Solid Waste Forecast FY 2018 - 19

Review of Methods, Process and Results | November 20, 2017

Paul Slyman

Director of Property & Environmental Services

Solid Waste Forecast FY 2018-19

www.oregonmetro.gov/solid-waste-forecast

Agenda

1. Purpose and Uses of the Solid Waste Forecast

2. Process

3. Methods and Assumptions

4. Results

5. Question & Answer

Purposes

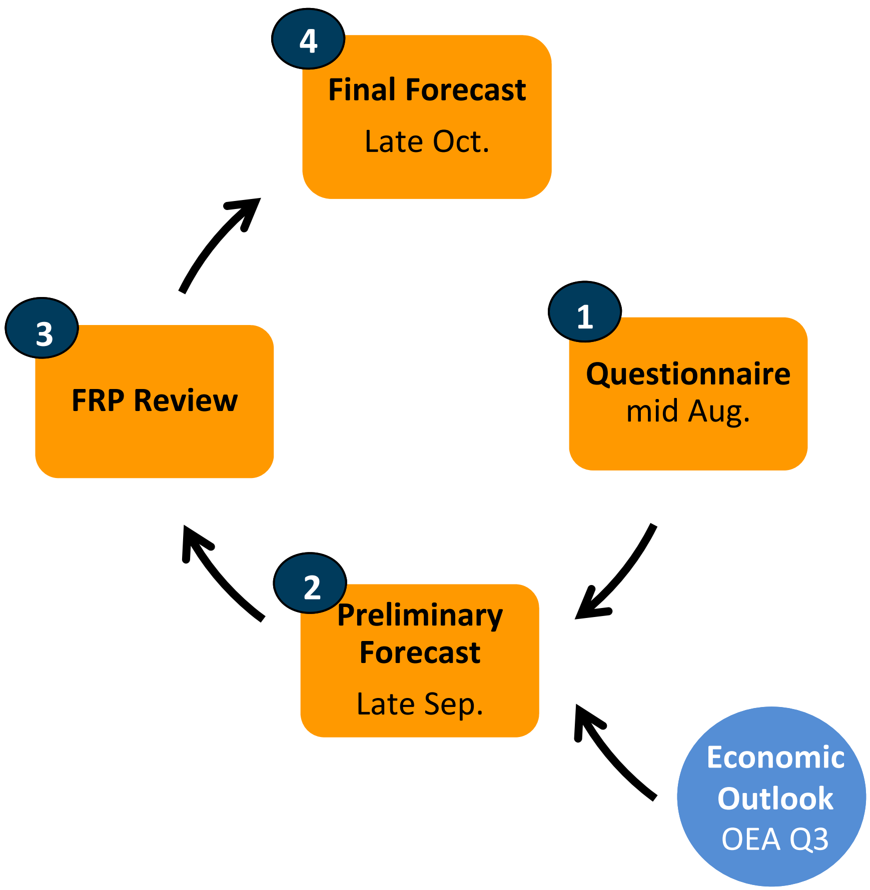
1 **Setting Solid Waste Rates**

2 **Estimating Costs & Revenues**

3 **Establishing Tonnage Allocations**

4 **Aiding Other Planning Functions**

Process



1 Questionnaire

- Distributed internally and to some LG SW Directors
- Solicits key forecast assumptions
- Forms basis for preliminary forecast

2 Preliminary Forecast

- Based on Office of Economic Analysis (OEA) 3rd quarter economic outlook & questionnaire feedback

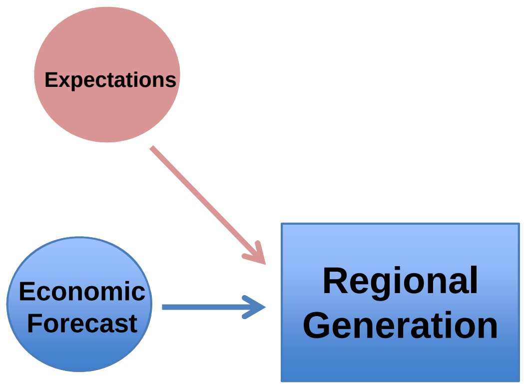
3 Forecast Review Panel

- Finance/SW directors, Metro Economist
- Meet to review preliminary forecast
- Forms basis for final forecast

4 Final Forecast

- Distributed to all stakeholders via Metro website
- Public Webinar

Methods & Assumptions
Economic Outlook and Generation



Methods & Assumptions

Economic Overview

Summary

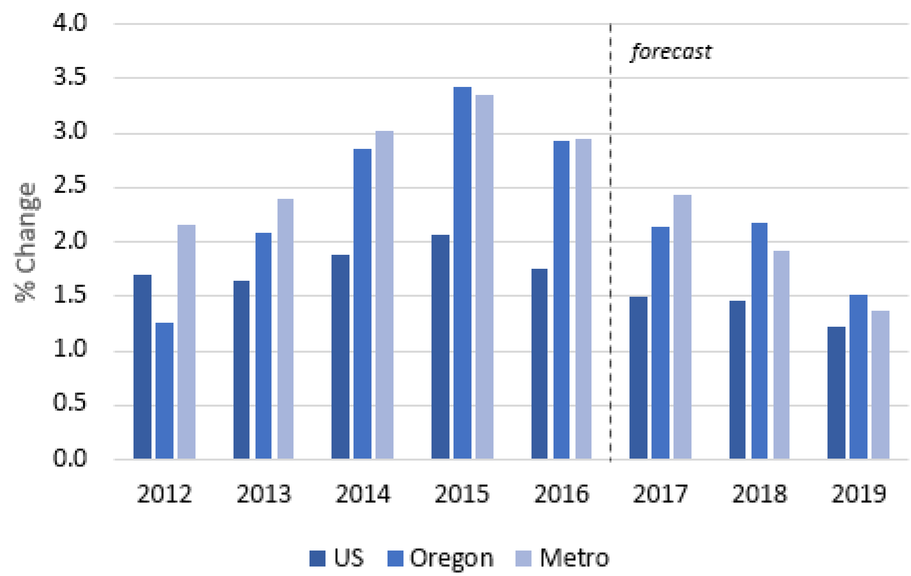
- **We're maturing** - Recovery over 8, approaching 9 years
- **Vitals are good** - No indication of recession in the next couple years
- **Slowing, not dying** – key economic indicators grow but at slower rates

Waste-related Indicators

1. Employment
2. Home Prices
3. Housing Starts

Methods & Assumptions
Employment Outlook

	Year-over-Year % Change		
	US*	Oregon#	Metro^
2012	1.7	1.2	2.2
2013	1.6	2.1	2.4
2014	1.9	2.9	3.0
2015	2.1	3.4	3.3
2016	1.8	2.9	3.0
2017	1.5	2.1	2.4
2018	1.5	2.2	1.9
2019	1.2	1.5	1.4



Sources:

o US Bureau of Labor Statistics

* IHS/Markit. US Executive Summary. September 2017.

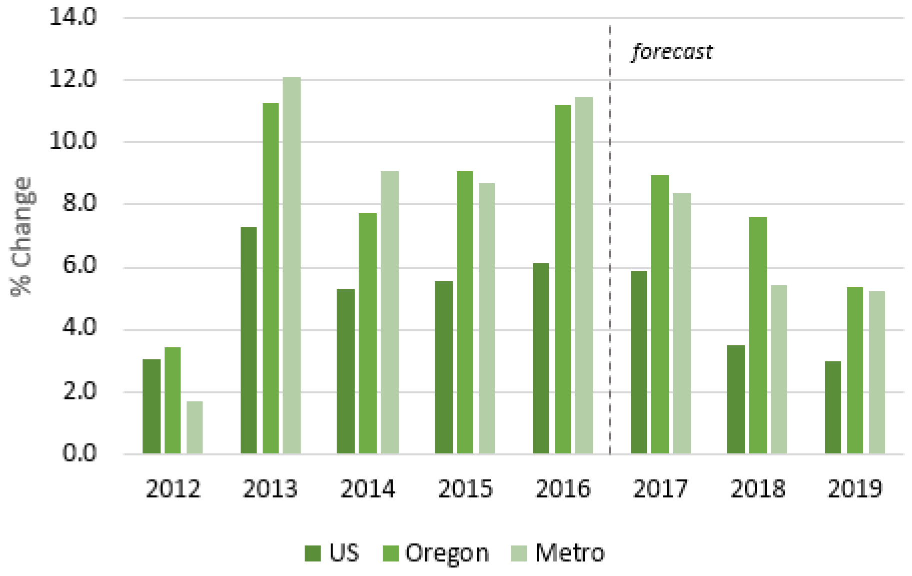
OEA. Oregon Economic and Revenue Forecast. September 2017.

^ Northwest Economic Research Center. Portland MSA Economic & Population Outlook. October 2017.

Methods & Assumptions

Home Price Outlook

	Year-over-Year % Change		
	US*	Oregon*	Metro#
2012	3.0	3.4	1.7
2013	7.3	11.3	12.1
2014	5.3	7.7	9.1
2015	5.6	9.1	8.7
2016	6.1	11.2	11.5
2017	5.9	8.9	8.4
2018	3.5	7.6	5.5
2019	3.0	5.4	5.2



Sources:

o Federal Housing Finance Agency; S&P CoreLogic Case-Shiller

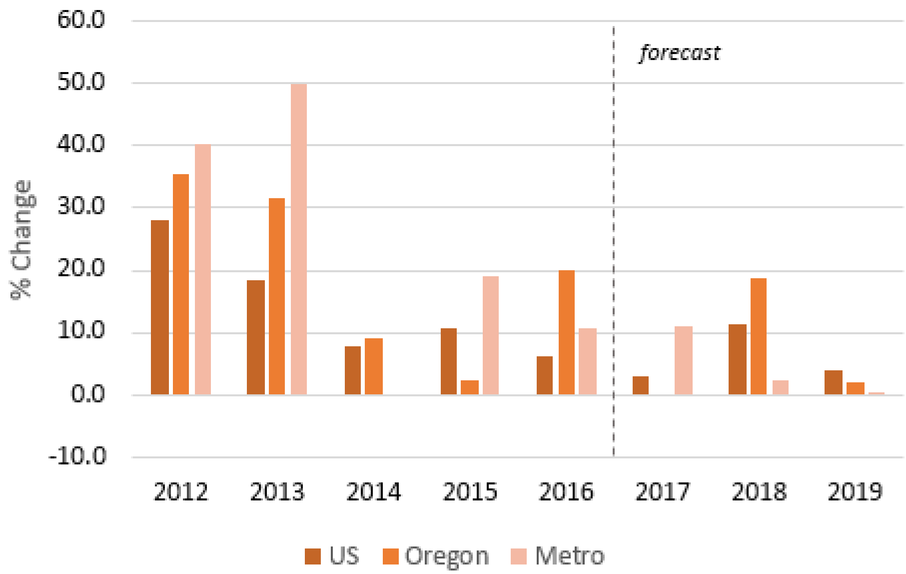
* OEA. Oregon Economic and Revenue Forecast. September 2017.

\# Northwest Economic Research Center. Portland MSA Economic & Population Outlook. October 2017.

Methods & Assumptions

Housing Starts Outlook

	Year-over-Year % Change		
	US*	Oregon#	Metro^
2012	28.1	35.4	40.2
2013	18.4	31.6	49.9
2014	7.8	9.1	-0.3
2015	10.6	2.4	18.9
2016	6.3	19.9	10.6
2017	3.0	0.0	11.1
2018	11.4	18.9	2.3
2019	4.1	2.0	0.1



Sources:

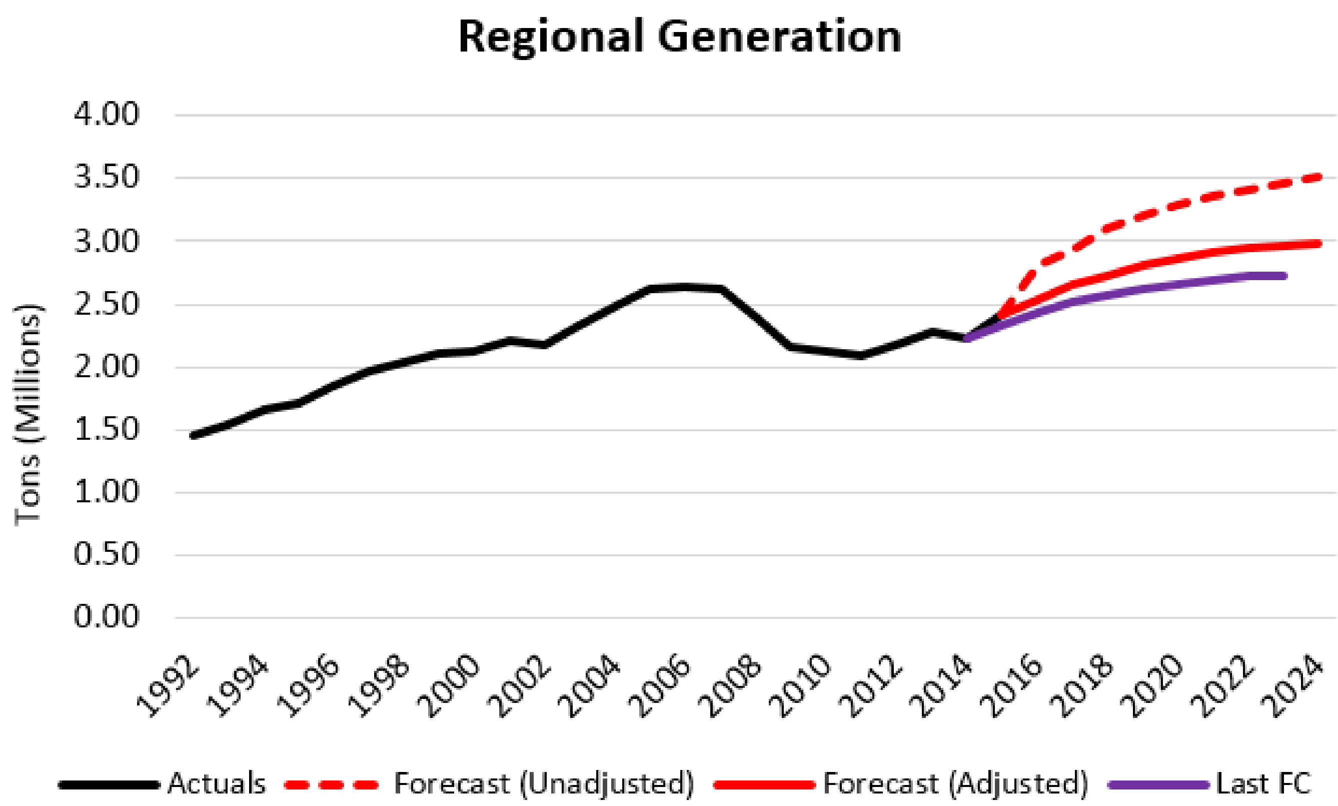
o US Census Building Permits Survey

* IHS/Markit. US Executive Summary. September 2017.

OEA. Oregon Economic and Revenue Forecast. September 2017.

^ IHS/Markit. Long Term Outlook for PDX-Van-Hills, OR-WA. August 2017.

Methods & Assumptions
Generation

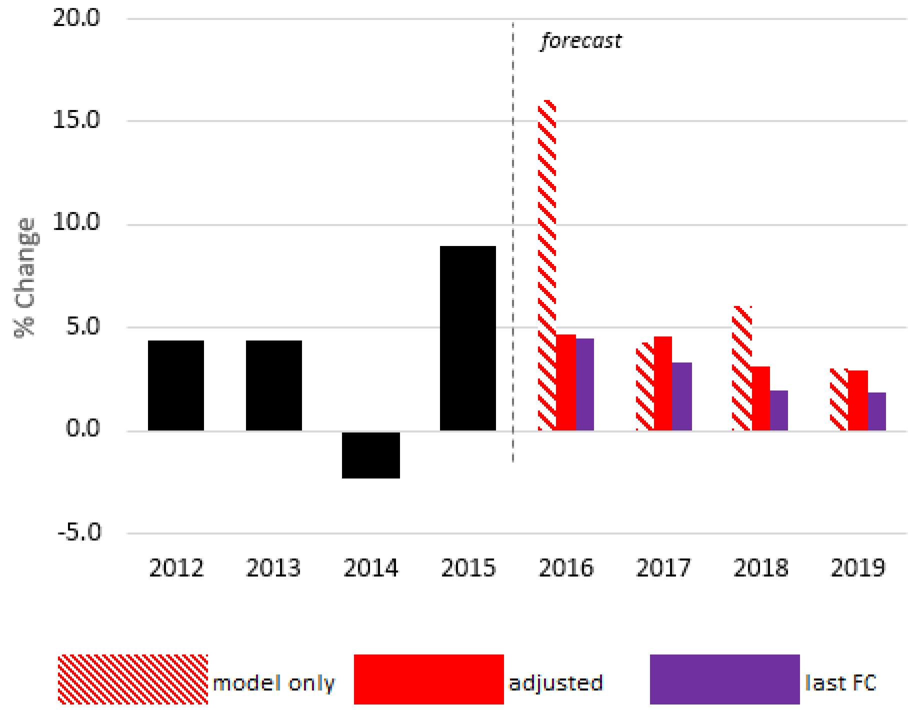


Methods & Assumptions

Generation

Generation Growth - 2012 through 2019

	Year-over-Year % Change		
	Current Forecast[1]		Last Forecast[2]
	model only	adjusted	
2012	4.4	4.4	4.4
2013	4.4	4.4	4.4
2014	-2.3	-2.3	-2.3
2015	8.9	8.9	8.9
2016	16.0	4.7	4.5
2017	4.3	4.6	3.3
2018	6.0	3.1	2.0
2019	3.0	2.9	1.9



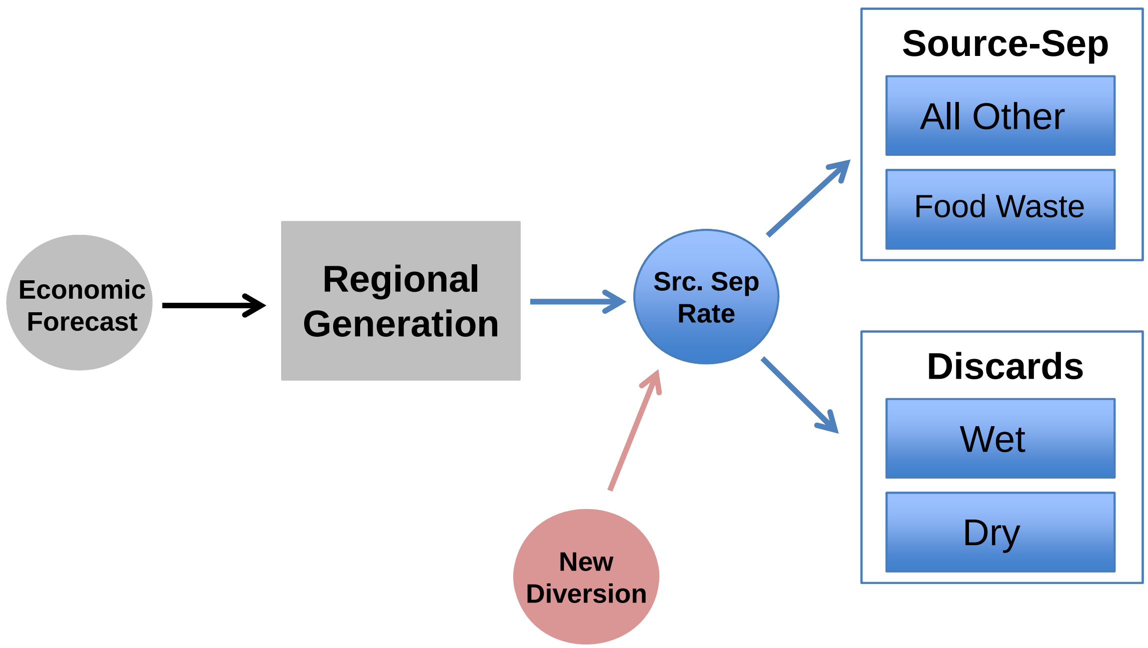
Sources:

o Oregon DEQ Recovery Survey; Metro SWIS

1. Metro Preliminary Solid Waste Forecast

2. Metro Solid Waste Forecast FY 17-18. October 2016

Methods & Assumptions
Source-separation & Discards



Methods & Assumptions
Source-separation & Discards

New Source-Separation Programs

Residential Food Waste / Yard debris Mix

- Cities of Milwaukie, Beaverton
- 11,200 tons per year, 700 tons additional diversion per year

Commercial Food Waste

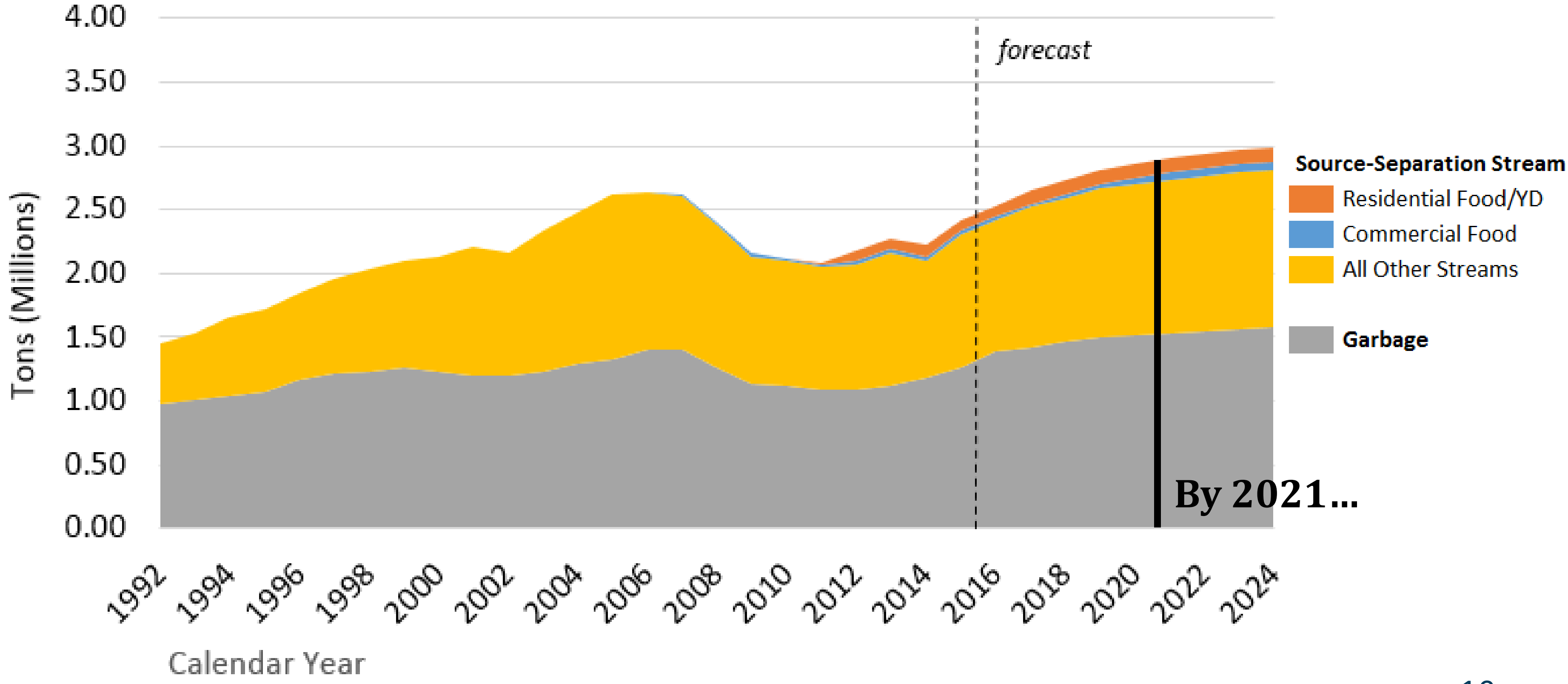
- Major grocers, Metro Commercial Policy proposal
- 30,000 tons additional diversion per year by CY 2021

All Other Streams

- Portland Deconstruction Ordinance
- 9,000 tons additional diversion per year by CY 2021

Methods & Assumptions
Source-separation & Discards

Existing + New Source-Separation



Methods & Assumptions

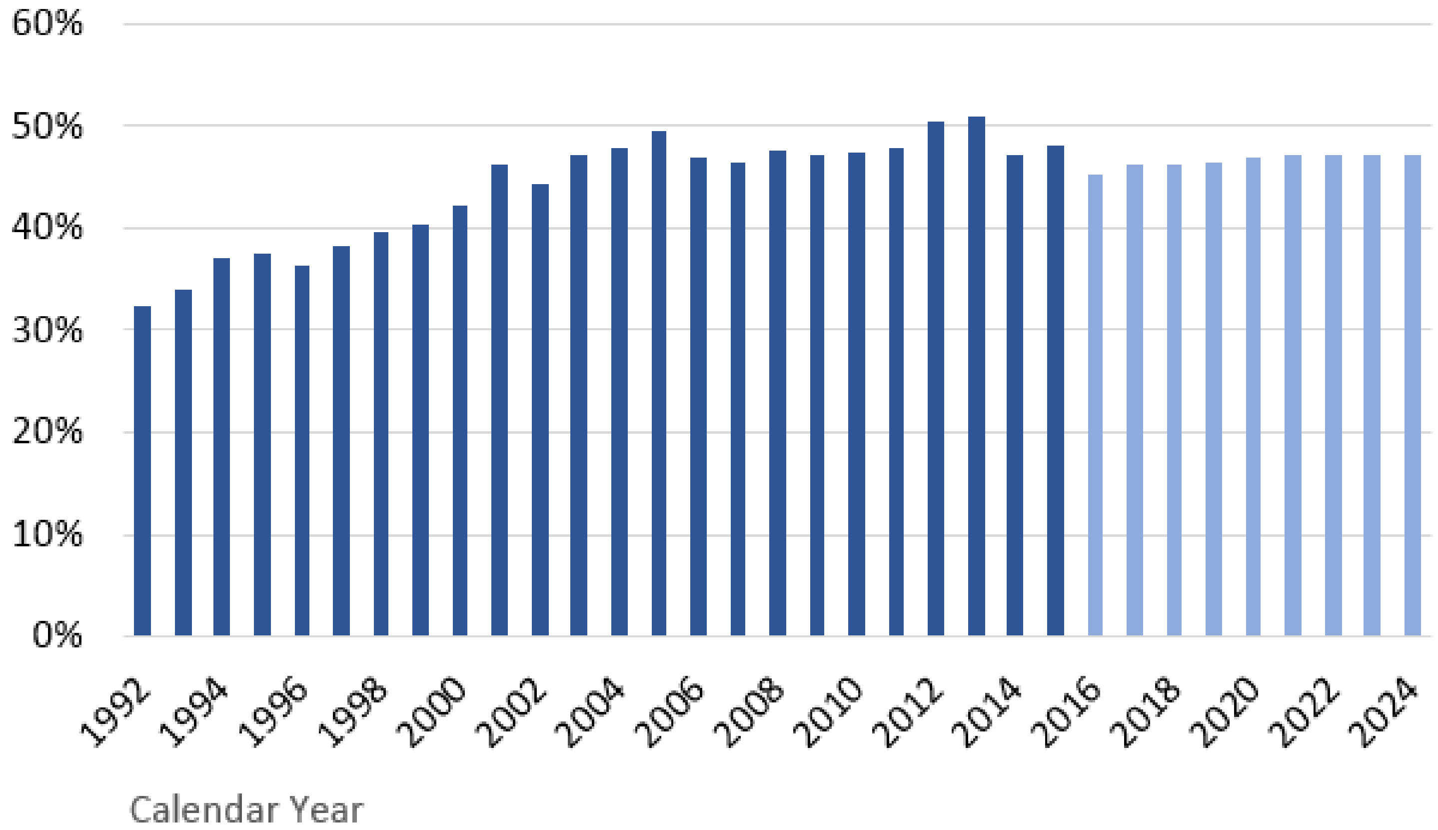
Source-separation & Discards

Existing + New Source-Separation

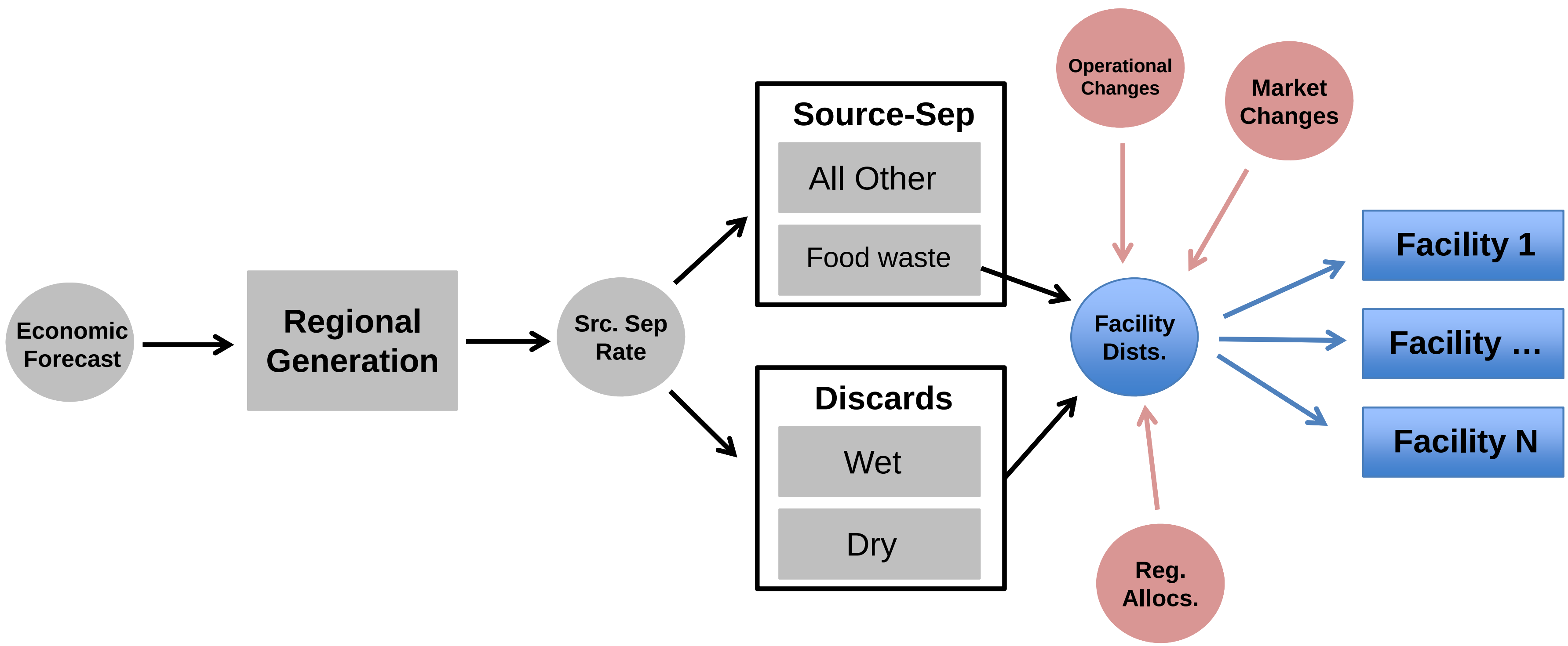
	CY 2021			
	Contribution To Regional Recovery			
	Existing		Existing + New	
Stream	Tons	%	Tons	%
Residential Food/YD	99,611	3.4%	110,811	3.8%
Commercial Food	24,883	0.9%	54,167	1.9%
All Other Streams	1,206,203	41.5%	1,204,731	41.5%
Total Source-Separation	**1,330,697**	**45.8%**	**1,369,709**	**47.1%**
Total Garbage	**1,574,570**		**1,535,558**	
Total Generation	**2,905,267**		**2,905,267**	

Methods & Assumptions
Source-separation & Discards

Source-Separation Rate

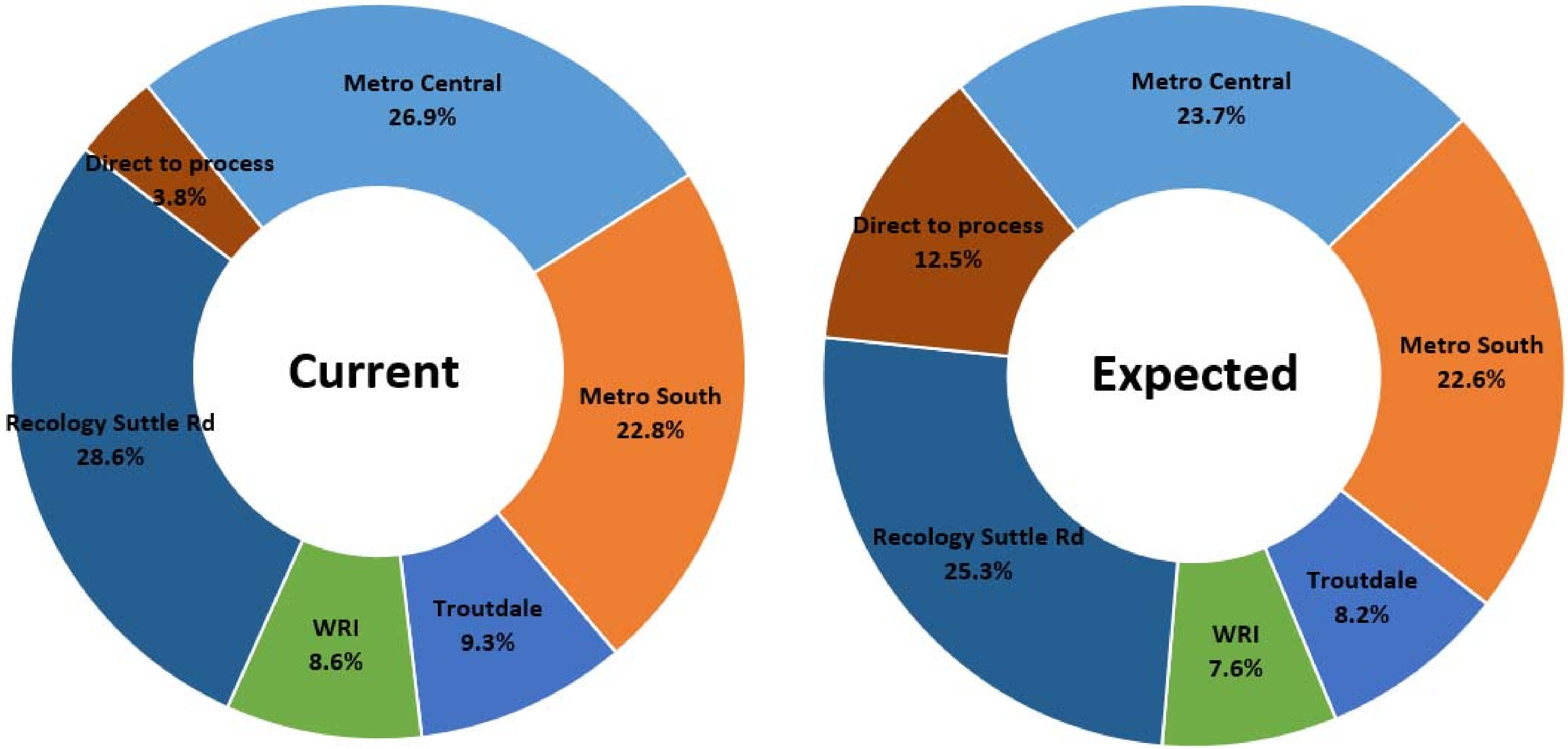


Methods & Assumptions
Facility distributions



Methods & Assumptions
Facility distributions

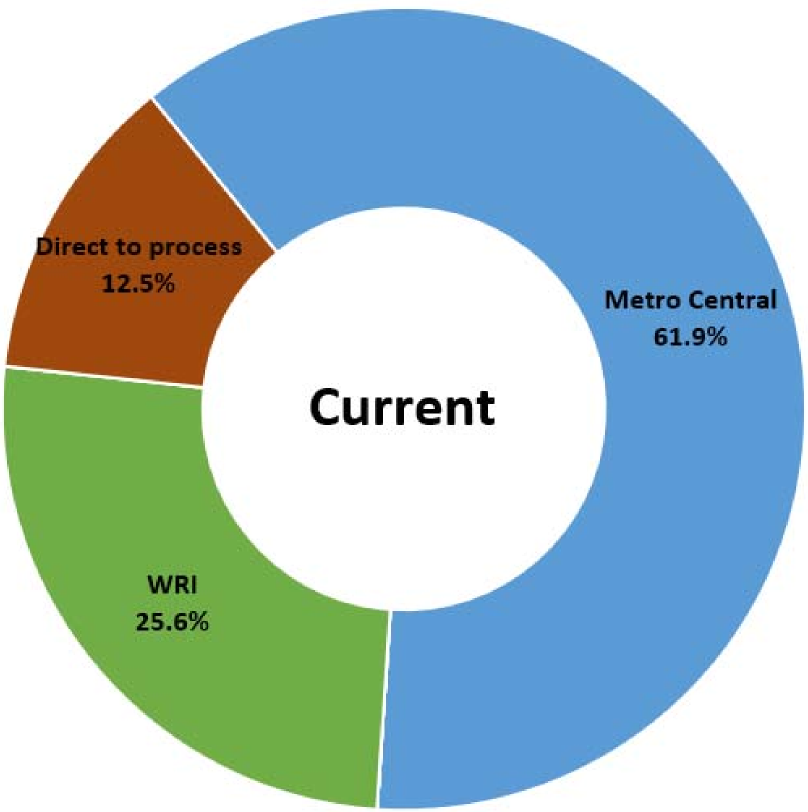
Residential Food / Yard debris

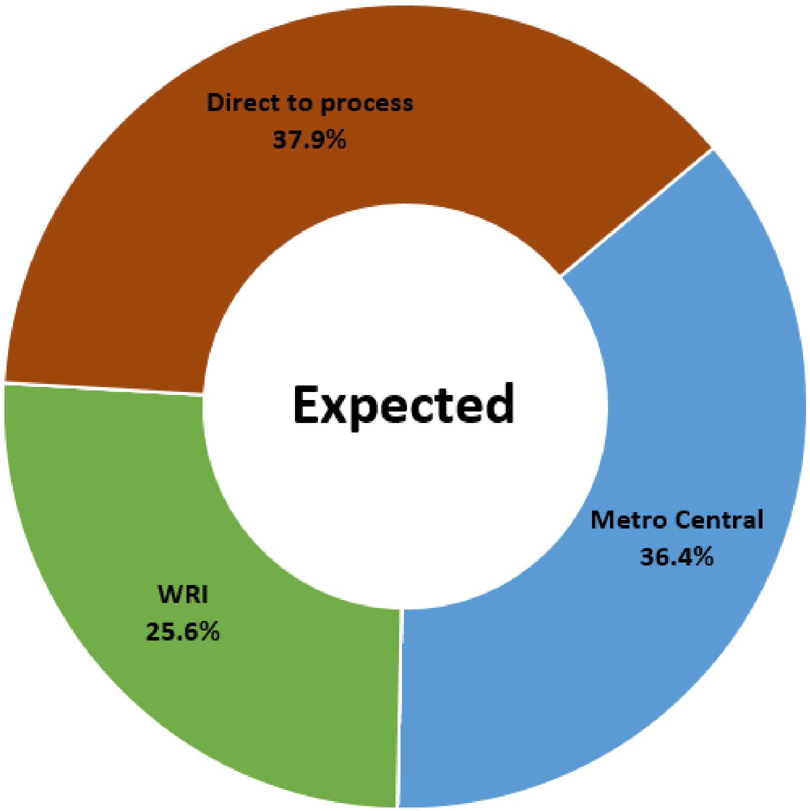


Methods & Assumptions

Facility distributions

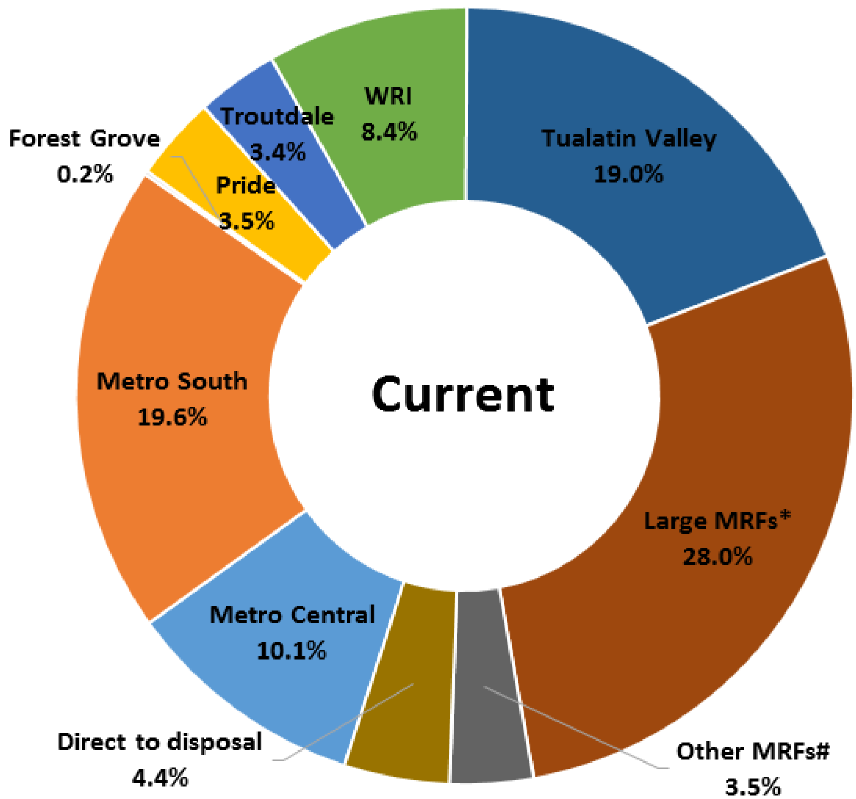
Commercial Food

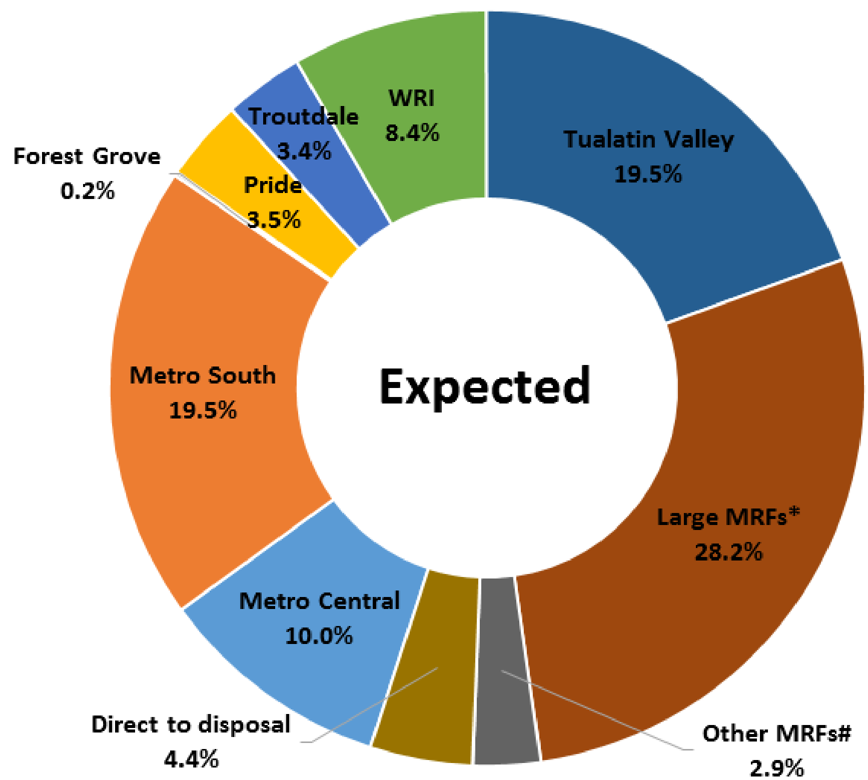




Methods & Assumptions
Facility distributions

Mixed Dry Waste





Methods & Assumptions

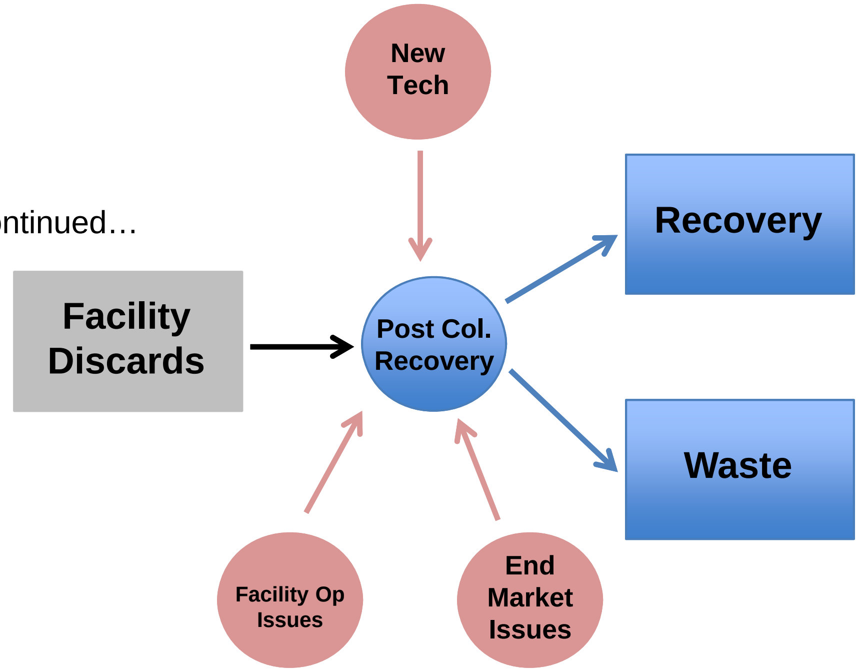
Facility distributions

Wet Waste

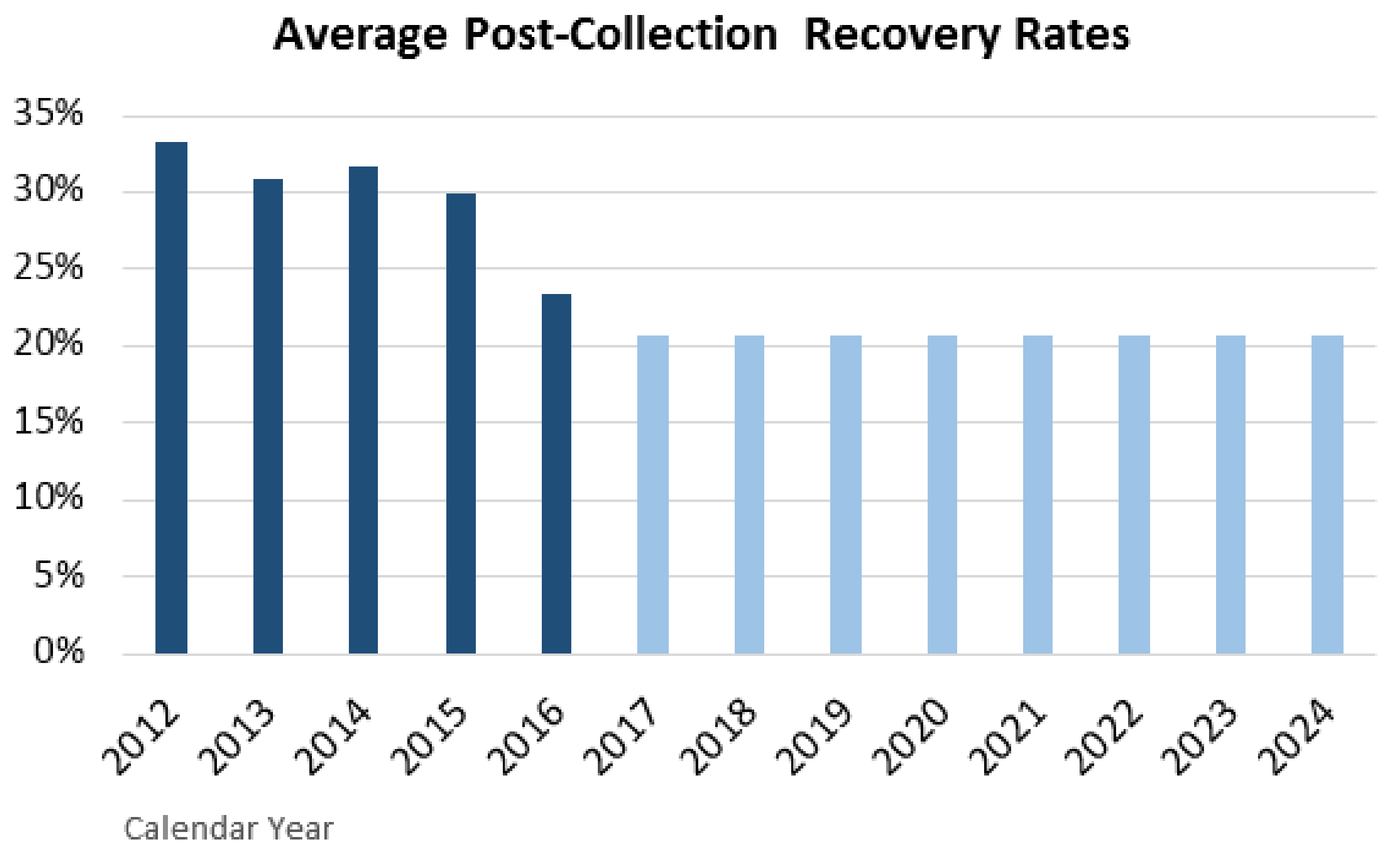
	Percentage Calculation						
	CY 2017 Allocation	divided by	Last FC CY 2017*	equals	Percent Share	CY 2018 - CY 2024 Regional Tonnage
Franchisees						
Forest Grove	---------------- Not applicable ----------------					**---- fixed tonnage allocation -----**
Pride	77,435	/	724,649	=	**10.69%**	⟶
Troutdale	77,435	/	724,649	=	**10.69%**	⟶
WRI	77,435	/	724,649	=	**10.69%**	⟶
Gresham	23,000	/	724,649	=	**3.17%**	⟶
Non-System Licensees						
WC to Vancouver	---------------- Not applicable ----------------					**---- fixed tonnage allocation -----**
Kahut to Canby	---------------- Not applicable ----------------					**---- fixed tonnage allocation -----**
Various to Covanta	---------------- Not applicable ----------------					**---- fixed tonnage allocation -----**

Methods & Assumptions
Post-collection Recovery

Continued…

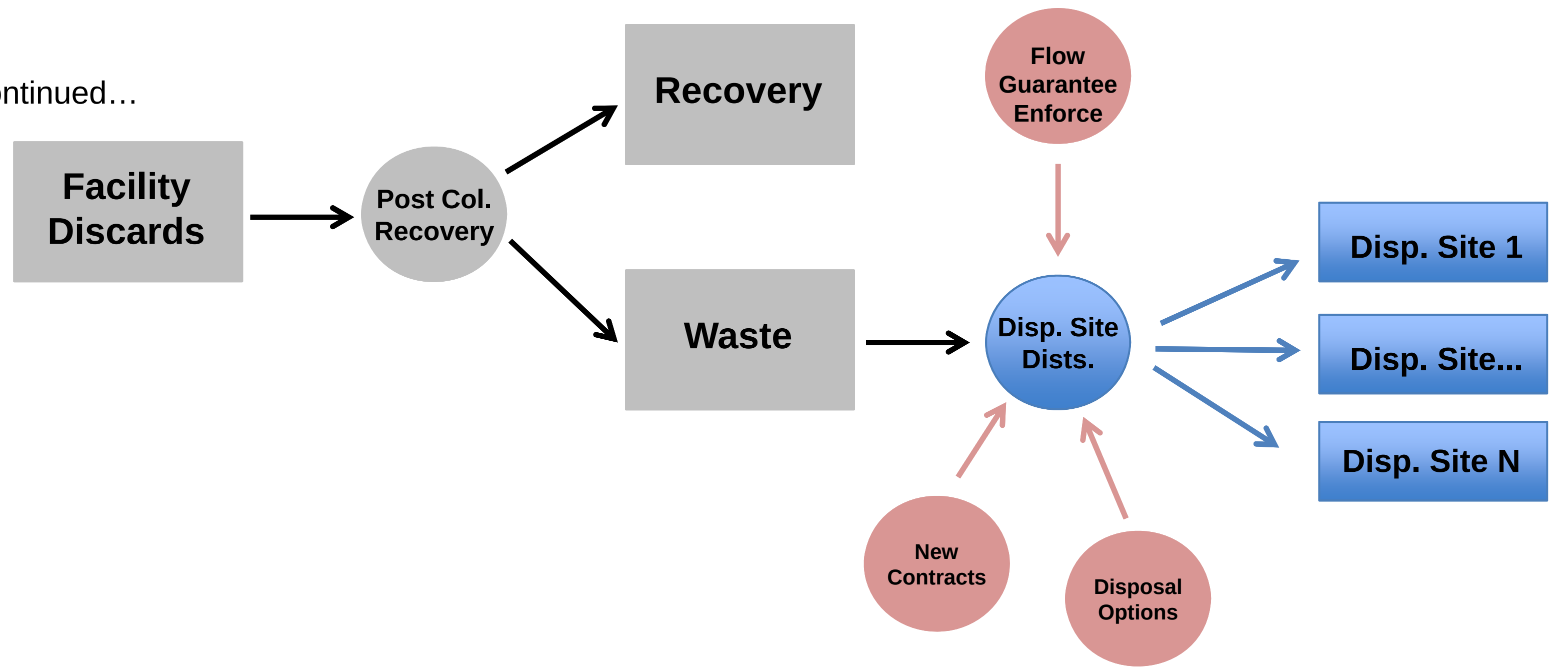


Methods & Assumptions
Post-collection Recovery



Methods & Assumptions
Disposal

Continued…



Methods & Assumptions

Disposal

Dry residual flows

- Current flow patterns persist

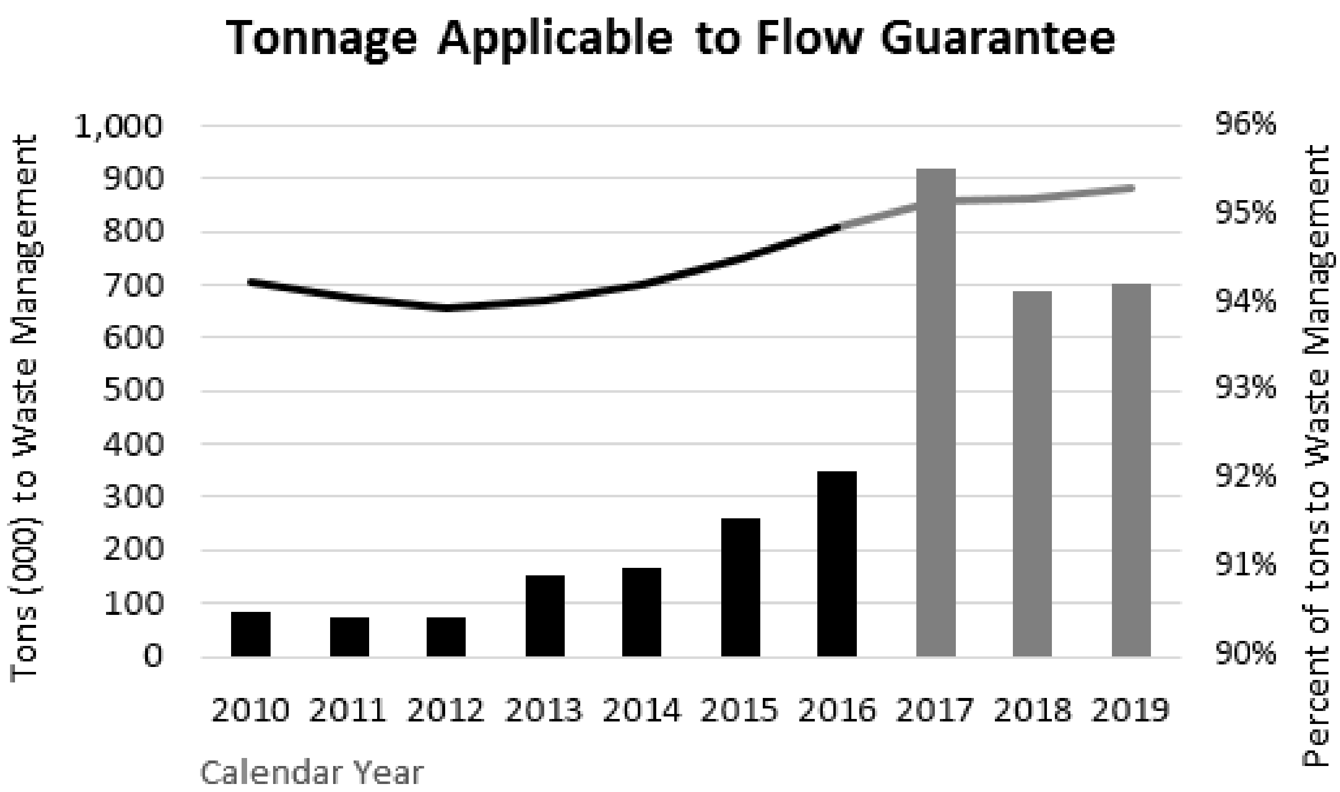
Wet flows – through 2019

- Metro Central / South and Troutdale Transfer Station → WM Inc.
- Gresham Sanitary and Waste Connections haulers → WC
- Change Order 10 (diversion from Riverbend to Coffin Butte)

Wet flows – 2020 and beyond

- Facilities that own landfills → use own landfill
- Others → deliver 25% of waste to each disposal company

Methods & Assumptions
Disposal



Tonnage Forecast
Focus Areas

Core Delivery

Wet and dry discards (after source-separation) that are generated in the tri-county region and delivered to a solid waste facility by haulers, or directly by generators. Excludes transfers of waste between facilities.

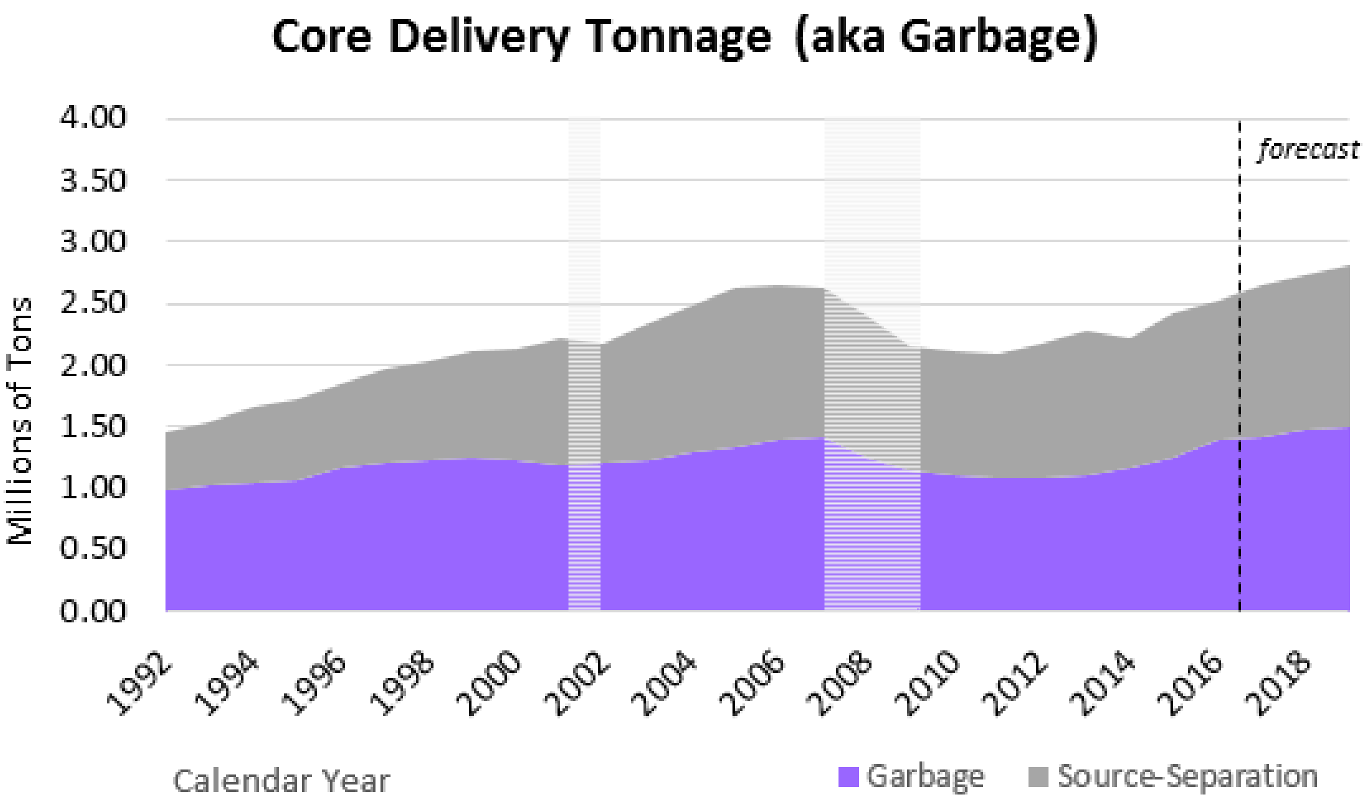
Allocatable

The portion of "wet" delivery tonnage that is generated inside the Metro jurisdictional boundary. It constitutes the total available tonnage that Metro can allocate to itself and to private facility franchisees.

Revenue

The portion of delivery tonnage that incurs the full Metro Regional System Fee and Solid Waste Excise Tax. It is generally the in-district-generated delivery tonnage that is ultimately disposed at a landfill or WTE facility (after post-collection recovery), but includes other "special" wastes disposed.

Tonnage Forecast
Core delivery tonnage

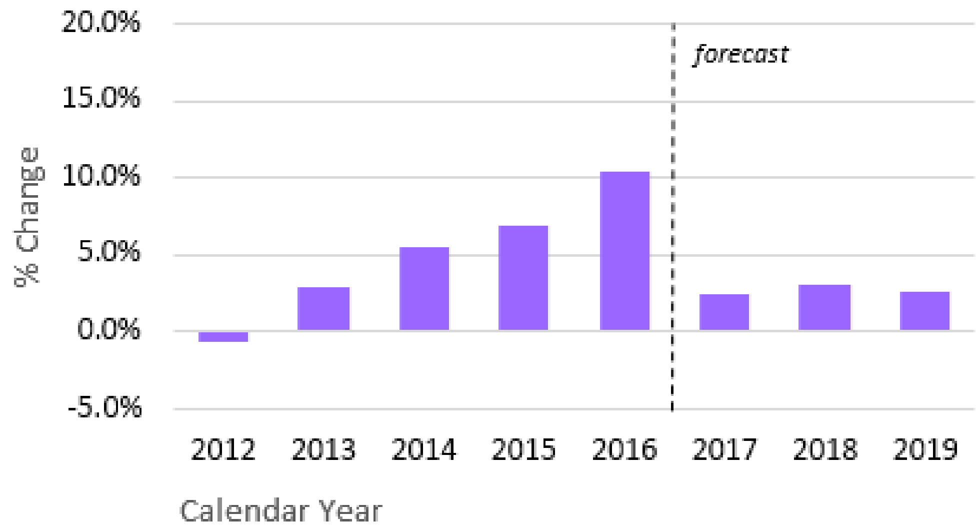


Shaded periods are US recessions

Tonnage Forecast
Core delivery tonnage

Core Delivery Tonnage Growth - 2012 through 2019

CY	Tons	YOY % Change
2012	1,082,910	-0.6%
2013	1,114,681	2.9%
2014	1,176,686	5.6%
2015	1,257,686	6.9%
2016	1,389,304	10.5%
2017	1,422,813	2.4%
2018	1,466,188	3.0%
2019	1,505,028	2.6%

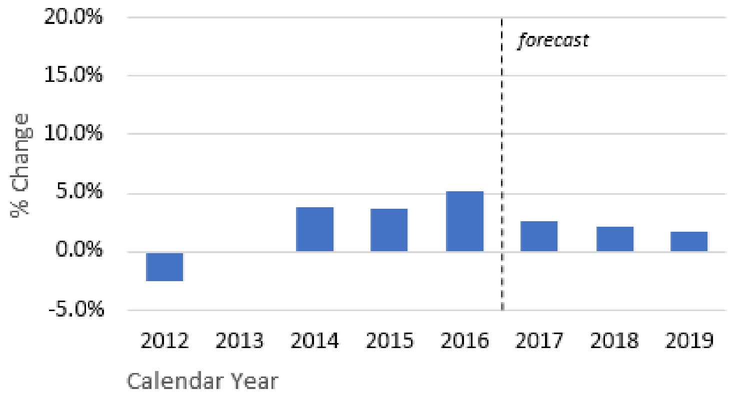


Tonnage Forecast

Core delivery tonnage

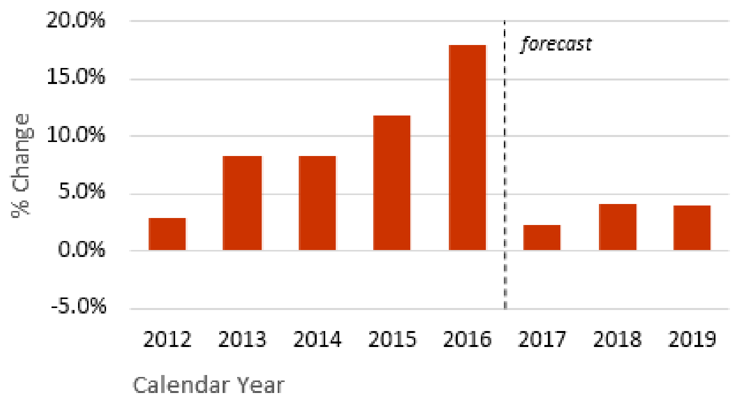
Wet Delivery Tonnage Growth - 2012 through 2019

CY	Tons	YOY % Change
2012	686,214	-2.5%
2013	685,052	-0.2%
2014	711,400	3.8%
2015	737,526	3.7%
2016	775,715	5.2%
2017	795,708	2.6%
2018	812,972	2.2%
2019	826,234	1.6%

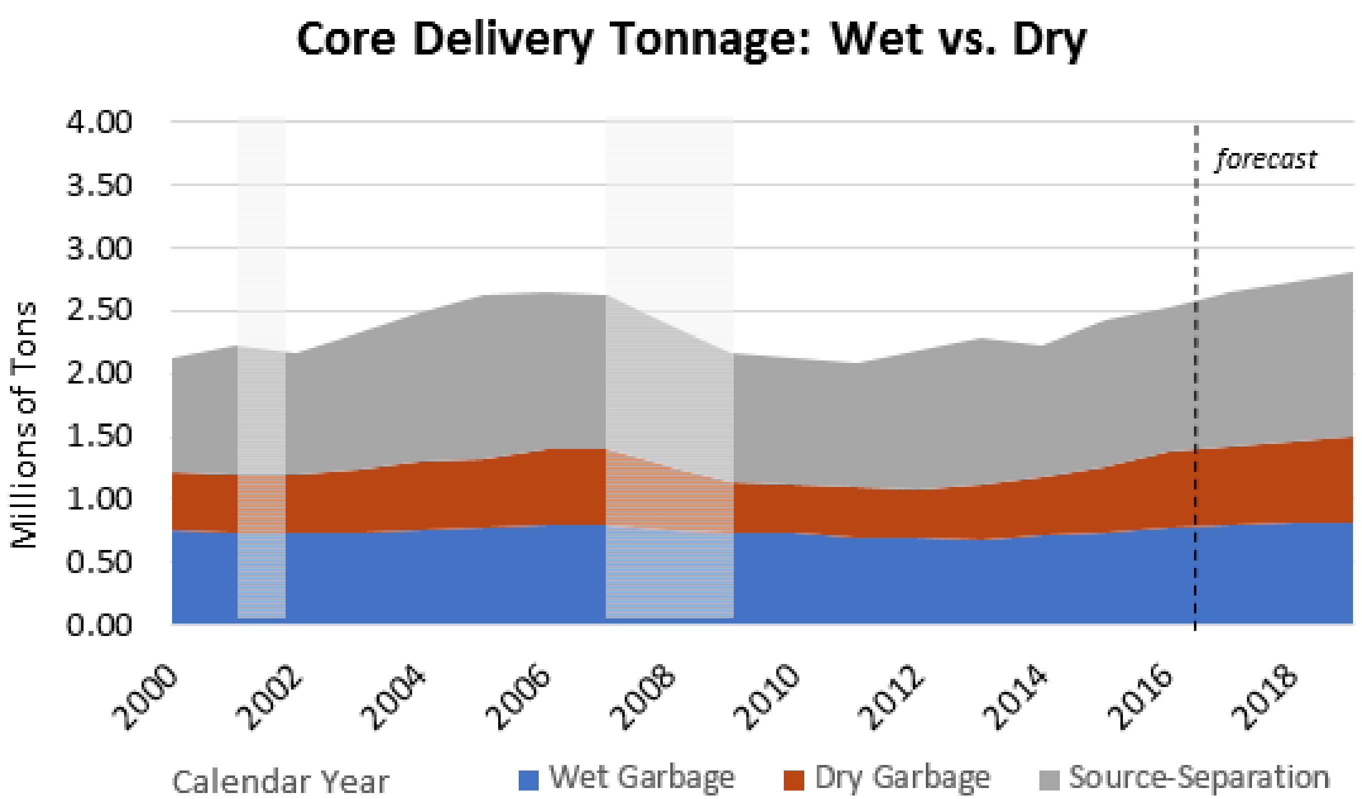


Dry Delivery Tonnage Growth - 2012 through 2019

CY	Tons	YOY % Change
2012	396,696	2.9%
2013	429,629	8.3%
2014	465,286	8.3%
2015	520,160	11.8%
2016	613,588	18.0%
2017	627,105	2.2%
2018	653,216	4.2%
2019	678,794	3.9%



Tonnage Forecast
Core delivery tonnage

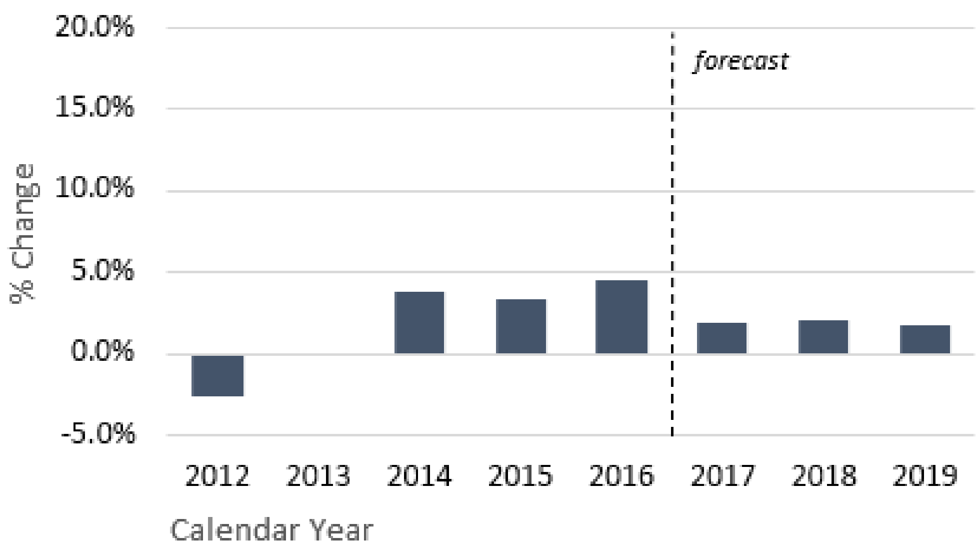


Shaded periods are US recessions

Tonnage Forecast
Regulatory Tonnage

Allocatable Wet Tonnage Growth - 2012 through 2019

CY	Tons	YOY % Change
2012	641,405	-2.7%
2013	640,556	-0.1%
2014	665,048	3.8%
2015	687,824	3.4%
2016	718,993	4.5%
2017	732,622	1.9%
2018	747,236	2.0%
2019	760,879	1.8%



Tonnage Forecast

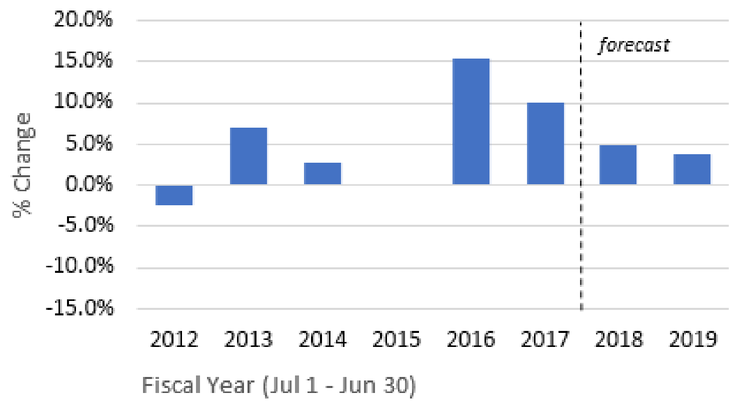
Regulatory Tonnage

	CY 2017	Future Allocations				
	Expected	Percent	CY 2018 Allocation		CY 2019 Allocation	
	(Alloc X Util)	Share	Available	Allocation	Available	Allocation
Franchisees						
Forest Grove	125,000	fixed tons	------------>	125,000	------------>	125,000
Pride	77,435	**10.69%**	X 747,236 =	79,880	X 760,879 =	81,338
Troutdale	69,832	**10.69%**	X 747,236 =	79,880	X 760,879 =	81,338
WRI	77,435	**10.69%**	X 747,236 =	79,880	X 760,879 =	81,338
Gresham	21,550	**3.17%**	X 747,236 =	23,687	X 760,879 =	24,120
Non-System Licensees						
WC to Vancouver	18,687	fixed tons	------------>	30,119	------------>	30,119
Kahut to Canby	12,450	fixed tons	------------>	16,600	------------>	16,600
Various to Covanta	1,447	fixed tons	------------>	3,455	------------>	3,455
Subtotal Private	403,835			438,500		443,308
Indirect to Public	328,787			308,736		317,571
Total Available	**732,622**			**747,236**		**760,879**

Tonnage Forecast
Revenue Tonnage

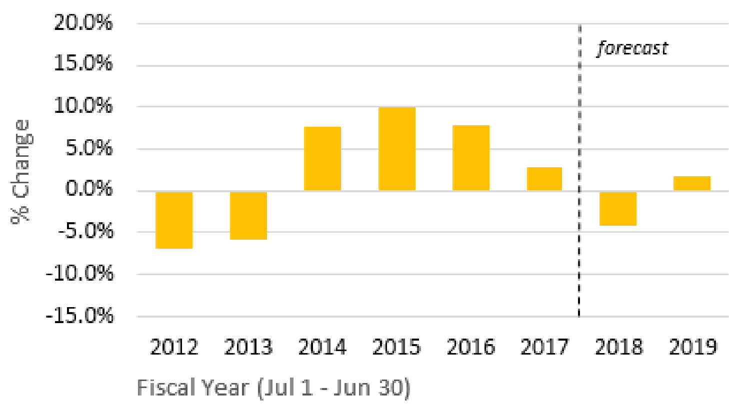
Private, Core Full-Freight Revenue Tonnage

FY	Tons	YOY % Change
2012	505,584	-2.4%
2013	541,108	7.0%
2014	555,496	2.7%
2015	556,230	0.1%
2016	641,990	15.4%
2017	706,338	10.0%
2018	741,021	4.9%
2019	769,529	3.8%

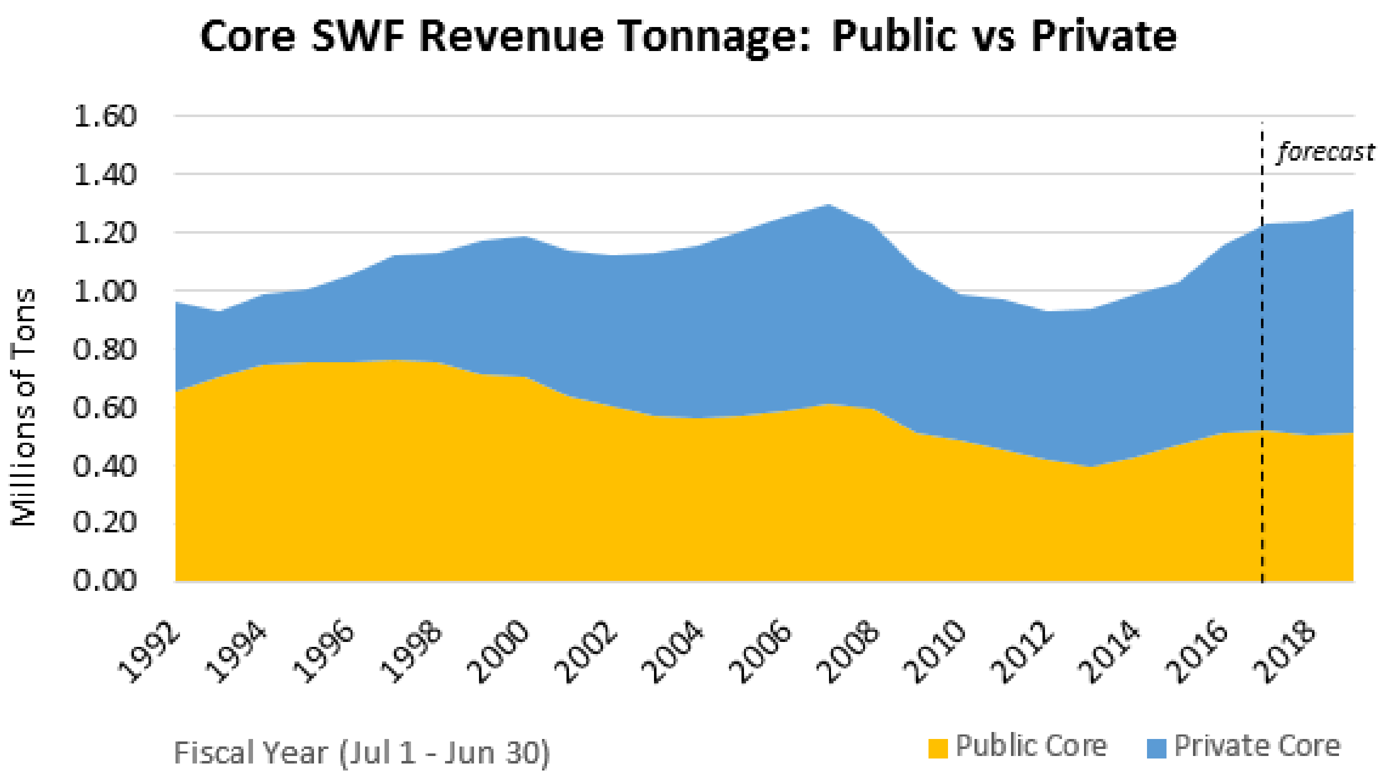


Public, Core Full-Freight Revenue Tonnage

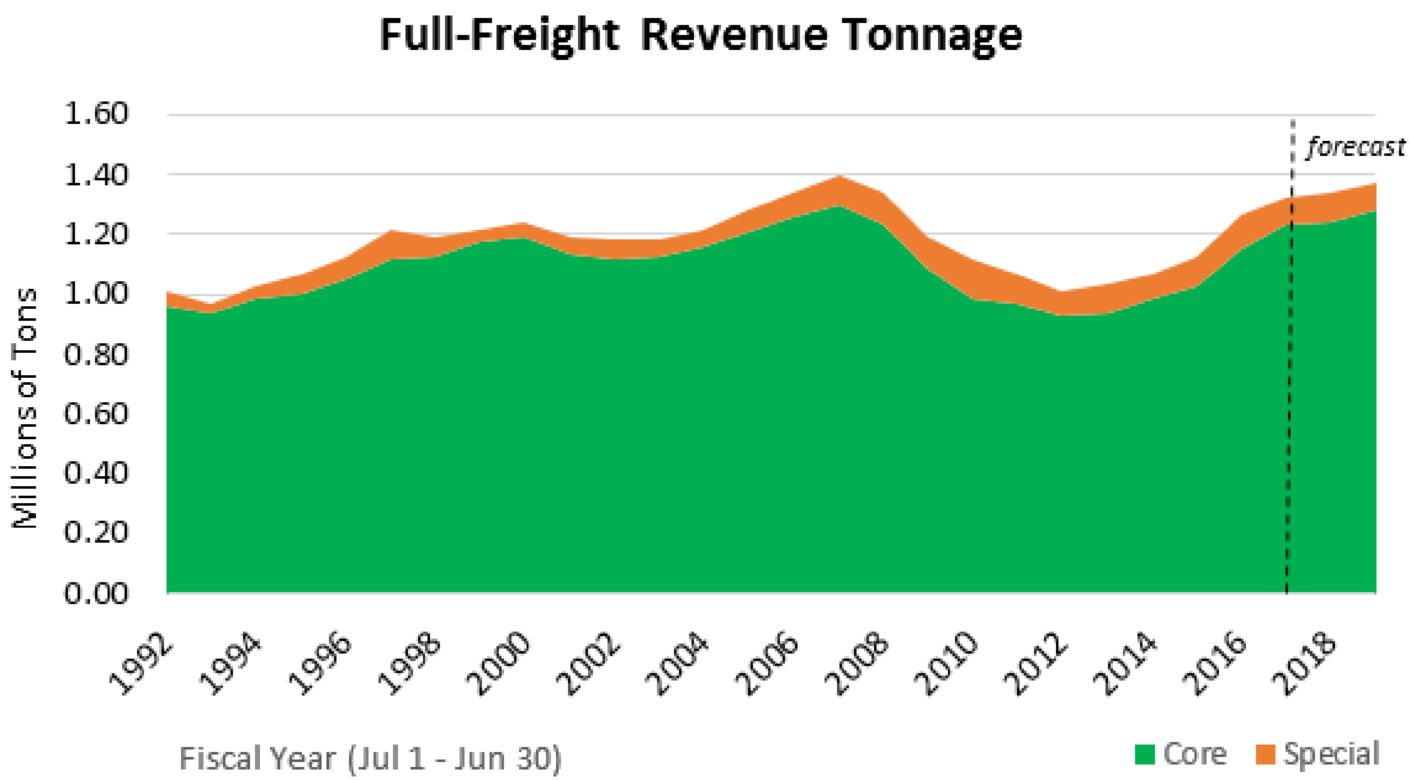
FY	Tons	YOY % Change
2012	422,746	-6.8%
2013	398,133	-5.8%
2014	428,788	7.7%
2015	471,726	10.0%
2016	509,286	8.0%
2017	523,199	2.7%
2018	501,263	-4.2%
2019	509,686	1.7%



Tonnage Forecast
Revenue Tonnage



Tonnage Forecast
Revenue Tonnage

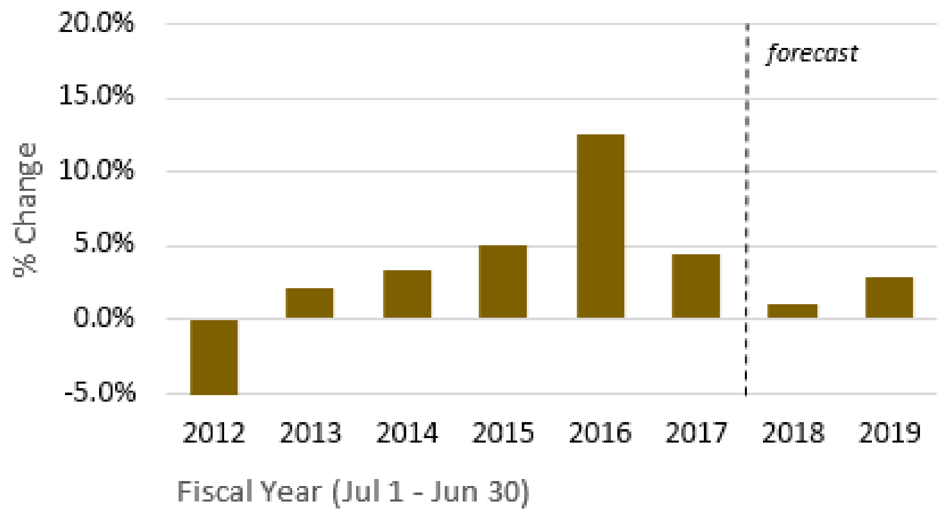


Tonnage Forecast

Revenue Tonnage

Full-Freight SWF Revenue Tonnage Growth - 2012 through 2019

FY	Tons	YOY % Change
2012	1,012,088	-5.6%
2013	1,034,119	2.2%
2014	1,069,287	3.4%
2015	1,123,669	5.1%
2016	1,265,017	12.6%
2017	1,321,242	4.4%
2018	1,335,946	1.1%
2019	1,373,714	2.8%



Summary

Forecast in Brief:

- Economy continues to grow, but at slower rates – waste generation follows suit
- Additional recycling programs divert some waste from wet and dry discard streams
- Post-collection recovery declines stabilize moving forward
- Discards continue to grow slowly

Summary

Risks:

- Economy
- Source-separation and Recovery
- Allocation Use

Questions?

Joel.Sherman@oregonmetro.gov | 503.797.1668

oregonmetro.gov

Metro

Arts and conference centers

Garbage and recycling

Land and transportation

Oregon Zoo

Parks and nature

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