

TRANSFER SYSTEM ALTERNATIVES

Transfer Plan Review Workshop 2

August 22, 2013



Department of Natural Resources and Parks

Solid Waste Division

Assumptions

- **Tonnage forecast** – used forecast in which Bellevue, Clyde Hill, Hunts Point, Medina, and Yarrow Point leave system July 2028
- **Capacity** – facilities designed to meet capacity needs with an LOS score of at least C
 - LOS C – able to accommodate vehicles and tonnage at all times of day except occasional peak hours (optimal operating capacity exceeded 5 to 10 percent of hours)
 - Tonnage capacity – the amount of waste that can be handled
 - Transaction capacity – the number of customers that can pass through the facility
- Similar design for all new stations – [what does that look like?](#)
- If self-haul is limited, would continue to accept self-haul customers with a [division charge account](#) during all operating hours
- Generic locations for South County and Northeast within the service area and Cedar Hills as a proxy disposal location
- Cost estimates are planning level and are in 2013 dollars
- Recycling scenario 3

Recycling Scenario 3

Flexibility to collect a wide range of materials

Curbside Mix

- Corrugated Cardboard, Mixed Paper & Newspaper
- PET & HDPE Plastic Bottles
- Other Rigid Plastic Containers
- Plastic Film
- Aluminum Cans, Tinned Food Cans & Glass Containers

Organics

- Yard Waste
- Food Waste & Soiled Paper

Metal

- Scrap metal
- Appliances

Construction & Demolition Debris

- Clean Wood
- Gypsum Wallboard
- Asphalt Shingles
- Carpet & Carpet Pad

Bulky Items

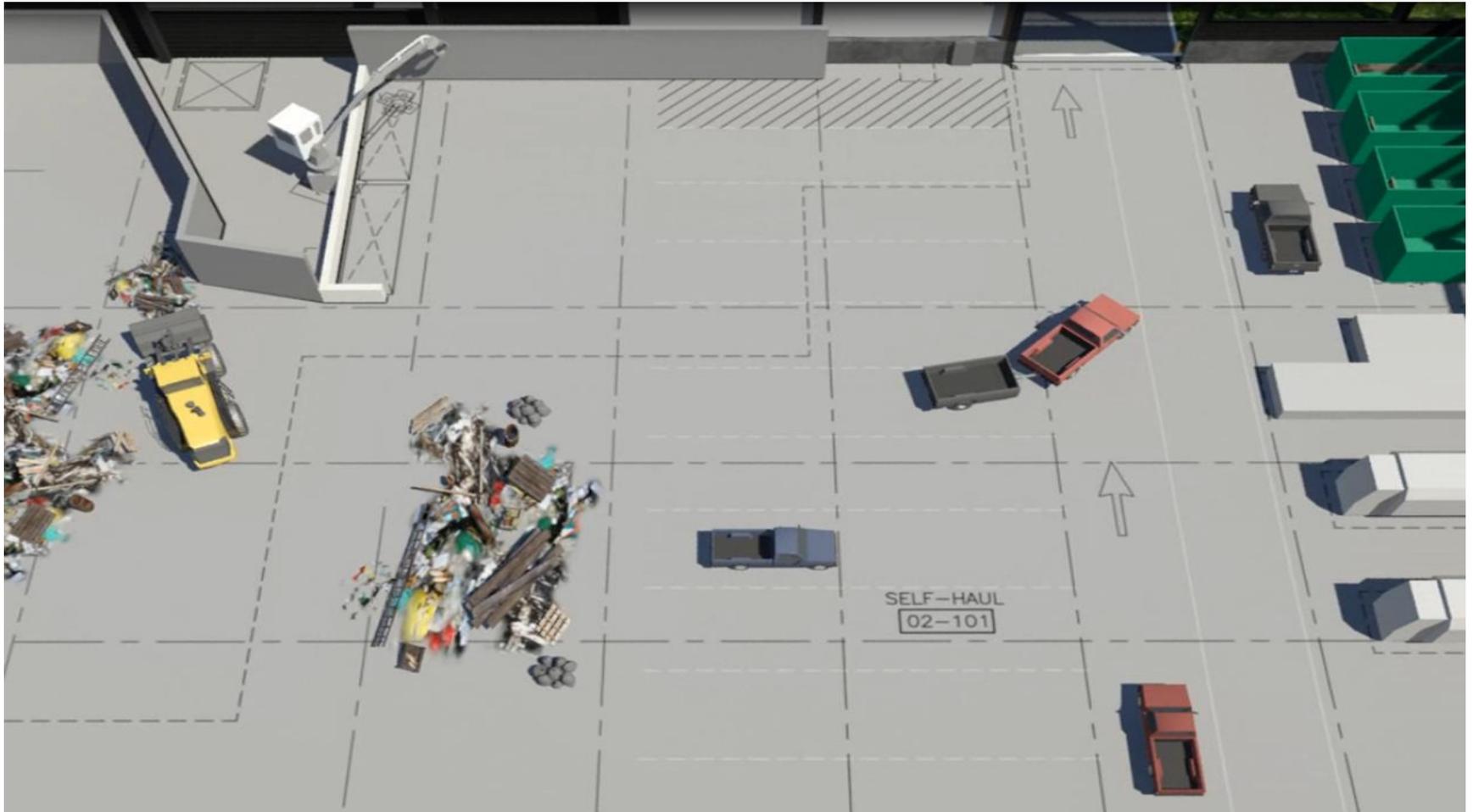
- Furniture
- Mattresses
- Tires

Reusables

- Building Materials (events)
- Household Goods
- Textiles & Clothes
- Bicycles

Allows for flexibility to remove recyclables from the waste stream and consider alternative processing

Recycling Scenario 3



Alternatives Considered

Five basic alternatives

	Base (Current Plan)	Alternative A (no Northeast)	Alternative B (no Factoria)	Alternative C (no South County and no Factoria)	Alternative D (no South County and no Northeast)
Open Facilities	Shoreline Bow Lake Factoria Northeast South County	Shoreline Bow Lake Factoria South County	Shoreline Bow Lake Northeast South County	Shoreline Bow Lake Northeast	Shoreline Bow Lake Factoria
Closed (or never opened) Facilities	Algona Renton Houghton	Algona Renton Houghton* Northeast	Algona Renton Houghton Factoria	Algona** Renton Houghton Factoria South County	Algona** Renton Houghton* Northeast South County

and four variations that would keep Houghton and/or Algona open for self-haul customers only

Base – Current Transfer System Plan

Plan developed with stakeholders and adopted by the County Council in 2007

- Build new Factoria as currently designed and permitted – phase 1 (garbage) open 2017, phase 2 (recycle and HHW) open 2018
- Close Renton 2018
- Build new South County on one of 3 sites currently being evaluated – open 2019
- Close Algona 2020
- Site new Northeast somewhere in the service area currently being served by Houghton – open 2020
- Close Houghton 2021
- All stations – pre-load compaction, 3 days storage capacity, self-haul service all hours, recycling scenario 3

Risks/challenges – Requires siting two new facilities, siting any new facility is challenging and comes with the risk that an appropriate site will not be identified

Alternative A

- Do not build Northeast
- Size of Factoria increases to accommodate expanded service area, requires use of Eastgate property – open 2020/2021
- Close Houghton 2021
- Close Renton 2018
- Build South County on one of 3 sites currently being evaluated – open 2019
- Close Algona 2020

Risks/challenges

- Development on the Eastgate property is inconsistent with Bellevue's recently adopted I-90 corridor plan
- Bellevue's land use code would require a conditional use permit to construct on the Eastgate property, decision would be made by the Bellevue City Council
- Redirects all east/northeast tonnage and customers to Factoria
- Siting new facility in South County

Factoria – Expanded Service Area

- Current Factoria design does not have adequate capacity for the tonnage and customers of the expanded service area
- The Factoria property is not large enough for a facility that will accommodate the expanded service area

Concepts develop Eastgate property

- One large
- Two buildings
 - Commercial – open 2021
 - On current Factoria property
 - Requires longer weekday hours
 - Closed weekends
 - 2 compactors
 - Self-haul – open 2020
 - On Eastgate property
 - Garbage and recycling 7 days a week
 - HHW 6 days a week
 - No compactor, but space to install later

Alternative A*

Same as alternative A except renovates and retains Houghton as a self-haul only facility

- Accepts garbage and yard waste from self-haul customers 7 days a week
- Could accommodate limited recycling, e.g., curbside mix OR scrap metal and appliances
- No compactor
- No storage
- Renovation complete and transition to self-haul only 2017
- Factoria built as currently designed and permitted
 - Self-haul garbage and recycling weekends only
 - HHW 6 days a week

Risks/challenges

- Redirects all weekday east/northeast self-haul customers to Houghton

Alternative B

- Do not build new Factoria
- Size of Northeast increases to accommodate east/northeast tonnage and customers – open 2020
 - Requires longer weekday hours
- Close Factoria and Houghton 2021
- Close Renton 2018
- Build new South County on one of 3 sites currently being evaluated – open 2019
- Close Algona 2020

Risks/challenges

- Redirects all east/northeast tonnage and customers to a not yet sited Northeast facility with longer operating hours
- Siting new facility in South County

Alternative C

- Do not build new Factoria
- Size of Northeast increases to accommodate east/northeast tonnage and customers – open 2020
 - Requires longer weekday hours
- Close Factoria and Houghton 2021
- Close Renton 2018
- Do not build South County
- Close Algona 2018
- Bow Lake self-haul garbage and recycling weekends and limited weekday hours only

Risks/challenges

- Redirects all east/northeast tonnage and customers to a not yet sited Northeast facility with longer operating hours
- Redirects all South County tonnage and customers to Bow Lake – very limited self-haul options

Alternative D

- Do not build Northeast
- Size of Factoria increases to accommodate expanded service area, requires use of Eastgate property – open 2020/2021
- Close Houghton 2021
- Close Renton 2018
- Do not build the South County station
- Close Algona 2018
- Bow Lake self-haul garbage and recycling weekends and limited weekday hours only

Risks/challenges

- Redirects all east/northeast tonnage and customers to Factoria
- Building on the Eastgate property
- Redirects all South County tonnage and customers to Bow Lake

Alternatives C** and D**

Same as alternatives C and D except renovates and retains Algona as a self-haul only facility

- Algona to accept garbage and yard waste from self-haul customers 7 days a week
- No space for additional recycling
- No compactor
- No storage
- Renovation complete and transition to self-haul only 2018

Risks/challenges

- Redirects self-customers from the Bow Lake service areas to Algona on weekdays

Alternative D***

Combines D** with A*

- Retains Algona and Houghton as self-haul only stations
- Do not build Northeast
- Factoria built as currently designed and permitted
 - Self-haul garbage and recycling weekends only
- Close Renton 2018
- Bow Lake self-haul garbage and recycling weekends and limited weekday hours

Risks/challenges

- Redirects self-haul traffic to very constrained facilities

Service – Level-of-Service Criteria

- The Transfer Plan's [first](#) and [second](#) milestone reports describe the development and application of level of service evaluation criteria and standards
- The 17 criteria developed by the division in collaboration with advisory committees and council staff can be grouped into three broad categories
 1. Level of service to customers
 2. Station capacity and structural integrity
 3. Effects on surrounding communities

Service – Recycling

All new facilities provide Recycling Scenario 3, but some alternatives limit hours at some facilities

Base	A	A*	B	C	C**	D	D**	D***
Recycling scenario 3 at all open stations	Recycling scenario 3 at all open stations	Recycling scenario 3: Shoreline Bow Lake Factoria South County Factoria weekends only Houghton limited materials	Recycling scenario 3 at all open stations	Recycling scenario 3 at all open stations Bow Lake weekends and limited weekday hours	Recycling scenario 3: Shoreline Bow Lake Northeast Bow Lake weekends and limited weekday hours Algona yard waste only	Recycling scenario 3 at all open stations Bow Lake weekends and limited weekday hours	Recycling scenario 3: Shoreline Bow Lake Factoria Bow Lake weekends and limited weekday hours Algona yard waste only	Recycling scenario 3: Shoreline Bow Lake Factoria Factoria weekends only Houghton limited materials Bow Lake weekends and limited weekday hours Algona yard waste only

Cost – Recycling Operating Cost

- Set fees to cover operating cost – appliances, yard waste, clean wood, etc.
- Some materials, like scrap metal, accepted with no fee – revenue covers cost
- Cost to add curbside mix – hauling and processing minus revenue (2013\$)
 - Factoria = \$14,000 per year
 - Northeast = \$50,000 per year
 - South County = \$ 1,200 per year

Environment – Recycling

Alternatives that reduce recycling services are inconsistent with current priorities

- State solid waste management priorities
 1. Waste Reduction
 2. Recycling
 3. Disposal
- Adopted or draft comprehensive solid waste management plan priorities
- Resource conservation and lowering of greenhouse gas emissions
- County's Zero Waste of Resource goal
- 70 percent recycling goal

Service – Self-haul Service

All alternatives provide for self-haul service at all stations at least some of the time

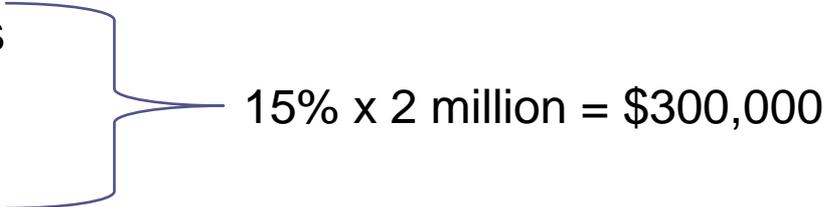
Base	A	A*	B	C	C**	D	D**	D***
All open stations All hours	All open stations All hours	All hours: Shoreline Bow Lake Houghton South County Factoria weekends only	All open stations All hours	All hours: Shoreline Northeast Bow Lake weekends and limited weekday hours	All hours: Shoreline Northeast Algona Bow Lake weekends and limited weekday hours	All hours: Shoreline Factoria Bow Lake weekends and limited weekday hours	All hours: Shoreline Factoria Algona Bow Lake weekends and limited weekday hours	All hours: Shoreline Houghton Algona Factoria weekends only Bow Lake weekends and limited weekday hours

Cost – Self-haul Capital Cost

- The marginal capital cost of providing self-haul garbage and recycling service in a mixed use facility is about 15 percent of construction cost
 - Site work – earth work, paving, etc.
 - Space – floor and enclosed building
 - Utilities and miscellaneous other
 - Sales tax

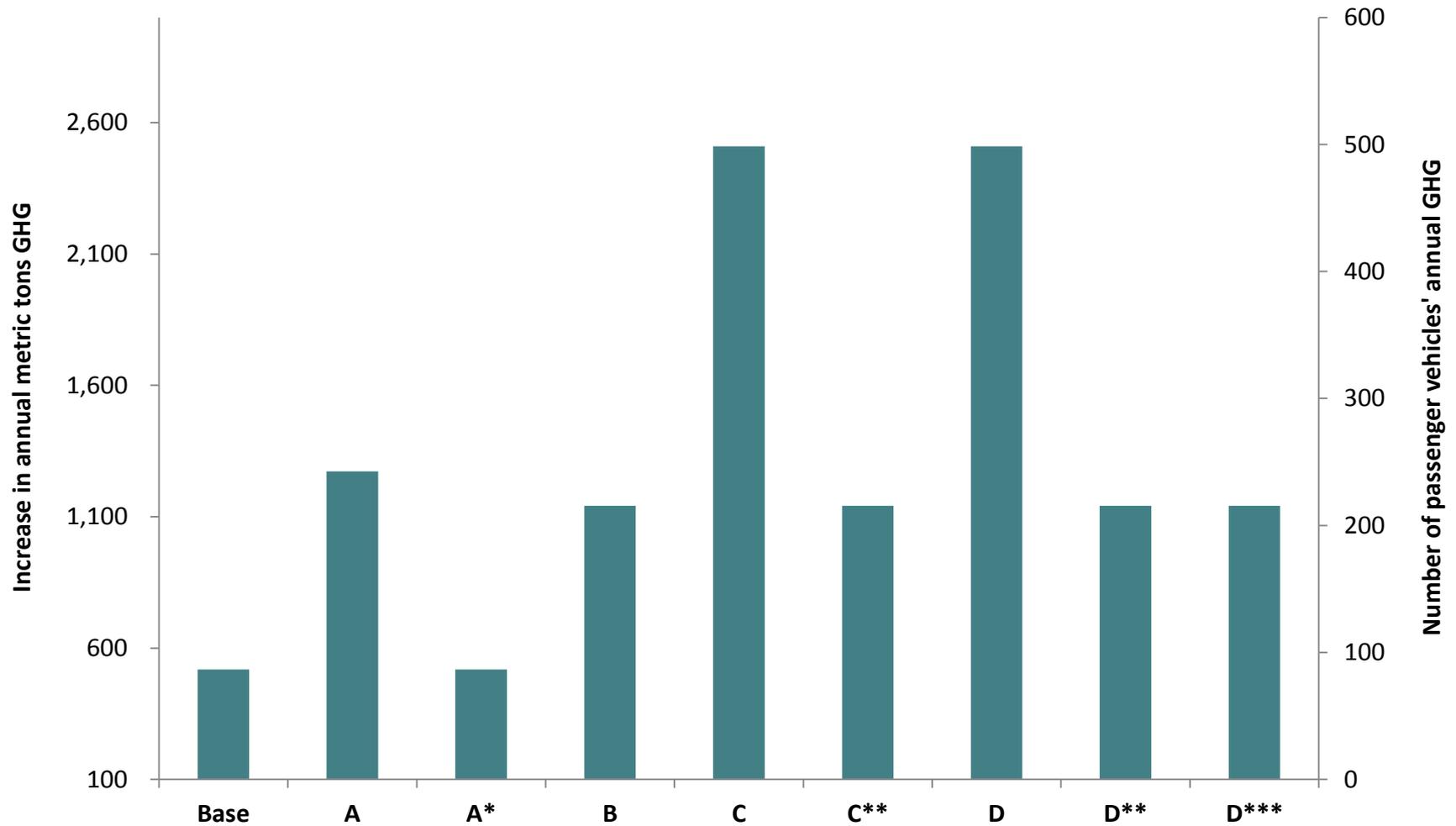
$15\% \times 45 \text{ million} = \6.75 million
- The capital cost of providing self-haul garbage and recycling service in a self-haul only facility is 100 percent of all cost incurred
 - Algona self-haul only \$8.9 million
 - Houghton self-haul only \$1.7 million

Cost – Self-haul Operating Cost

- The marginal operating cost of providing self-haul garbage and recycling service in a mixed use facility is about 15 percent of the total operating cost
 - Labor – transfer station operators and scale operators
 - Equipment

15% x 2 million = \$300,000
- The operating cost of providing self-haul garbage and recycling service in a self-haul only facility is 100 percent of all cost incurred
 - Algona self-haul only \$2 million
 - Houghton self-haul only \$2 million

Environment – Self-haul GHG Emissions



Environment – Community Impacts

- New facilities are enclosed to mitigate noise, odor, litter, etc.
- Where compactors are used garbage is loaded into closed containers rather than open topped trailers which are more likely release odors and litter
- New facilities can be designed to fit aesthetically into a neighborhood
- If facilities are closed or not built, traffic will increase around remaining facilities
- If self-haul is limited, traffic will increase around facilities accepting self-haul customers and during hours when self-haul is accepted

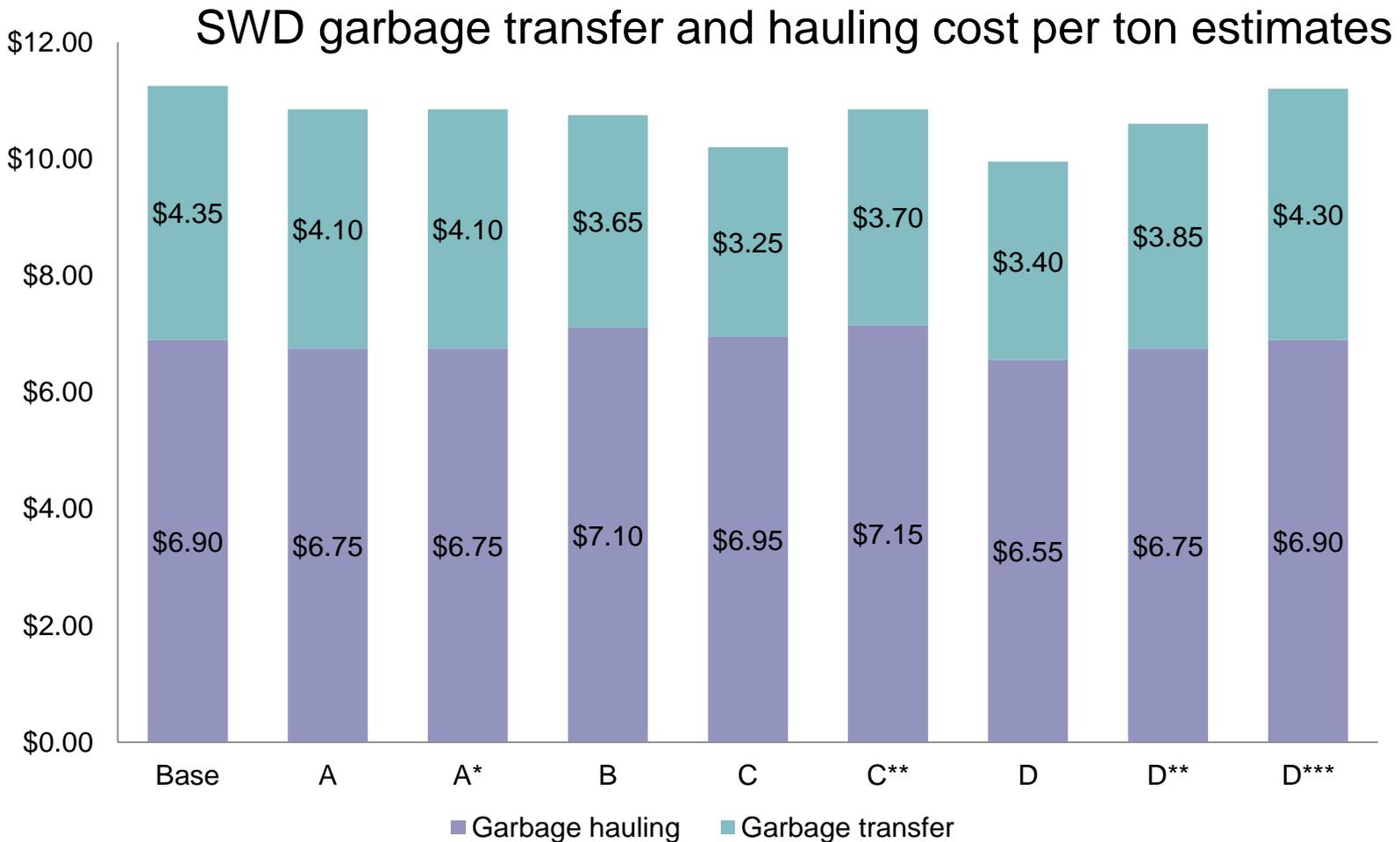
Cost – Future Capital Cost

Capital cost estimates (*in millions*)

	Base	A	A*	B	C	C**	D	D**	D***
Factoria	\$65	\$136	\$68	close do not build \$3.3	close do not build \$3.3	close do not build \$3.3	\$136	\$136	\$68
Houghton	close	close	\$1.7	close	close	close	close	close	\$1.7
Northeast	\$90	do not build	do not build	\$95	\$95	\$95	do not build	do not build	do not build
Algona	close	close	close	close	close	\$8.9	close	\$8.9	\$8.9
South County	\$78	\$78	\$78	\$78	do not build	do not build	do not build	do not build	do not build
Total	\$233	\$214	\$147.7	\$176.3	\$98.3	\$107.2	\$136	\$144.9	\$78.6

For comparison purposes only – all estimates shown in 2013\$

Cost – SWD Operating Cost



For comparison purposes only – estimates shown in 2013\$

Cost – Curbside Collection Cost

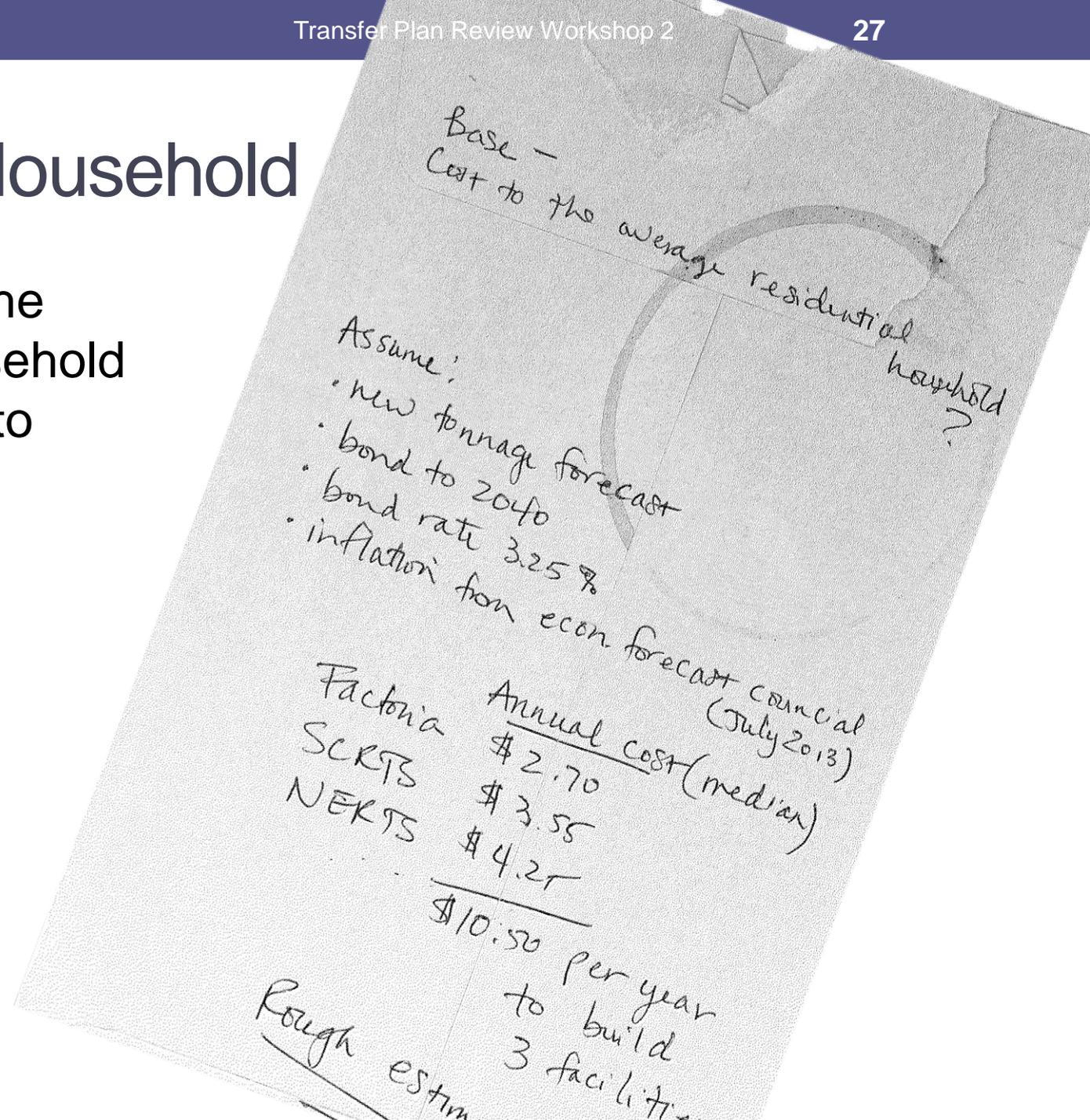
TBD – coming next month

Example:

Service area added annual collection cost	\$500,000
Number of curbside collection customers in service area	50,000
Average annual added cost per customer	\$10

Cost per Household

- What would the average household pay per year to build each alternative?



Interdependency



- Costs
 - Capital
 - Operating
 - Collection
- Equitable distribution of facilities and services
- Flexibility to meet future needs
- Service to customers
- Revenue

Next Steps

September

- Collection cost
 - Which areas of the county would be affected?
 - Estimated average collection cost increases
- Rate impacts
 - Estimated average tipping fee increases
 - How would tipping fee increases compare to collection cost increases?
- Cost to the average household



King County

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