

# Seattle Construction & Demolition Program Successes and Challenges



# Seattle C&D Policy Development

## 2007 Zero Waste Resolution

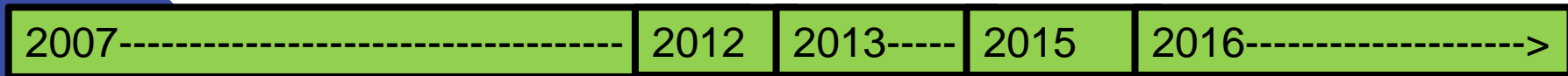
- Options for Increasing C&D Recycling from 50%
- Deconstruction Permit
- Recycling Facility Capacity
- Market Development

## 2012 Solid Waste Plan Adoption and Ordinance

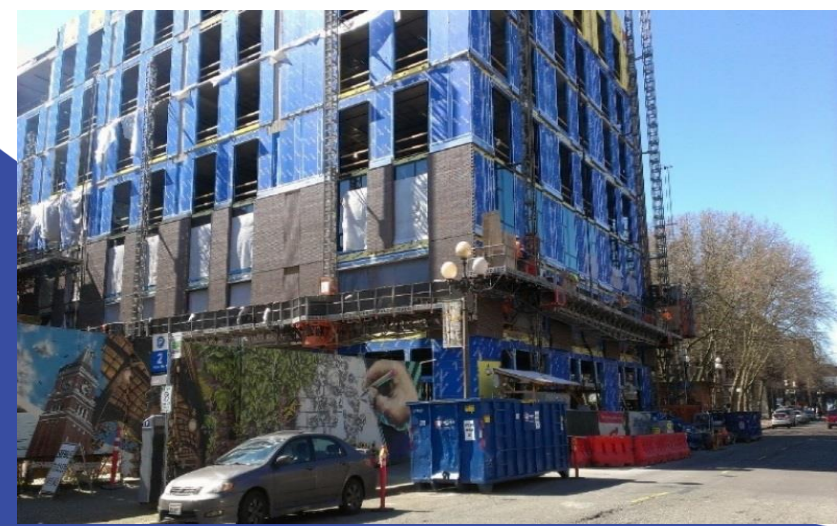
- 70% Recycling Goal by 2020

## 2013 & 2015 Building Code Amendments

## 2015-2016 King County Adoption of C&D Disposal Bans & Designated Facility Agreements



Seattle  
Public  
Utilities



# Seattle C&D Recycling and Reporting Requirements

## SPU Goal - Recycle 70% of C&D by 2020



### SPU Program Elements

C&D Landfill Disposal Bans

Recycling Facility Certification

Waste Diversion Reporting

### SDCI Requirements & Programs

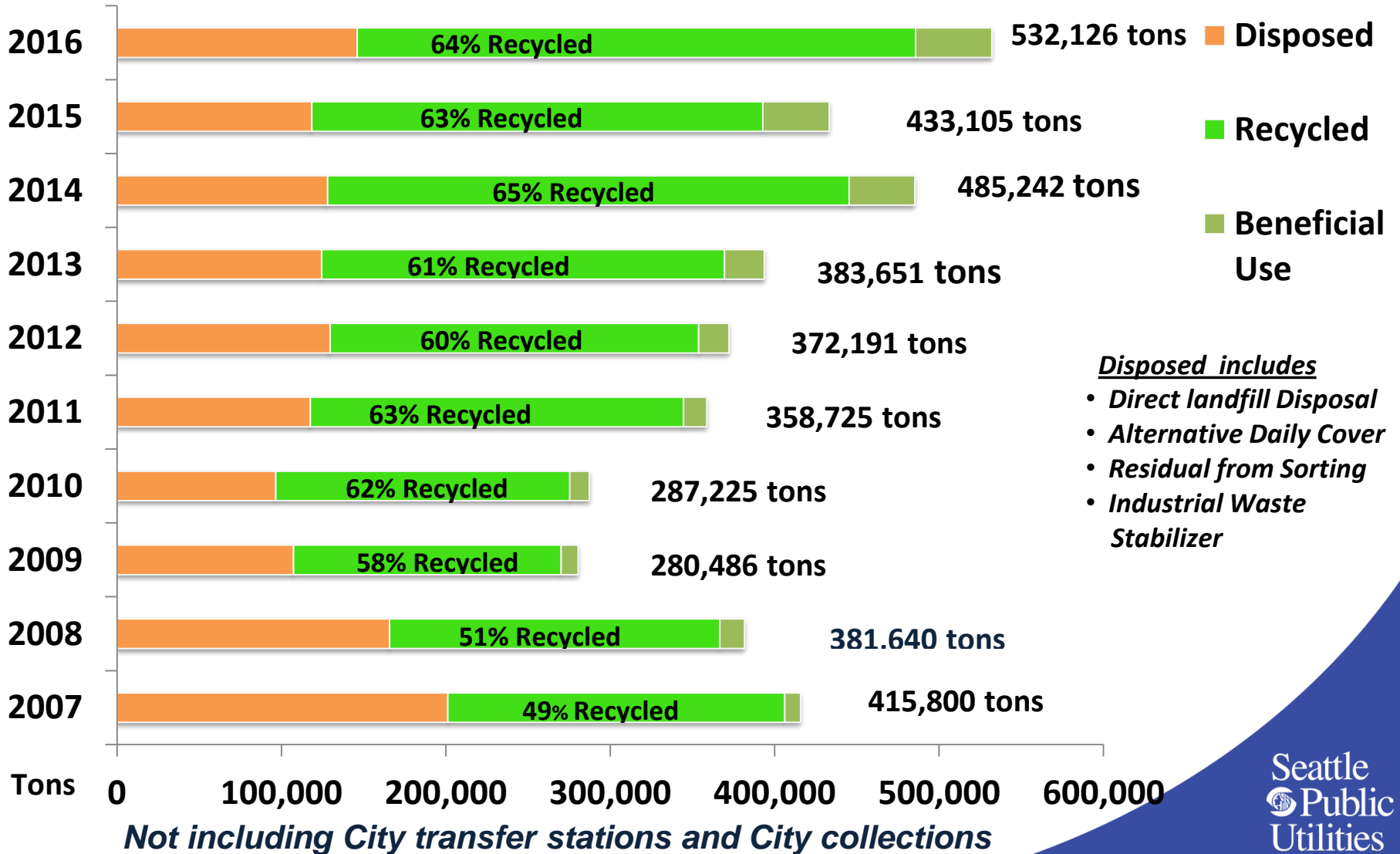
Green Building Programs

Deconstruction Permit Option

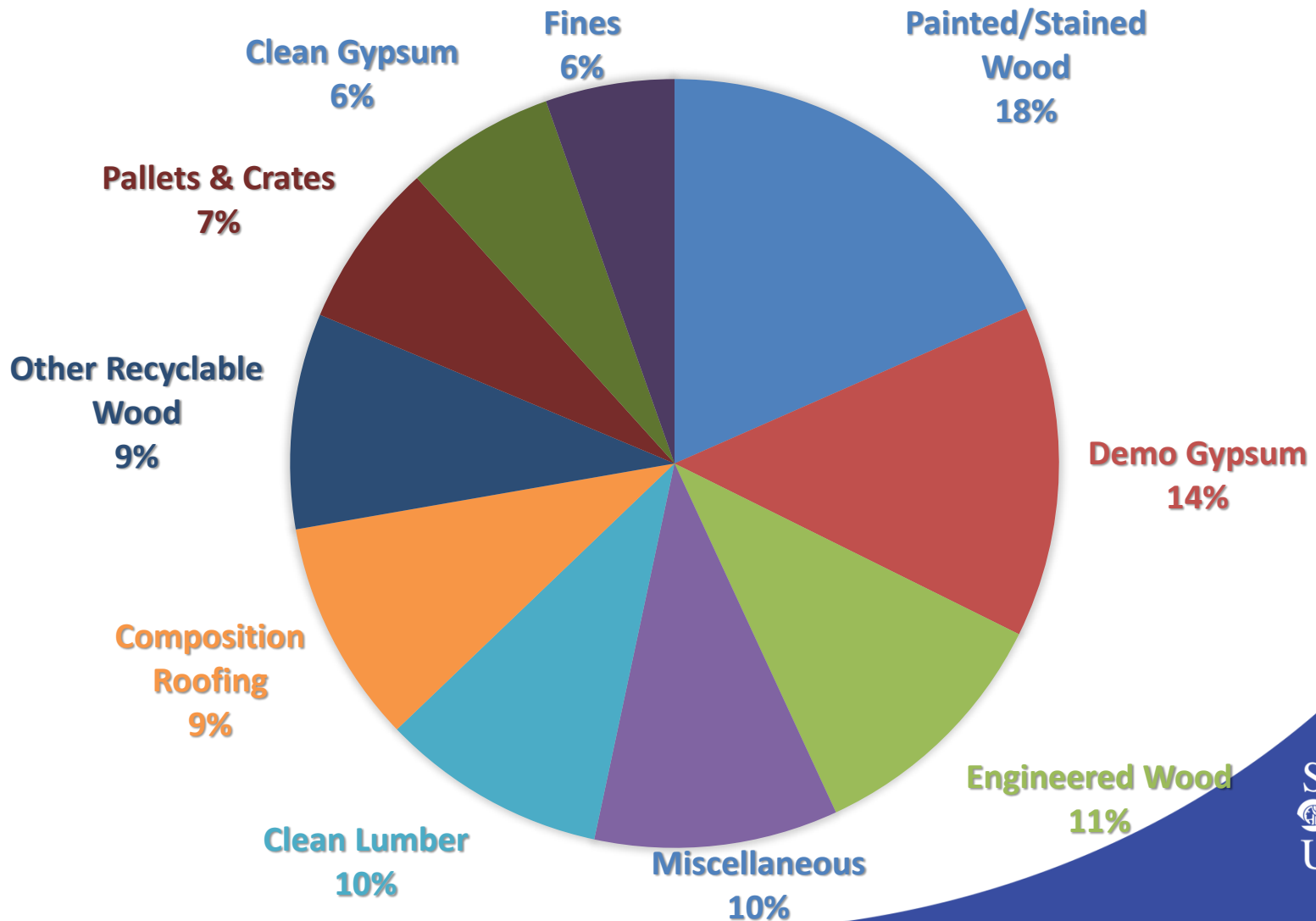
Waste Diversion Plan

Salvage Assessment

# C&D Tons Generated, Recycled, Beneficially Used and Disposed



# Overall Disposed C&D (2013-2014) Private Transfer Stations

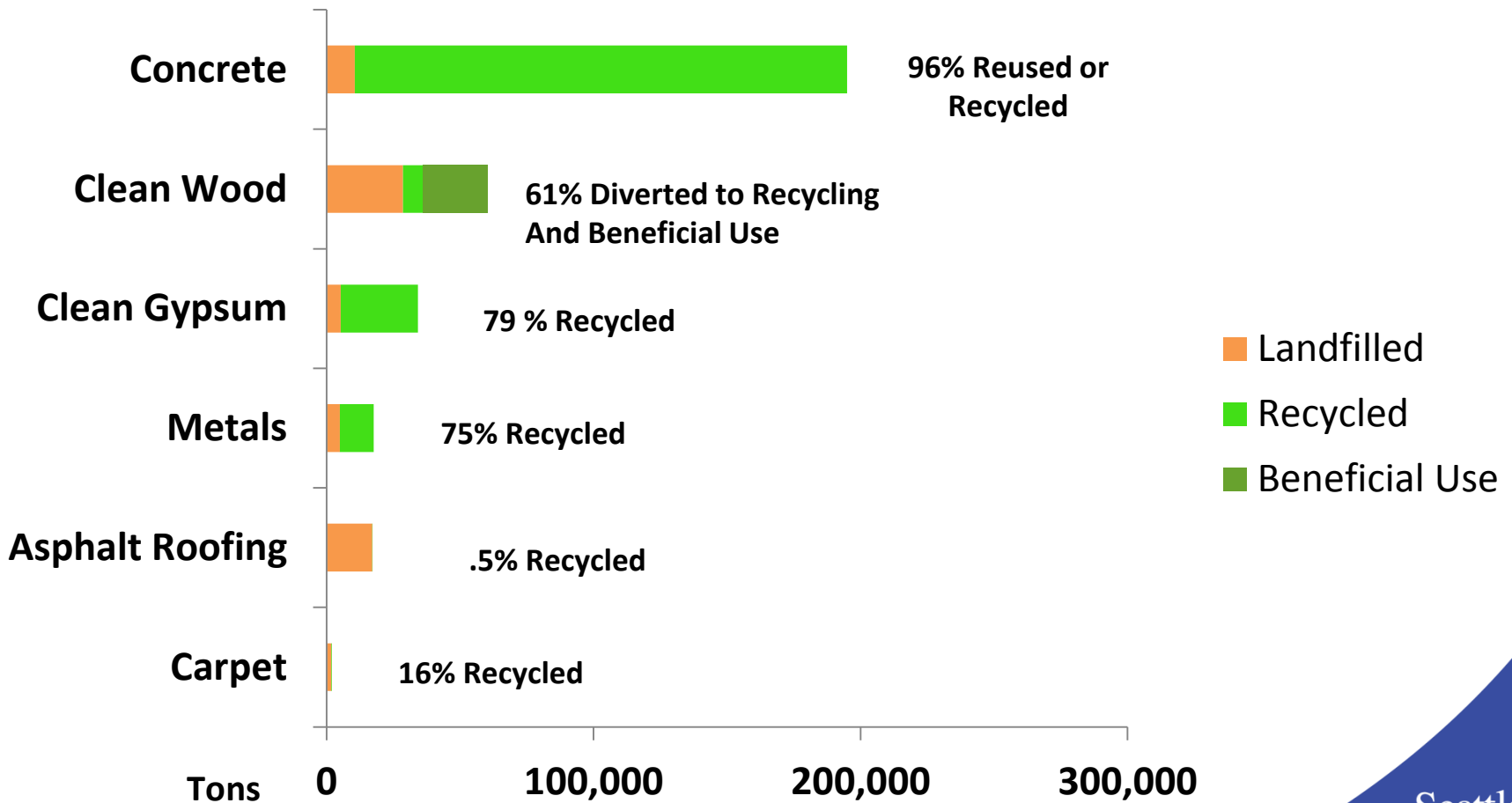


# C&D Landfill Disposal Bans

Material	2012 -2013	2014 - 2015	2016	2017	2018
Asphalt Paving	Educate & Enforce (2013)	Enforce	Enforce	Enforce	Enforce
Concrete & Bricks	Educate & Enforce (2013)	Enforce	Enforce	Enforce	Enforce
Metal & Cardboard		Educate & Enforce (2015)	Enforce	Enforce	Enforce
New Gypsum Wallboard		Educate & Enforce (2015)	Enforce	Enforce	Enforce
Clean Wood		Educate	Enforce	Enforce	Enforce
Carpet	Delayed to July 2018 due to lack of end market demand				Educate
Asphalt Shingles	Delayed to July 2018 due to lack of processing infrastructure				Educate
Plastic Film	Delayed to July 2018 due to lack of processing infrastructure				Educate

*\*Red = King County Material Ban Adoption*

# 2014 Material Diversion Levels of Current and Future Targeted Materials



# Challenges – No Local Processing Capacity



## Tear-Off Asphalt Shingles

- Demand for recycled asphalt shingles by hot mix pavers
- Use of RAS specified by WSDOT & local governments but
- Closure of recycling operations that processed shingles so little processing capacity locally



# Challenges – Poor End Markets



## Carpet & Plastic Film Wrap

- **Carpet** – Recovery One closed their Tacoma carpet reclamation plant due to poor end markets for nylon and other components
- **Plastic Film Wrap** – no local markets limited for dirty film from construction sites



# Seattle and King County Facility Certification Compliance Requirements *(Mixed C&D Recyclers)*

Compliance Criteria	Elements
Permitting	Health Department, flow control, local land use
Reporting	Monthly reporting to Seattle & King County Annual Ecology & Seattle recycling report
Residual Testing (quarterly)	No more than 10% of loads for landfill disposal can contain targeted recyclables
*Signed Designated Facility Agreement	Contract between the facility and King County

***\*King County Requirement Only***

# Seattle Certified and King County Designated “Mixed C&D” MRFs

## 2017 – 7 Certified Facilities

- 5 Mixed C&D recyclers
- 2 “Transload” facilities

## Other Infrastructure

- Source separated recyclers
- 3 retail reuse stores
- Private transfer stations
- Public transfer stations for source separated C&D (Seattle and King County)



**Sort line at C&D facility**

# C&D Facility Diversion Rates

## 1<sup>st</sup> Quarter 2017

Seattle "Qualified" Mixed Waste Recyclers and Disposal Facilities					
6/6/2017 Version					
FACILITIES	Seattle Certified	Regulatory Compliant	Reporting Compliant	Residual Compliant	1st Quarter 2017 Diversion Rate Estimate
<b>MIXED WASTE RECYCLERS</b>	Health, Landuse, Flow Control			1st Quarter 2017	
United Recycling Seattle, 74 S. Hudson Street, Seattle (360) 688-4300	Yes	Yes	Yes	Yes	76%
DRS-Renton, 701 SW 34th Street, Renton (425) 251-1612	Yes	Yes	Yes	TBD	29%
Maltby Container and Recycling 20225 Broadway Ave. Snohomish (360) 688-9841	Yes	Yes	Yes	Yes	73%
<b>Facilities with On-Site Processing &amp; Storage*</b>	* Quarterly rates more accurate due to timing of shipments to end markets				
United Recycling & Container 18827 Yew Way, Snohomish - (360) 688-4300	Yes	Yes	Yes	Yes	83%
Recovery 1, Inc. 1805 Stewart Street, Tacoma - (253) 627-1180	Yes	Yes	Yes	Yes	77%
<b>Transload Facilities for Recycling</b>	Both transload material to DRS-Renton for sorting - their diversion rate includes DRS-Renton diversion rate applied to				
DTG - Bobby Wolford 8624 219th St SE, Woodinville (425) 481-1800	Yes	Yes	Yes	N/A	41%
DRS - Woodinville, 5906 238th St SE, Woodinville, (425) 245-8015	Yes	Yes	Yes	Yes	58%

# Recycling Facility Challenges

## Impact

Greater travel and time for hauling to other facilities outside of Seattle

## Opportunity

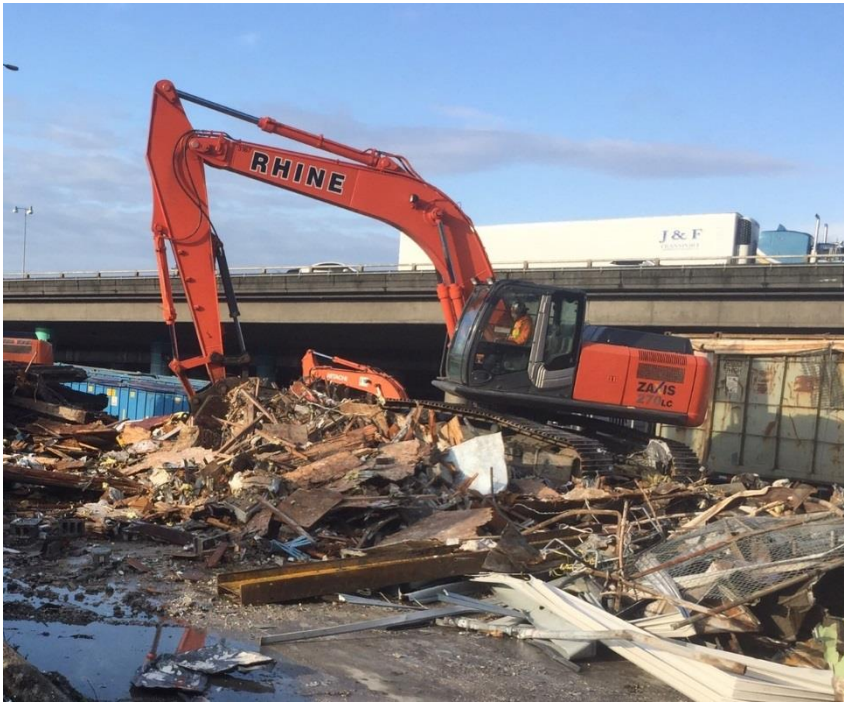
- United Recycling opened new C&D sorting operation in Seattle fall of 2016
- DRS is reopening CDL Recycle fall of 2017 for source separated materials and applying to be a permitted MRF

- CDL Recycle in Seattle closed May 2016
- Black River in Renton closed sort line in 2017
- Low diversion rate at DRS-Renton in 2017

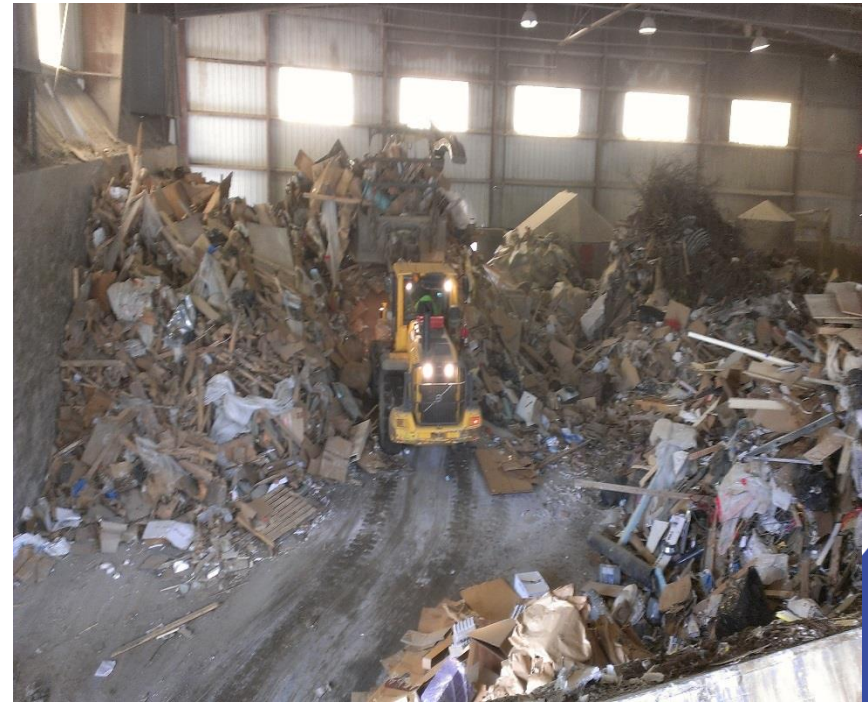


# Field Enforcement Challenges

## Compliance with Disposal Bans at the Job Site



## Compliance with Disposal Bans at Transfer Stations



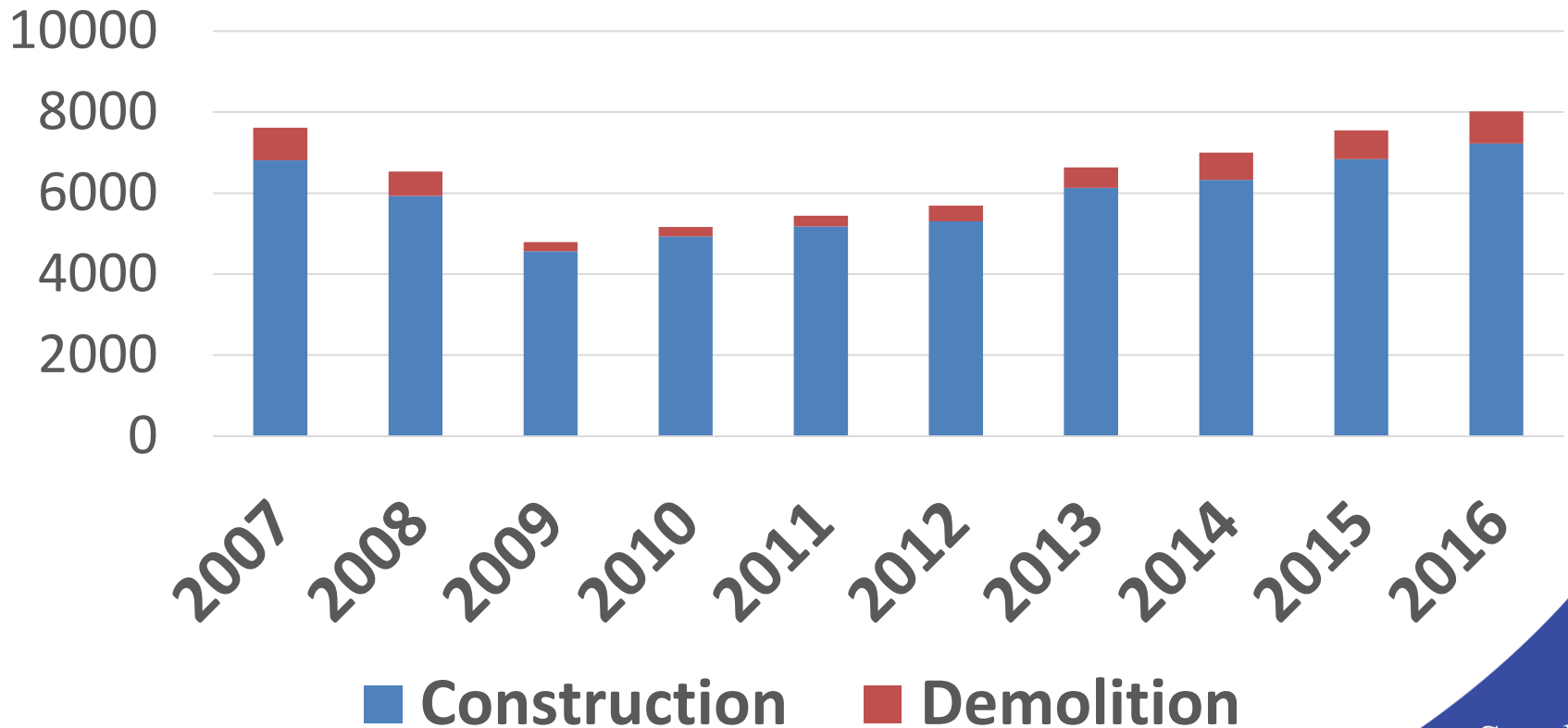
# WDPs, Salvage Assessments Waste Diversion Reporting

SDCI Requirements during Permit Application		SPU Waste Diversion Reports when Finaled
Demolition of Whole Building	<b>no WDP*</b> Deconstruction & Salvage Assessment completed by a <b><u>Salvage Verifier</u></b>	All demolitions
Additions, Tenant Improvements with some Demolition	<b>No WDP*</b> Salvage Assessment completed by <b><u>Owner's Representative</u></b>	<b>Raised threshold to \$75,000</b> (from \$30,000)
New Construction	<b>No WDP*</b>	<b>Raised threshold to \$75,000</b> (from \$30,000)

\*WDPs of poor quality and Salvage Assessments not being filled out by Salvage Verifier. Dropped the WDPs and will focus on the Salvage Assessments

# Seattle Construction & Demolition Permits Issued

2007 - 2016





# Waste Diversion Plan/Salvage Assessment Challenges

## Salvage Assessment

- No City staff review & approval
- Often not filled out by salvage verifiers

## WDP

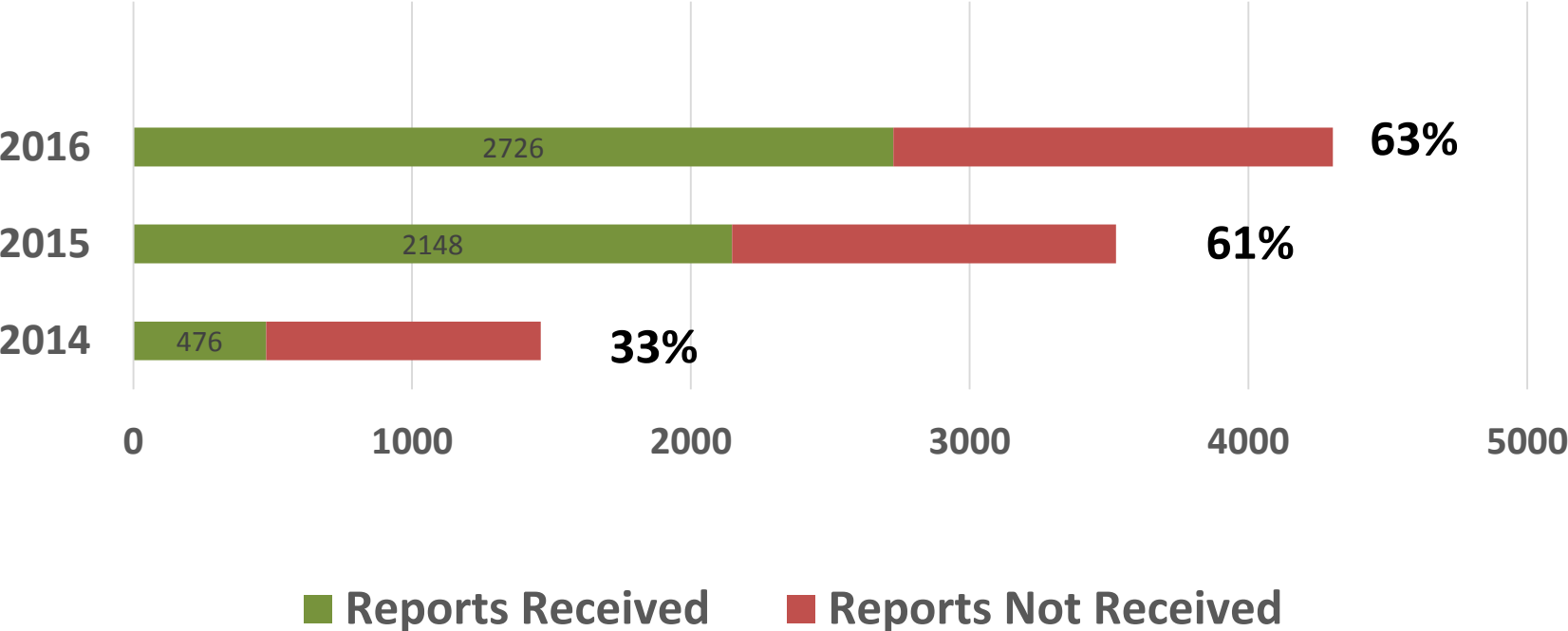
- Submitted early in permit approval process before contractor chosen
- No City review of 6,000 -8,000 Plans submitted annually

# SPU Waste Diversion Reports

Purpose – **Project compliance** with disposal bans & using certified facilities

- Required for all Demolitions and all New Construction and Remodels over \$75,000 in value
- Notification sent electronically to permit applicant once project “finalized” by SDCI (*after Certificate of Occupancy*)
- 60 days to complete the Report and submit to SPU electronically or manually
- Auditing of project weight slips an option to increase accuracy
- Financial penalty possible if report not submitted

# Waste Diversion Report Experience

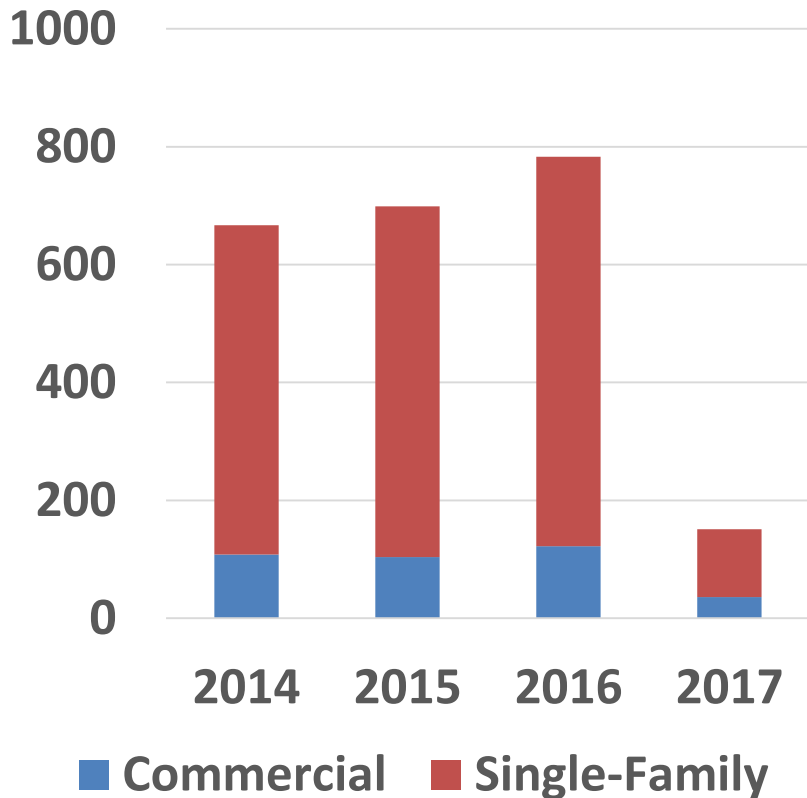


**Report Submittal Rate and Quality Greatly Improved**

**Useful for metrics and education**

# Needed Focus on Demolition

## # of Completed Demolitions



**84% of demolitions since 2014 are of single-family homes**

**One Single Family Home =  
60-80 tons of material  
Estimated 115,000 – 150,000  
tons generated since 2014**



# Salvage/Deconstruction Program Comparisons

	Seattle	Portland	Vancouver, B.C.
Salvage or Deconstruction	Salvage Assessment Form required for permit issuance (though no required follow-through by applicant)	Mandatory Manual Deconstruction if single family house built in 1916 or earlier/may be applicable to pre-1940 structures in 2018	Financial incentive – Higher credit in site recycling calculations for structural salvage so more of deposit money will be refunded
Disposal Bans	Yes	Yes	Yes
Diversion Goal for Each Project	No – only submittal of WDR tracking use of certified facilities	No – use of Portland Metro designated dry waste MRFs	Yes – 75% for pre-1950 home demolitions and all single-family in 2018
# of SF Demos	595 in 2015	375 in 2015	1000 in 2015
Deconstruction Activity	13 since 2009 under voluntary program	Projected 122 in 2017	1 under voluntary program

# Salvage/Deconstruction Program Comparisons

	Seattle	Portland	Vancouver, B.C.
# of Deconstruction Contractors	2	12 certified with BMRA training	Not known
Funding	Ecology funding for 7 pilots (completed in 2010)	\$150,000 State Fund paying \$3000 for full deconstruction and \$500 for partial	Not known
Benefits		Projected diversion of 4,000 tons more to reuse annually – mostly structural wood Job creation	Green Demolition Requirement – additional 9,000 tonnes diverted from landfill disposal
Markets	3 reuse/salvage outlets	Strong salvage and remanufacturing infrastructure	Limited salvage industry

# Seattle C&D Program Successes



- Expansion of programs to King County
- More certified recycling facilities now than in 2007
- Greater material diversion to recycling and beneficial use
- Increased reporting on part of facilities and permit applicants

## Needs

- Field Enforcement of Disposal Bans at Job Sites & Facilities (both public and private)
- Staff for salvage assessment review & monitoring
- More Incentives or implement mandates for deconstruction
- Renewed focus on market development