

# Washington Utilities and Transportation Commission Cost Assessment

This plan is prepared for King County and its incorporated cities, excluding Seattle and Milton.

Prepared by: King County Solid Waste Division

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## DEFINITIONS

Throughout this document:

Year 1 refers to 2018

Year 3 refers to 2020

Year 6 refers to 2023

Year refers to calendar year January 1 – December 31

## 1. DEMOGRAPHICS

The King County solid waste system comprises 37 of the 39 cities in the county (including all but the cities of Seattle and Milton) and the unincorporated areas of King County. In all, the county's service area covers approximately 2,050 square miles. There are about 1.45 million residents and 840,000 people employed in the service area.

### 1.1. Population

#### 1.1.1. Population for the entire King County

Year 1: 2,166,600

Year 3: 2,257,800

Year 6: 2,297,000

#### 1.1.2. Population for the King County solid waste system

Year 1: 1,472,384

Year 3: 1,503,363

Year 6: 1,533,750

### 1.2. References and Assumptions

Projections for population are based on data developed by the Puget Sound Regional Council (PSRC; 2017). Data provided by PSRC are based on U.S. Census and other data sources and developed in close cooperation with the county and the cities.

## 2. WASTE STREAM GENERATION

### 2.1. Tonnage Recycled

Year 1:	1,032,873	(52% recycling)
Year 3:	1,090,977	(52% recycling)
Year 6:	1,179,649	(52% recycling)

### 2.2. Tonnage Disposed

Year 1:	953,421
Year 3:	1,007,056
Year 6:	1,088,907

### 2.3. References and Assumptions

The division uses a planning forecast model to predict future waste generation, which is defined as *waste disposed + materials recycled*. The forecast is used to guide system planning, budgeting, rate setting, and operations. The primary objectives of the model are to: 1) estimate future waste disposal and 2) provide estimates of the amount of materials expected to be diverted from the waste stream through division and city waste prevention and recycling programs. The tonnage forecast is described in more detail in Chapter 3 of the Plan.

## 3. SYSTEM COMPONENT COSTS

This section addresses costs associated with current programs and those recommended in the draft plan.

### 3.1. Waste Reduction and Recycling Programs

Many programs address waste reduction and prevention as well as recycling; therefore, they are presented here together.

#### 3.1.1. Programs

- Education and promotion campaigns
- EcoConsumer program
- Grants to cities to support waste prevention and recycling
- Product stewardship support and promotion – “Take it Back Network”
- Construction and demolition debris waste prevention and recycling education and promotion
- Sustainable building education and promotion
- LinkUp program
- Organics management program
- Master Recycler composter program
- School programs
- Special recycling collection events
- Green Holidays program
- Transfer facility recycling

Detail on current programs and proposed waste prevention and recycling programs, primarily building on current efforts, are presented in the recommendations in Chapter 4 of the Plan.

3.1.2. The costs of waste reduction and recycling programs (including transfer station recycling) implemented and proposed are estimated to be:

Year 1: \$12,150,041  
Year 3: \$10,447,707  
Year 6: \$12,730,951

3.1.3. Funding mechanisms:

Year 1:		
	Disposal fees	\$11,871,402
	Grants	118,639
	Unincorporated area recycling fee	160,000
Year 3:		
	Disposal fees	\$10,167,069
	Grants	120,639
	Unincorporated area recycling fee	160,000
Year 6:		
	Disposal fees	\$12,468,313
	Grants	102,639
	Unincorporated area recycling fee	160,000

**3.2. Recycling Programs** – see 3.1, combined with Waste Reduction Programs

### 3.3 Solid Waste Collection Programs

#### 3.3.1 WUTC Regulated Solid Waste Collection Programs

Data for 2017 and estimates for 2018, 2020 and 2023 are shown below:

<b>WUTC Regulated Hauler Name:</b>	<b>Waste Management of Washington, Inc.</b>			
<b>G-permit #: G-237</b>	<b>720 4th Ave, Ste 400 Kirkland WA 98033</b>			
		Yr 1	Yr 3	Yr 6
	2017	2018	2020	2023

#### Residential

# of Customers	37,974	38,378	39,187	39,979
Tonnage (garbage, YW & recycling)	61,060	62,519	66,036	71,403

#### Commercial

# of Customers	1,346	1,360	1,389	1,417
Tonnage Collected (garbage only)	26,487	27,119	28,645	30,973

<b>WUTC Regulated Hauler Name:</b>	<b>American Disposal Company, Inc.</b>			
<b>G-permit #: G-87</b>	<b>4662 70th Ave E, Puyallup WA 98371</b>			
		Yr 1	Yr 3	Yr 6
	2017	2018	2020	2023

#### Residential

# of Customers	2,074	2,096	2,140	2,183
Tonnage (garbage, YW & recycling)	1,486	1,522	1,608	1,738

#### Commercial

# of Customers	215	217	222	226
Tonnage Collected (garbage only)	1,411	1,444	1,526	1,650

<b>WUTC Regulated Hauler Name:</b>	<b>Fiorito Enterprises, Inc. &amp; Rabanco Companies</b>			
<b>G-permit #: G-60</b>	<b>22010 76th Ave S, Kent WA 98032</b>			
		Yr 1	Yr 3	Yr 6
	2017	2018	2020	2023

#### Residential

# of Customers	25,343	25,613	26,152	26,681
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Tonnage (garbage, YW & recycling)	36,564	37,438	39,544	42,758
<u>Commercial</u>				
# of Customers	520	526	537	547
Tonnage Collected (garbage only)	13,440	13,761	14,536	15,717

**WUTC Regulated Hauler Name: Rabanco LTD, 1600 127th Ave NE Bellevue WA 98005**  
**G-permit #: G-12 1600 127th Ave NE, Bellevue WA 98005**

	Yr 1	Yr 3	Yr 6
2017	2018	2020	2023

Residential

# of Customers	7,848	7,932	8,099	8,262
Tonnage (garbage, YW & recycling)	13,300	13,618	14,384	15,553

Commercial

# of Customers	203	205	209	214
Tonnage Collected (garbage only)	9,434	9,660	10,203	11,032

**3.3.2 Other (non-regulated) Solid Waste Collection Programs**

Data for 2017 and estimates for 2018, 2020, and 2023 are shown below.

<b>Hauler Name:</b>	<b>Republic Services</b>			
	Yr 1	Yr 3	Yr 6	
2017	2018	2020	2023	

Residential

# of Customers	123,174	124,485	127,108	129,677
Tonnage (garbage, YW & recycling)	232,390	237,941	251,327	271,754

Commercial

# of Customers	5,400	5,457	5,572	5,685
Tonnage Collected (garbage only)	196,424	201,116	212,430	229,696

<b>Hauler Name:</b>	<b>Recology</b>			
	Yr 1	Yr 3	Yr 6	
2017	2018	2020	2023	

Residential

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# of Customers	63,872	64,552	65,912	67,244
Tonnage (garbage, YW & recycling)	118,391	121,219	128,039	138,445

Commercial

# of Customers	2,324	2,349	2,398	2,447
Tonnage Collected (garbage only)	86,337	88,399	93,372	100,961

**Hauler Name:**

**Waste Management of Washington, Inc.**

	Yr 1	Yr 3	Yr 6
2017	2018	2020	2023

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Residential

# of Customers	84,442	85,341	87,139	88,900
Tonnage (garbage, YW & recycling)	168,584	172,611	182,321	197,140

Commercial

# of Customers	5,479	5,610	5,925	6,407
Tonnage Collected (garbage only)	136,633	139,896	147,766	159,776

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**Hauler Name:**

**City of Enumclaw**

	Yr 1	Yr 3	Yr 6
2017	2018	2020	2023

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Residential

# of Customers	3,621	3,660	3,737	3,812
Tonnage (garbage, YW & recycling)	4,494	4,602	4,861	5,256

Commercial

# of Customers	3,621	3,660	3,737	3,812
Tonnage Collected (garbage only)	2,835	2,903	3,067	3,316

### 3.4 Energy Recovery & Incineration (ER&I) Programs

Not applicable – the Solid Waste Division has no such program.

### 3.5 Land Disposal Program

3.5.1 Landfill Name: Cedar Hills Regional Landfill  
Owner: King County  
Operator: King County Solid Waste Division

3.5.2 The approximate tonnage disposed at the landfill by WUTC regulated haulers is expected to be:

Year 1: 94,716  
Year 3: 100,044  
Year 6: 108,176

3.5.3 The approximate tonnage disposed at the landfill by other contributors is expected to be:

Year 1: 858,705  
Year 3: 907,012  
Year 6: 980,731

3.5.4 Landfill operating and capital costs are estimated to be:

Year 1: \$46,973,382  
Year 3: \$55,365,039  
Year 6: \$51,868,163

3.5.5 Landfill funding:

Tipping fees

### 3.6 Administration Program

3.6.1 Budgeted cost and funding sources:

Budgeted Cost	Funding Source
Year 1: \$40,785,701	Tipping fees
Year 3: \$40,827,859	Tipping Fees
Year 6: \$52,185,563	Tipping fees

3.6.2 Cost components included in these estimates are:

All Operating Expenditures except for direct cost components of Transfer Operations, Disposal Operations, and ancillary operating units.

3.6.3 Funding mechanisms

Around 90 percent of the division’s revenue comes from tipping fees charged at transfer facilities and the Cedar Hills landfill. The remainder comes from a few additional sources, including interest earned on fund balances, a surcharge on construction and demolition (C&D), revenue from the sale of recyclable materials received at division transfer facilities, a fee on recyclables collected in

unincorporated areas, and grants to help clean up litter and illegal dumping throughout the county and to support WPR. Other than grant funds, all revenue sources support all programs.

### **3.7 Other Programs**

- 3.7.1 The Transfer Services System Program is described in Chapter 5 of the Plan. It includes the division's recycling and transfer stations, private facilities that handle construction and demolition debris (C&D), and household hazardous waste (HHW) service, which is covered in detail by the Local Hazardous Waste Management Plan.
- 3.7.2 The division owns and operates eight transfer stations and two drop boxes. Allied Waste and Waste Management own and operate facilities that handle C&D. The division operates HHW service at its Factoria transfer station and provides Wastemobile service via a contractor.
- 3.7.3 The WUTC regulates the C&D facilities.
- 3.7.4 Solid Waste Division Costs
  - 3.7.4.1 Transfer facility operating and capital costs are estimated to be:
    - Year 1: \$61,022,952
    - Year2: \$68,229,939
    - Year 3: \$80,090,023
  - 3.7.4.2 HHW service costs are estimated to be: NA
- 3.7.5 The major funding source for division transfer operations is tipping fees. Capital costs are paid from the construction fund; bond proceeds and contributions from the operating fund (tipping fees) are deposited into the construction fund. The cost of providing HHW service is funded by the LHWMP.

### **3.8 References and Assumptions**

The estimate for year 1 costs is from actual 2018 costs to-date plus projected costs for the remainder of the year; years 3 and 6 were increased to account for inflation, tonnage projections, and expected program additions. The collection program estimates were derived using hauler reports and a projected rate of population increase in King County. Numbers have been rounded in most instances.



#### 4 FUNDING MECHANISMS

**Table 4.1.1 Facility Inventory**

Facility Name	Type of Facility	Tip Fee per Ton	Estimated Transfer and Transportation Cost**	Transfer Station Location	Final Disposal Location	Total Tons Disposed	Total Revenue Generated (Tip Fee x Tons)
King County Transfer Stations	Transfer Station	\$134.59	\$61,022,952	King County	Cedar Hills Landfill	922,121	\$124,108,265
Regional Direct Cedar Hills	Landfill	\$114.00			Cedar Hills Landfill	9,000	\$1,026,000
Special Waste Cedar Hills	Landfill	\$162.00			Cedar Hills Landfill	2,300	\$372,600
Commercial Haul Cedar Hills	Landfill	\$134.59			Cedar Hills Landfill	20,000	\$2,691,800
Yard Waste/Wood	Transfer Stations King County	\$75.00			Cedar Grove Composting	21,000	\$1,575,000
<b>Total</b>						<b>974,421</b>	<b>\$129,773,665</b>

**Table 4.1.2 Disposal (Tip) Fee Components**

	Fee per ton	Moderate risk waste surcharge	State tax
Basic Fee	<b>134.59</b>	4.73	5.02
Regional Direct	<b>114.00</b>		
Special Waste	<b>162.00</b>		5.83
Yard Waste	<b>75.00</b>		

**Table 4.1.3 Funding Mechanism** (see next tables)

**Table 4.1.4 Tip Fee Forecast**

Tip fee per ton by facility [1]	Year One (2018)	Year Three (2020)	Year Six (2023)
All Facilities	\$134.59	\$140.82	\$154.16

[1] Basic fee

## 4.2 Funding Mechanisms

### 4.2.1 Funding Mechanism By Percentage – Year 1

Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
Waste Reduction & Recycling	99%	1%				100%
Transfer	100%					100%
Capital Projects			100%			100%
Land Disposal	100%					100%
Administration	100%					100%
Capital Debt Service	100%					100%
Other	100%					100%

### 4.2.2 Funding Mechanism By Percentage – Year 3

Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
Waste Reduction & Recycling	99%	1%				100%
Transfer	100%					100%
Capital Projects			100%			100%
Land Disposal	100%					100%
Administration	100%					100%
Capital Debt Service	100%					100%
Other	100%					100%

#### 4.2.3 Funding Mechanism By Percentage – Year 6

Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
Waste Reduction & Recycling	99%	1%				100%
Transfer	100%					100%
Capital Projects			100%			100%
Land Disposal	100%					100%
Administration	100%					100%
Capital Debts Service	100%					100%
Other	100%					100%

#### 4.3 References and Assumptions

Revenue and operating cost projections for years 1, 3, and 6 are shown in Attachment 1.

#### 4.4 Surplus Funds

The division develops its solid waste rate to maintain a 30-day emergency reserve in the operating fund. Beginning in 2019, the division will also maintain a minimum reserve balance for economic recessions equivalent to 5% of projected disposal revenue.

## Attachment 1

	2018	2020	2023
Basic Fee	135	141	154
Revenues			
Disposal Fees	130,251,197	143,923,834	170,697,073
Interest Earnings	849,809	1,030,297	879,336
Grants	118,639	120,639	102,639
Landfill Gas	3,000,000	3,000,000	2,500,000
Rental Incomes	612,208	621,338	675,097
C&D	849,543	642,669	648,192
Other Revenue	8,643,986	537,707	584,231
Moderate Risk Waste Reimb Expense	2,141,140	3,612,578	3,925,147
Low-Income Discount	-	(300,000)	(328,411)
Total Revenue	146,466,521	153,189,061	179,683,303
Operating Expenditures			
Moderate Risk Waste	2,141,140	3,612,578	3,925,147
Public Health Transfer	1,058,216	1,097,691	1,253,623
Landfill Reserve Fund	18,739,437	29,688,762	23,130,987
Capital Equipment Recovery Program	6,900,000	6,900,000	6,100,000
Construction Fund	6,000,000	2,000,000	2,000,000
Capital program debt service	13,350,000	23,267,327	27,786,035
Cedar Hills Rent	3,039,274	3,108,000	3,250,000
City mitigation	-	39,872	43,322
CHRLF Environmental Liability Policy	572,806	500,000	543,261
Fund Management	10,227,554	12,784,723	17,534,519
SW Directors Office	1,659,920	1,798,199	2,188,021
Human Resources	1,828,997	1,828,382	2,353,656
Legal Support	25,782	38,082	44,817
Customer Transactions	3,691,021	4,056,591	4,774,049
Strategy, Communications & Performance	3,263,234	3,273,757	3,884,536
Enterprise Services	3,769,015	3,720,642	4,410,987
Contract Management	1,034,931	755,109	888,660
Project Management	(29,429)	160,346	188,706
Recycling & Environmental Services	12,150,041	10,447,707	12,730,951
Facility Engineering & Science	6,374,588	5,914,155	7,829,226
Envir Monitor & Compliance	481,068	686,847	808,325
Operations Management	922,213	942,807	1,109,554
Transfer Operations	11,978,151	13,224,667	16,425,961
Transportation	10,840,311	9,914,616	11,668,137
Disposal Operations	9,079,756	7,460,202	8,913,334
LF Gas Water Control	5,456,152	4,359,666	5,130,726

Shop Operations	6,669,010	6,482,565	7,705,582
Stores	5,967,386	5,940,957	6,991,688
B & O Tax	1,591,460	2,158,858	2,560,456
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Total SWD Costs	148,782,035	166,163,110	186,174,267
under expenditure of 2% in low orgs	-	1,740,274	2,030,518
SWD cost minus under expenditure	148,782,035	164,422,836	184,143,749