



City of Lake Oswego  
2014 Materials Assessment

November 21, 2014  
December 16, 2014

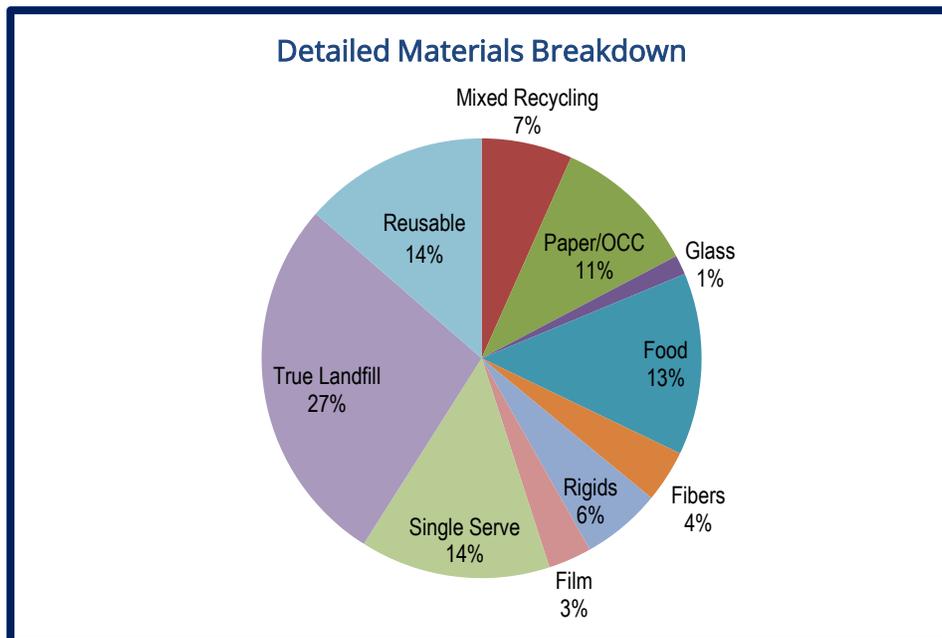
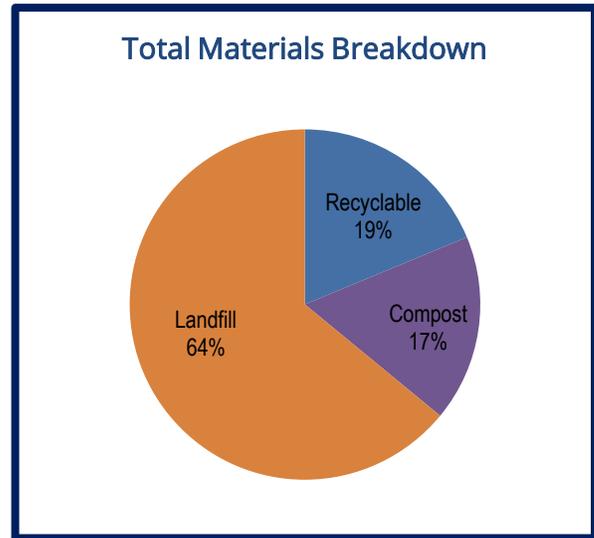
Prepared by:  
Elizabeth C. Start  
Recycling & Sustainability Coordinator

## GENERAL SUMMARY

The Republic Services team performed materials assessments for the landfill-bound streams for the following City of Lake Oswego municipal properties: Lake Oswego City Hall, Lake Oswego Library, West End Building, Adult Community Center, Jean Road Fire Station, and Westlake Fire Station.

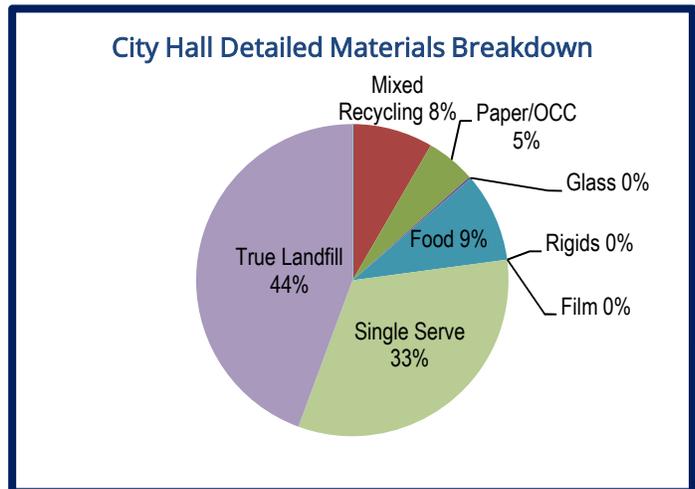
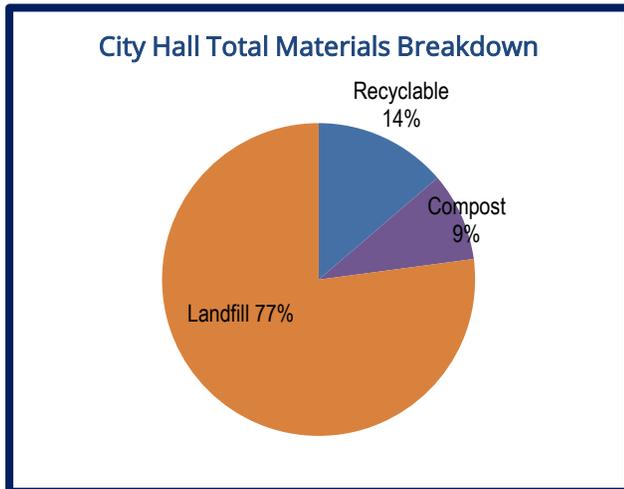
The assessments were performed at Republic Services transfer station, Willamette Resource Industries. The Adult Community Center, Jean Road Fire Station and Westlake Fire Station were assessed on November 21, 2014 and City Hall, Library and West End Building assessments were conducted on December 16, 2014. Republic Services staff (Elizabeth Start, Recycling & Sustainability Coordinator and Amy Roberts, Operations Manager) performed the assessments. This report shows the composition of the waste containers, comparisons to previous assessments, and provides waste recovery, waste prevention and recycling recommendations.

Samplings of the material in the waste were separated into main categories: recyclables, compost, and landfill. Much of the material was also sorted into sub-categories, including: mixed recycling, paper and cardboard, glass, food scraps, fibers, rigids, film, single-serve, putrescible (true landfill), and reusable materials. Each category was sorted into bins and weighed.



## LAKE OSWEGO CITY HALL RESULTS

The Lake Oswego City Hall assessment was originally scheduled to be performed on November 21, 2014; however, the team determined that the quantity of material was insufficient to provide an accurate picture of the materials generated. A 49 pound sampling of materials was taken from the 2 yard container from City Hall. The total container weight was an estimated 95 pounds. The timeframe for materials collected was two business days and one weekend.



City Hall employees continue to do a good job keeping recyclable/compostable items out of the landfill-bound stream since 77% of the stream was true landfill waste. The landfill-bound stream was further broken down to show areas that waste reduction, reuse recovery or other programs could be implemented.

## MATERIALS SUMMARY

The waste audit showed that 23% of the material found in the 2 yard container was recoverable through City Hall's current recycling and composting programs. The volume of recyclable material is estimated at about 5 cubic feet and made up 14% of the materials headed to the landfill. These materials included the following: office paper, chipboard boxes, envelopes, a carton, plastic bottles, aluminum cans, tin cans and a glass bottle.





Food scraps made up 9% (by weight) of the assessed materials. Kitchen-generated paper towels were not included as part of compost. Republic Services continues to process fibers such as kitchen-generated paper towels, coffee filters and tea bags at Pacific Region Compost, however for the purposes of the assessment showed food only.



The landfill waste material included, rigid film (food packaging, chip bags, coated paper wrappers, etc.), waste toner collection container, paper towels, film (grocery bags and baggies), small plastic containers, disposable urinal mats, and single-serve containers.

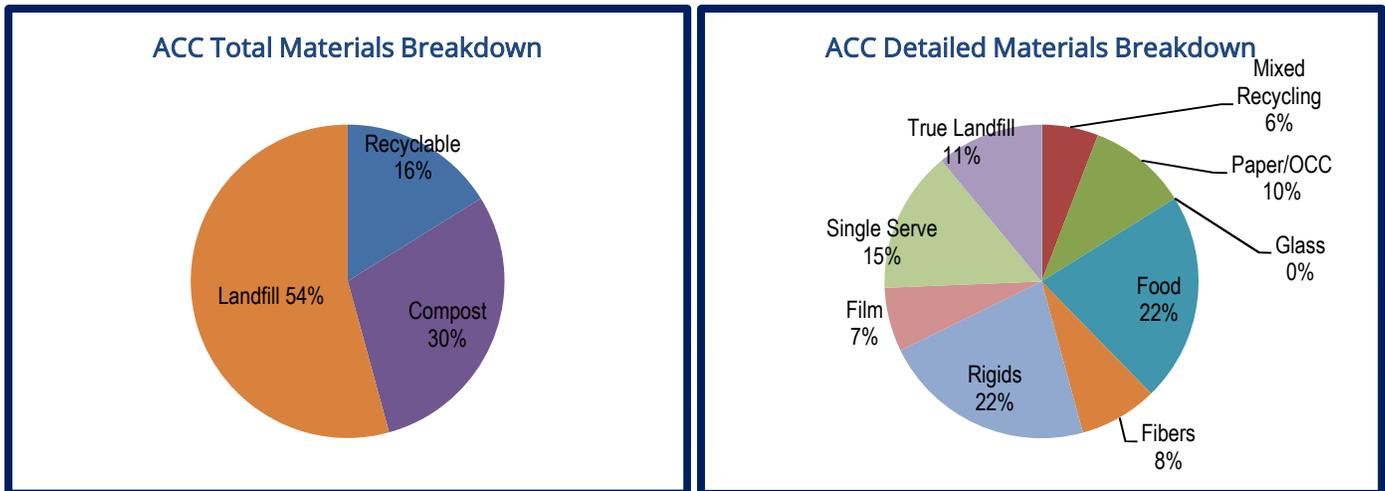
### Recommendations for City Hall

- Ensure that compost collection containers are accessible in lunchrooms and breakrooms.
- Encourage employees to pack waste free lunches ([wastefreelunches.org](http://wastefreelunches.org)) to minimize use of baggies and grocery bags.
- Set-up special collection areas for recyclable film, which can be taken to most grocery stores or recycling drop-off centers or request that employees take back their own film.
- Many cartridge mail-in programs will also accept waste toner cartridges. Check with the City's cartridge program for options.
- Revisit recycling and waste station set-ups to make sure that recycling is easily accessible for employees.
- Encourage employees to use a reusable cup/mug for coffee and other beverages.
- Provide continued education and reminders to employees about the City's recycling, compost and other recovery programs.
- Work with Republic Services operations to do a volume study and assess the collection needs for City Hall. Based on the materials assessment, it is assumed that either the 2 yard container size can be reduced or the number of truck trips can be reduced.

| City Hall Service Levels: |        |             |                 |
|---------------------------|--------|-------------|-----------------|
| Qty                       | Size   | Type        | # Pickups/ Week |
| 1                         | 2 yard | Landfill    | 2               |
| 1                         | 2 yard | Cardboard   | 1               |
| 6                         | 60 gal | Commingle   | 1               |
| 11                        | 35 gal | Commingle   | 1               |
| 2                         | 35 gal | Glass       | 1               |
| 1                         | 90 gal | Food Scraps | 1               |

## ADULT COMMUNITY CENTER RESULTS

The assessment for the Adult Community Center was performed on November 21, 2014. A 68 pound sampling of materials was taken from the 2 yard container from the Adult Community Center. The total container weight was an estimated 120 pounds. The timeframe for materials collected was two business days.



The assessment results showed that 54% of the material sampled was true landfill waste. The landfill-bound stream was further broken down to show areas that waste reduction, reuse recovery or other programs could be implemented.

## MATERIALS SUMMARY

The waste audit showed that 46% of the material found in the 2 yard container was recoverable through the ACC's current recycling and composting programs. The volume of recyclable material is estimated at about 6 cubic feet and made up 16% of the materials headed to the landfill. These materials included the following: office paper, newspaper, chipboard boxes, milk cartons, plastic bottles, aluminum cans, and aluminum foil.



Food scraps made up 22% (by weight) of the assessed materials. Kitchen-generated fibers were 8% by weight of the stream and 4 cubic feet by volume. The kitchen-generated paper towels and napkins were included in the ACC’s assessment because they were easily differentiated from restroom waste material.

The landfill waste material included, rigid film (food packaging, chip bags, coated paper wrappers, etc.), film (grocery bags and baggies), small plastic containers, other rigid plastics, holiday lights, restroom waste, pet waste, laminated sheets, foam food packaging, and single-serve containers.



Various types of single-serve cups were found, in addition to single-serve trays, coffee creamers, individual butter wrappers, and other single-serve serviceware.

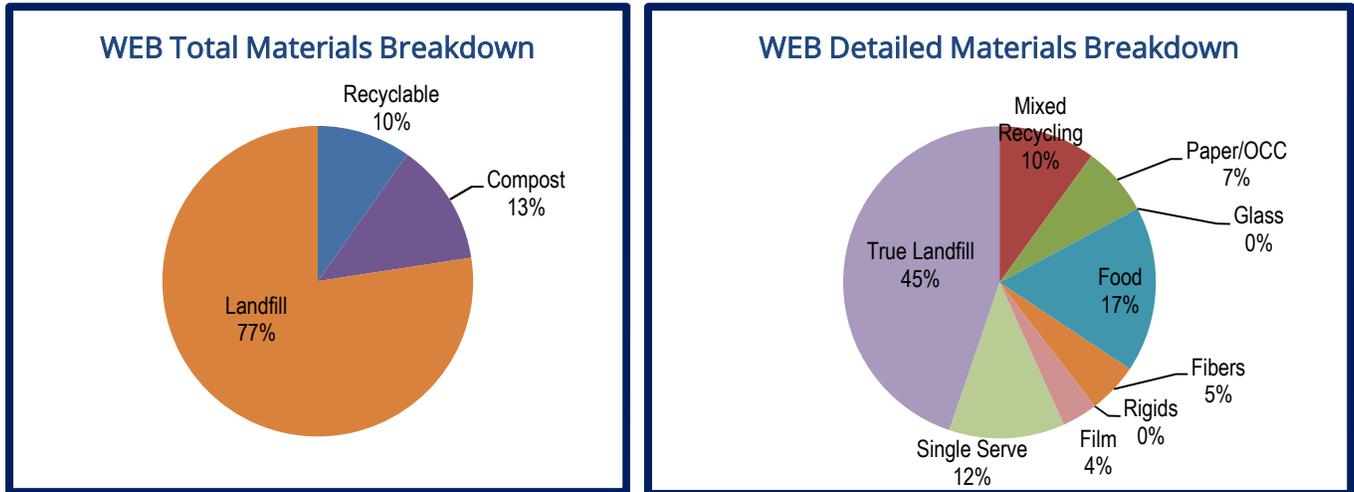
### Recommendations for Lake Oswego’s Adult Community Center

- Ensure that compost collection containers are accessible in kitchen and dining areas. Retrain current staff or train new employees to fully utilize the program.
- If possible, consider using durable mugs and cups for coffee and drink service.
- For onsite meals and if there is dishwashing capabilities, consider switching to durable food service trays instead of disposables.
- Set-up milk carton recycling and rinse stations. Also, instead, consider setting up a milk dispenser machine with durable cups. This will cut down on single-serve cartons generated and milk waste.
- If there is a “recycling champion” onsite, they can send items like spent holiday lights in for special recycling programs, such as Home Depots Holiday Lights trade program.
- Revisit recycling and waste station set-ups to make sure that recycling is easily accessible for employees and facility visitors.
- Provide continued education and reminders to employees about the ACC’s recycling, compost and other recovery programs.

| ACC Service Levels: |        |             |                 |
|---------------------|--------|-------------|-----------------|
| Qty                 | Size   | Type        | # Pickups/ Week |
| 1                   | 2 yard | Landfill    | 1               |
| 1                   | 2 yard | Cardboard   | 1               |
| 2                   | 90 gal | Commingle   | 1               |
| 2                   | 35 gal | Commingle   | 1               |
| 1                   | 90 gal | Food Scraps | 1               |

## WEST END BUILDING RESULTS

The assessment for the West End Building was performed on December 16, 2014. An 81 pound sampling of materials was taken from the 4 yard container from the WEB. The total container weight was an estimated 150 pounds. The timeframe for materials collected was two business days and one weekend.



The assessment results showed that 77% of the material sampled was true landfill waste. This is impressive considering this is a publicly used building. The landfill-bound stream was further broken down to show areas that waste reduction, reuse recovery or other programs could be implemented.

## MATERIALS SUMMARY

The waste audit showed that 23% of the material found in the 4 yard container was recoverable through the WEB's current recycling and composting programs. The volume of recyclable material is estimated at about 7 cubic feet and made up 10% of the materials headed to the landfill. These materials included the following: paper, cardboard tubes, chipboard boxes, paper bags, plastic bottles, cartons, aseptic packaging, aluminum cans, and aluminum foil.



Food scraps made up 13% (by weight) of the assessed materials. The food scraps found were from an event(s) and a compost option may not have been available in the public area.

The landfill waste material included, rigid film (food packaging, chip bags, coated paper wrappers, etc.), film (grocery bags and baggies), laminated paper, pizza boxes, packing peanuts, paper towels, a broken stool, half full glass cleaner container, holiday décor, art supplies, and other reusable items. A bag of residential waste was also found in the assessed container.

Clean holiday garland was found in the load and weighed 27 pounds and the volume was an estimated 20 cubic feet, close to one cubic yard of material. Also found in the load were usable art supplies, containers, and other small items. This was not included in the material breakdown; however, there is an opportunity to collect useable material instead of disposal.



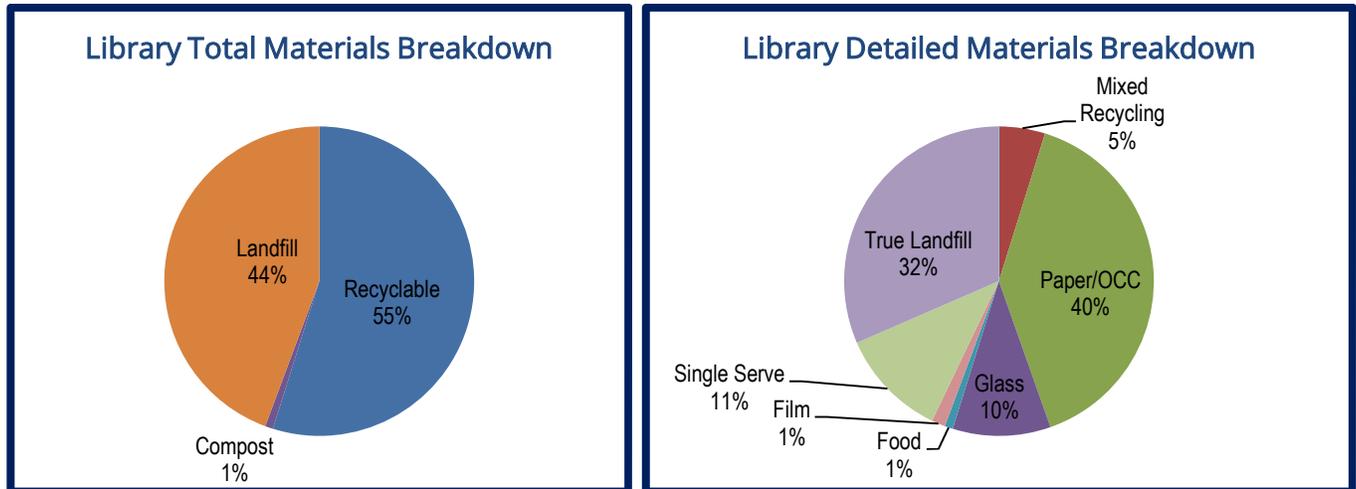
### Recommendations for the WEB

- Work with custodial staff to fully use cleaning supplies, and then recycle spent containers when applicable.
- Revisit recycling and waste station set-ups to make sure that recycling is easily accessible for employees and facility visitors.
- Provide continued education and reminders to employees about the WEB’s recycling, compost and other recovery programs.
- Set-up a reuse collection option for site users and employees. This would require an onsite “recycling/reuse champion” to ensure the quality of materials.
- Allow site users to provide event composting if certain guidelines are followed.
- Encourage site users and employees to use durable dishes and serviceware.

| WEB Service Levels: |        |             |                 |
|---------------------|--------|-------------|-----------------|
| Qty                 | Size   | Type        | # Pickups/ Week |
| 1                   | 4 yard | Landfill    | 1               |
| 1                   | 3 yard | Cardboard   | 1               |
| 1                   | 4 yard | Commingle   | 1               |
| 1                   | 60 gal | Food Scraps | 1               |

## LAKE OSWEGO LIBRARY RESULTS

The assessment for the Library was performed on December 16, 2014. The team took a 35 pound sampling of materials from the Library's 1.3 yard container. The total container weight was an estimated 80 pounds. The timeframe for materials collected was two business days.



The assessment results showed that 44% of the material sampled was true landfill waste. There are areas for improvement to keep recoverable materials from the waste container. The landfill-bound stream was further broken down to show areas that waste reduction, reuse recovery or other programs could be implemented.

## MATERIALS SUMMARY

The waste audit showed that 55% of the material found in the 1.3 yard container was recoverable through the WEB's current recycling program. The volume of recyclable material is estimated at about 10 cubic feet. These materials included the following: newspaper, office paper, glass bottles, plastic bottles, and aluminum cans.



Food scraps made up 1% (by weight) of the assessed materials. A food scraps collection program is not recommended, unless combined with one of the other City buildings.

The landfill waste material included, rigid film (food packaging, chip bags, coated paper wrappers, etc.), film (grocery bags and baggies), coated sticker/label paper, empty DVD cases, half full rolls of paper towels and toilet paper.



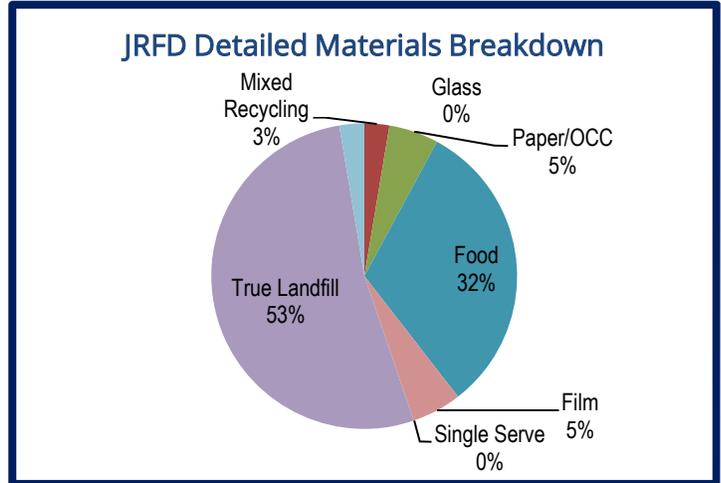
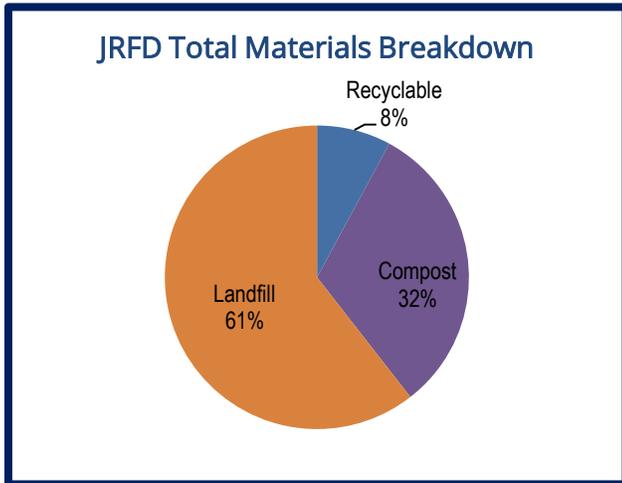
### Recommendations for the Library

- Ensure that public recycling containers are available, especially for easily recycled items like newspapers.
- Revisit recycling and waste station set-ups for employees at work stations and break areas.
- Provide continued education and reminders to employees about the Library's recycling and other recovery programs.
- Consider donating partially used, clean toiletries to local non-profits.
- Encourage site users and employees to use durable dishes and serviceware or to bring reusable coffee cups.

| Library Service Levels: |          |           |                 |  |
|-------------------------|----------|-----------|-----------------|--|
| Qty                     | Size     | Type      | # Pickups/ Week |  |
| 1                       | 1.3 yard | Landfill  | 1               |  |
| 7                       | 90 gal   | Commingle | 1               |  |
| 1                       | 35 gal   | Glass     | 1               |  |

## JEAN ROAD FIRE STATION RESULTS

The assessment for the Jean Road Fire Station was performed on November 21, 2014. The team assessed all of the material from the station's 90 gallon roll cart. The total container weight was an estimated 10 pounds. The timeframe for materials collected was two days.



The assessment results showed that 61% of the material sampled was true landfill waste. The landfill-bound stream was further broken down to show areas that waste reduction, reuse recovery or other programs could be implemented.

## MATERIALS SUMMARY

The waste audit showed that 39% of the material found in the 90 gallon cart was recoverable through the station's current recycling and composting programs. These materials included the following: aluminum cans, foil, paper, chipboard boxes, plastic bottle, aseptic container and food scraps.



Jean Road Fire Station recently worked with Republic Services and Clackamas County to set up a food scraps only collection program. Since the material is generated is similar to other residential programs that Republic Services has in other markets, the food scraps are collected from the Fire Station in the yard waste carts and taken to a separate processing facility. The food scraps made up 32% (by weight) of the assessed materials. Once the program is fully implemented, the amount of food in the landfill stream should decrease.

The landfill waste material included, rigid film (food packaging, chip bags, coated paper wrappers, etc.), film (grocery bags and baggies), paper towels, latex gloves, tubing, Coban wrap and other non-hazardous medical packaging.



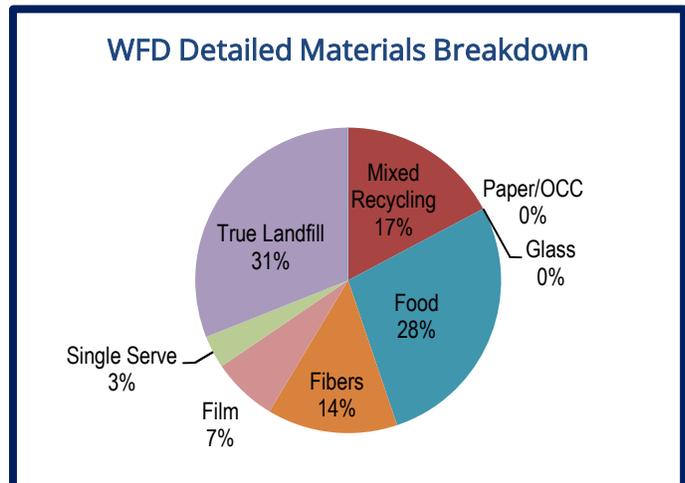
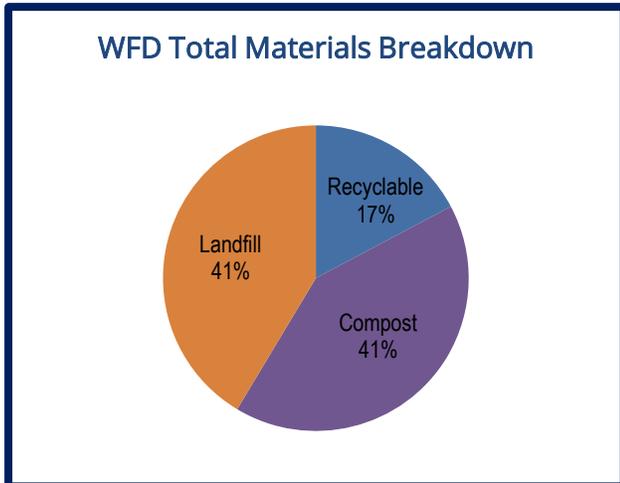
### Recommendations for the Jean Road Fire Station

- Train all shifts to use the food scraps composting program.
- Consider reusable towels and napkins for kitchen use.
- Look at options for recycling disposable gloves. Terracycle and Kimberly-Clark have teamed up to provide a nitrile glove recycling option (<http://www.terracycle.com/en-US/brigades/nitrile-gloves-brigade.html>).
- Donate usable medical items (tubing, leftover Coban wrap) to animal shelters.

| Jean Road FD Service Levels: |        |           |                 |
|------------------------------|--------|-----------|-----------------|
| Qty                          | Size   | Type      | # Pickups/ Week |
| 1                            | 90 gal | Landfill  | 1               |
| 2                            | 60 gal | Commingle | 1               |
| 2                            | 20 gal | Glass     | 1               |
| 4                            | 60 gal | Yard/Food | 1               |

## WESTLAKE FIRE STATION RESULTS

The assessment for the Westlake Fire Station was performed on November 21, 2014. The team assessed all of the material from the station's 90 gallon roll cart. The total container weight was an estimated 15 pounds. The timeframe for materials collected was four days.



The assessment results showed that 41% of the material sampled was true landfill waste. The landfill-bound stream was further broken down to show areas that waste reduction, reuse recovery or other programs could be implemented.

## MATERIALS SUMMARY

The waste audit showed that 59% (by weight) of the material found in the 90 gallon cart was recoverable through the station's current recycling and composting programs. These materials included the following: plastic bottles (with liquid), aluminum can, paper, tin can, and food scraps.



Westlake Fire Station worked with Republic Services and Clackamas County to set up a food scraps only collection program. The station has a separate food scraps cart that is collected on the organics route. The food scraps made up 28% (by weight) of the assessed materials.

The landfill waste material included, food packaging, chip bags, paper towels, film (grocery bags and baggies), paper towels, latex gloves, single-serve food packaging and a book.



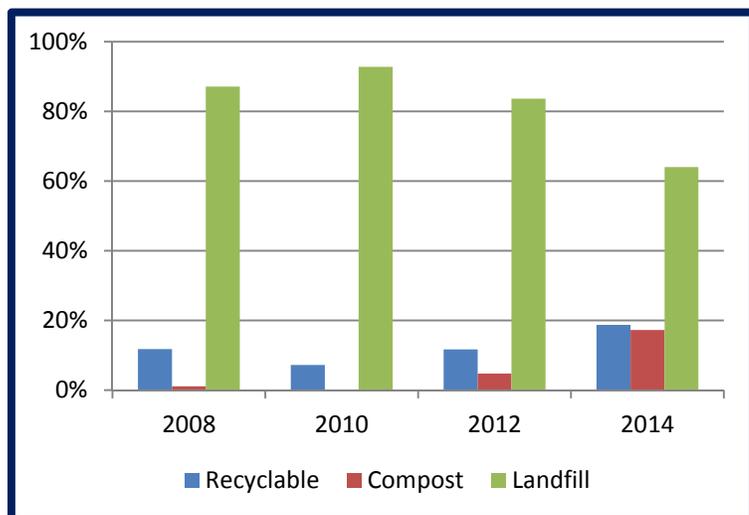
### RECOMMENDATIONS FOR THE WESTLAKE FIRE STATION

- Train all shifts to use the food scraps composting program.
- Consider reusable towels and napkins for kitchen use.
- Buy food items such as chips and condiments in bulk.
- For takeout service, request no plastic utensils and use reusable flatware.
- Look at options for recycling disposable gloves. Terracycle and Kimberly-Clark have teamed up to provide a nitrile glove recycling option (<http://www.terracycle.com/en-US/brigades/nitrile-gloves-brigade.html>).
- Donate books to the library or other non-profits.

| Westlake FD Service Levels: |        |             |                 |
|-----------------------------|--------|-------------|-----------------|
| Qty                         | Size   | Type        | # Pickups/ Week |
| 1                           | 90 gal | Landfill    | 1               |
| 2                           | 90 gal | Commingle   | 1               |
| 6                           | 35 gal | Commingle   | 1               |
| 2                           | 60 gal | Yard/Food   | 1               |
| 1                           | 35 gal | Glass       | 1               |
| 1                           | 60 gal | Food Scraps | 1               |

## OTHER COMMENTS

- A significant portion of the volume is from paper towel waste generated from both bathrooms and kitchens. While hand dryers are a good option for reducing ongoing costs of paper towels and materials going to the landfill, the energy costs should also be considered.
- Food scraps are an ongoing issue in the Metro region. As of March 1, 2015, Metro will be converting to a food only program for food that is transferred through the Metro Central Transfer Station due to the material going to an anaerobic digestion facility. Clackamas County is providing outreach based on a food only program as well, to simplify the education process. Republic Services can still support collection of kitchen-generated fibers and approved compostable products, however, works Clackamas County's education efforts for new customers to provide a clear message. Customers requiring expanded composting service are worked with on a case by case basis by Republic Services staff.
- The year over year comparison shows an increase in recoverable materials in the landfill-bound materials stream for the City buildings. The 2014 assessment team does not believe this shows an accurate picture of generation, due to the use of different assessment methods. Overall, the City buildings have shown significant improvement in reducing waste generated.



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