

Preparing Recyclables for Collection

Drop-Off vs. Curbside

Recyclables will be collected in the same way regular garbage is currently collected:

Drop-Off

- Transfer Sites
- Landfill

Curbside

- City of Fairbanks
- Ft. Wainwright
- Eielson AFB
- UAF

Source-Separated Vs. Commingled Collection









Source-Separated:

- Requires a greater effort from the generator
→ Lower participation rate
- Lower recovery rate
- Requires intense public education
- **Would not include UAF, EAFB, FTWW & City of Fairbanks. Not feasible for curbside pickup, only recycling at drop-off sites**

Commingled:

- Requires less effort from the generator → Higher participation rate
- Higher recovery rate
- Requires less public education
- **Could include residents of UAF, EAFB, FTWW, & the City of Fairbanks Feasible for curbside pickup, and drop-off sites**

Source-Separated Household Categories

	Old Corrugated Cardboard (OCC)		Plastics, PET
	White Office Paper		Plastics, HDPE-Natural
	Mixed Paper		Plastics, HDPE-Colored
	Aluminum		Regular Trash

Commingled Collection Household Categories

	Commingled Recyclables (All those above together)
	Regular Trash

Waste Produced in FNSB in 2005

(from FNSB Solid Waste Division FY05 Year End Report)

Municipal Solid Waste (MSW)

(the part considered in report) **85,087 tons (76%)**
Total Material Recycled ~2,472 tons (2.2%)
 Construction Debris (CD) 25,852 tons (23%)
 Other Solid Waste 498 tons (<1%)
Total Material Landfilled 108,965 tons (98%)

Estimated Contents of MSW Stream

based on national averages (EPA 2003)

Paper and Paperboard* 35.1%
Plastics* 11.3%
Aluminum* 1.4%
 Yard Trimmings 12.1%
 Food Wastes 11.7%
 Rubber, Leather & Textiles 7.4%
 Steel 5.9%
 Wood 5.8%
 Glass 5.3%
 Other Nonferrous Metals <1%
 Other 3.3%

*currently considered in FNSB Recycling Plan

Current Market Values of Recyclables

White Ledger Paper \$180/ton
 Newsprint \$80/ton
 Old Corrugated Cardboard (OCC) \$75/ton
 Mixed Paper \$65/ton
 Plastic - PETE \$0.10/lb = \$200/ton
 Plastic - HDPE Natural \$0.13/lb = \$260/ton
 Plastic - HDPE Colored \$0.05/lb = \$100/ton
 Aluminum \$0.55/lb = \$1,100/ton
 Shipping from Fairbanks to Seattle \$70/ton

Estimate of Recoverable Recyclables in FNSB

Materials	Tonnage of MSW Materials into FNSB Landfill Annually	National Average Recycling Recovery Rates (RRR) (EPA, 2003)	Total Tonnage Recoverable Annually in FNSB (based on RRR)
Paper & Paperboard	29,866	48.1%	14,365
Aluminum	1,191	21.4%	255
Plastics	9,615	5.2%	500
Other	41,607	24.5%	not in plan
Total	85,087	30.6%	15,120 (18%)

A Brief Overview of the Fairbanks North Star Borough Recycling Plan and Analysis Summary Report

December 2005

Summary by



This report outlines options available to the Borough to begin an additional recycling program by sending materials to the Seattle area to be sold on the recyclables market. Estimates for recyclables recovered are made conservatively assuming a 35% participation rate. These recyclable materials would include: **paper** (all types), **plastic** (types 1 & 2) & **aluminum**.

This plan will be revised based on YOUR comments, so let us know what you think. Please send questions and comments to ASUAF Recycling at fyreuse@uaf.edu or call 474-6037. Any comments pertaining to the FNSB Report outlined here will be forwarded to Mayor Jim Whitaker who wants to see all public input.

This is a very brief and simplified unofficial summary of a much more detailed plan. If you have any interest in seeing the more in depth summary provided by the Borough, just stop by the Recycling desk in the ASUAF Office on the 1st floor of Wood Center, and pick up a copy. For more information visit <http://asuaf.org/recycle>.

Option 1: Source-Separated Collection

■ **Manning the 5 Largest Transfer Sites**

(5 largest sites = 80% of MSW from transfer sites)

- ❑ Separate fenced area for recycling bins
- ❑ Personnel shelter at each site (small trailer)
- ❑ **7 categories: paper products: cardboard, white office paper, mixed paper, plastics: HDPE2-natural, HDPE-colored, PET, and aluminum**
- ❑ Hauler makes separate trips for each material
- ❑ Recyclables Recovered 2,118 tons

■ **Remainder of Collection Sources:**

(This portion of Options 1 and 2 are identical)

- ❑ 9 Remaining Transfer Sites
= 20% of MSW from transfer sites

→service these sites via a **mobile recycling center**

- Pick-up and 5th wheel trailer equipped with bins
- **7 categories: OCC, white paper, mixed paper, aluminum, HDPE-natural, HDPE-colored, PET**
- Mobile recycling center hauls recyclables
- Estimate 50% reduction in collection due to sites being serviced once a week
- Recyclables Recovered 265 tons
- ❑ Landfill (Self-Haul) & EAFB Paper Program
 - Recyclables Recovered 1,940 tons

■ **Estimated Costs:**

- **Capital Costs** (for compactor, dumpsters, etc.)
 - Facility at the Landfill \$2,225,000
 - at the Transfer Sites \$220,000
- **Operational Costs** (for labor, trucks, shipping, etc.)
 - Collection Costs \$553,718
 - Processing Costs \$334,080
 - Transportation Costs \$302,610
- **Value** (annual, subtracted from costs)
 - of Recyclables \$440,442
 - of Saved Landfill Space \$43,987
- **Total Annual Cost**
(not including capital costs) **(\$705,979)**
- **Number of New Jobs Created** **11**
- **Total Recyclables Recovered** **4,323 tons**

Option 2: Source-Separated Collection

■ **3 Mobile Recycling Centers at the 5 Largest Transfer Sites** (7 categories of recyclables)

- ❑ Farmer's Loop East & West and North Pole will be visited 4 days/week
- ❑ Chena Pump - 2 days/week
- ❑ Badger - 1 day/week
- ❑ Estimate 50% reduction in collection for those sites serviced once or twice a week
- ❑ Recyclables Recovered 1,810 tons

■ **Remainder of Collection Sources:**

(This portion of Options 1 and 2 are identical)

- ❑ 9 Remaining Transfer Sites
= 20% of MSW from transfer sites
- service these sites via a **mobile recycling center**
(see this section of Option 1 for details)
 - Recyclables Recovered 265 tons
- ❑ Landfill Collection (Self-Haul Residents)
 - Recyclables Recovered 65 tons
- ❑ EAFB Waste Paper Program
 - 1,500 tons of paper historically recovered
 - With public education we estimate 125% increase
 - Recyclables Recovered 1,875 tons

■ **Estimated Costs:**

- **Capital Costs** (same as in Option 1)
 - Facility at the Landfill \$2,225,000
 - at the Transfer Sites \$220,000
- **Operational Costs** (lower collection costs than Option 1 from fewer man hours at transfer sites)
 - Collection Costs \$358,499
 - Processing Costs \$334,080
 - Transportation Costs \$281,050
- **Value** (annual, subtracted from costs)
 - of Recyclables \$409,062
 - of Saved Landfill Space \$40,853
- **Total Annual Cost**
(not including capital costs)... **(\$523,715)**
- **Number of New Jobs Created** **9**
- **Total Recyclables Recovered**... **4,015 tons**

Option 3: Commingled Collection

■ **Transfer Sites**

- ❑ All 14 sites would be Unmanned
- ❑ Recycling attendant to lock/unlock the separate fenced area for recycling
- ❑ Contractor to haul the recyclables to the landfill, **only one type of truck needed**
- ❑ **Increase in participation** (more convenient) offset by possible decrease in quality of recyclables recovered (contamination from improper commingling)
- ❑ Recyclables Recovered 2,648 tons

■ **Landfill Self-Haul and EAFB Paper Program**

- ❑ No change from Options 1&2 ... 1,940 tons
- **City of Fairbanks, FTWW, EAFB, UAF**
 - ❑ Commingling recyclables **allows these entities to participate by curbside pickup**
 - ❑ Each entity can collect recyclables and garbage in **two trips**
 - ❑ Recyclables Recovered with participation from all entities 1,016 tons

■ **Estimated Costs:**

- **Capital Costs** (added cost for sorting line at the landfill, but fewer dumpsters at transfer sites)
 - Facility at the Landfill \$2,880,000
 - at the Transfer Sites \$130,000
- **Operational Costs** (only one category to collect, but increased labor costs for sorting; value and transport costs increase because more is collected)
 - Collection Costs \$286,102
 - Processing Costs \$603,465
 - Transportation Costs \$392,280
- **Value** (annual, subtracted from costs)
 - of Recyclables \$570,954
 - of Saved Landfill Space \$57,021
- **Total Annual Cost**
(not including capital costs)... **(\$653,872)**
- **Number of New Jobs Created** **11**
- **Total Recyclables Recovered**... **5,605 tons**