% to 9%. No need for a separate assets company either.

2.3.6 Final Recommended Approach

1. In consideration of the above, a two-phase approach is recommended: Start with an interim fiscal sponsorship for the first three to 10 years of the Program.
2. As financially feasible and recommendable at the time, migrate to a stand-alone 501(c)3 once the Program has built a sound reputation and has sufficient operating revenue. This migration will remove the disadvantages of a fiscal sponsorship.

In reference to autonomy, Alaska is notoriously independent, and given that the entire program is based on rural Alaska and its conditions and circumstances, flexibility in approach may be key. Whether the selected Sponsor should be an Alaskan non-profit is unclear. Under the auspices of the Fiscal Sponsor's financial management staff, the Sustainable Statewide Backhaul Program financial accounts are managed separately from Program staff and operations. But given Alaska's insularity, financial control of the Program by the Sponsor may be subject to objectivity questions should an Alaskan organization be selected.

The timing of the migration to a stand-alone 501(c)3 would be dependent on certain established performance criteria or timeline, and would likely take place between three to 10 years. If the Sponsor is an Alaskan non-profit, the Pick Click Give program could be used, and if they are willing to sponsor the program without a minimum threshold, startup monies could be sought immediately. With a limited time and performance duration, fewer political issues in the Sponsor selection process are anticipated.

2.4 Control Tower Profile

This section describes the basic profile, role, and potential structure of the Control Tower, as well as the relevant operating conditions with which it functions. Logistical details of how the Control Tower operates are discussed in Chapter 4.

The primary role of the Tower is analogous to that of a control tower at a busy international airport. It manages the traffic from multiple carriers picking up and dropping off passengers and cargo. It schedules landings ahead of time in the most efficient manner considering gates, aircraft type, cargo load, etc. It adjusts as needed for weather delays, emergencies, and a litany of other events. At this point, the analogy ends. While an airport control tower is most concerned about a crash due to too many carriers at once and works only with planes, the Program Tower's biggest concern is finding a carrier at all to "land" at the different villages, and it works not only with planes, but barges, trains, and trucks as well.

Additionally, the core roles of the Program's Tower are three-fold.

- **Transport Logistics** – Matching and routing multiple carriers to the most appropriate and multiple backhaul-ready villages and then on to the most appropriate end-destination.
- **Revenue Maximization/Commodity Brokering** – Matching and potentially combining material backhaul loads from the various backhaul-ready villages to the least-cost

carrier(s) and least-cost/highest revenue recycler/end-destination so that together, the full routing plan results in the financial savings, all things being equal.

- **Supplies Procurement** –Matching the backhaul supply needs of villages with least-cost suppliers and discount opportunities, and timing the procurement for bulk discount and least-cost shipping opportunities to the receiving villages. This function will gradually phase in.

This type of problem, optimizing a parameter such as cost with various considerations that constrain the outcome, has an entire field of study devoted to it – Game Theory. Out of this field, specialized programming of a distribution or logistics network called Systems, Applications, and Products (SAP) programming has developed in the business world. SAP programming is used in current business models that are referred to as enterprise integration, and/or Supply Chain Management (SCM).

Called more formally a "supply-chain control tower", the term "control tower" is not specific to the Program, but emanates from these SCM business modeling practices. A tower refers to a single, typically outsourced, specialized entity that bridges across multiple layers of platforms and organizations, to connect the "siloed" endpoints with information, supplies, or finances. At root, *the control tower delivers the right information and/or supplies to the right person at the right time.*

For example, a supplier to a countrywide earthquake relief operation with moving base camps and responders and operating under fluctuating conditions, community-dependent needs, and transport constraints, has an analogous problem to solve. Another example is a brokerage company routing funds to the most optimal endpoint given several fluctuating market conditions and commodity constraints.

The concept is custom-fit to the Program's mission, to reduce the level of accumulated hazardous waste backhaul inventory in each of the villages. One SAP programmer states that:

> 'A [control tower] serves as a single point of contact and integrator of information flow between multi-location, multi-parties and produces transportation synergies, better shipment planning using load/ shipment/route optimization, and *optimal inventory levels with a reduction in buffer inventory.'*

2.4.1 Entity Type

As practiced most commonly, supply chain towers are separate entities, and subcontracted by a supply company to handle their logistics. There are two main reasons for this:

- Decisions and actions are carried out under an organizational structure designed specifically for control tower functions.
- The tower is more neutral, and is perceived that way by carriers and end-destinations.

These two features apply suitably to the Program's Control Tower. In terms of organizational design, the Tower must be flexible, dynamic, and quick acting to take advantage of last minute Program opportunities and to minimize costs of last minute challenges. That high level of

nimbleness is demanded by the set of constraints under which the Tower acts, as listed in Section 4-1.

In terms of neutrality, due to the multi-function nature of the work, the Tower's network must reach well beyond that of most companies, and be able to effectively transact with backhaul supplies, materials recovery, and transportation industries. Carriers, vendors, and suppliers must view the Tower as an uninterested party. Were the Program to operate the Tower, the Executive Committee and employees, due to their ties or experience in the industry, could be suspected of favoritism in selection of various recyclers, carriers, and suppliers, casting a pall on the Program. Opportunities for donations would be severely hampered.

For this same reason, not only will the Tower be a separate entity from the Program, the Tower itself will be separate from the industries involved. The Tower will not own or operate transportation, materials recovery, or backhaul supply companies. *It must be "assets neutral".* If the Tower has no stake in choosing which Carrier, Recycler, or Supplier receives Program business at any one juncture, it is free to optimize who best to carry materials, where the materials are routed, and what company provides backhaul supplies.

The Tower can be a non-profit or for-profit corporation. The entity type will not affect program donations. However, it is likely that the Tower will be for-profit because organizations with this type of specialized experience and structure are overwhelmingly for-profit (or governmental) entities. The Program needs a Tower with experience and capacity so that while a new entity could conceivably be formed for the explicit purpose of the Program, it would be unlikely to fit Program needs.

2.4.2 The Tower as Single Entity versus Multiple Companies

Conceivably, the three core Tower roles of routing, brokering, and supplying described above could be performed by three separate specialized entities. The objective is to find the least cost Program operation and in the absence of a pilot project, it is unclear whether one, two, or three companies are best suited to perform the Tower function.

Therefore, the procurement process for the Pilot Program allows multiple specialized companies to bid so long as they submit a joint proposal and include a coordination plan. A single company can submit a proposal but must also demonstrate competency and a plan for performing each core role, whether by subcontract or within its own company. The best Tower arrangement can then be vetted and selected.

Unless otherwise stated, the term "Tower" hereinafter refers to the Control Tower serving all three of its core functions, whether it is one, two, or three companies working together.

2.4.3 Brokerage of Consolidated Freight Charges

Instead of restricting the brokerage role to finding best materials cost, it was suggested at the February 2016 meeting to consider both inbound and outbound village cargo – i.e. general village freight inbound and backhaul materials outbound. Additionally, demobilization of projects may result in significant outbound freight for some villages in some years. The idea is

that brokers would obtain best pricing for both legs, making a greater savings overall for the Program.

In its best scenario, a broker would receive sufficient business so as not to charge the Program. End-Destinations stand to make more money with higher volumes, and are thus willing to pay a fee to brokers for that volume. However, commodity prices for backhaul materials are at a low point. *At this point in time, a broker could not recoup their investment, and would need to charge the Program*. A broker would need to charge a sufficiently small fee to result in overall Program cost savings.

Beyond finding an interested broker, other problematic considerations exist depending on the extent of freight consolidation and whether brokering is conducted on a village-specific or route-specific basis. As discussed in the next two subsections, there are two main scenarios, and a potential for gradation between the two.

Village-Specific Freight Consolidation

Normally, the Village supply process involves multiple entities in a village separately ordering supplies. In the Program ideal case, freight is consolidated among all entities in a village. This scenario has two quite major stumbling blocks.

The freight must be coordinated. Someone would need to coordinate freight ordered by the school, post office, store, electric utility, City, Head Start, village corporation, Clinic, any regional, state, and federal local offices, and others. While it may seem straightforward for entities in a small village to cooperate, for many communities, in practice, it is not. An outside broker would have an extremely difficult time communicating with each separate village entity and arranging for shared freight services. The broker or Program might eventually convince these entities to cooperate if their freight charges go down. However, local entity staff turnover would precipitate a continual effort. It is not clear at all that a sizeable fraction of villages would be committed to shared freight at any one time. Another issue confounding village coordination is that grant stipulations and cycles, upon which a good deal of village projects depend, may preclude freight consolidation.

The Village program coordinator could gather the freight plans of each entity and pass those along to the Regional Coordinator who would pass them to the Tower/Broker. However, it is unclear if the amount of time and effort involved is feasible. An argument can be made that if it were that simple, more village entities would already order freight together.

Route-Based Freight Consolidation

In a second more plausible scenario, freight could be consolidated based on whatever Village supply orders are received by the broker, even if they are not the freight orders from every entity in each village. These freight orders could then be in turn brokered with other freight stops along the route. This method circumvents the messy need to contact and coordinate with all village entities, and some cost savings is potentially realized, as transport companies essentially bid to be the carriers of a greater volume and a more efficient route. As village

entities begin to see a potential for cost savings, some may, of their own volition, become part of the Program. In this way, the local Backhaul Team is not untowardly burdened, and can essentially choose how much effort they expend in collecting information about freight orders in the community.

However, some challenges exist here as well. One caveat is that some transportation discount may be lost. Carriers currently give sizable backhaul discounts to villages partly as a community service to the villages they serve. If they are receiving a marginal price for their loads because of fiercer competition, they may not offer the discounts to the same extent, or at all.

An additional concern is that the ceiling potential for brokerage profits is significantly reduced by the Program's need to serve at least some villages with the greatest need regardless of their freight and backhaul composition. This constraint may dissuade brokerage companies from participating in the Program as a separate entity or as the subcontracted broker company to a multi-entity Tower. Once in operation, a baseline priority village service may even emplace too great a burden on the brokering process, rendering freight consolidation ineffectual.

2.4.4 Payment for Services

Payment to the Tower or any contracted broker will not be made on a revenue basis, as the prioritization of in-need villages could otherwise be at least moderately corrupted. With a profit motive, the Tower or its shareholders may push for different priority criteria that result in fewer villages in-need served, or a decrease in the frequency in which certain in-need, but low to no-profit villages are served. Additionally, short-term profit motives can be in conflict with the advantages of favorable long-term vendor or carrier contracts. Conversely, profit loss can be a driving factor should the Tower have a parent company seeking a tax write-off. All of these scenarios are unsuitable to the Program's function. Control Towers most typically operate on a flat percent basis of supply volume/transactions, which should suit the Program. However, data recorded in the Pilot Project Stage will determine the details of the method and amount of Control Tower payment. A set fee contract will be used during the Pilot.

2.4.5 Control Tower Action Items

Freight consolidation as a potential cost saver deserves additional discussion and study. *Carriers should be convened to query whether they believe brokerage of freight and backhaul can work, and determine their concerns*. *Similarly, a broker's perspective is needed.* From there, if the idea still seems potentially viable, the Pilot Stage can examine whether overall Program cost efficiencies can be realized through brokering village freight, and if the logistics are feasible enough to do so in most villages.

2.5 Handling the Finances: The Assets Company

Qualifications for a suitable assets company are straightforward, assuming compliance with all applicable state and federal law, and standard accounting practices. The least-cost entity will be hired that is able to demonstrate substantive experience in handling transactions in rural Alaska.

A significant chance exists that the Fiscal Sponsor used will provide financial management. In this case, the Assets Company will be essentially the Sponsor's existing banking institution and accounting branch. The Program will examine which if any aspects of assets transactions are either not covered by the Fiscal Sponsor, or are assessed an extra fee that is costlier than hiring a third party company to conduct the same transaction(s). Because the Fiscal Sponsor's assets company is likely the least cost route, scrutiny of this feature when selecting a Sponsor is critical. Again, most established Sponsors will have credible and reliable fiscal support.

3 Stakeholder Profiles

This Chapter profiles the various Program stakeholders. Stakeholders and their planned roles are generally described, along with their entity's mission and driving factors that can be used to encourage Program participation. Program responsibilities and the resource needs of participating regions and villages are described first in Section 3.1 and 3.2, respectively. Next, public and private sector participants are profiled in Sections 3.3 through 3.5. Detailed roles for key partners are provided in Chapter 4, along with the Program's plan for securing their commitment.

3.1 Regional Profile

The Program depends on regional level coordination and knowledge to ensure that villages obtain the assistance necessary to meet the Checklist, to assess village backhaul readiness accurately, and to assist the Control Tower in communicating transport logistics information to and from the villages. This section discusses several issues related to what the Program looks like at the regional level, including Regional Coordinator organizational features, and potential regional boundaries.

3.1.1 Regional Backhaul Models

Alaska's hub communities serve the villages in their immediate area, and their services do not generally overlap. With backhaul, there are several hub communities that offer backhaul assistance at varying levels to their villages. There are three general backhaul models, as detailed further in the Year (YR) 2015 Regional Waste Backhaul in Rural Alaska Baseline Assessment Report (2015 Assessment Report)[1].

Hub and Spoke: Here, the villages stage, package, and prepare materials, then ship them by barge, small boat, plane, or ice road to the hub. A hub program then organizes and implements consolidated or individual shipments to the end-destinations (Anchorage or Seattle). The hub program coordinators also serve to educate, train, and assist village staff with organizing, packaging, labeling, and a variety of other technical needs.

[1] Regional Waste Backhaul in Rural Alaska, YR 2015 Baseline Assessment Draft Report, Booz Allen Hamilton, Compiled by Zender Environmental Health and Research Group, funded by EPA, Dec 2015. Online at http://www.zendergroup.org/docs/backhaul_assessment.pdf

Semi-Regional/Grouped Model: Here, there is a group(s) of villages geographically, logistically, or culturally linked that work together to practice backhaul. They may transport their materials for consolidation at one of the villages, or assist each other during the preparation phase and backhaul out separately. The advantage to villages is one or more of the following: higher volume materials can result in reduced recycling fees or increased revenue, shared knowledge and experience can assist each village backhaul team, and connexes can be more readily filled yearly and segregated by materials type, which brings the potential for additional in-kind connexes and connex transport.

Individual Model: The village(s) conducts backhaul autonomously. Particularly in regions with no regional support and no interconnecting seasonal barges, this mode may be the only choice. These villages often take part in backhaul projects sponsored by hub or consortia, but their primary backhaul program is self-performed.

3.1.2 Preferred and Operating Model

ANCSA Regions current models are summarized below in Table 3-1.

Table 3-1 Alaska Non-Profits by ANCSA Region: The Dominant Regional Backhaul Logistics Model Practiced, and the Region's Suitability to Operate a Hub and Spoke Program.

Region	Dominant Model	Hub	Logistics Suitability
Kawerak	Hub and Spoke	Nome	√
Maniilaq	Hub and Spoke	Kotzebue	√
TCC	Grouped and individual	Fairbanks	Mixed, villages nearer to coast have access to barges going south, so extra trip to north Fairbanks may not make sense for them.
Bristol Bay	Individual with some Hub and Spoke elements	Dillingham (DLL)	Mixed, some ships and planes don't route though DLL, and highly individual village backhaul logistics present here.
AVCP	Grouped and individual	Bethel	Some villages on coast don't benefit from shipping to Bethel and two-thirds of villages are somewhat concerned as to whether they want a hub and spoke model.
CCTHITA[1]	Individual, Grouped, with some Hub and Spoke elements	Juneau	No, Juneau is the opposite direction for most villages, and barges are year-round.
APIA	Individual	Unalaska	Villages too geographically disparate and most receive barge service to use on their own for Japan or Seattle recycle.

Table 3-1 Alaska Non-Profits by ANCSA Region: The Dominant Regional Backhaul Logistics Model Practiced, and the Region's Suitability to Operate a Hub and Spoke Program *(continued)*

Region	Dominant Model	Hub	Logistics Suitability
KANA	Individual with some Hub and Spoke elements	Kodiak	√
Chugachmiut	Individual	Seward/ Homer	Potentially—they have worked with each other in past
ASNA	Individual with some Hub and Spoke elements	Barrow	√
CRNA	Individual, Grouped, with some Hub and Spoke elements for some wastes	Glenallen	√

[1]CCTHITA is a federally-recognized tribe that also provides services to other tribes, similarly to the regional non-profits.

In interviewing consortia staff for the regions listed in Table 3-1, a wide range of perspectives on regional coordination was evident. A hub is not always associated with a region, and if it is, that hub may not be ready or willing to take on a leadership role in assisting villages with consolidation, repacking, and/or storage of wastes prior to shipment south. Regional programs that have an organized spoke and hub program are supportive of the Program, with the coordinators being keenly aware of the cross-regional boundary nature of the transportation industry, the potential for greater leveraging of carrier and vendor discounted opportunities across regions, as well as the need for greater opportunities and supplies support for villages preparing and transporting their materials to the hubs.

3.1.3 Breakout of Regions

This section discusses the relative merits and potential issues of designating six Program regions that combine and crossover ANCSA boundaries. It also assesses potential for initially including only those regions that are in clear need of the program. The next section discusses the fulltime equivalent (FTE) required for a Regional Coordinator, and differentiates job duties needed for hub-spoke regions and those that are not hub-spoke.

Merits of ANCSA Cross-Region and Combined Region Borders: Regional breakouts for the state depend on the purpose – economic, political, ANCSA-related, geographic, cultural, and other reasons. The Program primarily serves Tribal communities so that an obvious option is to divide the state by ANCSA regions. On the other hand, parameters such as the status and type of regionally-coordinated backhaul, the preparedness needs of villages, the logistical challenges, and the number of villages do not split out equally among ANCSA regions.

There are twelve ANCSA regions and it is proposed that the number of Program regions at least start with six, broken out along ANCSA boundaries as these were formed roughly along cultural

and geographic boundaries in the first place, with some exceptions. The justification for this lower number of Program regions emanates from organization theory as well as logistical considerations.

The Program budget is limited and the Program is founded on the desire for more backhaul efficiency, to make the cost and logistical burden less. A central feature of the Program is that the communication burden on Carriers and Recyclers will be substantially lightened, thus paving the way for potentially more discounted opportunities and lower prices. Currently, these stakeholders must communicate with each village multiple times. Compounding the burden is that some villages have fresh backhaul teams that may phone Carriers and Recyclers well over a dozen times for each backhaul shipment. With the Program, villages communicate with the Regional Coordinator, who communicates with the Control Tower, and occasionally with the Carriers as the backhaul event draws closer.

The fewer points of contact which Carriers, Recyclers, and the Tower have to make to get the village information they need, the more effective they can be in their jobs. On the other hand, too few points of contact and inefficiencies may develop due to less proximity with ground-truthed information. The reason for Regional Coordinators in the first place is to have sufficient efficiency in transferring village information that can often require region-specific familiarity to understand.

In business research, this issue is referred to as the "span of control". A manager is responsible for and responsive to an ideal number of direct information reports. That number depends on many factors, but in most cases it is between three and eight, with six being cited as potentially a more realistic number when the reporter has task-oriented work, versus simply work related to reviewing and synthesizing the reported information.

A breakdown into six primary regions coincides generally along backhaul logistical divisions, which makes the most sense. Regions with existing Hub and Spoke programs that work well should be left as is, and Regions with similar village backhaul logistics (transportation options and seasonal considerations) should be grouped together, so as to require fewer Carriers for the Regional Coordinators to work with, and to make a more cohesive set of Village issues for which solutions can be found.

Proposed Regional Breakout: Considering transportation, economy-of-scale, and current regional program backhaul mode (see Table 3-1), the breakout of Program regions listed in Table 3-2 below is proposed. The six regions are those where clear desire for the Program has been expressed and clear need is evident. The four Opt-in Regions are those where, whether via interviews with regional experts or individual villages, strong desire and clear need have not been in evidence thus far.

3.1.4 Regional Coordinator

The Regional Coordinator(s) will be located in the region's hub, housed in a regional entity office that will serve as the "Region Host". There are several qualified backhaul coordinators now working with regional entities with the knowledge and experience necessary to require virtually no Program ramp up time. Formally, the Regional Coordinator position can be under

Table 3-2 Proposed Program Regions

Primary Regions	Geographic Description of Included Villages
Yukon-Kuskokwim Region	Primarily all AVCP/KNA villages, with occasional exception for upriver Kuskokwim villages such as McGrath and Takotna that might have alternative flight opportunities to Anchorage, and could work with the Peninsula villages.
Bristol Bay Region	BBNA villages, with Iliamna Lake villages using the Homer Port (via Pile Rd and Williamsport) potentially working with the Peninsula Region at least occasionally.
Norton Sound Region	Kawerak villages
Northwest Arctic Region	All Maniilaq villages, with Shungnak and Kobuk part of TCC region with some exception depending on opportunities. Also any North Slope villages that do not have an existing working operation, potentially Anuktuvak Pass.
Peninsula Region	Villages not on primary road system (all KANA region), Chugachmiut small Tribal communities (Nanwalek, Chenega Bay, Port Graham, Tatitlek), Tyonek, and any Southeast villages that are not tied into existing financially sustainable operations, such as potentially Angoon, plus potentially Iliamna Lake villages at least occasionally.
Interior Region	All villages, except for those on primary road system (CRNA road villages, Northway, others with primary road system access)
Opt-in Regions	
Interior Road Region	Those villages on the year-round primary road system. Primarily CRNA villages.
Aleutians Region	Those villages in the Aleutians Region, including Dutch Harbor and Unalaska.
Southeast Region	Those villages in the Panhandle and Peninsula Region communities with existing developed and sustainable programs, such as Cordova.
North Slope Region	Those villages along the North Slope, in the ASNA Region.

either the Region Host or the Program. In the case of a Region Host employee, the Program pays a portion of the Coordinator's wages and resources at least equal to the extra burden emplaced by the Program protocols or the total shortfall for the position, whichever is less. The resources needed for the position, whether housed in a regional entity, home office, or office rental, are phone, fax, internet, and vehicle for airport/port trips. Funds to cover vehicle maintenance are included as well.

Duties for the Coordinator are detailed in Section 4.3. The primary off-site resource requirements are fairly frequent village travel (average up to 1 trip per village each year), assistance at the hub in picking up material shipments from villages at the airstrip or port, potentially repacking them and transferring to a jet or barge, and hosting hub trainings once per year. Primary in-office time is spent on phone, email, and internet working with each participating village to ensure they attain the Backhaul Stage, assisting villages in contacting local carriers and other potential local stakeholders for in-kind or discounted assistance, working with the Statewide Coordinator on their region's needs, and coordinating with the Control Tower.

The FTE in Table 3-3 below is pulled from the 2015 Assessment Report, which is based on extensive interviews of the individuals whose current jobs most resemble the Program Regional Coordinator position. The current FTE for the hub and spoke Program coordinators was extrapolated for other regions based on the number of regional villages. The FTE estimates in Table 3-3 assumes full Program capacity, with all regional villages served. Because the workload depends heavily on the number of villages, a lessor village participation requires a proportionately smaller FTE. At startup, and for the first two Program years, the FTE needed is approximately half of peak FTE. A minimum FTE level also exists. Even with few participating villages, Coordinators will need to learn the Program and also work intensively with participant villages to bring them to the Backhaul Stage. Potential entities listed are those that currently practice some form of regional backhaul program or occasional regional backhaul project.

Table 3-2 Regional Coordinator FTE Support Needed and Potential Host Entity

Region	Approx. Number of Communities	FTE Needed with Full Village Participation	Potential Host Entity(ies)
Yukon-Kuskokwim Region	47	3	AVCP, Kuskokwim Watershed Council, Orut'sararmiut Tribe
Bristol Bay Region	22 - 26	1.5	BBNA, Curyung Tribe
Norton Sound Region	15	0.75	Kawerak

Table 3-3 Regional Coordinator FTE Support Needed and Potential Host Entity *(continued)*

Region	Approx. Number of Communities	FTE Needed with Full Village Participation	Potential Host Entity(ies)
Northwest Arctic Region	9 - 11	0.75	Maniilaq
Peninsula Region	10 - 17	0.5	KANA, Native Village of Seldovia
Interior Region	34 - 40	1.5	Greenstar Interior, TCC
Opt-in Regions			
Interior Road System	*Unclear participation levels*		CRNA
Aleutians	*Unclear participation levels*		APIA
Southeast	*Unclear participation levels*		CCTHITA
North Slope	*Unclear participation levels*		ASNA

3.1.5 Lingering Questions and an Action Item

The division of regions may be a point of disagreement among some stakeholders, including most importantly, ANCSA Regional Corporations and some Tribes, as well as potentially other political divisions such as boroughs. It is essential that regional leadership is approached to assess their perspectives on participation and collaboration. Questions to be answered by stakeholders include:

- Are they willing to host a Regional Coordinator, or donate a portion of the wages?
- Does the division of villages impact their willingness to contribute to the Program?
- What, if any, are the issues related to the few villages that are part of one ANCSA region but logistically perhaps better grouped with another?
- Where more than one regional entity is a viable and willing potential host, is there a disagreement about which entity should serve?
- How can the above disagreement be resolved, or what happens if no host entity is willing? (e.g., the Coordinator would be a Program employee with no host entity)?

3.2 Regional Breakout Action Items

A significant action item before the Program Plan is finalized is to convene a meeting and/or approach individually each regional entity to familiarize them with the Program, ascertain the answers to the questions raised here, and respond to questions arising from each entity.

3.3 Profile of a Participating Village

This section describes the management profile of a participating village. Chapter 4 describes in detail the central village-level program components, and how revenues and costs that the village might accrue are handled.

3.3.1 Organizational Structure

The lead entity at the local level may be the Tribe, City, or even a formal community organization. To avoid confusion, with only occasional exception for larger communities, local level backhaul needs will be channeled through one local entity. Multiple local entities may participate, but must select a lead entity. That lead entity is ideally whomever currently administers the bulk of community backhaul.

A typical rural Alaska City or Tribe structure is anticipated for the lead entity. Namely, a Council, an Administrator/Mayor/City manager, and an Environmental/Waste Management Program staff of one to four people. For Tribes, most typical would be one to two Environmental staff plus one to two waste management staff that carry out backhaul, plus potentially short-term backhaul laborers. For Cities, most typical would be the City Manager, plus one to three waste management staff that carry out backhaul, plus potentially short-term backhaul laborers. In some cases, City waste management staff and the Tribe's Environmental Program staff both work on backhaul. In this case, the two entities should agree on the most appropriate Program contact. A fourth possible arrangement is that the City works on waste management related to landfill operation and the Tribe conducts backhaul. In this case, the Tribe as lead entity is recommended.

There are three primary positions that the lead entity must designate—the local Program Administrator, the local Program Coordinator, and the Backhaul Team Lead. The Program Administrator is an authorized signer for their entity, and has supervisory authority over the local Backhaul Team Lead. They speak on behalf of the Village, and are ultimately responsible for the Village's Program performance. They sign the Village Program Participation Agreement and verify completion of each Village Checklist Component (see Section 3.3.3).

The Program Coordinator is the practical Point of Contact (POC) for daily Program needs, logistics, and recordkeeping. They have direct knowledge of Program status, and are reachable throughout the day. They work closely with, and may supervise or be part of, the Backhaul Team. For Tribes, the Coordinator will often be the Tribal Environmental (GAP) Director/Coordinator, but may also be the Landfill Operator or Recycling Coordinator, if there is one. For Cities, the Coordinator most likely will be the Landfill Operator, but may also be the City Manager. It is the Coordinator's responsibility to inform their Program Administrator of the

Program status. At least two additional backup point of contacts for the Village are required as well.

Finally, the Backhaul Team Lead is the designated leader for backhaul logistics, including materials preparation, packing and labelling, and shipping. They are fully current on all required, pre-defined training, and reachable by phone during backhaul season. For some villages, the Backhaul Team Lead and Program Coordinator positions may be most efficiently filled by the same person. This is most likely the case for villages where the GAP Coordinator or Assistant perform the backhaul functions now, with or without assistance from any waste management staff or temporary workers. Alternately, the Landfill Operator or Recycling Coordinators that perform all backhaul functions, including communications with Carriers and End-Destinations are well versed in both roles as well, and could serve as the local Program Coordinator and Backhaul Team Lead.

Along with the Backhaul Team Lead, the Backhaul Team is comprised of any other individuals performing backhaul functions as a permanent or temporary job duty, referred to here as Backhaul Technicians. Besides the Backhaul Team Lead, other waste management staff are typically part of the team, as are seasonal or temporary workers hired specifically for backhaul or site cleanup, etc. Some summer Youth Job positions also detail backhaul duties, as do AmeriCorps Intern positions. These individuals are also part of the local Backhaul Team.

3.3.2 Village Checklist

A central feature of the Program is the Village Checklist ("Checklist"). The Checklist is comprised of several readiness components that evaluate when the village is ready to prepare, package, and ship materials in a safe, legal, and efficient manner. The local Program Administrator attests to each component and submits any required documentation (e.g., training certificates), and the Regional Coordinator assists the Villages in meeting components, and assesses when each component is met. The development and evaluation process is explained further in Sections 4.2 and 4.3.

3.3.3 Village Participation and the Two Village Program Stages

The Program Administrator signs, on behalf of the Lead Village Entity, a "Participant Agreement" that stipulates Program participation requirements. Chief among the requirements is the acknowledgement of the Checklist, the awareness of potential liability risks, and that the Lead Entity is responsible for the full community's backhaul. Additionally, submittal of the contact information for the three designated local Program positions above is required.

There are essentially two stages for a Participant Village:

- The initial **Capacity Stage** is for those that have signed the Participation Agreement and are building capacity for, or demonstrating their capacity for, each Checklist component.
- The **Backhaul Stage** is for those that have completed the Checklist and are actively engaged in the Program's material backhaul. A legal document that accepts liability for

improperly packaged, labelled, or loaded materials is signed by the Village's Program Administrator prior to any backhaul activity.

3.3.4 Village Resources and Efforts Required for the Program

There are no substantial resources required to participate in the initial Capacity Stage of the Program, other than having designated individuals to fill the local Program positions.

Village resources needed to complete the Checklist and move to the Backhaul Stage are as follows:

- **Travel Support:** To participate in the initial Capacity Stage, and to reach the Backhaul Stage, the backhaul team must meet the Program training requirements. It is the Lead Entity's responsibility to ensure ongoing eligibility. The bulk of on-site training will be in Anchorage or regional hubs. The Program goal is that the trainings will be offered free-of-charge by the various groups that offer solid waste management (SWM) training now, and any others that are certified through a Train the Trainer's course. These groups receive funding via various sources that have been fairly consistent in the past, and are anticipated to remain so in the future. However, in most cases travel costs for participant villages will not be fully offset. The Village must fund the travel balance. Training costs should remain eligible for funding under EPA IGAP. See Section 4.4 for details on Training duration and frequency, and other requirements.
- **Backhaul Supplies:** The Village must also have sufficient supplies to properly package the material they wish to backhaul. Again, the Regional Coordinator assists the Village in obtaining these supplies. Further, it is the eventual Program goal to provide discounted or free-of-charge supplies as donations accrue. A matching funds component is also planned, whereby the Village can request reimbursement of needed supplies up to a certain match percent (see Section 5.5). The Village Match feature will be explored in the Pilot Program and if feasible, phased in during the Program Development Stage (see Section 4.7). Further, even then procurement of these supplies is guaranteed, and will be available on a priority-need basis in the case of limited funding.

During active backhaul preparation, Village resource needs of note are:

- **Backhaul Labor:** Carrying out Program backhaul requires personnel time—in inventory, staging, preparing, packaging, labelling, and shipping, and administrative time for recordkeeping and Program communications. As with critical backhaul supplies, the Program goal is to assist Villages eventually in covering personnel expenses via the Village Match feature. Different regions may receive more donation support and sooner than others. However, the responsibility of providing sufficient local personnel salary to cover any hole in available funds is ultimately the Village's.
- **Engagement of Local and Regional Partners:** The isolated nature of rural Alaska communities has led to a large number of local and regional entities throughout the state that may be relatively unknown or unreachable by the State Coordinator and Control Tower. While the Regional Coordinators will have a better grasp on local village

entities and conditions than the Statewide Coordinator/staff, there are still efforts that are best carried out by the Village and/or assisted by its local knowledge. For example, a local resident might have a piece of equipment to loan, a self-owned plane company to fly materials to the hub, or an advantageous connection with a larger transport company or corporation. Some villages have an existing method for shipping materials to the hub free-of-charge. Rather than spurn local knowledge, the Program seeks to capitalize on any opportunity that saves funds and increases efficiency. Villages are encouraged to contribute their experience, networking and ideas to mold a Program that suits their particular sub-region. A participant Village can anticipate spending some time in outreach and coordinative efforts with local and/or regional entities able to assist the Village and the Program.

See Section 4.2, 4.4, and 5.5 for more discussion on village resource outlays, the extent to which they may be covered by the Program, and the conditions and timing that may be involved.

3.3.5 Relationship with Regional Coordinator

Participant Villages will have a strong, active working relationship with their Regional Coordinator. Capacity Stage Villages will work with the Coordinator on a number of efforts including:

- Acquiring needed supplies,
- Obtaining correct training for their planned backhaul team,
- Developing appropriate recordkeeping system,
- Deciding which, if any, local and regional entities might be approached for this specific village's backhaul effort,
- Ensuring any inventory performed prior to backhaul stage is performed correctly, etc.

Backhaul Stage Villages can expect to work with the Regional Coordinator intensively as backhaul opportunity is being identified and the backhaul date approaches. Communication topics will include:

- Assuring the final inventory list,
- Verifying the final staging and packing (e.g., connex numbers, list of materials attached to connexes),
- Assuring the final labelling (correct vendors, addressing, hazard ID),
- Coordinating any port/airstrip information requested by the Carrier or Control Tower,
- Assuring the Backhaul Team is aware of the Carriers loading expectations and requirements,
- Assuring the Backhaul Team is prepared for whatever time the Carrier lands, and that there is a backup plan in place for any missing team members.

After the materials have been unloaded and processed at the end-destination, topics will include:

- End-tracking of materials recordkeeping,
- Any Carrier/End-destination reports of packaging or loading issues, and
- Any revenue checks due to the Village.

3.4 Profile of Participating Private Sector

This section describes the private sector participants, their basic features, and their roles. There are four main groups of private sector participants – "Industry" Companies, Non-Industry Companies, ANCSA Corporations, and Individuals. Industry here refers to recyclers, carriers, suppliers, and potentially brokers and miscellaneous support industries. The term "participant" is an encompassing term used here for any entity that is part of the Program, while "partner" refers to the bulk of participants that donate by in-kind or cash to the Program.

3.4.1 Recycling, Transportation, and Supplies "Industry Companies"

These companies participate in the Program primarily due to a combination of two often intertwined objectives:

1. Making a profit, and
2. Donating to serve the common good.

How much a company desires to donate varies widely, including a segment of companies uninterested in a Program donation.

It is in the Program's interest to attract as many Industry participants as possible, regardless of whether they offer discounting. The greater number of Industry participants, the stiffer the price competition, resulting in lower backhaul costs. Additionally, with more Carriers, more routing flexibility is gained, which is helpful in serving less frequented villages. With more Vendors, the greater likelihood a low-cost, qualified vendor is at a Carrier's end-destination. Without a feasible vendor at a Carrier's disembarkation port, the Program must forego Carrier offers to serve a village.

Finally, the higher the discounting or greater in-kind donation that is proffered, the greater the Program's ability to serve those villages that have higher backhaul costs.

Qualifying as a Program Industry Participant

Qualifications to serve as a Program Industry Partner will be discussed and finalized at the Fall 2017 meeting. Draft criteria include the following:

- Environmentally responsible practices, as evaluated by independent and reputable third-party organizations.
- Agreement to use of Uniform Inventory Forms
- Agreement to serve all Backhaul-Ready Villages (as routing allows). Refusal of a Village that has met all Checklist conditions and has a qualified Backhaul Team Lead to sign off on packaging must be supported by a written justification.

- Good faith agreement to pass savings generated by Program participation onto Program.
- Responsive to Program communications, particularly Control Tower queries and requests.
- Respect shown to all Program entities and Partners. Particularly during the Pilot and Initial Full Program Phases, the Program will experience difficulties as the best protocols are learned.

The Market as Incentive for Attracting Qualified Recyclers, Carriers, and Suppliers

With rare exception, Industry companies exist to make a profit or at the very least maintain their workforce. A strong market for their product and/or service is the primary driver for participation. A recycler must either make money by charging villages sufficiently for accepting their backhauled materials or by charging manufacturing companies, or other process or end-destinations, for the material. The stronger the materials market, the lower the charge to the Program and villages. The weaker the market, the higher the cost to villages to recycle.

The market is not viewed as a snapshot, but as a force over the company's planning horizon, often on the order of five years. If a material is forecast to be in strong global demand a few years from now, recyclers may very well pay more for the material than its present worth and simply stockpile it. At some point they reach a peak inventory, and are unable to store more. The ability to stockpile materials in large part determines whether the timing of the forecasted market upswing is soon enough to risk purchasing additional material.

At present, the market for backhauled materials across the board is down, with no clear time in sight when it will rebound. Chief among the materials are metals – heavy metals from electronics and scrap metal from appliances and vehicles. In general, metals declined 15% in 2016, nearly half of what they were in 2011. A big part of this downturn is a worldwide recession, and low fuel prices. Low fuel prices mean that new materials are transported for a low cost, which in turn opens up metals competition globally. Part of that increased competition is from countries with weaker currencies than the dollar and weaker environmental regulations. They are thus able to sell their metals for less. Part of the market downturn is when oil prices are down, raw materials are less costly to mine. Part of the bleak market future is that countries and companies are already well stockpiled from prior market purchasing opportunities when the market was low. While demand has increased slightly, ongoing material supply from past excess production and stockpiling translate to a market that remains oversupplied. Metals are projected to rise moderately in the medium term, but the timing will vary with individual metals. It is not just the processing and end-destination Industry companies that are affected. With supplies high, fuel low, and a recession where funds are tight, Carriers must compete with more Carriers, and for less cargo and fewer contract opportunities. Their resulting profit margins are slim.

The state of the market results in two main conclusions:

1. During the first five years, the Program cannot rely on profits from a strong materials market to significantly support its operation, if revenue is generated at all.
2. Attracting a broker interested in profiting from the marketing of Program materials is unlikely. Likewise, with exceptions for certain metals recovered in bulk by villages like aluminum, copper, or lead, Industry will likely need some compensation to carry, process and/or dispose most backhauled materials.

Enticing Industry to Consider Program Donation as a Customer Appreciation Strategy

With the bleak market enticement described above, how does the Program attract Industry to participate and provide donations via either discounting or in-kind services? One is heightened appreciation of community and Alaska public-at-large. Studies of businesses have documented greater appreciation of a company generally translating to increased sales. Many, if not most, companies have a "Customer Appreciation Strategy" for this reason. An appreciation strategy differs from a marketing strategy because something of value is given to the customer, such as a restaurant providing free appetizers. Value can also be intrinsic. The company can decide to donate to, or participate in, a favorite cause, which in this case would be the Program. Landfills are highly visible in communities. Community concern about waste contaminants polluting subsistence or causing health problems is consistently the number one concern in the environmental surveys carried out by Tribal GAP programs statewide. So the potential Community appreciation of Industry donations is high.

The Program capitalizes on this aspect. "Donor Appreciation" is a component of the Village Checklist required of all participating Villages, and described more fully in Section 4.2. Villages must have an identified community outreach plan to express appreciation of monetary and in-kind donations.

Stymying companies from including the Program as part of their customer appreciation strategy is the somewhat limited volume of, and somewhat captive, business in villages. While per capita, these isolated households require greater direct barge service than metropolitan areas, the populations are very small.

Beyond receiving additional customer demand and a wider customer base within the village, it is possible that a company could change the transportation dynamics and routing share in the state. Companies willing to serve participating villages may find a new customer pool. Externalities related to the change in route structure and the effect on competition and village service are mostly unknown. Evaluating their significance is beyond the scope of this plan. As the Program proceeds, it will be possible to elucidate any negative externalities and reexamine aspects of the Program that contribute to it.

Rather than rely on evolving changes in market share in the rural market, ensuring positive visibility for Industry donors by the wider metropolitan audience in Alaska is part of the Program's Donor Appreciation Plan, and tasked to the Statewide Coordinator. The regional coordinators evaluate whether a village has an adequate local donor appreciation plan. The goal is to make statewide customer response to Industry participation as elastic as possible. The greater assistance that Industry provides, the greater the increase in customer demand for their

products and services. See the next chapter for additional detail on the Statewide Coordinator's tasks related to the Program's Donor Appreciation Plan.

In summary:

1. Industry will be encouraged to develop customer appreciation strategies that include Program donation.
2. Companies that do so are assured of recognition locally by the villages, which must have a plan to do so prior to backhaul, and at the statewide level via a variety of Statewide Coordinator efforts.

Public Service as Good Corporate Citizen

Corporate citizenship is judged by the extent to which corporations meet their "social responsibilities". With the internet and social media, consumers and investors are increasingly able to identify which companies align with their values, and which are engaging in bad social practices. More consumers are actively selecting their products and services based at least partly on their perception of a company's social behavior. Positive response by companies towards better social practices has set up a positive feedback loop. The demand for socially responsible corporations is growing and the trajectory is expected to continue.

Larger corporations are annually ranked by the leading corporate responsibility magazine using these seven categories (bold font added):

- Environment
- Employee relations
- Climate change
- Human rights
- Corporate governance
- Financial performance
- **Philanthropy and community support**

Strong Corporate Social Responsibility (CSR) programs are recommended as good business practice by leading trade and business publications and multi-media because they increase sustainability of the company, and have a positive impact on revenues and employee satisfaction. Those with the most developed programs have substantial, focused, and integrated departments structured at high-levels of the company organization chart. That level of importance is what the Program helps Industry companies to achieve.

Program communities face serious health risks because of their unique hazardous waste disposal situation. The Program will market partnership as a means for Industry to develop well-respected CSR programs. The proximity to the waste problem of the companies that serve rural Alaska is critical to that effort.

- The smaller barge and plane companies are nearly all Alaska-based operations with rural residents leading the company. Additionally, there is a fledging number of rural

recyclers in the regional hubs. A scrap metal dealer recently began operations in Nome, and an auto parts store accepts batteries free-of-charge in Bethel, Dillingham, and Nome. These companies are intimately familiar with the conditions, with some company owners living with their own community's substandard.

- It is not just the smaller operations, but the larger national and international Industry carriers as well that are aware of the waste problem. The often unfenced, sprawling landfills and dumpsites are typically within one mile of the airstrip and port, and are difficult to miss. Plane pilots and boat crews see the circumstances and engage with community during their port operations. Their experiences transfer to decision-makers, directly, or up the chain. While Industry recyclers don't commonly visit villages, their employees interact with them via phone or other means, and build a picture of their customer's unique waste plight.

The Program plans to use these local Industry interactions to gain Industry discounting. Villages are encouraged to work on their ground relationships with visiting Industry employees, and the Regional Coordinators assist those efforts.

However, it is the Statewide Coordinator's role to ensure that Industry participants see the opportunity to build a useful CSR program through Program donation. Brochures will be developed that highlight how a Sustainable Statewide Backhaul Program partnership develops good corporate citizen reputations.

3.4.2 For-Profit Non-Industry Companies, Excluding ANCSA Corporations

The Program will capitalize on CSR and Customer Appreciation strategies of non-Industry corporations as well. The more donors to the Program, the better able it is to serve villages.

Who are these Corporations?

They are primarily businesses with significant ties and investment in Alaska, such as resource exploration and development companies, banks, tourism companies, reality TV franchises, and construction companies. They include the few resident commercial businesses located in the hubs, as well as the larger, often multi-national corporations with Alaska headquarters typically in Anchorage.

A special case exists for Charter plane companies. They are carriers, but are not involved in transporting freight per se, with exception of project supplies carried by passengers, or supply operations chartered by a single company. There are a number of companies based in the larger cities that exist to fly out individuals and groups to rural Alaska villages and area lodges. They serve out-of-state hunters and fishermen, recreational tourists, private project contractors, and public government and non-governmental organizations (NGO's).

Driving Factors in Donating

The same motivations that Industry companies have apply to these companies. A strong CSR program translates to a more sustainable business. While these companies do not serve rural Alaska via backhaul, rural Alaska is a substantial part of their customer base, and or plays a

central part in their bottom line (i.e., the lure of Alaska for tourism businesses). Helping these communities improves economic resiliency and population health. Thus donating to the Program brings acclaim from the public-at-large that have shared values, translating into an increased customer demand for the Company's products or services, and a more sustainable bottom line. Corporate pride, both internal among employees and external between companies, can play a role as well. Again, the growing expectations for companies to be good corporate citizens, and the increasing ease by which the public can access information about the company status, plays to the Program's favor.

A special case occurs when a for-profit company is present physically in a village or region, either temporarily for a project or permanently as one of few rural private businesses. The local Backhaul Teams are heavily encouraged to request in-kind assistance from all local and visiting businesses. On the flip side, the local company staff may see the Village backhaul need and offer in-kind assistance, such as transportation of material to the airstrip or dock. In the case of outside contractors, free cargo space may be asked for, or offered, as part of project demobilization.

A large portion of regional hub businesses depend on, and perhaps exist for, village business. Soliciting donations from these businesses is likely to be fairly successful. These are the suppliers of goods and services unavailable in villages, and they can be expected to be generally knowledgeable about village conditions, and sympathetic to the Program objectives. Regional Coordinators will solicit hub supermarkets, mechanic shops, and other supply stores for donations. In-kind donations such as pallets and discounted mechanic services will be sought to assist the local Program hub operation.

Harnessing the Driving Factors to Secure Donations from Private Corporations

The Program will utilize the profit and good citizen desires of private, for-profit companies through the following summarized avenues:

- The Statewide Coordinator will be very active in implementing a donor recognition strategy that advertises its donors and expresses public gratitude via an array of outlets.
- Assuming sufficient pilot monies can be identified, a contracted marketing firm will assist in the design of the strategy, which will be employed by the Statewide Coordinator thereafter. In the absence of funding, the Statewide Coordinator will work with knowledgeable individuals to design the strategy.
- A parallel marketing strategy targeting companies will be designed that highlights the usefulness of Corporate Social Responsibility programs and how the Program can be used as a vehicle to achieve a respected corporate citizen status.
- Local project contractors and businesses will be approached by the local Backhaul Team and/or Local Entity Administrator for in-kind heavy equipment assistance and backhaul space.
- Regional hub businesses will be approached by the Regional Coordinators.

3.4.3 ANCSA Corporations

Alaska Native Claims Settlement Act (ANCSA) corporations, whether one of the 13 regional "Alaska Native Corporations" (ANCs) or one of the more than 200 local "Village corporations," manage to a triple bottom line, which accounts for economic, social/cultural, and environmental performance. ANCSA corporations are unique from other U.S. companies as they are majority owned by Alaska Native people. The ANCSA corporations have grown their companies with a multigenerational perspective. The ANCSA corporations employ thousands of people in Alaska and worldwide through a tremendous variety of businesses, such as natural resource development, telecommunications, engineering, government contracts, construction, drilling, environmental remediation, alternative energy, real estate, investments, and tourism. Additionally, ANCSA corporations are an important and critical part of the Alaskan economy. Beyond revenue sharing (typically referred to as 7(i) and 7(j)), ANCSA corporations provide a wide variety of monetary and nonmonetary benefits to their shareholders and other Alaska Natives. Monetary benefits include shareholder dividends, Elder benefits, scholarships, memorial benefits, shareholders' equity, and charitable donations. Nonmonetary benefits – often in partnership with village corporations – include employment opportunities, economic development, and advocacy on behalf of Alaska Natives and their communities. ANCSA corporations are among the top 49 Alaska-owned companies ranked by gross revenue and provide approximately 58,000 jobs worldwide with about 16,000 in Alaska.

The Program offers ANCSA corporations various opportunities to partner, such as in workforce training. Many ANCSA corporations have job development departments, and backhaul work can employ shareholders and their descendants. ANCSA corporations may have an apprenticeship or scholarship programs which could partner with the Program.

The Program also offers a means of reduced backhaul costs for resource development projects, namely mining, drilling, and logging. Like any other project in "the bush", these ventures must backhaul out their wastes, as a lined landfill accepting hazardous wastes would be much costlier and time-consuming.

ANCSA corporations own lands in and around villages. Some landfills are located on ANCSA lands, either as locally authorized sites or as happenstance by community disposal habits. Many of these landfill sites are conveyed legally to the city or tribe after they have been in use for a period of time. Other ANCSA lands may be the site of old dumps, unauthorized salvage areas, or indiscriminate waste dumping. Village residents and project contractors often use whatever space may be available, so that these lands can actually hold a significant volume of wastes. Further, the corporations retain subsurface rights to vast tracts of conveyed or leased lands that may be contaminated from leaching wastes. The Program offers an excellent avenue to backhaul wastes from ANCSA lands and prevent further surface and subsurface contamination.

A key dynamic with ANCSA corporations, regionally and especially locally, is the strong connection they have with their communities and with traditional, cultural lifeways, including subsistence. ANCSA corporations might donate to the Program because the value of subsistence is so critical to Native peoples it is recognized in a related law, the Alaska National Interest Lands Conservation Act of 1980 (ANILCA). ANILCA describes Native subsistence as

unique and intrinsic, “the opportunity for subsistence uses by rural residents of Alaska…is essential to Native physical, economic, traditional, and *cultural existence*" (*italics added*). While some c-level executives are not from Alaska, most leadership is comprised of shareholders who grew up with subsistence as a lifeway, and continue to live a subsistence lifeway as much as their circumstances allow.

Supporting backhaul supports subsistence. It clears the environment of the hazardous wastes that can otherwise leach or flood out contaminants to the nearby water or emit contaminants to the air. ANCSA Corporations are as diverse as the many Alaska Native cultures and people, their interests in this program may be varied, but there are many opportunities to reach out and partner on this program.

3.5 Participating Public Sector

Also participating in the Program will be a number of public sector entities and individuals. These are in-village, in-regional hub, or in-metropolitan area; governmental and quasi-governmental organizations, as well as private citizens at-large inclined to donate funds or in-kind services and products to the Program.

3.5.1 In-Village Entities

The local Village profile has already been discussed in regards to the municipality and Tribe. Additional local entities include the School, Head Start, church groups, and other clubs such as youth groups. There are examples of all of these entity types operating an aluminum can recycling program in villages to help fund activities. Leveraging opportunities may exist with the aluminum can backhaul mechanisms these groups already use. Additionally, these entities offer a promising pool of local Program volunteers with experience, and prone to community involvement.

Part of the Regional Coordinator’s role is to encourage the local Backhaul Team to seek out local leveraging and assistance, and to mentor the local staff on how to go about such networking efforts.

Also local to the Village, and accessible to the Backhaul Team for networking, are the Post Office, Airstrip, and Water Treatment Plant, and Electric Utility. Staff are residents and may be interested in assisting the Program due to their own concerns about hazardous materials left in the Village. Each of these entities contributes waste to the landfill and an ethical obligation may be seen by resident staff on behalf of the entity. Sometimes, the decision to leverage entity resources is made by local staff, or by visiting staff. For example, an AVEC electric utility staff may be out in a village conducting utility pole repair, replacing a fuel tank, or performing other tasks that involve the use of heavy equipment. An operator with heavy equipment can be very helpful in Villages otherwise without adequate means to transfer connexes, loaded pallets, and other material to the airstrip or port.

Freight in-kind decisions—for example, connex and plane cargo empty space that might be available through the demobilization of supplies and equipment, are not likely to be made

locally as a formal manner. However, informal assistance is possible, again dependent on the village relationship with the company.

Further, supervisory level personnel that can make decisions are sometimes located in the village, either as resident or temporary contractor. For example, the regional housing authority might contract a firm to manage a village house construction project. These projects typically mobilize heavy equipment to have on-hand, unless they are able to rent a suitable piece there. While the contracted firm may be profit-driven, they are paid by a non-profit entity that sets the rules. In this instance, the Backhaul Team would ask entity staff to help in moving a connex, loaded battery pallet, or other backhaul material to the airstrip or port.

To assure that local leveraging opportunities with in-village entities occur, the Program plans the following:

- The Village Checklist will include a component that requires the Backhaul Team to check with local entities about upcoming projects that have merit as potential leveraging opportunities.
- The Regional Coordinator is tasked to ensure that local donations are appropriately acknowledged.

3.5.2 In-Hub Entities – The Regional Non-Profit and Health Corporations

The non-profit corporations ("Regional Non-Profits") are not public entities *per se,* but are notable to the Program as potentially offering substantial leveraging opportunities. Several of these may house their region's Coordinator, as discussed in Section 3.2. For those who don't operate a regional backhaul program or don't have a regional environmental program, they may still contribute in several ways for several reasons. Like for-profit Alaska Native Corporations, they have a chartered responsibility to their region's peoples. Unlike the for-profits, they are set up specifically to serve the Tribes, Tribal members, and their communities (not shareholders), and many are headquartered in the regional hub. Their size and number of program services varies substantially. But most have housing authorities and work development programs that serve their entire region, and that are primarily funded by US HUD and US DOI grants. Many state-funded projects also route through these organizations, especially in the unincorporated boroughs. About half have environmental programs (TCC, BBNA, Kawerak, Maniilaq, CRNA, CCTHITA) primarily funded by EPA, several have BIA road programs, and TCC and Maniilaq operate their medical clinics and regional hospital primarily funded by IHS. Other regions have separate non-profit health corporations that operate medical facilities, funded by IHS. For example, YKHC operates in the AVCP region.

These Regional Non-Profits are responsible for hundreds of millions of dollars in village projects annually. They represent a unique and important potential for Program leveraging of their project equipment, mobilization and demobilization, freight transport, personnel chartered plane transport, and office space. Regardless of whether a hub and spoke model for backhaul is recommended, these organizations are the primary entities hosting regional village events, and will be sought to serve a vital role also in coordinating and/or hosting Program trainings, conferences, and workshops.

3.5.3 Other In-Hub Regional Entities

These entities include regional services such as school districts, electric utilities (e.g., AVEC), churches including Regional Church authorities, University of Alaska branches, and Post Offices. Most of these entities house someone at the management level or higher who has decision-making authority.

Of special note are school districts. Schools comprise about 5% to 10% of village waste streams depending on the village population. School districts determine the region's budgets and policies that affect local waste streams, and hence affect the Program. For example, use of Styrofoam in some districts for school lunches adds a significant volume of waste to the village's waste burden. In conventional landfills outside rural Alaska the Styrofoam would be buried. But in about 80 percent of villages there is a good chance that the Styrofoam will be burned, emitting toxic fumes. If there were less school wastes, there would be less waste to burn, less toxic emissions, and more time for the Backhaul Team to conduct backhaul. Schools also contribute the number one supply of spent electronics to the waste stream. These e-wastes are by and large sent through the Village backhaul system currently, and typically for no fee.

All of these entities have missions, whether under the Internal Revenue Service or ANCSA, to serve the rural communities. They possess similar motivations as the regional non-profits and are in a good position to organize Program volunteer activities and other in-kind donations.

The Regional Coordinator is tasked in the Program again to seek out assistance from these organizations. Examples of Program need anticipated to be at least partially met include the transfer of materials from small plane to the hub airport or barge landing and the repackaging of materials prior to loading for its final destination. Besides entity employees, local residents at-large, could assist in these efforts. The Kawerak backhaul program in Nome for example, has several volunteers from local organizations as well as private citizens, performing these tasks under the direction of their backhaul coordinator.

4 Implementing the Framework Components.

Chapters 1 - 3 described the structure of the Program and profiled its components. This Chapter provides a detailed description of the Program and what is needed for its implementation. For each Framework Precept listed in Chapter 1, a detailed description is given as well as:

- Implementation steps and conditions,
- Challenges in implementation and missing pieces, and
- Implementation action items.

4.1 Coordinating Logistics – *The Control Tower Approach*

> **Coordinating Logistics:** The Program seeks to minimize time in port, maximize the leveraged partnership opportunities for highest revenue, and optimize routing logistics. Less fuel and personnel time, and greater cost savings, result and backhaul cost is reduced.
>
> *-- First Precept of the Program Framework*

The Program Framework's first precept describes the routing and material brokering logistics employed. A simplified primer for how materials and information flow in the Program can be found in Figure 2-2 and Section 2.1. This Section describes such logistics in detail.

4.1.1 Precept Description

As a review, a "control tower" approach is used in the Program to coordinate the dynamic schedules for the most efficient routing of available carriers. For Checklist-ready villages in the Program's Backhaul Stage, routing is towards the best pricing of materials recyclers at the Carrier's end-port. For villages needing backhaul supplies, the Control Tower identifies the most efficient routing available from the best priced backhaul supply vendors. For example, the Control Tower can identify whether there is a Carrier that can transport needed battery totes to a Village free-of-charge. With minimized time in port, maximum advantage taken of discounted transportation donations, and brokering both for materials recycle pricing and backhaul supplies pricing, backhaul cost statewide is reduced.

Optimizing the routing is a complex supply chain management puzzle with a unique set of constraints and conditions. The challenge is formulated with greater detail in Text Box 4-1. To solve the problem, a customized Program SAP application will be developed in the Pilot Program by the initial Control Tower contractor. Should that contractor be replaced in the future, the Program software will be intact. Refer back to Section 2.4 for a discussion on SAP programming.

For the Control Tower to generate an optimal route, a dynamic, current profile of Village backhaul and supply needs is required. The Control Tower obtains this information along with other relevant Village circumstances from an online relational "Village Tracker" database. The Village Tracker contains a record for each Village and is populated by the regional coordinators and maintained and quality-controlled by the State Coordinator.

- For Backhaul Stage villages, the Village Tracker contains specific information about the wastes the village is waiting to backhaul, including type, amount, and packaging. That information is obtained from the uniform Inventory Form that each village completes, detailed more in Section 4.4.
- For Capacity Stage villages, the Village Tracker contains specific information about the supplies each village needs to be Backhaul Ready. That information is obtained from villages by the Regional Coordinator during an assessment phase, described more in Section 4-3.

Working with the SAP routing optimization software and Village Tracker database, the primary steps the Tower takes are shown in Figure 4-1.

A Tested Approach

This general method of village-regional-state coordination was tested successfully in the mid-2000s in the Citgo Free Heating Fuel Program. Fuel was delivered monthly to all households in 150 villages, with over 25,000 end-points. Weekly financial reporting that accurately tracked delivery down to the household level was performed. To ensure information was received in timely fashion, village documentation was transferred by whichever method worked best – fax, email, or phone. Fuel stores or Tribal Councils predominantly faxed a household signature list and receipts to their Regional Coordinator who entered the information into a shared database. The State Coordinator then performed quality control and ran statewide reports. Those reports and database were shared with the Finance Division, which provided payment to the various fuel carriers and village level distributors. A FoxPro database was designed specifically for the purpose and a user friendly interface allowed non-users to enter and read information easily.

Text Box 4-1 Problem Formulation of the Control Tower's Role

The Control Tower is contracted to solve the following cost minimization problem:

- What is the total least cost way of backhauling materials from villages?

Least-cost is a balance between Carrier least-cost and End-Destination least-cost. For example, the least-cost Carrier might not be going to the least-cost Recycler or Landfill port of call, and/or the least-cost End-Destination may require a truck hauler for certain material loads or from certain carriers.

Constraints on least-cost that the Control Tower must operate under include:

- End-Destination and Carrier must be qualified (see Section 3.4),
- Favorability of long-term contracts is evaluated against short-term costs,
- Priority of the Village backhaul is considered.

Dynamic operating conditions with which the Tower operates include:

- Market fluctuations in waste commodities, and hence both Vendor fees and revenues for all materials, many of which pricing trends are independent of each other.
- Weather and hydrological conditions impacting small and large barge, and small and large plane transport ETA and ETD schedules and cancellations.
- Village preparedness, including availability of a point person at the critical backhaul landing and loading time changing dependent on local events inherent in all very small tight-knit communities with little human resource backup, such as shortened critical subsistence windows, search and rescue, medical emergencies, and funerals.
- Village project and institutional supply and mobilization changing as funding pots and priorities change, projects and programs end. Village demand for supplies, whether from an outside project contractor seeking to mobilize or demobilize, or from a school bringing in yearly which is at the heart of why a barge or plane stops at a village and is able to backhaul materials without expensive chartering.
- Dynamic Externalities of carriers and routers affecting their service coverage area, ports of call (village and end-destination) and available infrastructure, and backhaul policies on cargo and in-kind donations.
- Whether consolidation of materials in hubs and packaging will warrant better Vendor and/or Carrier price, and whether capacity (storage and consolidation space, infrastructure, human capital) is available at the right time.
- In multiple village port of call Carrier runs, typical time in port uncertainties, weather and other conditions build to smaller and smaller margin of error for last loading villages.

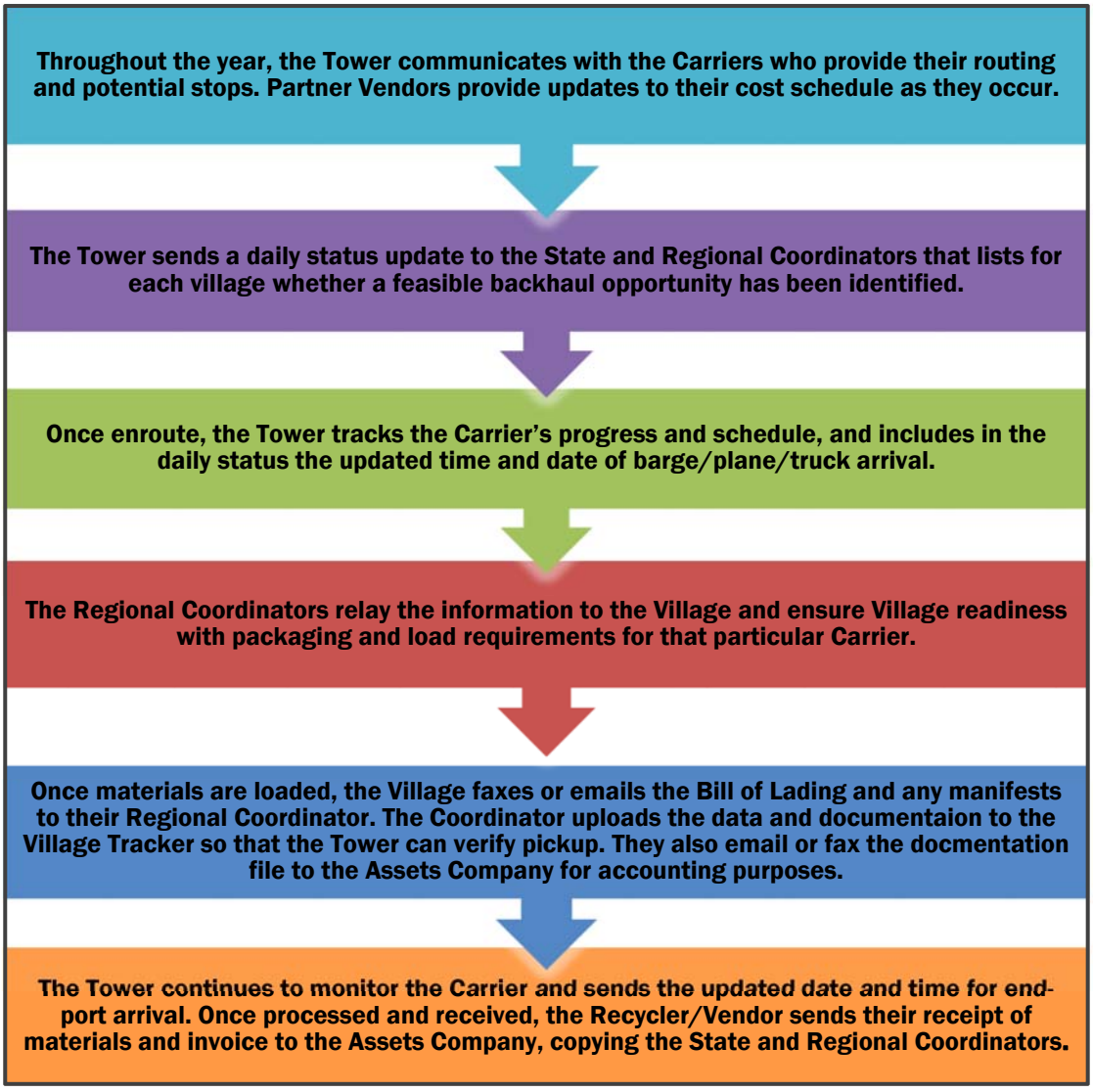

Figure 4-1 Primary Overall Sequence of Routing Events in Village Backhaul

4.1.2 Primary Steps and Conditions and Specific Entity Roles

Based on the above discussion and the materials, information, and assets flows described, the main steps or conditions needed to implement a Control Tower approach are provided in Table 4-1.

4.1.3 Challenges in Implementation and Missing Pieces

The primary challenge in implementing the Tower approach is funding. Adequate funding ensures an adept company is hired to serve as the Control Tower that will be well familiar with the type of logistical problem the Program presents. The company hired will take the lead in assuring optimal routing, maximum profit, and will advise the Program on tasks that can improve efficiency.

The Tower will need a lag time between Program hire and Carrier routing of 3 to 6 months, so that it can develop its SAP Program and relevant protocols. The Program should be set up three to six months prior to that. The State Coordinator can then contact the Tower and provide the Village Tracker database and Regional Coordination information needed for the Tower to develop the Program specific SAP routing software. Challenges in setting up the various components of the Program's infrastructure exist, but these are discussed in sections 4.2 – 4.5 where they are more directly relevant.

4.1.4 Action Items in Implementation

As Table 4-1 lists, immediate action items to take so that the Control Tower can begin its work are:

- Seek legal assistance in-kind and/or funding for formal setup of organization,
- Develop the Pilot Program budget,
- Find funding for the Program pilot, including Program human and capital infrastructure, staff and Control Tower positions, as well as for the Tower to develop the SAP Program for optimizing routing and logistics.

Table 4-1 Implementation of the Control Tower Approach

Steps or Conditions Needed for Control Tower Structure to Be Implemented	Specific Entities Involved and their Role
1. **Obtain legal advice and assistance for setting up Program structure, planning assets company criteria, developing bid documents.**	Any companies or agencies wishing to donate legal services in-kind for review or development of assets company parameters and criteria.
2. **Program structure formalized so that the Program can receive funding.**	Contractor and /or Executive Committee to perform this task. Once Statewide Coordinator is hired, they will assume lead role.
3. Secure funds to perform a Pilot Program that covers the Regional and State coordinators, the Control Tower, and basic infrastructure setup *(see below)*. Funding can be piecemeal and cover just a specific portion.	Potential donors discussed in Section 3.4. Most likely funds will come from foundation and government grant(s) to perform the Pilot.
4. Set up Program basic infrastructure: Identify an Assets company; form initial list of Recycler and Carrier partners; develop Village Uniform Training curriculum, Village Tracker database, Stakeholder database (Section 4.5); and hire State Coordinator.	For Stakeholder database, all agencies, industry companies, and other stakeholders participate by providing a description of what they may offer to the program. See Section 4.5 for details.
5. Develop and perform bid to procure a Control Tower contractor.	Program Coordinator performs.
6. **Devise *a detailed plan* for the most effective and efficient method for the Tower to work with Carriers and Recyclers (notification frequency, information formatting, etc.)**	Tower and Coordinator work jointly with Industry companies to ensure vetted protocols result.
7. SAP Program developed by Control Tower	Primarily Control Tower with piloting and evaluation mechanism that includes Carriers and Recyclers.

4.2 Preparing for Backhaul in Villages – the Village Checklist

Preparing for Backhaul in Villages: To receive the discounted rates that are anticipated to accrue from the Program, Villages meet a "backhaul readiness" checklist vetted by carriers and recyclers, which includes training, certification, necessary equipment and supplies, and community involvement.

- Second Precept of the Program Framework

The success of the Program hinges on discounted rates for backhaul offered by Carriers, Suppliers, and Recyclers as a result of better efficiencies at the village, regional, and state levels. Those discounted rates are offered to participating Villages if they meet the criteria of the Village Checklist first, as described in Section 3.3.

As mentioned in that Section, the regional coordinators are responsible for tracking the Checklist for each of their region's villages. They check any required documentation for each component to verify which have been met. Regional coordinators enter the information into the Village Tracker database, described in Section 4.1.1, and detailed further in Section 4.3.

The EPA has funded the development of the Checklist, anticipated to be finalized by June 2017. The final Checklist will have been vetted by Carriers and End-Destinations to ensure it meets their needs in risk avoidance assurances.

To be enrolled in the Program, an interested village meets "baseline" Checklist components that primarily relate to willingness and readiness to accept its Program responsibilities. The draft baseline Checklist components are provided in Table 4-2. Missing pieces needed prior to rollout are listed in Column 4, and potential roles for partners, if any, are found in Column 5.

Once they have completed the baseline components, the Village is officially in the Capacity stage and eligible to receive discounted supplies and Program technical assistance. The Village continues to work actively on the Checklist with the Regional Coordinator. Once all of the remaining Checklist components have been met, the Village is in the active Backhaul Stage. Components to complete for acceptance into the Backhaul Stage are in Table 4-3.

Table 4-2 Draft Village Baseline Components Required to be Enrolled into Program as a Capacity Stage Village

Component	Purpose	Village Documentation Needed for Signoff	Missing Pieces Needed Prior to Checklist Implementation	Potential Entity Role(s)
Community interest	Community interest in backhaul/the Program is needed so that backhaul has a chance of success.	Community meeting sign-in and agenda copies or survey showing interest or equivalent.	Descriptions of Program, flyers, video, slideshow that can be used by villages to present to council/ community.	Visiting partners (state, federal, industry, other) can offer present to community.
Program understanding	The Village understands how the Program works – particularly the Checklist, Uniform standards, village responsibilities, and no guarantee of quick backhaul.	Proof that community and Council viewed Program basic video or slideshow.	Descriptions of Program, flyers, video, slideshow.	Visiting partners (state, federal, industry, other) can offer to present to community.
Local authority(s) consent/ interest	Legal agreement is required to minimize Program liability and to ascertain the Village realizes its duties.	Letter from Tribe or City committed to Program that lists required contact names and designated titles (see 3.3.1), confirms their responsibility to institute waste fees, their commitment to serve the full community.	Letter template needs to be drafted and then legally reviewed.	Legal counsel donation by any partner entity.
Local authority legal acknowledgement of responsibilities	*Same*	Form List of Village Responsibilities and Program procedures and operation signed. Includes how revenue from value materials is distributed.	Agreement package needs to be drafted and then legally reviewed.	*Same*

Table 4-3 Draft Checklist Components to Complete for Acceptance into the Backhaul Stage

Component	Purpose	Documentation Needed for Signoff	Missing Pieces needed prior to checklist implementation	Potential Entity Role(s)
Uniform inventory completion	Establishes quantity and type of materials, plus number and type of containers/ packaging so that resources and transport can be planned.	Completed inventory form by a qualified person trained through Uniform Training curriculum.	Inventory form	Industry input on what they need and format they would like to see.
Uniform Training completion	The Backhaul Team Lead can safely oversee staging, packing and loading, and can sign off on proper procedures.	Individuals completing training are placed on a centralized list, and receive a certificate.	Training curriculum, Trained instructors via a Train the Trainer initial course.	*Same*
Backhaul supplies needed to safely package and ship	Without appropriate supplies, materials may be packaged unsafely.	Signoff by Backhaul Team Lead.	Checklist of required supplies for various materials and mode of transport.	In-kind donations by industries and local businesses (e.g., connex, totes, pallets), cash donations.
Timely, efficient, and knowledgeable communications with the Local Program Coordinator	If reliable contact is not available, the potential for the village to not respond when needed close to backhaul date is too high. Also indicates interest and potential safety risk.	None- Regional Coordinator determines this based on number of communications with Village.	*None*	*None*

Table 4-3 Draft Checklist Components *(continued)*

Component	Purpose	Documentation Needed for Signoff	Missing Pieces Needed Prior to Checklist Implementation	Potential Entity Role(s)
Local waste fee structure (in-place or planned) that can offset Program costs.	Shows commitment and interest in Program, galvanizes corporate sponsors, and spreads out cost among villages. The Program cannot support non-contributing communities.	Ordinance and proof of collection/ revenue. If fees are not in place – must submit proof of Council meeting discussion and Council-outlined steps to implement.	What is minimum level of fees that is acceptable – or is there a minimum, and do we expect villages to raise fees after a certain time, etc.	Agency, project, businesses pay fees or other for any projects and personnel visiting or stationed in villages.
Local stakeholder contribution questionnaire	Ensures that local potential partners are captured and gets village to think and possibly plan for local assistance.	Form is filled out.	Need a template – just a list of potential small local carriers, donating businesses, projects, etc. that might assist the Program or village locally.	Entities with business in the village to work with village at local level as possible.
Donor Appreciation Strategy	Ensures the donors are thanked so that they keep donating.	Simple page or two on what they will do, such as include in their newsletter, make signs, etc. signed by Council.	Regional Coordinator could draw up a list of sample ideas.	Entities share with villages what they most appreciate.

4.2.1 Implementation Steps and Conditions for the Village Checklist.

EPA has funded Kawerak, Inc., the regional non-profit in Nome, to develop the Checklist in FY2017. Planned steps are as follows:

1. Develop and finalize Draft Checklist through incorporating comments from Industry, Village backhaul coordinators, and backhaul experts.
2. Present at Alaska Forum on the Environment and Fall 2017 meeting for final comment and buy-in.
3. Develop final Checklist.
4. Test in the Program Pilot Project for any changes.

4.2.2 Challenges in Implementation of Village Preparedness and Meeting the Checklist

Development of the Checklist should be straightforward. The key is obtaining sufficient input from those stakeholders directly affected-- Carriers, End-Destinations and Villages. A February 2017 Alaska Forum on the Environment session will obtain input from villages, and the Fall 2017 Stakeholder Meeting will provide a platform for Carriers and End-Destinations. To carry out the steps listed in Table 4-3, the challenges here are primarily village-focused.

Approximately half or more of villages already have an established backhaul program for at least some waste types. For them, beyond the necessity of the Council formally approving Program entry, most of the Checklist components will be familiar. The *caveat* is that even those personnel that have extensive backhaul experience must undergo the Uniform training and they must fill out the Uniform Inventory sheet. With these, some adjustment in procedures may be required. A team lead must also be designated and some individuals may be uncomfortable with the responsibility of signing off on the packaged cargo.

Meeting all the checklist requirements may prove difficult for some villages, especially those with little infrastructure and under-functioning Councils. Meeting some components, including all baseline components, solely depends on the Village. The Regional Coordinator can assist the Village in providing information to the community, presenting at meetings, and other outreach activities, but cannot themselves garner community interest. Without nascent community support and Council approval, the Program in that village will falter. These Villages will be some of the last communities to enter the Program. In the future, it is anticipated that the lessons learned from other villages and the prominence of the Program will help to galvanize resident support. Part of the Regional Coordinator's job is to communicate with non-Program villages to ascertain any change in status.

Possessing or obtaining sufficient backhaul supplies may present moderate difficulties for a substantial number of villages. Some basic supplies are easily financed through the Program, through Village waste fees, GAP funds, or other sources. But other supplies are costlier, such as connexes and totes. The Program may not be able to cover these costs, at least initially. The Regional Coordinator will work with the Village to find funds or in-kind donations from entities. For example, larger transport companies may own one or more empty connexes in the Village they are willing to at least temporarily donate. Other connexes might have been purchased for projects some time ago, and could be donated. Several businesses end up with empty pallets, and these could be donated. As the Program progresses, common supplies can also be purchased in bulk by the Program, and discounted.

Requiring waste fees may prove a big stumbling block for many villages. Village environmental programs from a substantial portion of villages have attempted to work with the community and Council to implement a waste fee structure and have come up empty-handed. It may be however, that if waste fees are required to be part of the Program, the Council or residents may be more galvanized.

Additionally, the costliest component on the list is training and inventory. Training requires travel funds, and inventory and packaging requires personnel time. However, training and

inventory in and of themselves are straightforward, and some form of these procedures has been in existence for over ten years.

Greater detail in Village backhaul costs and in how they might be covered is provided in Section 5.5.

4.2.3 Action Items for Village Preparedness via Checklist Implementation

The primary action items are development of the Inventory Form, Training Curriculum, and Village Checklist, an effort that is currently being funded by EPA. Minor additional items are listed in Column 4 in the above two tables. Essential actions prior to Program rollout are:

- Obtaining legal counsel and develop the program Entry Agreement template, including Village Council letter template;
- Developing succinct and salient messaging materials for Village Environmental staff to garner resident and Council interest in, and knowledge of, the Program.

4.3 Program Coordination – The Regional and Statewide Coordinators

> **Coordinating Village Backhaul:** Regional Coordinators assist villages in meeting the Checklist, communicate on routing needs, and they and a Statewide Coordinator work with the Control Tower on routing logistics.
>
> - *The Third Precept of the Program Framework*

With the number of villages and variety of needs and time constraints, coordination at all levels of the Program is essential. This Section discusses in greater detail the Program information flow depicted by orange arrows in Figure 2-2 and bulleted on page 13. It also describes the duties of the regional and state coordinator positions. The duties that the Village Backhaul Team takes on were described in Section 3.3.

4.3.1 The Regional Coordinator

As mentioned in Sections 2.1 and 3.1, the Program's regional level efforts are led by the Regional Coordinators, likely hosted in a regional entity building. The Regional Coordinators are in some ways the most vital piece of the Program.

1. They serve as information conduit between the local level Villages, and the Statewide Coordinator and Control Tower.
2. They also work with Villages to ensure their needs are met, backhaul readiness is timely, and required conditions of safely and reliability are met.

In serving as a conduit, the primary function of Regional Coordinators is reducing the number of contact points needed in the Program from approximately 180 villages down to the six primary

regions. Reducing the contact points to 1/30th of what is needed now brings tremendous efficiencies for the Control Tower in determining best routing; for the Carriers in conveying pricing, packing, and loading information; and for the Recyclers and other End-Destination Vendors in relaying their costs and packing requirements.

Regional Coordinators provide the data on village readiness and needs to the Statewide Coordinator and Control Tower via the shared Village Tracker database. When the Internet is down or a need for urgent communication arises, direct phone, fax, and/or text is employed.

Hiring an experienced and competent Regional Coordinator is key. Beyond the above work, Regional Coordinators identify village patterns or events both harmful and helpful to Program development, mentor village staff in networking, network for regional hub leveraging, relay regional-level needs, adapt the formatting and content of any materials to meet their region's needs, contribute to Program guidelines, templates, and other infrastructure.

Their main duties, along with missing needs, and partner roles, if any, are included in Table A-1.

4.3.2 The Statewide Coordinator

While the Regional Coordinator is the glue between Villages and the Statewide Coordinator, the Statewide Coordinator is the glue among regions, and between regions and the Control Tower. They act as a backup in the case of absent Regional Coordinators, an assistant in the case of a Regional Coordinator's temporary work overload, and the main point of contact with the Control Tower for incorporating feedback, modifying strategies, and identifying priorities. They spearhead development of Program outreach materials and efforts, such as the Donor Appreciation Strategy mentioned in Section 3.4 and described in more detail in Section 5.4. They also lead development of Program guidance and protocols for participating Villages. They ensure sufficient training is available for those interested by seeking or supporting grants and innovative instructor partnerships. They are the primary networkers for initiating and implementing partnerships with various entities listed in Section 4.5. They are also the main administrator for the Program at least during initial startup.

Their specific duties, along with what is needed prior to Program implementation to carry them out, are listed in Table A.2.

Much of how and what is communicated from the Regional Coordinator resides in the operation of the Village Tracker Database. This database is shared online so that the Control Tower, industry partners, Villages can access it as needed with reading privileges, with a master hard copy stored on a dedicated computer in the Statewide Coordinator's office. The Statewide Coordinator is the individual responsible for conducting quality control on the database.

4.3.3 Implementation Steps and Conditions for Program Coordination.

Figure 4-2 lists the following implementation steps and conditions for coordination between Program parties.

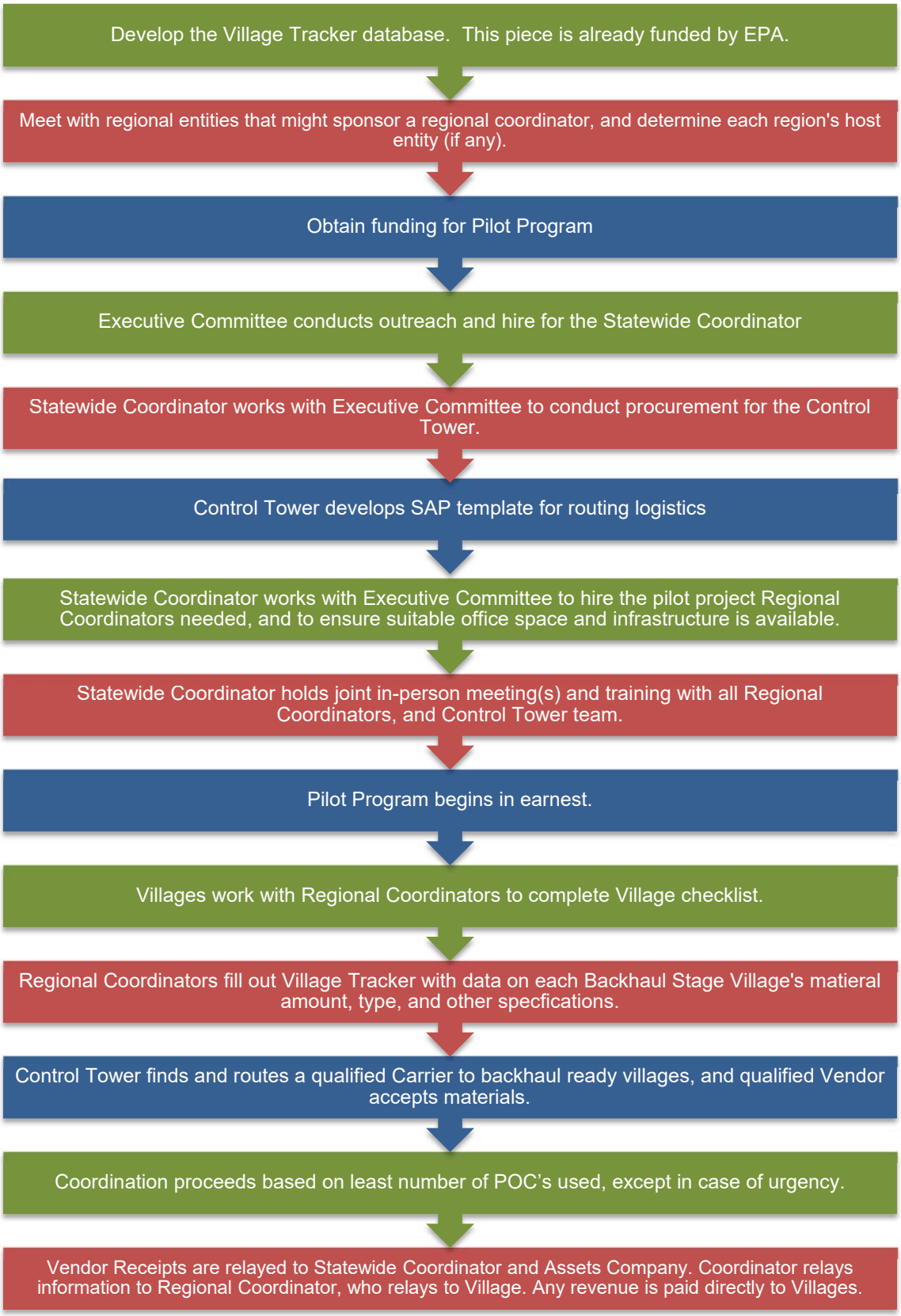

Figure 4-2 Implementing Steps for the Coordination between Local, Regional, and Statewide Levels

4.3.4 Challenges in Setup and Implementation for Program Coordination

Setting up the Control Tower piece was discussed in Section 4.1. The remaining primary challenge in setting up the Program coordination is developing a useful, seamless Village Tracker database and determining the best platform to electronically share it. Criteria for sharing include a version locking mechanism in the case of simultaneous users with editing permissions, and reliable database accessibility particularly by the Regional Coordinators located in hub cities.

The Tracker database at present is tentatively funded by EPA. A high quality product is necessary as the database is a linchpin for the Program coordination system. The developer must carefully and comprehensively query Carriers, End-Destinations, and backhaul experts to determine the fields needed and what, if any, unique functions should be programmed. A simple database program such as MS ACCESS, that is available and accessible by most parties, is the best platform. It provides the relational layout needed to treat each village as a separate record, and the various fields can be programmed to be relatively user-friendly via the use of forms. Critically, the Control Tower would be able to generate reports or import data into their SAP routing program. While not as versatile as a high-end database product, it is much less expensive and easier to learn in the case of turnover. With a maximum of a dozen people using it concurrently, the electronic sharing capability of ACCESS or a similar basic database is more than adequate. And programming would not require an IT specialist.

Another challenge to the Program succeeding is ensuring that experienced, capable, self-starting individuals serve as the coordinators. The Program simply would falter without this caveat, as it would take at least one year for a non-experienced individual to gain sufficient backhaul and regional village network understanding. To address this issue, the wage level will be very competitive, and to the extent possible, flexibility in working hours and location (e.g., telecommute), and other benefits will be added.

The Regional Coordinators are stationed in their respective hubs so that the steep learning curve may be especially difficult to overcome. To solve this issue, at hire, the Regional Coordinators will meet in-person with the State Coordinator and the Control Tower point of contact to review Program protocols and complete any final products needed for the region's work.

After the formative meeting(s), the State Coordinator will draft a final communications protocol that accounts for differences in regional needs and yet is consistent enough to draw inferences among regions and to allow for mentoring. The plan would list all points of contact and outline frequency and time of routine meetings, and clarify any identified communications issues, including a decision tree for the regional coordinators in regards to which circumstances constitute the need for direct communications with the control tower, state coordinator, or vendors and carriers.

4.3.5 Action Items

Primary action items to carry out prior to the Pilot Project include:

1. Develop the Village Tracker database *(tentatively funded only as of this date)*
2. Identify which regional entities are interested in serving as a host for the regional Program.

4.4 Uniform Village Backhaul Protocols

Ensuring Uniformity: Uniform training, packing and loading steps, and forms are used to minimize the liability and regulatory risk to carriers and end-vendors. With less risk, companies can offer greater discount and more backhaul opportunities.

- *The fourth precept of the Program Framework*

Recyclers and Carriers have voiced concern over a number of village backhaul packaging and labelling practices that could jeopardize their personnel or property during transport, loading and unloading, or unpacking. This fourth precept covers the uniform tools and training used to address these concerns and make Program Village backhaul as routine and safety-controlled as possible. That uniformity allows industry to better predict and rely on reduced time in port and reduced level of risk.

To achieve this comprehensive uniformity and reliability, the Program uses protocols for the village backhaul process starting with inventory and through to loading materials onto the plane, barge, and/or truck. Completion of the Village Checklist discussed in Section 4.2 assures that Villages have the supplies and training needed to make backhaul uniformity achievable. Program specific training will be required and monitored to ensure that, at minimum, the Backhaul Team Lead knows exactly how to carry out each step in accordance with Program standards. Any untrained laborer, from someone packing materials to the driver of the ATV to the airstrip, must work under direct and uninterrupted supervision by the Lead or someone else who has successfully completed the Program training.

The main tools for the uniform backhaul protocols are:

1. Uniform Inventory Form
2. Uniform Training Curriculum

These pieces are discussed in the next two subsections.

4.4.1 Inventory Form

Inventory Form development is currently funded by the EPA and expected to be complete and vetted by stakeholders by Summer 2017. The Inventory Form describes the material(s) that the Village wishes to backhaul and the material(s) state of backhaul readiness. In regards to backhaul readiness, wastes are generally divided into four main stages:

1. Stored wastes: Legacy waste that the Village wishes to backhaul, accumulated historically and stored at the dumpsite, homes, or other areas. The waste is practically

accessible (e.g. not buried in the landfill), but not staged for backhaul. Examples include scrap metal at a salvage yard and computers in a school closet.

2. Staged wastes: Wastes that have been stockpiled in specific, authorized locations with any hazardous parts removed, drained, or lined, and are ready to be packaged once adequate supplies, labor, and space have been secured. Examples include batteries in covered totes, and snow machines with fluids drained.
3. Packaged wastes: Wastes that have been packed and labelled according to regulations and are "backhaul-ready".
4. Backhauled wastes: Wastes that have been received by the End-Destination.

Monitoring the universe of wastes that the village plans to eventually backhaul, and what might be "in the pipeline", helps the Program to plan future logistics. For certain materials, such as lead-acid batteries, knowledge of a larger quantity in village(s) may pique greater Program interest by Vendors, resulting in greater shipping discount or recycling revenue.

But the primary use of the Inventory Form is the specific description of packaged wastes. This data is entered into the Village Tracker database by the Regional Coordinator, and is what the Control Tower uses in determining best Carrier routing and End-vendor destination. The Form will largely consist of waste checkmark lists, multiple choice queries, and numerical fields for counts and weights. For each waste type, the weight and count (if applicable), packaging method (i.e. banded, shrink-wrapped, boxed, loose, etc.), waste containment method (i.e. pallet, tote, connex, etc.), and any special instructions or characteristics is recorded. The Inventory Form will mirror the Village Tracker database record format for ease of data entry and minimization of input error.

4.4.2 Uniform Training Curriculum

The Training Curriculum is also currently funded by EPA and its completion is anticipated by Summer 2017. A Curriculum Development Team will be formed with Industry Representatives to vet the design and content. The Curriculum's primary facets are as follows:

University of Alaska Certified Program: The curriculum will likely be taught through 1 – 3 University course credits, and that can integrate with the existing Rural Solid Waste Management and Spill Response Technician Occupational Endorsement. In the future, it may form the basis of a new Rural Waste Backhaul Supervisor Occupational Endorsement. The following general topics will be included (not representative of separate classes):

- **Alaska backhaul function-specific:** How to inventory, package, label, load, and track e-wastes, lead-acid batteries, household batteries, fluorescent bulbs and other mercury-containing products, white goods.
- **Refrigerant removal** (optional for those not including white goods in their Program)
- **Vehicle staging** (optional, vehicle backhaul is not part of the initial Program)
- **Program-specific protocols:** Teaches students about the Program, how it operates, and what to expect.
- **Supplemental Safety Training:** HAZWOPER 24 (or 40), CPR/First Aid

- **DOT regulations training:** Minimum training in DOT regulations (General awareness, safety, security awareness) and steps to ensure employer meets DOT regulations for all Village Backhaul Team employees (with 90-day rule exception)
- **Job readiness training:** Focuses on Program/job ethics, expectations, timeliness, responsibility, etc.

Vetted by Carriers and Experienced Backhaulers

The final curriculum, certification process, and monitoring method will be vetted by a wider group of Industry representatives at the Fall 2017 meeting, with an aim to obtain Industry approval. Their safety concerns are the primary reason for curriculum development. Previous comments by Industry have broached the possibility that formal approval will be difficult to obtain due to liability concerns should something unexpected happen via a trained backhaul team. If Industry could be said in a court of law to formally approve the curriculum, they might be found liable for the Village Backhaul Team's mistake. Therefore, should Industry approval not be forthcoming, the final goal will be to keep them apprised of the curriculum, modify it if concerns are raised, and stop modifying it, once the no objections or concerns are no longer raised.

Instructor Consistency via a Train the Trainer Requirement

To ensure that instructors understand which pieces of the training must be thorough, and exactly how each piece must be taught, a Train the Trainer course will be developed. The Program will not recognize a training led by someone who has not passed the Train the Trainer course. Additionally, Instructors will need to demonstrate a clear mastery level of experience in conducting backhaul.

All approved instructors, when they were approved/trained, and what aspect of the curriculum they are Program certified to teach, will be kept on file by the Statewide Coordinator. The UAF curriculum is part of an Occupational Endorsement. Endorsements are developed to provide students skills that will land them a job. If the Program only certifies students that have been taught by Program-approved individuals, any instructors approved by UAF to teach the college credit courses will be Program certified.

Certification Monitoring

Because the training will be offered through University courses, certification documentation will be automatic. Refresher courses may be offered that are not through the University, but given by Instructors that have been approved to teach the regular curriculum. At this point in time it is not known whether there will be a sunset on training completed. However, some method will be developed to ensure the Backhaul Team is current with their skills. Absence from backhaul tasks even for one year could result in lapse in memory of a safety related skill. While a training refresher date is not set, the Regional Coordinator will verify that individuals on a Village Backhaul Team must not have a lapse of active Team involvement for more than a

certain period of time, tentatively 8 or 9 months until determined by the Curriculum Development Team, without some level of safety refresher training.

4.4.3 Implementation Steps

Again, both the Inventory Form and Curriculum Development are funded. Steps and approximate timeline to develop and complete for the Inventory are:

1. **January 2017 – March 2017** Inventory draft
2. **Summer 2017:** Finalize Inventory draft
3. **Summer/Fall 2017 and on:** Incorporate into backhaul trainings
4. **Fall 2017 meeting**: Present Inventory draft
5. **2018/19 Pilot:** Use in Pilot and Full-scale Program, modified as needed

For the Curriculum, the anticipated timeline is as follows:

- **December 2016 – March 2017:** Draft Curriculum and present to key Industry representatives

- **February 2017:** Present at AFE primarily to a village Environmental Program audience for their feedback

- **Fall 2017 meeting:** Present for final approval and feedback.

- **Fall 2017 and onward:** Introduce and teach curriculum, pilot new courses for catalog courses.

- **Fall/Early Winter 2017:** Train the Trainer course

- **Winter 17/18 and on**: Courses to be offered via various funded approaches, see challenges below.

- **Fall 2019**: If proposed, anticipated final approval of a new Occupational Endorsement as Backhaul Team Supervisor.

4.4.4 Challenges in Implementation

Few implementation challenges are seen with the Uniformity precept. Most villages that backhaul already use some form of inventory sheet, and they certainly conduct inventory. The introduction of a standard form, particularly one where attention will be paid to ease of use, should be straightforward. Implementing the training requirements will be a departure from current practices. Many villages that backhaul are self-taught or have received bits and pieces from a hodgepodge of training opportunities at conferences, workshops, and other venues. Backhaul training now is not nearly as comprehensive or as rigid as that proposed. There may be some disgruntlement as already seasoned backhaulers will be required to take the training. They are likely to see it as unnecessary. However, because it is required by the Program substantial advantage accrues to Program participants, significant difficulties in convincing

village backhaul employees to sign up for the training are not foreseen. Additionally, many backhaul staff in villages currently have not been trained in the required DOT HAZMAT regulations.

The biggest challenge is the time and cost involved for this level of training. At a minimum, prospective trainees will likely need to spend a total of 6 days at a hub or Anchorage to complete their initial training. Travel alone would cost about $2,500, and range from $1500 to $3000. Travel can be covered by the village solid waste budget, and this type of training would be allowable under GAP. Other course fees could accrue if the Trainer is unable to secure monies to pay for their time. Also, if the University of Alaska is tapped as the certification body, University tuition can be nearly $200 per unit—meaning for the minimum training, as much as $600 in tuition would be incurred. This challenge can be addressed in at least three ways. First, the University may be willing to offer a discount to lessen the cost. Second, several scholarship opportunities are likely to be available either through the University, the trainer, or a regional Native Corporation or CDQ. Third, several solid waste trainers now offer stipends from about $500 to $800 to those finishing their trainings. These trainings are by and large funded by USDA Rural Development, and there is no indication that they will disallow this use of funds.

Third, in the absence of the first two options, an option for an under-funded trainee could be that they do not register for the course, but attend it, and be held to the same criteria as other students. This route might benefit laborers and other part-time technicians that are not interested in pursuing environmental work as a career, but see annual backhaul as extra income. It would also help the Village financially so they did not need to find tuition monies. In this case, the Program is left to keeping certification records. However, the amount of effort required would be minimal once a system was setup. The Village Tracker database can be programmed to contain this information.

4.4.5 Action Items

The primary action item for the uniform training piece, beyond the development of the curriculum itself, is:

- Hold a pilot training for students to ensure that planned method delivery, course content, and materials are adequate to ensure safe and proper packaging. Evaluate packaged materials and loading process during a backhaul event through partnerships with vendors and carriers. Modify training as needed.
- Develop a Train the Trainer course from those results.

4.5 Securing Partnerships for Financial Sustainability

Securing Partnerships: Maximum advantage is taken of "Good will" opportunities with transporters. In-kind assistance from agencies, contractors, and organizations interfacing with rural village projects, facilities, and services are crucial to getting the wastes out.

- The fifth precept of the Program Framework

This Section describes specific roles in more detail for key partners and the implementation plan for securing those partnerships. Sections 3.4 and 3.5, discussed who in general the Program partners are, their motivations, and the Program plan to use those motivations in securing partnership through efforts such a Donor Appreciation Strategy. Chapter 5 discusses plans and options for program financing by various partners in detail.

4.5.1 Recommended Partner Roles

The February 2016 meeting identified partnership roles for specific agencies and other entities that can greatly assist the Program. One issue discussed at length was construction project wastes filling up village landfills and contributing to the necessity of backhaul, as well as the solid waste burden of the village. Several recommendations were drawn for all state and federal agencies to follow, as well as private contractors:

- Mandate to haul all project, program, and personnel associated wastes out or pay fee to village for use of landfill or services.
- Pay a right of entry fee versus waste disposal fee to use the Village landfill or to leave wastes and supplies in the village. This action increases local hire.
- Allow equipment use and volunteer time, and/or write into projects personnel duties that dovetail with the backhaul operation, such as organizing a staging area for the project that will also benefit the Program, building an equipment shed for the project equipment that can also be used by the Program. For federal entities or federally funded projects (e.g. rural water-sewer projects), issues may arise in accounting for donations as in-kind. However, entities can examine within their own program whether, how, and the extent to which, equipment, supplies, and services can be provided to the Program, or Lead Village Entity.
- Unused supplies like connexes should be turned over at project end and donated.
- Federal Only – All rural federal facilities, projects and personnel should use the **Blue Earth Program** through the Post Office that recycles e-wastes and some other materials free-of-charge.

A promising role for partners with projects, facilities, and programs in the village is to pay the Program directly to arrange and ship out their wastes, rather than handle that task themselves. *Significant revenue could accrue to the Program and increased local hire could benefit the*

Village. In practicality, this situation would most often crop up with contracted projects. Agencies would require the project contractor to rely on the Program to ship out their hazardous wastes. Contractors would be required to list out their waste stream and determine which materials the Program could handle and which would be less costly to handle via other means. To pay the Village the fair share of landfill usage, construction waste characterization is recommended regardless.

The Program is not intended at startup to handle large volumes of project wastes, but smaller shipments would be entirely feasible. The contractor would hire the local backhaul team to package the material as needed, and then pay the Program for shipping. *The local backhaul team is trained in HAZMAT so it is an ideal means of increasing local hire.* Additionally, the Alaska resident hire preference law for public works projects stipulates a minimum hire for laborers. Hiring the Backhaul Team for handling project wastes will help to meet the 90 percent rule.

Table 4-4 lists specific recommended partner roles suggested at the meeting or in other forums.

Table 4-4 Potential Partner Contributions

Entity	Potential Contribution
All federal and state agencies	Mandate to haul out all project, program, and personnel associated wastes or pay fee to village for use of landfill or services. Follow through on contractor and other projects, facilities, and workers to ensure that waste is disposed properly. Potentially pay a right of entry fee versus waste disposal fee, or pay Village Backhaul Team to manage project, program, and personnel wastes. Allow equipment to be used and/or write into projects personnel duties that dovetail with the backhaul operation, such bringing materials from staging area to port. Unused supplies like connexes should be turned over at project end and donated. Federal Only – All rural federal facilities, projects and personnel should use the **Blue Earth Program** through the Post Office that recycles e-wastes and some other materials free-of-charge. *For the final two donation ideas that follow, please see Section 5.2.3 and 5.4 for more detail.* Consider paying the Program directly to handle construction and other project wastes, particularly hazardous wastes, to generate Program revenue. Consider a percent fee on any programs, facilities, projects to the Program for waste removal and/or handling.

Table 4-4 Potential Partner Contributions *(continued)*

Entity	Potential Contribution
	Federal Agencies and Entities
US National Park Service	In-kind: Transport Village materials as possible with NPS flights and barges. *Transporting materials from some NPS associated villages is currently performed.*
HUD	Pay fees or otherwise fund the program as part of a safe Solid waste management system for HUD homes. They pay for initial hookup for water service so a fee may be reasonable for home participation in Program.
EPA	Allow Tribes to use GAP monies to pay for Program supplies, equipment, and training. Allow Tribes to use GAP monies to pay for Program labor through FY 2020. *Support initial startup costs via grants. EPA is doing this.*
Denali Commission	Assist in agency and other entity coordination. Host meetings. Assist in outreach/marketing ideas.
IHS	Fund a portion of the Program or Tribal infrastructure used for the Program. Allow equipment use for in-kind services.
BIA	Leverage Program outreach with BIA Provider's Conference. Provide Program a free outreach table and feature the Program in Plenary. BIA Roads funded projects must coordinate with Program, and also allow use of road maintenance fees to cover Village Program activities that relate to road wear and tear. Reduced road usage to landfill occurs when the Program is effective – thus saving on maintenance costs. BIA Housing funded projects must coordinate with Program and prepare to pay fees for disposal of construction and demolitions wastes locally or through village backhaul.
USACE	Work with Program on a project basis with heavily reduced or free hauling. Mobilization and demobilization from other projects could include hauling for the Program. For example, Denali Commission could include waste backhauling as a tag-on project to a bulk fuel or port project. If it is part of the project then ACE can do it and it would cost little, because they would be hauling out anyway.
Alaska National Guard	Go into villages and assist with staging, packing, loading. Haul out connexes, totes, etc. to Anchorage or to hubs for loading to Seattle. Use Active Duty for Operational Support, Reserve Component (ADOS-RC). ADOS-RC tours support training exercises and short-term projects.
DOD - JBER	Make use of USAF training facilities.

Table 4-4 Potential Partner Contributions *(continued)*

Entity	Potential Contribution
	***Federal Agencies and Entities** (Continued)*
Small Business Administration	Help with business and marketing plan, including Donor Appreciation Strategy.
USDA	Help to fund pilot project and Uniform Trainings.
FAA	Allow use of buildings or land.
USFWS	Facilities, personnel, and projects in rural Alaska could help with outreach as way to protect fish and wildlife. In-kind: Transport Village materials as possible with NPS flights and barges. *Transporting materials from some NPS associated villages is currently performed.*
US Post Service	Assistance with advertising, outreach. Blue Earth Program for federal agencies – accepts e-wastes from all federal facilities, projects, personnel.
Federal Executive Association	Help to coordinate and galvanize Federal agencies.
US Senate	Help to find pilot funding and to pass legislation that federal agencies and federally funded projects can donate use of equipment and personnel to public good projects (or at least our Program), and they must haul out all wastes brought in or pay a fee.
	State Agency, and Regional and State-Specific Entities
AKDOT	Assist in Uniform Trainings, instructing DOT regulations.
VSW/ANTHC EH/ Regional EH Divisions	Support solid waste and water/wastewater projects that work with the Program. For example, a new treatment building could be modified to house a "public works" garage or storage area. Provide engineering assistance for infrastructure that can benefit Program, such as salvage pads at dumpsite with storage facilities. Environmental Health Division can assist Regional Coordinator in documenting Village Checklists, incorporating Checklists with the routine "Inspections" they carry out.
Alaska Solid Waste Program	Assist with Uniform Trainings, assist Regional Coordinators in documenting Village Checklists, incorporating Checklists with the routine "inspections" they carry out. Provide technical assistance. Serve on Executive Committee.
Division of Economic Development	Technical advice, assistance in starting up Program, potential loans through Rural Development Initiative Fund or other.
Division of Community and Regional Affairs	Community database interface with Program, Potential loans, grants to Villages to help them attain backhaul ready status. Local Government Specialists help Village with organizing/setting up Program.

Table 4-4 Potential Partner Contributions *(continued)*

Entity	Potential Contribution
Regional Housing Authorities	Pay fee to Program to pick up hazardous wastes and certain construction wastes, such as scrap metal. HUD grants for housing are mandated to provide safe sanitation and solid waste service. Leverage mobilization and demobilization efforts, so that barges and planes transporting project personnel, equipment, or wastes can backhaul wastes.
School Districts/State Dept. Ed.	Community outreach help in individual Villages, lending use of school for events. Pay Program to manage and backhaul their e-wastes, fluorescent bulbs. Or pay villages to manage.
AK Legislature	Support Program startup and operations via line item on State budget.
In-Village Businesses	
Charter Airlines	Advertise to clients the opportunity to assist the Program by hauling out prepared wastes.
General Contractors Association	Pay Program or village to handle hazardous wastes, pay fee for every waste/supply left, and contact Program to see if there are in-kind opportunities to donate, such as use of equipment.
AC Stores, AVEC and other businesses with multiple facilities	Provide in-kind donations including surplus items such as gloves and pallets, as well as volunteer prizes such as store/utility discounts.
Industry	
Airlines	Whenever possible, provide free-of-charge backhaul, and otherwise provide backhaul at as-high-of-discount as possible, ideally no more than at-cost rate as part of a customer appreciation strategy. In return, Villages will ensure that their residents are aware of who contributed to backhaul. Accept uniform paperwork (bill of lading, shipping form, etc.) Accept uniform packaging requirements (still compliant with DOT) Small planes: Assist in transfer to main airport and/or barge port.
Barges	First 3 items above and: • Leave empty connexes overwinter to allow villages to fill them. • Sell unused connexes for discounted price or free-of-charge.
Vendors	Whenever possible, provide free-of-charge recycling, and otherwise provide recycling equal or just above “at-cost” rate as part of a customer appreciation strategy. In return, Villages will ensure that their residents are aware of who contributed to backhaul.

Table 4-4 Potential Partner Contributions *(continued)*

Entity	Potential Contribution
	ANCSA Corporations
ANCSA Regional Corporations	Potentially house a Regional Coordinator. Identify opportunities for Program to further regional economic development. Potential scholarships and/or apprenticeships for shareholders. Provide cargo space for village wastes during ANCSA land cleanup, resource development, or other projects.
ANCSA Village Corporations	Support the Village's Backhaul Team. Provide cargo space such as empty containers, planes, or barges for village wastes resulting from ANCSA land cleanup projects, as well as from village commercial enterprises, such as store and fuel orders. Leverage village cleanup projects with Brownfield grant eligible projects because Alaska tribes are deemed ineligible.
Regional Non-Profits	Potentially house a Regional Coordinator. Provide cargo space for Village wastes at every opportunity.

4.5.2 Implementing Partnerships

The Statewide Coordinator is responsible for ensuring that the planned partnerships are implemented, and that newly identified partners are also brought on board. They work with the Executive Committee and Regional Coordinators, as appropriate, to accomplish this task via networking, one-on-one meetings, and larger group meetings such as the Fall 2017 meeting. As more partnerships are formed, Memorandums of Understanding (MOU) templates are developed and word-of-mouth is more prominent. Known partnership successes make it more facile as time goes on to forge additional partnerships and enact mutual agreements involved.

For example, an MOU with a Village school to donate their leftover pallets to the local Village program, and the steps taken to transfer property legally as well as logistically, will be adapted with any number of entities, such as AC stores, regional housing authorities, etc. Similarly, a written legal agreement on transfer of an unused connex to the Village or Program applies to nearly any entity that might have connexes. Such an agreement would be amended for other types of small property transfer as appropriate to save legal fees and Coordinator time.

A different partnership building path is taken with ANCSA corporations. Institutional motivations for these unique multinational corporations differ from other entities. As outlined in Table 4-4 and the next Chapter, they play a central role in identifying how the Program can further economic development. Their support is critical early on. Commitments by them will propel the Program forward in a number of ways. Foundation grants for the Pilot Project are much more likely as the perceived viability of the Program will increase. With this enhanced perception, other Partners may be more eager to join as well.

4.5.3 Challenges to Partnership Building

There are several concerns and pitfalls that can thwart ideal partnership building, including loss of momentum, overtaxed resources, unmet expectations, and perceived treatment of partners.

Loss of Momentum

After the February 2016 meeting, Program development suffered from the loss of momentum engendered by a cessation of funding. Motivated agencies and individuals were left waiting for a call to action, and spent time on other projects and issues. As a result, efforts to galvanize players must be in part duplicated. While not a death knell to the Program, it is quite critical for the Program to have at least a base level of sustained effort so that Partners are kept abreast and able to reschedule their assistance and resources back to the Program if needed. A key recommendation from the February 2016 meeting was to provide regular email updates to the group of stakeholders, or as several attendees noted – "Keep the Conversation Going".

Overtaxed Resources in Forming and Sustaining Partnerships

The number of potential partners and the different layers and ways by which they can assist is high. A bottleneck in establishing partnerships and in carrying out the tasks needed to see the donations and leveraging enacted is a substantial possibility. To help with this issue, the Statewide Coordinator position should be funded 4 – 6 months prior to setting up the Pilot Project logistics. That time period should be sufficient to schedule partnership action items and to cement in place the most critical partnerships. Alternatively, or additionally, another staff position could be added temporarily while the Program was in its infancy stages specifically to get Partners on board and to develop a standard operating procedure (SOP) that will maintain those partnerships. Such an SOP for example might specify a time interval by which PSAs acknowledging big donors should be scheduled, or by which a Partner update email should be sent.

Working with an association or other existing group or individual that already convenes multiple potential partners together is planned also to alleviate staff overburden. Examples include the Alaska Federal Executives Association for federal agencies, the General Contractors Association for contractors, the Alaska Aircraft Association for plane and charter carriers, Alaska Federation of Natives for ANCSA corporations, and the Governor's office to work with State agencies.

Partner Expectations of Program Success

Another potential challenge to implementation is that some Partners may anticipate a more successful Program, and earlier on, than may end up being the case. Discouragement, loss of trust and belief in the Program may follow. Particularly with for-profit entities, resources may be pulled to other efforts they feel more worthwhile.

To manage expectations, Program representatives will set a realistic timeline for achieving Program milestones. Emphasis must also be placed on the real benefits to Villages that have

occurred, and not on what must still be accomplished. After all, Program benefits do not accrue incrementally, but continually. Every e-waste taken out safely equates to more risk averted.

Perceived Treatment of Partners

For-profit partners may join the Program because it makes good business sense to be viewed as a good corporate neighbor. A business could decline to partner if it sees a competitor already in the Program. Compounding the issue is that if it decides to join, the high-profile radio/TV sponsor gratitude ads may be dissimilar from one company to the next. Dissatisfaction on the part of businesses can be high when they see a competitor seemingly thanked more graciously than themselves for similar service.

It is not just for-profit entities. Non-profit entities have sponsors and funders and it helps their future funding prospects if those sponsors see the visible good the non-profits are doing with their sponsors' funds. It would not behoove the Program to subjectively give more praise to one Partner entity over another simply because there may be time or money constraints.

4.5.4 Missing Pieces and Action Items for Implementation

Crucial to the partnering effort are:

- Development of informational materials and presentation, with 2 -3 sets geared towards different partner types. A succinct timeline and explanation of the Program plan is imperative.
- Development of a Donor Appreciation Strategy outline to help attracting partners as soon as possible. A marketing professional to assist would be ideal. As Table 4-4 lists, possibly staff from the Small Business Administration or Alaska Division of Economic Development could assist.
- Share the Program plan with ANCSA corporations and obtain their feedback on what they would like to see on the Fall 2017 meeting agenda, as well as what to incorporate into the Draft Plan presented at the meeting.

4.6 Summary of Program Action Items and Implementation Schedule

For convenience, the action items from the various precepts are compiled in Table 4-5 below, together with several Program milestones. The action items that are tentatively funded by EPA are check marked. The schedule aligns with the more general Program Phase timeline given in Figure 2-3. Red shading demarcates the need for the Pilot Program funding before proceeding further. Depending on when money is secured, the anticipated date for the 3-Year Pilot Program to begin is Spring YR 2018 to Fall YR 2018. Backhaul with pilot villages would begin 6 – 9 months later. As a target, the first pilot barge backhaul will be during the mid-late summer YR 2018 barge season. Otherwise, the full YR 2019 and YR 2020 barge season will be captured during the pilot. Program adjustments are made based on intensive evaluation against set measures of success that will be drafted in the Fall 2017 meeting. Villages are able to use their

GAP monies for backhaul through Summer 2020, and the Program timeline coincides with that deadline. The first barge backhaul season for the Full Program is planned for during the summer of YR2021, with Full Program startup in the preceding winter.

The Pilot Program will be fleshed out further at the Fall 2017 meeting, but preliminary comments from stakeholders have outlined that the pilot will include 20 to 35 villages from at least two to four regions with shared barge and plane traffic. Village profiles will include both those that are backhaul-experienced with backhaul ready wastes, as well as lesser capacity villages that will need significant Regional Coordinator assistance.

As Figure 2-3 depicts, the Full Program rollout is performed in phases. While all villages are eligible and encouraged to join, no more than about 50 villages are anticipated in the initial Phase, with an additional 20 to 50 villages each year thereafter. Last served will be those villages with extremely difficult logistics and those with little infrastructure or human capital.

4.7 Pilot Program

This Section summarizes the Pilot Program in further detail. Much of the Program final plan rests with details that can only be determined accurately with the Pilot Program. These include primarily Program costs, particularly Control Tower costs, FTE (and hence costs) needed for coordination, accounting costs, level of discounting and donations achievable, potential market value of materials, etc. The pilot will help the Program fully understand Program costs.

Figure 4-3 depicts the Pilot Program components separated into the three Program organizational categories depicted in Chapter 2, Information, Materials, and Assets.

Table 4-5 Implementation Schedule and Primary Action Items Needed

Timeframe	Action
Winter 2017	• Develop preliminary Program white paper and presentation(s)
November 2016 – June 2017	✓ Develop Uniformity items – Curriculum and Inventory.
April - May 2017	• Meet with and Identify which regional entities are interested in serving as a host for the regional Program.
May - Summer 2017	• Meet with ANCSA Regional and Village Corporations to share the Program plan and obtain feedback.
Summer 2017	✓ Develop Pilot Program budget
Summer – Fall 2017	✓ Pilot Curriculum training
Summer – Fall 2017	Assess Program organization (Fiscal Sponsor) and Assets Company options
June – Winter 17/18	✓ Development of informational materials and presentation, perhaps a couple sets geared towards different partners. Succinct timeline and plan imperative.
Summer - Winter 17/18	• Donor appreciation strategy outline. Marketing professional to assist would be ideal. Possibly Small Business Administration (SBA) or Alaska Division of Economic Development (ADED).
Fall - Winter 17/18	• Develop Village Tracker database with Industry and community input.
August – Winter 17/18	• Find funding for Program Pilot, including Program Setup funding, Market Study, and Business Plan that will be written as Pilot proceeds and costs are better elucidated.
Fall 2017	✓ Seek legal assistance in-kind and/or funding for formal setup of organization
Winter 17/18 – Spring 2018	• Obtain legal counsel and develop the Program Entry Agreement template, including Village Council letter template.
Winter 17/18 – Spring 2018	• Develop succinct and salient messaging materials for Village Environmental staff to garner resident and Council interest in, and knowledge of, the Program.

Table 4-5 Implementation Schedule and Primary Action Items Needed *(continued)*

Timeframe	Action
Spring 2018, as late as Fall 2018	• Begin Pilot Program (see lines below)
Initial 6 months	- Preparation and Initial Setup, including Program human and capital infrastructure, staff and Control Tower positions, and funding for Tower to develop SAP Program for optimizing routing and logistics and Standard Operating Procedures.
6th month – 24th month	- Backhaul piloted.
12th, 18th, 24th – 30th month	- Lessons Learned, Finalize Plan, Fix Gaps, Solidify startup monies.
Fall YR2020, as late as Spring YR2021	**Full Program rollout begins.**

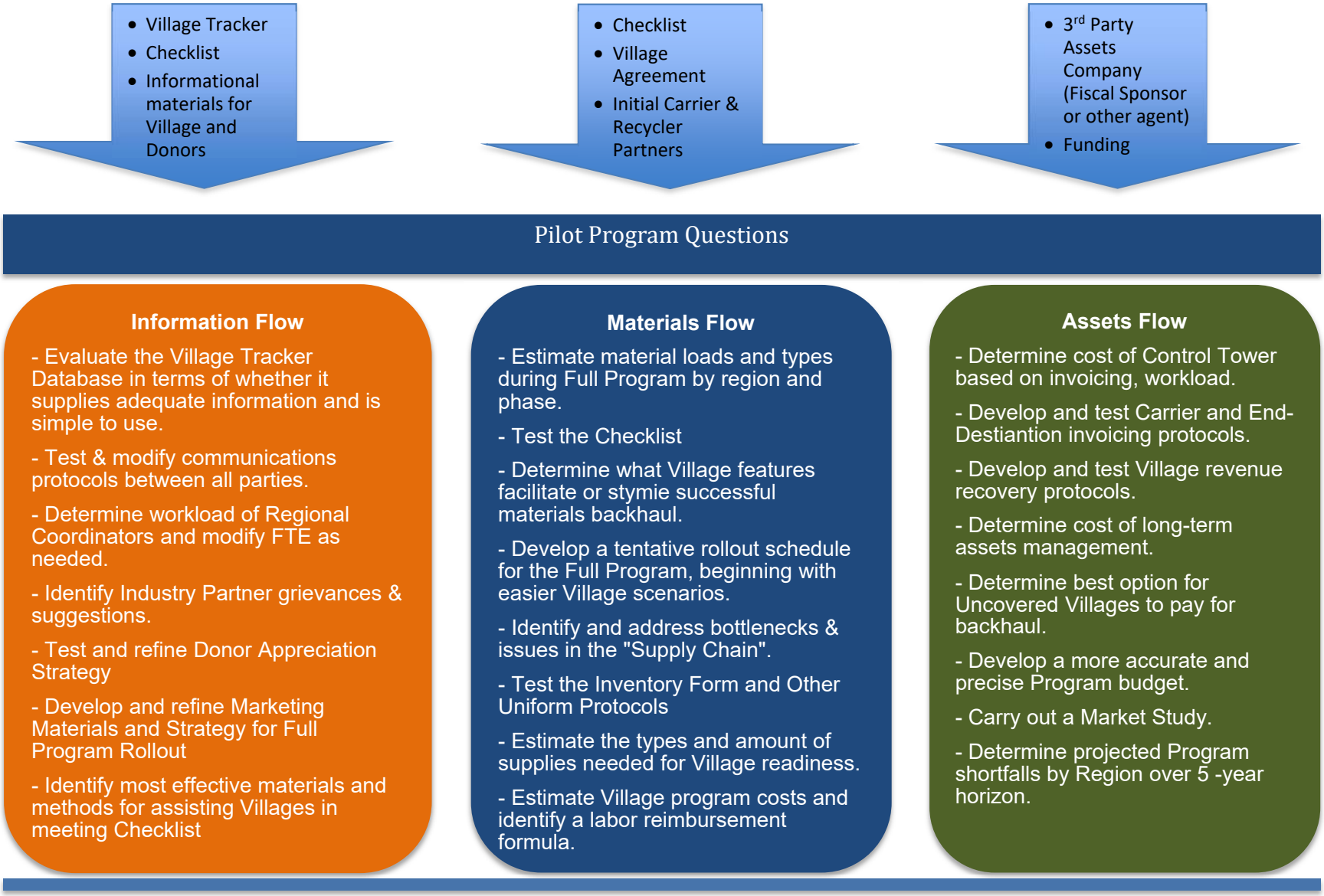

Figure 4-3 Pilot Program Components

5 Financing the Program

The Program aims to reduce costs and increase the accessibility of backhaul for villages by achieving greater efficiency in loading, routing, and use of in-kind opportunities, and achieving greater effectiveness in safety protocols and risk reduction. While the Program aims to reduce costs, it still requires funding.

Shipping materials in and out of rural Alaska is expensive. Distances are long so that the amount of time and fuel required are high, barges are few, and plane cargo space limited. The only way for backhaul to fund itself is to backhaul materials that bring sufficient revenue to offset Program cost. But with the primary exception of lead acid batteries, recyclers and end-destinations charge a fee for recycling the hazardous wastes that pose environmental health risks. Further, as discussed in Chapter 3, some materials, such as metal scrap, that historically have brought in revenue are on a down cycle. They simply do not demand a high market price, if they demand a price at all. Planning for sufficient revenue involves a long market horizon.

This Chapter does the following:

- Describes how the need to rid villages of all hazardous wastes is juxtaposed with the need to bring in revenue from marketable wastes.
- Identifies potential funding sources and the Program aspect for which they are best suited.
- Describes how corporate and private sponsorship will work.
- Examines Village-level revenue, costs, and contributions.
- Lists the gaps and action items involved in making sustainable Program financing feasible.

5.1 Balancing Health Risk Reduction with Revenue Generation to Support the Program

A suggestion offered by some stakeholders that are new to rural waste management is that maximizing revenue from recycling materials of value should be the Program objective. Those funds would then be used to backhaul whatever volume of hazardous waste can be covered.

The problem with this proposition is that the Program was promulgated to take out hazardous wastes from rural Alaska villages because their disposal at unlined landfills and burning in basic steel tanks inherently results in serious health and environmental risks being posed.

To obtain revenue from marketable wastes, the Control Tower would need to priority route barges and planes to those backhaul ready villages with the highest revenue materials (e.g. aluminum, copper, zinc). Not every village has these wastes lying around, nor the intensive labor needed to segregate some of them (e.g. wiring, piping, catalytic converters). For villages with these marketable wastes, a single haul might be sufficient to remove them. Once served

with a marketable waste backhaul, they would join other villages with non-marketable waste in waiting for years before the Program could serve them again.

Many villages do not have the supplies or storage needed to safely stage their hazardous wastes while waiting several years for a barge or plane. Instead, these materials often end up staged in a manner that engenders greater health risks than being discarded at the dumpsite in the first place. For example, they may be crammed unsafely into connexes, stockpiled in deteriorating condition in uncovered totes or on the ground, often in-town and within the reach of children. Without the near-term promise of a backhaul event, the bulk of materials will once again become of necessity a part of the regular landfill and burn unit waste stream.

Further, the number of high-end marketable wastes is associated with buying power and income. By prioritizing revenues versus reducing health risks, the least served villages would be those with the least resources and the most economically depressed. The Program would certainly take on an image of unfairness and/or ineffectiveness at addressing the rural waste problem. At that point, a number of partners might be dissuaded from Program support and the in-kind opportunities and discounting the Program relies on could wane substantially.

On the other hand, juxtaposed on hazardous waste backhaul as a health priority is the inescapable fact that the shortfall between Program funding through grants, donations, and Program sponsorship–and that of Program cost–must be covered by revenues from recycling marketable materials.

This situation is addressed via a phased funding approach:

1. During the Initial and Development Phases of the Full Program, sufficient grants, project donations, and sponsorships to rid the bulk of Program Villages of their staged and easily accessible stored legacy hazardous wastes will be sought. This phase is anticipated to take 3 – 8 years once the full Program is underway.
2. A gradual move away from grants and towards increased market support and sustainable program oriented donations marks the Market Phase of the Full Program.

5.2 Potential Funding Sources and their Program Suitability

This Section lists the several funding sources that will be sought to support the Program in all its various phases. An overview of funding source types by Program Phase is depicted in Figure 5-1. The larger the font size, the relatively more dominant the source of funding is for that particular Phase.

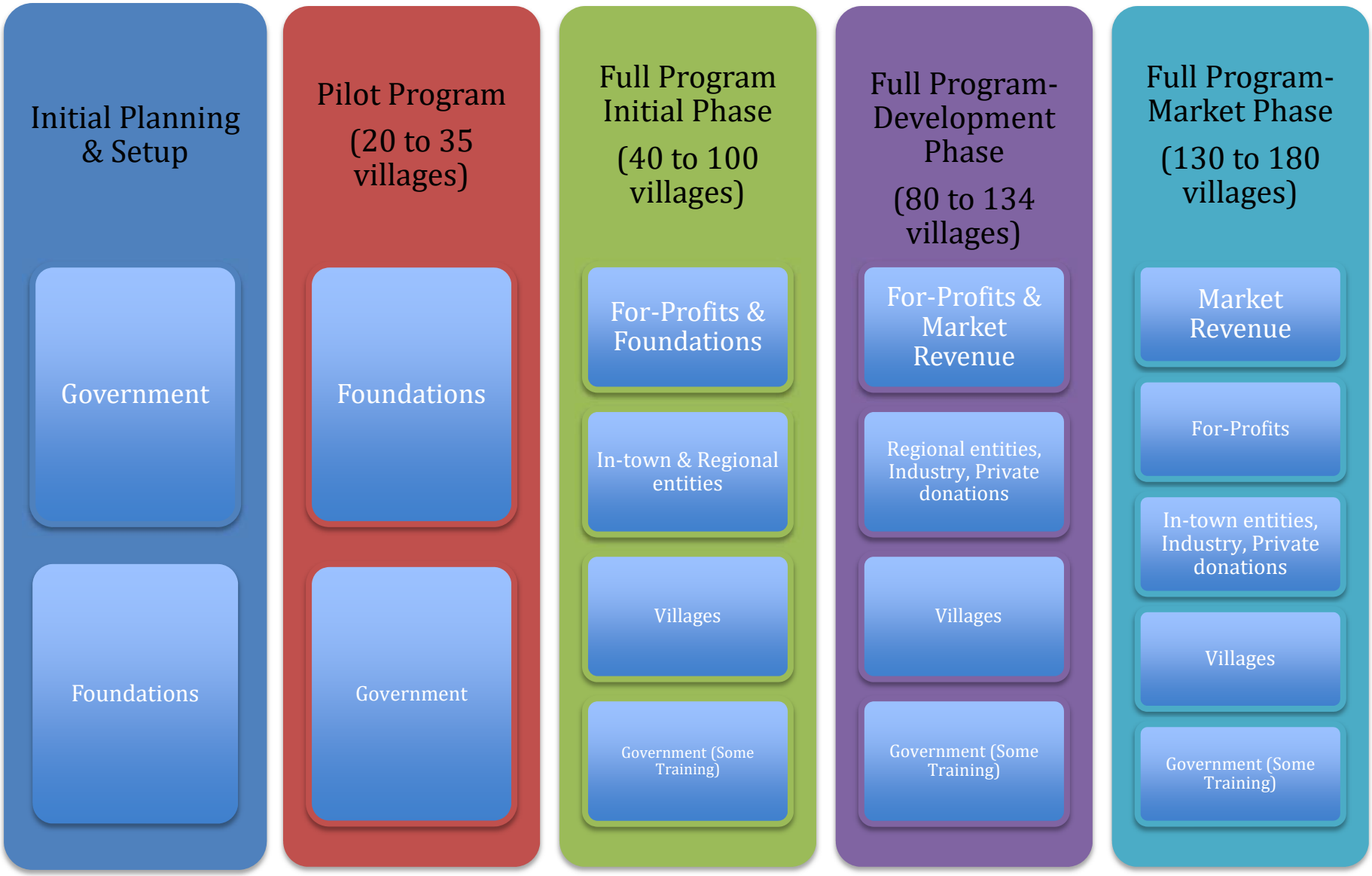

Figure 5-1 Main Program Phases and Dominant Funding Sources. Larger Font Size Indicates a Larger Anticipated Total Funding.

5.2.1 Government Grants, Cooperative Agreements, and Contracts

Government financing through various vehicles will be sought for Program setup and a portion of the Pilot Program. Additionally, it is anticipated that government grants to training organizations and Villages will help to support training.

Finding an alternate means of financing backhaul was the initial driver of the Program effort. However, a governmental funding search to provide at least some portion of funds in setup of the Program, performance of the pilot project, and delivery of training, is planned. The federal government has recognized a responsibility to protect the health of Americans, and provide essential services to those least able to help themselves. Because the vast majority of rural community residents are tribal members, federal trust responsibility provides a double legal mandate to protect health.

The financial equivalent of the health risks avoided with the Program is unknown and its determination beyond the scope here. However, it should be noted that health disparities of the rural Alaska Native village populations cost millions in treatment.

A number of tasks related to Program development have been funded by EPA already, including this plan, or tentatively funded. Primary tasks include:

- Regional Backhaul Assessment Report
- February 2016 Meeting
- Curriculum, Inventory, and Checklist development
- Fall 2017 meeting to review plan
- Setup of Program entity (incorporation or sponsorship)
- Village database
- Pilot Training

A non-exhaustive preliminary list of agencies and potential grants or grant categories is included in Table 5-1.

5.2.2 Foundation Funding

Foundation and grant money will be sought for the Pilot Program, as well as startup costs for the initial three years of the full Program. It is possible to find foundation support beyond the initial phase, and the state coordinator should strive to do so if needed, but reliance on continued foundation funding is not planned.

In seeking funds and laying out a funding strategy, all things being equal, foundation grants are preferred over that of government grants due to their general higher degree of flexibility and lower reporting burden. That said, grant writing priority is dependent on the amount of funds available and the relative chance of being awarded.

Table 5-1 Preliminary List of Federal and State Agency Grants and Grant Categories to Consider in Funding the Initial Setup and Pilot Program Phases.

Agency	Category Description	Purpose
USDA RD	Technical Assistance and Training Grants	Training
	Solid Waste Management Grants	Training
	Rural Community Development Initiative and other economic development grants and agreements:	Setup of program, particularly Village preparation piece
	RAVG Program	*Percent fee for waste removal?*
Federal and State Department of Labor	Job Training Grants	Training
EPA	Regional community green initiatives, and cooperative agreements under Strategic plan, similar to what has funded initial tasks.	Setup
BIA	Environmental Program Discretionary End of year funding	Pilot program (partial)
	Housing Improvement Program – Percent fee for waste removal	Ongoing functions (Percent of housing improvement dollars going to villages served by Program each year)
	Transportation Program – Percent fee for waste removal.	Ongoing functions
IHS	Facilities Program – Sanitation Deficiency System	
Administration for Native Americans (ANA)	Social and Economic Development Strategies for Alaska (SEDS-AK)	Setup of program, pilot program
	Sustainable Employment and Economic Development Strategies (SEEDS)	Setup of program, training, village preparation, pilot program
HUD/State DCCED	Community Development Block Grant	Setup
	Indian Community Development Block Grant	Setup
	Designated Alaska Legislative (DL) Grants (DCCED)	Setup, pilot
U.S. Economic Development Admin.	Regional Innovation Strategies (RIS) Program	Setup, pilot
	Planning and Local Technical Assistance programs	Setup
NOAA	Alaska Community Development Quota Program	Village participation

The types of foundations the Program will seek monies from focus on environmental, underserved community infrastructure, job creation, Alaska-based, climate change, environmental justice, and health, and health disparity causes. A non-exhaustive list of potential foundations from which to seek pilot program and startup funding or funding matches follows:

- Rasmuson
- Coca Cola Foundation
- Murdoch Trust
- Leonard DiCaprio Foundation
- Hewlett Foundation
- Kresge Foundation
- MJ Murdoch Charitable Trust
- Jessi Smith Noyes Foundation
- Roy A Hunt Foundation

5.2.3 Regional Facilities and Projects

Regional-based organizations that operate facilities or projects in rural villages will help with long-term financing of Program operations. As mentioned in Section 4.5.1 on partnership roles, the Program plans to seek funding via different mechanisms. Of particularly good potential are those facilities and projects that contribute to village waste streams, which the majority do. Example entities include regional housing authorities, school districts, and regional health organizations (e.g. YKHC). Federal and state agencies also operate some programs in villages that meet these criteria, such as National Parks and Wildlife Refuges that generate waste in remote sites that is subsequently discarded in a village or flown out. DOT and FAA operate airstrip facilities and BIA and DOT fund road programs, IHS and VSW fund sanitation projects. DOE and AEA fund energy projects, etc.

With these entities, one of three funding routes is proposed:

1. First, entities can pay a percent fee, fixed amount, or waste volume basis of project construction costs, facility maintenance costs, or program operation costs, to have the Program backhaul Program-focused wastes (i.e., e-wastes, batteries, fluorescent bulbs, mercury containing devices).
2. Second, such entities can pay the Program to manage the full waste stream of their facility, program, and/or project. Wastes that are not backhauled would be disposed with other village wastes, likely at the landfill. The Program would in turn pay the village commensurately for using its landfill, and village staff, whether Backhaul Team or Landfill Technicians. Because these wastes are discarded in the village now without the Program, the village does not take on an additional waste burden. Paying for waste management is allowable for federal agencies, and since most projects and programs

are partly federally funded, this revenue option holds significant promise. Construction wastes and hazardous wastes would either be handled by the entity or a premium would be required to cover the additional planning involved in most appropriately disposing of the wastes.

3. In a third quite different scenario, entities can pay a flat right of entry fee to use a village's waste infrastructure, whether the landfill, the backhaul infrastructure, or other.

For the first two methods, the Program essentially provides a different, and more convenient, way for the entity to pay. Rather than paying waste fees in a single village, the entity could pay a single sum for all of its facilities, projects, and programs in villages that are served by the Program. While it increases the administrative burden of the Program, it also increases the Program revenue. For example, if we assume a 10% handling fee is charged to the entities above cost, the Program would generate $72 in profit for a typical entity office that pays $500 in village waste collection fees, $100 in e-waste backhaul fees, and $120 in Program administration costs (20% of total fees). At $72 per office and some 150 villages at any one time with one to four such offices, $100,000 or more in revenues could be earned. The advantage to the entity is that they reduce their administrative burden, and are also assured that their wastes were being managed in each locale.

The Program could manage the first scenario of handling Program-focused wastes at startup. After all, these wastes would likely be in the backhaul stream anyway. But in many instances, now, entities within villages are using village services free-of-charge. Such an unfair practice would cease with entity fees to the Program.

Because it is more complex and requires greater administration oversight, the second scenario where the Program would handle the full or a sizable portion of an entity's waste stream is not viable until the Program Development Phase, and foundation and government startup funding begins to decrease. The potential revenue from such a service would be significant. Given the current materials recovery market, fees from Program handling of project/program facility wastes could actually dwarf commodity recycling revenue.

The third scenario where right of entry fees are paid, but the Program would not be taking on additional waste management responsibilities is the most attractive from the Program's view, and could begin even during the Pilot Project. Right of entry fees have been suggested by at least some federal agencies as possibly easier to justify than waste management fees. The Program could manage the fee on the villages' behalf, so that again entities only need pay a single fee.

As discussed in Section 5.4, these same revenue suggestions will also work for Village program revenue, if entities pay the Village directly, and the Village uses the revenue for backhaul.

In-Village and Regional Industries

Fish processing plants, and logging or mining operations are not typical, but are located in, or near, many villages. These businesses are anticipated to contribute to the Program through

the same mechanisms as discussed above. As these businesses ship out their products, they might also contribute barge/plane backhaul space to the Program.

5.2.4 ANCSA Corporations

Each backhaul region has a regional ANCSA corporation associated with it, and nearly each Village has a Village corporation. Village Corporations will be discussed in Section 5.4 as a potential source of support for their community. As discussed in Section 3.4.2, these corporations, have strong motivations to assist their shareholder communities, beyond simply the desire to be a good corporate citizen or trigger positive consumer responsiveness to their products. Key interests include jobs, subsistence protection, and a chartered responsibility to improve quality of life.

If an ANCSA corporation were interested in contributing financial resources to the program, donations could be made in several ways, including the following:

1. Donate to cover shortfall in costs for a select number of villages in their region each year. By rotating selected villages, donations could cover all villages over a period of years (i.e. 5 villages each year).
2. Donate similarly to private corporations (see the next Section) whereby the ANCSA corporation selects a category of donor level.
3. Donate to cover a particular part of the Program, such as paying the salary of their Region's Coordinator.
4. Donate to cover the costs of village preparedness in their region (i.e. supplies, travel for the Regional Coordinator, training scholarships or apprenticeship programs)
5. Donate to help cover the shortfall in costs for the Full Program.

How the donations work on the back-end in terms of calculating the cost of a particular region's backhaul is covered in Section 5.3.

5.2.5 Private Donations

Private donations from non-ANCSA corporations and individuals will help to sustain the Program once it is in full operation. Soliciting donations from the private sector prior to Pilot Program completion, and hence prior to fully understanding Program needs and costs would be premature. Any number of issues that could be corrected during the full Program could still result in a poor reputation. It would be difficult to recover publicity-wise and reach the Program's donation potential.

Part of the Statewide Coordinator's job is to work with the Executive Committee to fully develop the marketing and donation process.

5.2.6 Wharfage Fees

One financial mechanism to help Carriers that has surfaced several times in the Program planning process is the reduction or waiving of wharfage fees for those barges that are actively

participating in the Program. After all, some portion of that time at port is unloading or loading Program materials. Ridding the region or hub city of wastes is a direct benefit to the borough or city that owns the port. Wharfage fees per container for the major Program regional ports are provided in Table 5.1. As seen in the Table, a Carrier that donates space on their vessel for three 20 ft. containers averaging 15,000 pounds each could end up paying somewhere in the range of $210 and $375 just in wharfage fees, depending on the port.

Beyond wharfage fees, dockage, handling, and/or demurrage fees might be assessed in some situations partially or wholly as a result of Program backhaul efforts. For example, a Carrier volunteers to make an unscheduled backhaul stop at a Program village on its way back down the river. While taking that extra time, a winter storm comes up and the Carrier must dock three extra days at the regional hub before sailing. In ordinary circumstances the carrier would need to pay extra dockage fees that could add up to several thousand dollars. It behooves the Program to address this issue as the cost to Carriers is clearly a disincentive.

Wharfage and other fees can be changed, by some combination of Council, port authority, and community approval. As seen in Table 5.1, ports are managed by individual cities, boroughs, or companies. Obtaining a wharfage waiver for Program materials involves working with each Port authority individually. The State Coordinator will lead the effort for the Anchorage port. The regional port authorities reside in the hubs, which are small familiar communities. So, in most cases the Regional Coordinator will have the responsibility of spearheading a port fee reduction for their hub.

The wharfage reduction effort is individual-based, involving likely multiple conversations with port Councils and Directors, as well as Council and Community presentations. It is anticipated that negotiations will be complete in the medium term, approximately in 3 to 5 years.

5.2.7 Federal/State Tax Incentives, Fee Offsets

Tax incentives and fee offsets, such as business license fees, offer some potential in the long-run to reduce the Program cost. However, the climate for enacting such programs is not good. The State is in a severe fiscal crisis and successfully achieving federal incentives is a long-term venture because the Program is Alaska specific, yet must be approved by the national Legislative body. Tax code simplification or breaks for keeping manufacturing jobs in Country have more political traction. While environmental health disparities were a clear priority for the past several years, it is unclear whether this trend will continue. Both State and Federal representation have indicated only a slim chance of achieving Program cost reductions through this avenue within the next five to ten years. However, Program visibility, and success at backhauling wastes at a reduced cost can transform the possibility of an offset to a regulatory reality quite quickly. During the Development Phase of the Program the State Coordinator will network with legislators to determine what avenues can be most successful, including the possibility of and if sufficient merit is seen, begin steps to achieve these policies.

Table 5-2 Regional Port Ownership and 2017 Wharfage Fees: Additional Fees Levied on Barges May Include Docking, Handling, Demurrage, and Other Miscellaneous Charges

Port	Port Authority/Owner	Approximate Wharfage Fee for 7.5 ton, 20 foot connex
Kodiak Harbor	City of Kodiak/Same	$6.80/ton
Port of Bethel	City of Bethel/Same	$9.92/ton
Port and Harbor of Nome	City of Nome/Same	$11.55/ton
Port of Kotzebue	City of Kotzebue/Crowley Marine Services owns and operates the wharf, Drake Construction owns the Dock	*Unavailable at press time*
Port of Anchorage	City of Anchorage Port Commission/City of Anchorage	$3.37/ ton, equiv to $15 to $25 for 20'connex
Port of Bristol Bay (Naknek Port)	Bristol Bay Borough/Same	$124.75 flat rate
Port of Dillingham	City of Dillingham/ Dillingham Harbor Department	$120 flat rate for 20' connex
Port of Nenana	City of Nenana/ Nenana Port Authority	*Unavailable at press time*

5.2.8 Pick, Click, Give

While this program is essentially an individual donation program, it has a different mechanism that directs donation to the Program. Either as a separate 501 (c)3 company or under fiscal sponsorship, assuming the majority of the Board, or Executive Committee, respectively, are Alaska residents, it is likely the Program will be eligible to receive donations through this Program.

The advantage of enrolling is clear. Minimal paperwork is involved and the funds received can go to any 501c3 eligible purpose within the organization. For example, if a poor infrastructure village needed their truck repaired to shuttle materials to the airport, the funds could pay for a mechanic.

Enrollment in Pick Click Give is unlikely to bring in donations until the full Program is rolled out, but the Statewide Coordinator will initiate enrollment during the latter part of the Pilot Program to ensure readiness.

5.3 How Might Corporate Sponsorship and Private Sector Donations Work?

This section describes in greater detail how sponsorship and donations will work. Given there are different motivations among potential donors, the Program offers different mechanisms to support the program:

- Sponsoring a region(s)
- Sponsoring a selected village(s)
- Volume-based sponsoring

These options are described in subsections 5.3.1 – 5.3.3. With each, a single check by the sponsor is sufficient. Subsection 5.3.2 provides additional detail how the "money trail" works. With any of the above methods, Sponsors can gain elite status via the tiered Alaska Icons Partnership Program, described in Subsection 5.3.2. Finally, the Program's overall marketing strategy, which has been touched upon in various previous sections, is provided in greater detail.

5.3.1 Region Sponsorship

Regional-specific sponsorship is geared to entities and organizations that are regionally-based, or have an affinity for a particular region(s), such as a hub-based business or a national sport fishing organization interested in donating to region with high density of sportfish lodges.

Donors cite the region(s) they are interested in sponsoring and donate any level of funds. Unless specified differently by the donor, the monies would go to a general fund supporting that region. Funds would first be targeted to cover any shortfall in base operations, and next to cover Program priorities within that region (e.g. backhauling from unserved villages or supplying infrastructure-poor villages).

Program priorities within the region are primarily at the discretion of the Regional Coordinators, who each maintain a running regional "wish list". The wish list is comprised of items like supplies, equipment, or wage support for backhaul teams. Sponsors can donate specific items on this list as well.

The Donor receives a commendatory letter that describes where their funds went in terms of the equivalent waste tonnage removed from that region. For significant donations, additional detail as requested by the Donor would be provided as well, as described in Section 5.3.3.

5.3.2 Village Sponsorship

Village-specific sponsorship is analogous to region-specific sponsorship, with the exception that prospective donors name a Program Village(s) that they wish to support. This offering is tailored to Village corporations, individuals, groups with substantial membership from a set of Villages, and miscellaneous contractors and other businesses that work in a single Village or set of specific Villages whom they would like to support in turn.

With Village-specific donations, the donor often will be familiar with their particular needs. Donors can sponsor those needs through the Program, so long as those needs are identified on the Village checklist or otherwise verified by the Regional Coordinator. When the needs are an item such as supplies and equipment, donations can be either monetary in form, or in-kind, via sending the item directly to the Village.

5.3.3 Volume-Based Sponsorship

In Volume-based sponsorship, the sponsor pays a sum based on the number of connexes or tons of backhaul materials they want to haul out. In this case, the total Program cost divided by the number of connexes, or tons, backhauled is calculated. This number provides the basis for the Sponsor to determine their donation level.

This type of donation is geared towards corporations and individuals at-large, who have an interest in assisting the whole of rural Alaska. Such corporations could include End-Destinations, larger contractors, resource development companies, and tourism companies.

5.3.4 How Does the Money Trail Work?

Figure 2-2 and the Assets flow primer on page 12 describe the assets flow between donors and Industry in general. This subsection describes the relationship in greater detail.

Donors write a single check or direct deposit to the Program's Asset Account, including any stipulations on what the donation should be used for. The Assets Company sends them a receipt, and the Program's tax information for tax deduction purposes. The Statewide Coordinator receives a record of donations from the Assets company and sends a donation letter that describes the donation value and equivalency (i.e., tonnage, villages served, etc.), as well as a narrative of what their donation means. In some cases, the Statewide Coordinator will receive the check in the mail and then deposit it, with a copy to the Assets Company to ensure the correct Program category is credited.

The Assets Company "uses the funds" to pay the invoices due, including village cost recovery as well as Program expenses such as personnel and overhead, as allowed by the donor instructions. They keep specific bookkeeping categories related to the type of donations listed above. For example, a donation of discretionary funds to a particular region will be logged under that region's discretionary assets. Each region and village will have a supplies and equipment category, discretionary category, and personnel category.

5.3.5 Tier Partner Award Status

An elite Alaska Icons partner level strategy will be employed to incentivize donors. Modelled after countless donor appreciation programs, the Program's tiers are named after Alaska icons: Bronze Iditarod Level, Silver Aurora Level, and Gold King Salmon Level. The imagery itself helps the donors with their marketing to public perceptions.

Besides achieving a Partner tier status, donors receive a more detailed report of where their contributions went, and the success stories that resulted. They also are placed on the Program

banner and included in the PSAs. Those at Aurora and King Salmon Levels receive a piece of Alaska Native art. The artwork is in turn a donation in-kind from the Program villages.

5.4 Marketing Strategy

The Program Marketing Strategy categorizes potential donors by the different Program participation motives discussed in Chapter 3. For example, in networking for donations, the most appropriate type of donation vehicle – regional, village, volume-based, etc. will be highlighted. Marketing will be accomplished via several avenues.

- Networking by the coordinators and Executive Board via in-person meetings, phone calls, and Industry events,
- Public Service Announcements (PSAs) on the main regional radio stations and statewide television,
- Booth tables and presentations at relevant trade shows and conferences, such as Alaska Aircraft Association, Alaska Federation of Natives, Alaska Regional Development Organizations,
- Legislature presentations,
- Presentations at various for-profit association regular and annual meetings, including General Contractors Association, Alaska hotel and lodging association, Resource Development Council.

As discussed in Chapter 3 and Section 4.5 it should be relatively straightforward to market the Program as an opportunity for donors wishing to be good corporate citizens to make a significant difference in rural Alaska. The Program is associated with compelling stories of harsh village circumstances and "against all odds" personalities. It also creates and maintains jobs, an aspect of the Program that will be highlighted and developed.

Of additional marketing value, particularly with foundation and agency funders, is the emphasis of the Program as an Arctic effort.

5.4.1 Need for Market Study and Marketing Publications

For donors whose primary motivation is profit-driven (in the short or long-term), a market study is planned. With a market study, donors make a decision to donate based on criteria they care about. Without market information, they are unlikely to donate. With market information, they can make the call as whether they wish to pursue donating. Pilot or Program Initial Phase funding will be used to hire a market planner. Alternatively, if funds are short, the Statewide Coordinator once hired will seek University of Alaska graduate students to volunteer their efforts, and/or approach organizations like the Small Business Administration for assistance in developing a market study.

As mentioned previously, marketing publications are also needed to help solicit donors and partners. Because they are essentially a linchpin in procuring donations, these outreach materials are intended as primarily short and salient brochures. They will be professionally

developed if possible, or at a minimum, professionally printed. The Statewide Coordinator manages the material development effort. They will however, solicit experienced partners such as those from economic development programs, to help develop and vet materials.

Initial marketing materials to explain the Program and drive up potential donor interest do not require a market plan of specific Program costs to develop, just a clear vision of the Program and its goals. These materials will be developed prior to the Pilot Program to assist in achieving sufficient committed Partners to make a Pilot Program a true pilot.

Other marketing materials will evolve as the Program evolves and may be developed during the Pilot Program or Full Program Phases.

5.4.2 Donor Appreciation

Finally, a strong Donor Appreciation program interfaces with and supports the marketing strategy. Potential donors see the publicity they forsook.

As mentioned previously, Donor appreciation is coordinated by the Statewide Coordinator at the statewide level, and by Villages and Regional Coordinators at the Village and Regional levels. At the statewide level, Donor appreciation (both in-kind and financial) includes:

- Inclusion of name during PSAs
- Framed Certificate of Participation
- Annual Iditarod Party tickets
- Tier award benefits mentioned above
- Newspaper ads
- Facebook posts/ads on popular sites
- High School Basketball Tournament banner posting

The above appreciation strategies are self-apparent with the exception of the Iditarod party. This party will be hosted by the Solid Waste Alaska Taskforce above the Iditarod Ceremonial Startling Line in the Wendler Building.

At the regional level, the Regional Coordinator ensures that any regional news and community outlets, such as newspaper and radio venues, feature the list of donors regularly. At the Village level, the Village Coordinator and Backhaul Team Lead ensure that residents know who has contributed to their backhaul. They implement local ideas about ways to show appreciation, such as signs made by children, certificates of appreciation, Yuraqs (dances), potlucks, or other community honoring traditions, and the community environmental newsletter.

5.5 Village Revenue and Costs

This section examines the financial responsibilities and anticipated revenue streams of participating villages. The implementation of some responsibilities and development of some revenue methods may be beyond the capacity of some villages. However, the Regional

Coordinators will provide technical support to build up Program Village funding streams for backhaul.

5.5.1 Review of Village Program Costs Incurred and their Program Coverage

Table 5.3 lists the budget items comprising a Village program in the first column, their priority level from 1 to 3 in the second column, whether and when those costs will be covered by the Program in the 3rd column, and the ballpark average cost. Cost information is pulled from the Regional Backhauling Assessment Report, which took a rounded average of costs from several villages with developed backhaul programs. Items with a priority level of 1 are termed the "core features" that the Program provides. Safe transport and recycling of materials is the founding purpose of the Program. Providing the transport and recycling for free, or at least greatly reduced cost, will allow many villages to manage the remainder of backhaul costs.

Labor and supplies are classified as priority 2 items, and termed "complementary features". They are also obviously critical and can be costly. Many villages will have difficulty covering these features after the eligibility of waste management under GAP grants sunsets on September 30, 2020. And as an environmental health priority, basic landfill operation and safe storage or staging of hazardous materials should take precedence over backhaul preparation. The Program therefore seeks to fund complementary features to the extent possible, leaving the village with a relatively small match requirement.

It is unlikely that budget items with a priority level of 3 will be covered by the Program, but long-term market favorability could change that.

As listed in the Table, the Program will not cover administrative costs, including overhead and any insurance related to the Village backhaul program. Regarding insurance, the Village will be the legal shipper that has packaged and prepared the materials. It will be the employer responsible for DOT regulations as well. As such, *it is the responsibility of the individual villages to carry insurance specific to their backhauled materials at a level they determine to be appropriate.* These costs might be fundable under the GAP grant past 2020 if a village has difficulties in financing insurance solely via its waste management revenue stream.

5.5.2 Anticipated Village Donations and other Revenue Streams

How might villages pay for their local program costs? Several revenue paths are available, some of which are beyond the Program control, and should be exercised by the Village.

Program Revenue from Value Backhaul

Some revenue from profit generating backhaul accrues to the Village. However, this revenue source for a typical Village will be small. The market for commodities is not robust, and the Program incurs significant cost in backhauling. The types of materials from which revenue might be expected are, for example, aluminum or copper scrap. See Section 5.5.3 for more detail on revenue apportionment to villages.

Table 5-3 Current Village Backhaul Budget Items and Their Priority in Program Coverage

Budget Item	Anticipated phase for cost recovery to begin	Priority level of item	Annual Ballpark Cost to Village[1]
Backhaul Team regular employee(s) (often the landfill operator's backhaul-specific time)	Short/Medium-term	2 (Complementary feature)	$10,800
Backhaul Team temporary laborers	Medium-term	2 (Complementary feature)	$2,100
Other Administrative costs, including overhead, bookkeeping, and insurance	Not covered	NA	$1,565
Safety gear	Pilot phase	1 *(Core Program)*	$150
Hauling fee (occasional)	Pilot phase	1 *(Core Program)*	*Varies from $0 to $200*
Durable backhaul supplies, such as connexes, pallet jacks, bander, totes	Medium-term	2 (Complementary feature)	Averages about $400 varies from $0 to $5,000
Freight fee (shipping materials)	Pilot phase	1 *(Core Program)*	*Varies with region, waste type and containment, transport mode, discounts.* Example fee of 1 full connex varies from a discounted free shipping cost to about $6,500.
Miscellaneous non-durable supplies, such as shrink wrap, banding, labels	Medium-term	3 or not covered	Around $250
Recycling fee	Pilot Phase	1 *(Core Program)*	*Varies on waste type and bulk discounts*. Typical fee for one, connex of e-wastes: $2,000.

1 Based on Regional Waste Backhaul in Rural Alaska YR 2015 Baseline Assessment Draft Report, Booz Allen Hamilton

Assigned Donations

Villages may receive assigned monies from Donors using the village-specific or region-specific donation methods. Whether supply, labor, or backhaul fees, the Sponsor pays the Program and the Program purchases the item for the Village. In the case of labor, the Village is reimbursed with the submittal of timecards. See Section 5.5.4 for more on assets flow.

Waste Management Fees Levied on Agencies and Businesses with In-Town Activity

Section 5.2.3 describes how Sponsors with projects/facilities/programs within a Village can support the Program through paying waste management fees. Rather than those fees being paid to the Program, some Sponsors may opt to pay directly to the Village. The Program is supportive of this alternate money trail, with several stipulations. The Village must have a reliable accounting system. If the Sponsor is led to believe their waste management fees go to supporting Village readiness and Checklist completion, those funds must be spent that way. The Village must follow through on handling the Sponsor's waste stream, or the portion thereof that is paid for. If the Sponsor is unhappy with Village service, they will have the opportunity to pay directly to the Program. Where Villages have accepted funds to manage a Sponsor's waste and have not followed through, the Village places the Program's reputation at risk. To deter this scenario, Villages will be temporarily dropped from the Program.

Right of Entry

Similarly, a right of entry fee to the landfill and/or recycle facility can be charged to outside entities by the Village for any wastes generated. This type of fee has been noted as easier for federal agencies to justify. It behooves the Village and Program to levy it for any federal funded project or program (which applies in the large bulk of instances). The fee amount should at least equal the village's cost to manage the waste stream, backhaul wastes, and operate and eventually close the landfill. The Regional Coordinators can help villages by determining a reasonable fee, which will be different for every village.

Waste Collection/Waste Handling Fee for Households and Local Businesses and Facilities

The most reliable source of significant funding for a Village is its own population. Even those Villages with the lowest median household incomes can convince residents to pay a waste collection fee. That fee helps to cover the Village's waste management costs. Having a fee schedule is part of the Program Checklist because it indicates and incentivizes community involvement. The waste fee component can be initially met by Village letter of intent that describes the plan for a community backhaul fee and a general timeframe for accomplishment. Within two years, residents must be familiarized with the fee schedule, and within three years, the plan will be implemented.

Resident contributions are important because it helps to showcase to donors and the public the level of commitment Villages have in ridding their environment of wastes. It is difficult to convince potential funders to donate to the Program if it is perceived that Villages do not believe the Program has sufficient merit, or simply "don't care". Local community contributions also help the local environmental program because residents become more aware of wastes and their harm.

Grant Funds

It is anticipated that certain solid waste management expenses will continue past YR 2020 to be eligible under GAP. Eligible expenses include administration and oversight of solid waste management programs, miscellaneous supplies, and some equipment. At a minimum then most Program villages should be able to cover administrative and miscellaneous supply items as listed in Table 5.1

5.5.3 Revenue Recovery: Allocation of Program Revenue from a Revenue-Generating Backhaul Event

End-Destinations will pay, rather than charge, for certain backhauled waste materials. If a Village sends out materials that generate revenue that is greater than the shipping cost, the Village sending out the materials will receive recompense. The remuneration is not straightforward. The Village benefits tremendously from participating in the Program, as it receives substantial discount for backhaul of its non-marketable materials. And administering separate tracking so that Villages receive revenues for marketable materials adds additional expense. However, with Villages incentivized to separate out and send back marketable materials, the Program will benefit from higher revenue.

An exact portion due back to the Village will be determined in the Pilot Program. Initially, one of two methods will be used to keep the administration simple and to provide Villages and the Program a consistent basis for budgeting:

1. A flat percent basis of the recycling revenue is paid (e.g. 50% to the Village, 50% to the Program)
2. The recycling revenue is paid to the Village minus a flat Program administration fee levied on each connex or container.

5.5.4 Assets Flow – How Does the Village Money Trail Work?

In examining how assets flow into and out of villages, it is easiest to look at the core features of the Village program (transport and recycling of materials) separate from the complementary features (labor and supplies).

Core Program Transactions

For the core Village program, the only funding flow between the Program and Villages ideally will be remuneration monies deposited into Village accounts in the case of revenue-generating backhauled materials.

There are two scenarios to consider.

1. The Program only routes Carriers to the Villages that it can support that year, rotating to other Villages the following year in years of insufficient funding.

2. Backhaul Ready villages that are not covered in a particular year might wish to take advantage of the Program's routing and networking logistics, and pay some or all of the recycling and transporting fees on their own. These Villages are referred to as "Non-Covered Villages"

Insufficient funding is anticipated during the Full Program Initial and Development Phases. Potential Sponsors are still learning about the Program but villages are keen to use its benefits.

If the Program serves Non-Covered Villages, there are two potential transaction paths. First, Villages could pay the Program and the Program pays the End-Destinations and Carriers. It is easier for the End-Destinations and Carriers. However, the transactions will be complicated. It is not possible to know the exact weight of materials until they are weighed at port and characterized at the vendor. Just like now with their autonomous efforts, Villages can under- or over-pay, and they can also pay late or not at all. The level of Program accounting needed increases dramatically under this scenario.

In the second design, Non-Covered Villages continue to pay the carrier and vendor directly. As Backhaul Ready villages, the fees they pay should be less costly, and with the Program routing, the logistics much easier, than if they were not Program participants. Additionally, they still receive assistance from the Regional Coordinator in funding help, technical queries, and program organization.

The data is insufficient to determine which design is the best Program approach. Consultation with an assets company or an accountant experienced with rural Alaska issues is needed. Piloting the Program is essential to elucidate accounting costs, not just to better develop the logistical coordination, tracking, and routing required.

Complementary Program Transactions

Unlike core program services which involve outside entities, Program support of village labor or large supply/small equipment costs inherently entails assets flow into the village.

Table 5-2 lists the ballpark village cost estimate for a backhaul program, with labor costs of $21,000 including fringe for a year-round comprehensive backhaul program. The Pilot Program will allow a more precise estimate, possibly based on population. This cost will be the basis for Program support of village labor and supplies. Depending on assets availability, Villages can request reimbursement of their labor and supplies up to a set match level.

The match basis is dependent on availability of funds, and participant Villages will be apprised of the match level each year. The initial target match is 50%, and the Pilot Program will help determine whether that level is appropriate. For example, if the match is 50%, a Village can request up to $500 for a $1,000 project.

During the prior stakeholder meetings, a required match was suggested as an incentive for residents of rural villages at-large to recognize the importance of backhaul, and to prioritize its support. While logistics are extreme, and contributions to the waste stream from outside entities are common, the bulk of wastes are from households. Based on EPA Costing Tool data,

a full solid waste program averages $30/month per household, and ranges from $10 to $65/month. The average collection rate now in rural Alaska is just under $20 per month per household. A village size of 300 people would generate $900 monthly with a typical 60% collection rate. So it is reasonable to expect that most Villages have the ability to self-sustain their waste programs with a small match subsidy.

To demonstrate a match to the Program, the Village supplies time cards and receipts and requests reimbursement. The Program performs an electronic deposit transfer.

For donations earmarked for a specific Village(s), funds are direct deposited to the Village in the case of local Backhaul Team payroll, or locally-purchased supplies (e.g. gloves from the village store). The Program will typically obtain better pricing for supplies than a Village from bulk rates or networking. As a result, and for cleaner accounting, the Program will purchase non-local supplies directly and post them to the Village. In some cases, the Regional Coordinator will purchase the items for their region using a purchase order or Program credit card, and in other cases the Statewide Coordinator may make the purchase.

5.5.5 Policy for Allocating Compensation for Village Program Operational Costs

Different villages will receive slightly different benefits from the Program. Some villages may receive more barge stops, or more-kind opportunities, or village-specific donations. Some may have extremely difficult logistics or face a particularly low infrastructure capacity. This Section examines how the Program doles out its funding and in-kind support among villages to carry out their Backhaul Programs.

When the Program is fully funded, a question of fairness arises in giving some villages more funding than others, particularly when it comes to personnel labor. Wage levels are different in different villages. Overpayment may make the Program inefficient – i.e. Village program costs could inflate to whatever amount is offered, not unlike what occurs when entities receive grants based on what they spend. An incentive to save is lacking.

There are several options.

1. Universalistic view: Treat all villages the same by giving them an equal amount of money to operate their backhaul. In cases of Program underfunding, this approach may mean that villages will receive just a minor portion of what they need pay for their program. Still, this is the easiest to manage from the Program perspective.
2. Particularistic view: Give villages a share commensurate with the effort and cost needed. This view is in line with village cultures and may be better received. Giving villages the same amount of money is not treating them fairly. Village programs can be very intensive with inadequate equipment, substandard facilities, and/or personnel hard to retain, among many, many other factors. With a commensurate policy, in cases of underfunding, each village will be as far or as close to funding the village backhaul effort as every other village.

While the second viewpoint is more valid within the dominant cultures of rural Alaska, tracking exactly true local Village program costs would be virtually impossible. What is feasible is to apportion funds based on a surrogate measure of ability to pay. To start off, in the Pilot Program this measure will be median per capita income. But the Pilot may point to a different measure or a combination of more than one measure to be used.

5.6 Prioritizing Villages for Assistance When Funding Falls Short

Compensating Villages based on ability to pay works well with full Program funding. But when the Program is partly funded, it may mean that a number of villages are unable to backhaul, ever.

Given the point of the Program is to assist villages in removing hazardous wastes, the Program policy will be to fund fully core Village program feature items (see Table 5.3) for as many priority villages as possible. The other Backhaul Ready villages will still be eligible to receive all Program discounting and in-kind offerings that are available. This assistance may be sufficient many of these villages to complete their yearly backhaul projects as well.

Priority criteria has been alluded to previously, and is compiled below in Table 5.4 for convenience. Emphasis is placed on the ability of a Village to financially support their own backhaul (income, infrastructure) and the potential for hazardous wastes to enter the "environmental health stream".

Table 5-4 Criteria for Program Priority Village: Most or All Conditions Should be Present.

Criterion	Comments
Backhaul has not occurred for 3 years.	Includes backhaul through the Program as well as autonomous backhaul. More years gives greater priority.
Checklist-ready with possible exception for needed supplies or equipment	If supplies or equipment are still needed, and other criteria are met, the village receives high priority for funding or in-kind to meet infrastructure needs.
Regional Coordinator reports good communications and persistent commitment	*Self-explanatory*
Median household income is in bottom half of rural AK villages	*Self-explanatory*
Landfill is adjacent to important water body, eroding into river, or clearly impacting a subsistence or drinking water source	Plus, a high potential for wastes to be placed into landfill or burned due to little storage capacity or other.
Wastes are burned, little to no storage for backhaul.	Plus, a high potential for wastes to be placed into landfill or burned due to little storage capacity or other.

5.7 Missing Information and Steps Required for Sustainable Finance of the Program

In summary, the primary steps required to sustainably plan for and finance the Program are given in Figure 5-2.

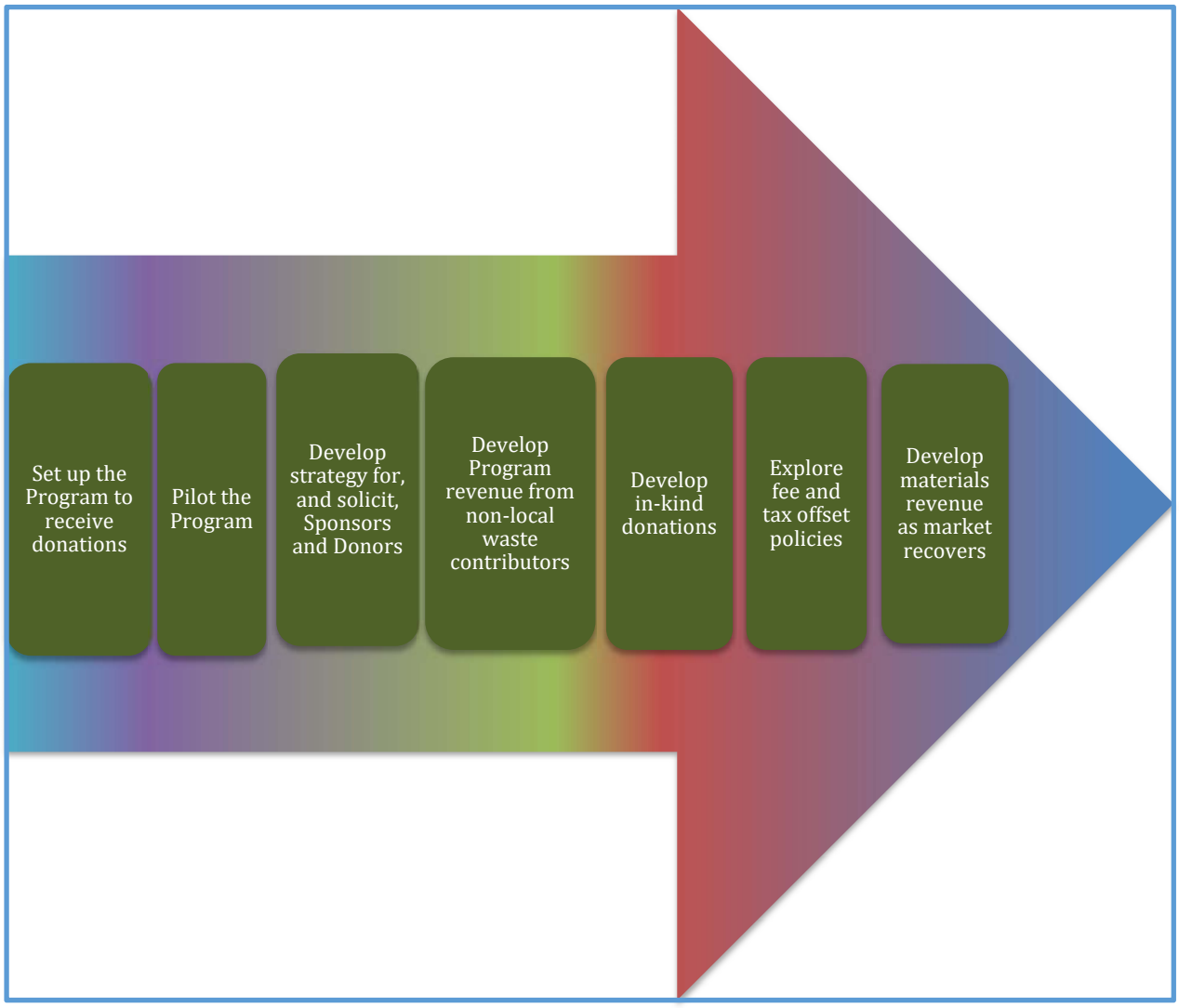

Figure 5-2 Primary Steps to Sustainably Finance the Program. Arrow background colors denote the same Program Phases depicted in 5-1. Turquoise – Setup Phase, Purple – Pilot Phase, Green – Initial Full Phase, Red - Development Phase, Blue – Market Phase

The steps are comprised of the following details and are generally, but not exclusively sequential. For example, while recycling revenue will take some time to develop during the current market, maximizing return to the extent feasible, while still serving prioritized Villages, is carried out as soon as Program operations are fully underway.

1. Set up the Program to receive donations, including the Assets Company (or Fiscal Sponsor's Accounting Branch, as determined)
    a) Obtain legal advice and assistance for corporate structure and organizing documents
    b) Identify and apply for an appropriate Fiscal sponsor
    c) Hire a separate Assets Company if Fiscal Sponsor assets handling is not suitable.
2. Pilot the Program.
    d) Assess the total cost of the Program, including Control Tower fees, Personnel, Assets Company, and particularly shipping and recycling fees (i.e. what are the potential discount prices).
    e) Determine the cost considerations and Program personnel accounting requirements in backhauling only from Villages that the Program can financially cover, or backhauling Non-Covered Villages that can pay their own backhaul fees.
    f) Determine shortfall between short-term cost and revenue that must be raised.
3. Develop strategy for and solicit Sponsors and Industry Donors.
    a) Marketing plan and materials.
    b) Market analysis of materials of recovery potential and recommendations for maximum profit.
    c) Meet with Carriers and Recyclers to determine parameters of what is possible in discounting for the Program, and what their needs are.
    d) Meet with for-profit companies to discuss feasible sponsorship levels and map out the criteria for those levels.
4. Determine and develop Program revenue streams from non-local Village waste contributors derived from village waste management and right of way fees for non-local entity facilities and projects.
    a) Meet with entities like regional housing authorities, National Park Service and other federal agencies with rural facilities, school districts, Associated General Contractors.
5. Determine and develop in-kind donations.
    a) Assess through Point of Contacts the level and type of potential assistance.
6. Develop materials revenue.
    a) Network with potential brokers and metals market vendors prior to market upturn and seek broker opportunities as Market improves.
    b) Continually explore alternate vendors and means to improve materials pricing.
7. Explore and develop feasible fee and tax offset policies.
    a) Negotiate with Port Authorities any wharfage and other applicable fees levied on vessels serving Program efforts, and negotiate with Hub airports or other airstrips that charge landing fees to planes serving Program efforts.
    b) Examine ways to implement state and borough tax offsets and licensing in the future.

A. Detailed Program Coordinator Descriptions

Table A-1 Regional Coordinator Duties, Needs, and Potential Partner Roles

Component	What it Involves	Missing Pieces Prior to Implementation	Potential Entity Role(s)
Maintain the Village Tracking database	Entering information when received from the village via fax, email, scan, phone, etc. into a relational database. Upload changes and not writing over.	Database must be created**.**	Carriers and Villages responding as needed to clarify and data
For hub and spoke regions, potentially overseeing or helping to receive and repackage or consolidate materials for barge or larger plane.	Meeting shipments at the airport or port with a truck or other vehicle, and either directly transferring containers such as totes and pallets to a hub-SEA or hub–ANC connection, or picking up shipment and bringing it to local staging area to consolidate like wastes and/or to repackage for particular transportation mode.	Which hubs will require the coordinator to consolidate materials received at the hub? To what extent? An organized listing of Carriers and routes to identify likely needs that will surface would be helpful. E.g. Does the Program need "boots on the ground" to transfer goods from small airport or boat/barge to large airport or large barge	In-kind donations of labor by any agencies or businesses with personnel in the region. Regional entities such as school district offices, hospitals, ANCSA non-profits, Wildlife Refuge offices, etc. might organize volunteers. Carriers might assist in transfer between airports, etc.
Regular contact with all regional villages to ensure knowledge of their circumstances and needs	Devoting a little time each day to communications with villages. Small communities are subject to greatest swings in circumstances.	*None*	*None*
Assist villages in reaching Capacity stage via presenting to Council/ Community, and/ or other means	Serve as support and regional technical expert on the Program ins and outs. May need to conduct site visit to do so.	As mentioned in previous Section, the legal template for Program Entry and Community Agreement is still needed.	Plane companies (charter, agency, or commercial) could donate space on their plane for Program site visits.
Review Village checklist with Villages and verify any submitted documentation	On a regular basis go through by phone, email, or if needed, by site visit, the Checklist with villages to confirm which components are still needed, which need help, which components are met.	*None, Checklist is being developed.*	*None*

Table A-1 Regional Coordinator Duties, Needs, and Potential Partner Roles *(Continued)*.

Component	What it Involves	Missing Pieces Prior to Implemen--tation	Potential Entity Role(s)
Conduct site assistance visits	Periodically, villages may require on-site assistance for better efficiency at moving forward, or for training purposes.	*None*	Plane companies (charter, agency, or commercial) could donate space on their plane for Program site visits.
Help to train villages	Either as a 1 on 1 effort, or regional effort that they or a partner organization puts on, the Regional Coordinator will serve as an instructor for at least some components of backhaul, such as packing, labelling, and Program coordination.	*None*	*Same*
Meet with other coordinators at least monthly via phone to discuss any common needs assign duties	Trends, patterns, needs, best practices, lessons learned will be shared to make the Program more efficient.	*None*	*None*
Meet with State coordinator as often as needed to relay village and regional-level needs, suggestions for Program	State Coordinator must be apprised of region's circumstances and needs that are not captured on the village tracker.	*None*	*None*
Adapt any training or outreach material to the region's needs.	Any Program materials or protocols that could better suit the regions by modifying format or other aspects should be carried out as long as safety is not risked.	*None*	*None*
Communicate as needed directly with Control Tower or shippers or recyclers.	Particularly close to backhaul pickup, the Control Tower, shippers, or recyclers may need to know last minute updates and need to relay last minute information. It is anticipated the internet will be down some of the time, so fax and phone may serve as communication backup as well.	*None*	*None*
Hold inter-village teleconferences or webinars to address common issues and encourage village to village assistance and ideas.	Efficiencies will be had if the work of training villages is partly left to villages using each other's expertise, so an inter-village network setup is worth the time investment.	*None*	*None*

Table A-2 Statewide Coordinator Duties, Needs, and Potential Partner Roles

Component	What it Involves	Missing Pieces Prior to Implementation	Potential Entity Role(s)
Setup of Pilot Program	Arrange for Meetings between Program staff and Tower and Assets Company, Develop Communications Plan and Guidance Protocols for Coordinators, Review and revise as necessary Program components already completed.	All Setup Phase components, see Table 4-5 up to red shading.	Meeting space, assistance in reviewing documents or feedback on procedures. Provide suggestions for Pilot villages and volunteer to donate in-kind opportunities.
Hire Regional coordinators and Tower with input from Executive Committee	Developing RFP for Tower and Regional Coordinator job description. If Coordinators are hired through regional entities, provide support and direction.	Funding	Volunteer for Selection Committee and help in outreach.
Report to Executive Committee	Ensure members are informed of important achieved, missed, and coming milestones.	*None*	*None*
Carry out and oversee Donor Appreciation Strategy	Arranging for PSAs, writing thank you letters, organizing award and special events.	Strategy to be developed	Assistance in designing Strategy and in performing, such as ways to thank Partners.
Serve as Regional Coordinator Backup, and provide them support as needed	Pitch in and contact villages, enter Tracker data, network with regional entities, especially during busy times.	*None*	*Experienced Partners may be able to assist in the case of urgent help required, but otherwise help is unlikely.*
Implement partnerships – network and develop methods	Network, network, network, and follow-up with plans.	*None*	Network, Network, Network and help in follow-up
Deposit checks	Physically drop checks off at bank that are sent to the office instead of Assets Company.	*None*	*None*
Provide feedback and direction to Control Tower, Sign off on Tower invoices	Keep fully abreast of how Tower functions and learn SAP Program, hold twice-weekly or more frequent meetings at onset to prepare for Pilot**.**	*None*	*Industry Partners to provide constructive comments back as often as possible.*
Provide feedback and direction to Regional Coordinators, sign timecards	Meet regularly with Coordinators separately and as a group to ensure clear communications.	*None*	*None*