

1. Agenda

Documents:

[2020FEB12SUAG.PDF](#)

2. Meeting Materials

Documents:

[2020FEB12SUFP.PDF](#)
[2020FEB12SUMP.PDF](#)
[2020FEB12SUAM.PDF](#)

FAIRBANKS NORTH STAR BOROUGH SUSTAINABILITY COMMISSION MEETING AGENDA
MONA LISA DREXLER ASSEMBLY CHAMBERS AT THE
JUANITA HELMS ADMINISTRATION CENTER
907 TERMINAL STREET, FAIRBANKS, ALASKA

February 12, 2020 at 6:30 PM

WORK SESSION

Discussion of the future of recycling in Fairbanks between Commissioners and Borough Staff.

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A messy subject indeed

Transfer site conditions to get some airing in front of Borough Assembly

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The subject of transfer sites is once again coming to the Borough Assembly. The administration of Mayor Bryce Ward will make a presentation to the assembly about transfer site conditions and security Thursday evening.

The sites are important to the borough, which has a significant portion of its population scattered beyond the population centers of the two cities. The borough has been operating 15 transfer sites, ranging from just beyond Harding Lake to the southeast, Two Rivers to the east, Fox to the north and Ester to the west. As of Friday, however, that number dropped to 13 with the closing of the Dale Road and 30 Mile Richardson Highway sites as a cost-cutting measure.

Transfer sites are vital because they save the borough's noncity residents from having to take their trash to the borough landfill, at the far end of South Fairbanks. You can bet that if residents had to make the long trek to the dump that some would instead be hauling their garbage into the woods.

And we do seem to produce a lot everyday garbage. The fiscal 2019 end-of-year report of the borough's Solid Waste Division notes that the national average of waste produced by each person daily is 4.6 pounds but that borough residents tossed out quite a bit more — 5.93 pounds of trash per person per day.

As important as the transfer sites are, however, they are prone to abuse.

For starters, the sites aren't supposed to be used by residents of the city of Fairbanks. Those residents have their own garbage service for which they pay. They don't help pay directly for the borough's transfer sites, which are funded through a nonareawide property tax. What that means is that only people who own property in the borough but outside the city of Fairbanks pay directly for the cost of operating the sites.

As to the appearance of the transfer sites, they aren't expected to be places of sanitary heavenliness. But some people do abuse the service by, for example, dropping off junked vehicles. These people know they aren't supposed to be doing that because they strip any identifying information from the vehicles. It takes a little bit of effort, but junked vehicles and other bulky waste — defined as also including furniture, appliances, large auto parts, tires, trees and branches, stumps and flotsam — should be taken to the landfill. People also drop off dead animals, a violation of the rules.

Sometimes the waste that is permissible to be dropped at a transfer site doesn't even seem to make it into the dumpsters. Leaving waste outside the dumpster is a violation of borough code. It makes a garbage site look, well, trashy.

Some of the sites have been the scenes of crimes.

Expect these issues and perhaps more to come up at Thursday's presentation to the Borough Assembly.

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Table 1

Waste Management is:	From Jain, P., Dyson, B., Tolaymat, T., Ingwersen, W., 2015. A Comparative Analysis of Life-Cycle Assessment Tools for End-of-Life Materials Management Systems. U.S. Environmental Protection Agency, Office of Research and Development: The municipal solid waste (MSW) generation in the US has almost tripled in the last five decades from approximately 80 million metric tons (MT) (at 2.68 pounds per person per day in 1960) to 225 million MT (at 4.38 pounds per person per day in 2010) (US EPA 2014). MSW and construction and demolition debris (CDD) are the primary end of life (EOL) materials that communities (through their local governments) are responsible for managing. Historically, the spectrum of management options and services available to communities has ranged from systems where EOL materials are collected and transported elsewhere for further management to the development and operation of regional EOL materials management facilities which accept and handle MSW from various surrounding communities. MSW management decision-making is primarily driven by the cost of community-preferred options that meet the regulatory standards (local, state, and federal) for protecting human health and the environment. Given the amount of MSW that needs to be managed and its characteristics (e.g., biodegradability, potential for odor release), communities' decisions on the materials and methods used for MSW management also have significant social and environmental impacts that in turn have economic impacts (e.g., the impact on local ecosystem goods and services from a site located adjacent to EOL materials management activities).
Economic/entrepenurial/Economic Development - shipping	Currently economic development is extremely limited to nonexistent. Because of the distance to market, volume generated, China's waste import restrictions, and other factors, recycling is not currently profitable, but neither is burying waste. Nonetheless, recycling, like sports fields, is a Borough service that residents clearly desire. The borough pays to have paper and cardboard hauled to Anchorage where it may be used by a company that produces cellulose insulation. All other raw materials are shipped out of the borough. Green Star of Interior Alaska does sell gently-used electronics. Greer Tank has considered and declined the option of using locally-collected, used plastics for the production of their products. It is assumed that glass cannot compete with locally-mined gravel likely due to limited volume, access, and start up costs. The municipality of Anchorage has experimented with using crushed glass in construction projects and I was told the MOA public works department needed a much more substantial volume, which calls for stock piling. Recycling metal creates 36 times more jobs than sending the same amount of metal waste to the incinerator, and six times more than sending the metal to a landfill, according to the National Institute of Health. The National Recycling Coalition says the recycling industry in general generates \$236 billion annually and employs more than a million workers across America.
Fiscal situation	Currently processing and transportation costs exceed gross revenue for cardboard, mixed paper, and #1 PET plastics. According to West Rock, looking out 1 to 2 years the market does not look good for recyclable materials. There will be new Mills coming online in the next few years. For the past several years the Mat-Su Borough funded their local recycling facility with a \$75,000 subsidy. In FY 2020 they added an additional \$75,000. The borough has a separate agreement with Green Star of Interior Alaska for the handling of electronic waste. In fiscal year 2019 the borough paid West Rocks \$20,000 to process and transport recyclables and \$66,000 to Green Star of Interior Alaska for electronics recycling.
Environmental	Currently the environmental impacts of waste could be viewed two ways: direct and indirect. Direct impacts include the landfills ranging from the amount of fossil fuels needed for the operations to loss of wetlands to the contaminated liquids. Indirect impacts include the fossil fuels associated with moving waste from the home to the transfer station to the landfill to the gravel mining and hauling by private companies to support landfill operations. Electronics waste contains mercury and other metals that are toxic. Indirectly recycling also saves fossil fuels, greenhouse gas emissions, and associated environmental impact in the lifecycle of meaning/production/recycling materials. However recycling process themselves always generate carbon emissions and environmental contaminants. "Metal recycling conserves natural resources by reducing greenhouse gas emissions and using less energy than making metal from virgin ore. The production of new metal releases a far greater amount of greenhouse gas emissions compared with making products from recycled metal. These emissions may influence climate change and may also cause harmful levels of air pollution in cities, resulting in potential respiratory health problems for you and other residents. The Institute of Scrap Recycling Industries (ISRI) reports that recycling metal may cut greenhouse gas emissions by 300 million to 500 million tons. In addition, using scrap metal in lieu of virgin ore generates 97% less mining waste and uses 40% less water, according to the National Institute of Health. The amount of energy saved using various recycled metals compared to virgin ore is up to: 92 % for aluminum, 90 % for copper, and 56 % for steel. According to the U.S. Environmental Protection Agency, if you recycle a single aluminum beverage can, you help conserve enough energy to power a 60-watt light bulb for more than four hours.
Carbon footprint	Currently the carbon footprint has only been estimated once for the 2007 FNSB greenhouse gas emissions inventory: "[The] waste management sector includes fugitive CH4 emissions from municipal solid waste (MSW) landfills inside FNSB and emissions of GHGs from wastewater treatment utilities. Because there is no MSW incinerated at the reporting landfills, no CO2 or N2O emissions occur due to burning of solid waste. Additionally, no CH4 capture technology is used by borough landfills. The total 2007 emissions from waste management were 0.0562 MMt CO2e." Direct emissions come from buried cardboard, paper and food, which contribute carbon dioxide and methane emissions. Underground, plastics do not emit greenhouse gas emissions or pollute water. Indirect greenhouse gas emissions are released by transportation of materials from the end-user to the transfer station and from the transportation to the landfill. Or from the end-user to the Central recycling facility or other facility. Or from the end-user directly to the landfill. This assumes no illegal dumping.

Political/government	Currently the borough government manages municipal solid waste using contract hauling services. The Borough has been diverting waste from the landfill for several years. Local city governments also haul waste to the borough landfill. There is also private and military landfills in the borough. The EPA and the state of Alaska oversee and regulate municipal landfills. The borough government funds and operates the landfill. Elected assembly members vote on funding for borough waste management on an annual basis. However other income comes from the fees the borough charges for use of the landfill.
Social	A 2012 telephone survey revealed that 60.3% of respondents were willing to pay a fee to support Borough recycling. In the same survey, when asked, "On a scale of one to ten, with ten being completely supportive, how supportive would you be of the Borough providing additional recycling for plastic, glass, paper and cardboard?" the average response was 8.7 out of 10. A more recent survey of residents in January 2018 found that among various programs that respondents would reduce or eliminate only 6.9% identified recycling.
Education	Organized education regarding waste management is sporadic. Green Star of Interior Alaska recently began providing recycling programs in elementary schools. Borough staff present recycling information during special events primarily at the Fort Wainwright Earth Day event.
Logistical/technical - shipping	Waste materials are collected and shipped to Anchorage and then to global markets via ships leaving from the Port of Anchorage. The borough central recycling facility is over 300 miles from Anchorage. Transportation of materials to Anchorage can be done by truck, rail, or aircraft although 99% of borough loads go in trailers by rail. Currently the borough contracts for the transportation of recyclable materials at a rate of \$75 per ton for the first 70 trailers per year, and \$100 per ton past 70.
Distance to market/geolocation (far from port, far from end user that can take product)	The borough has a contract with West Rock, which buys recyclable materials from the borough and sells those materials on the market, in the past this included selling cardboard and paper sold to Thermo Kool of Alaska. The final destination of most materials that leave the borough is unknown. Currently the borough receives 100% profit minus shipping and handling for ??? materials, 50% profit for ???. For aluminum the borough receives 65% of profits from sales minus shipping and handling. In January 2020 West rock was paying the borough \$85 per ton for office paper. West Rock pays the borough \$5 per ton for cardboard and \$10 per ton for #1 PET plastics. As of January 2020 cardboard market price is \$15 per ton, mixed paper \$-75 per ton, #1PET \$ 110 per ton, #2 HDPE \$220 per ton, and \$1030 per ton for aluminum.
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Volume/scale	According to the borough's solid waste division website: "Total tonnage at transfer sites increased at a 5-year average of 1% with variations from -6% to 7%." In 2019 per capita generation for solid waste generation was 4.60 lbs. per person/day in the US and in the FNSB in FY19 it was 5.93 lbs. per person/day. The full FY19 solid waste division report is here: http://fnsb.us/pw/Solid%20Waste/FY19%20Annual%20Report.pdf . At the central recycling facility the contractor bales plastics, mixed paper and cardboard. The average bale weight for cardboard is 876 pounds, 1312 mixed paper, 368 pounds for #1 PET, 575 pounds for #2 HDPE, and 231 pounds per bail for aluminum. The average weight for a pallet of electronic waste is roughly 500 pounds. In fiscal year 2019 620.5 tons of materials were processed not including 102 tons of electronics. At this time it is unknown how much waste materials are collected at the transfer stations and businesses like C & R Pipe and Steel and the major department stores and recycled or reused.
Powers of the borough	FNSB Code: "Chapter 1.12.020 General powers. A. The borough has the following general powers, subject to other provisions of law: 4. Garbage and solid waste services, in accordance with AS 29.35. 1.12.050 Acquired areawide powers. A. The borough acquired these areawide powers by transfer of the power by the city of Fairbanks and the city of North Pole or by holding an area-wide election on the question: 4. Garbage and solid waste disposal by transfer, June 28, 1973.
Public safety/health	see environmental
Quality of life	

Tourism/expectations of Alaska	
Future residents	

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Life Cycle of Materials	From Jain, P., Dyson, B., Tolaymat, T., Ingwersen, W., 2015. A Comparative Analysis of Life-Cycle Assessment Tools for End-of-Life Materials Management Systems. U.S. Environmental Protection Agency, Office of Research and Development: The International Organization of Standardizations (ISO 14040) defines LCA as a "compilation and evaluation of the inputs, outputs and potential environmental impacts of a product system throughout its life cycle." Over its life cycle, a product goes through four distinct stages: raw material acquisition, manufacturing, use/maintenance, and recycling/ disposal. The LCA process generally consists of four distinct steps: goal definition and scoping, inventory analysis, impact assessment, and interpretation (ISO 1997). The goal definition and scoping step primarily entails defining goals (e.g., determine the EOL materials management option with the least impact on the environment) and scope (e.g., should the analysis be conducted for the entire life cycle of the product/system of interest or should it be limited to a particular stage [e.g., manufacturing, use, or end-of-use management]).
Volume/scale	According to the borough's solid waste division website: "Total tonnage at transfer sites increased at a 5-year average of 1% with variations from -6% to 7%." In 2019 per capita generation for solid waste generation was 4.60 lbs. per person/day in the US and in the FNSB in FY19 it was 5.93 lbs. per person/day. The full FY19 solid waste division report is here: http://fnsb.us/pw/Solid%20Waste/FY19%20Annual%20Report.pdf . At the central recycling facility the contractor bales plastics, mixed paper and cardboard. The average bale weight for cardboard is 876 pounds, 1312 mixed paper, 368 pounds for #1 PET, 575 pounds for #2 HDPE, and 231 pounds per bail for aluminum. The average weight for a pallet of electronic waste is roughly 500 pounds. In fiscal year 2019 620.5 tons of materials were processed not including 102 tons of electronics. At this time it is unknown how much waste materials are collected at the transfer stations and businesses like C & R Pipe and Steel and the major department stores and recycled or reused.
Powers of the borough	FNSB Code: "Chapter 1.12.020 General powers. A. The borough has the following general powers, subject to other provisions of law: 4. Garbage and solid waste services, in accordance with AS 29.35. 1.12.050 Acquired areawide powers. A. The borough acquired these areawide powers by transfer of the power by the city of Fairbanks and the city of North Pole or by holding an area-wide election on the question: 4. Garbage and solid waste disposal by transfer, June 28, 1973.
Public safety/health	see environmental
Quality of life	

Tourism/expectations of Alaska	
Future residents	

**FNSB SUSTAINABILITY COMMISSION
BOROUGH ASSEMBLY CHAMBERS
FEBRUARY 6:30 pm
ACTION MEMO**

Roll Call, Opening Statements, Agenda and *Consent Agenda.

Commissioners Present: **Ariane Glover, Jimmy Fox, Brett Parks and Wyatt Hurlbut**

Commissioners Absent & Excused: None

APPROVAL OF THE AGENDA AND CONSENT AGENDA

***MINUTES**

1. ***None**

Audio Track 1

AGENDA AND CONSENT AGENDA APPROVED MOVED WITHOUT OBJECTION