



Packaging and Paper Product Collection Costs

Five Year Cost Study Refresh

The Packaging and Paper Product (PPP) Stewardship Plan¹ delivers PPP collection services by providing opportunity for those involved in the collection of PPP to provide services directly to their residents and customers². Qualified collectors are offered financial incentives for PPP collection services. In 2013, research into PPP collection costs was completed to assist in the setting of the financial incentive values so that they act as market-clearing prices³. Collection costs for curbside, multi-family and depot collection were studied. Costs for both promotion and education (P&E) and service administration were also reviewed. This study is a refresh of the 2013 study.

Cost Study Purpose

The purpose of this study was to determine current collection costs and to compare the current costs to those costs from five years earlier.

- The first cost study occurred in Q1 2013 and used 2012 collection cost data,
- This cost study occurred in Q1 2018 and used 2017 collection cost data.

This research into packaging and paper collection costs was completed to assist in the setting of financial incentive values, originally for the 2014 Services Agreements and now for the new Services Agreements being issued in 2018.

¹ Available via the Recycle BC website at https://recyclebc.ca/stewards/regulation_and_stewardship_plan/

² The financial incentive is offered for collection services. Collection services are distinct from post-collection services which include receiving PPP from collection vehicles, picking up PPP from depots, consolidation and transfer where required, and processing and marketing of PPP.

³ A market-clearing price is a payment available to collection service providers (subject to executing an agreement to provide the collection service, complying with the collector qualification standard on a continuous basis, and reporting specified data on a defined schedule) designed to stimulate collection activities such that the quantity supplied is equal to the quantity demanded.

Study Methodology, 2018

Local governments, including both Regional Districts and Municipalities that participated in the 2013 study were requested to provide collection cost data to the same third-party accountant who performed the 2013 study.

Where Recycle BC now provides collection services directly, the 2017 collection cost data was provided to this independent accounting firm by Recycle BC. Collection costs for curbside, multi-family and depot collection were studied. Promotion and education (P&E) and service administration were also reviewed.

Study Size

In 2013, collection cost data was requested from 25 local governments. 23 chose to submit data. In 2018, collection cost data was requested from the same 23 locations which equates to 25 collectors due to changes to some local government collection structures and the mix of Recycle BC direct service and local government depot service in some communities.

- Of the 25 local governments requested to provide cost data, 12 submitted data.
- Including the 5 locations with data supplied by Recycle BC, there were a total of 17 locations included in the 2017 data.

The difference in the data sets collected by cost category between the two studies is:

Collection Cost Category	2013 Participation	2018 Participation
Curbside Collection Costs	13	11
Multi-Family Collection Costs	8	5
Depot Collection Costs	16	8
P&E Costs	23	17
Service Administration Costs	23	17

This lack of participation, and limited data set, led the accounting firm to suggest that the data must be used with caution.

Data Collection Methodology

In early January 2018, local governments were sent a letter from Recycle BC requesting their participation. The local governments were then sent a data collection spreadsheet as well as a guideline document.

Collection costs include both operating and capital costs. Operating costs requested were actual 2017 expenditures. For capital costs, participants were requested to identify all capital assets used in providing the services that had been acquired by the collector within defined lifespans of the assets. These assets were then amortized over the assumed lifespan. No costs

were included for land costs since it is accepted that land does not depreciate. A cost of capital was calculated based on historical interest rates, the year of purchase and the unamortized value of the asset at the start of 2017. No cost of capital was included for any land costs

Meetings with the independent accountant were arranged in January, February and March. All locations – except one – agreed to provide data. Subsequent to the meetings, the local governments submitted their cost spreadsheets. The data was reviewed and various questions asked for clarification. Key indicators were calculated for the summary.

Five Year Cost Study Refresh Results

Curbside Collection

Based on the responses received, 11 curbside collection programs were studied in 2018.

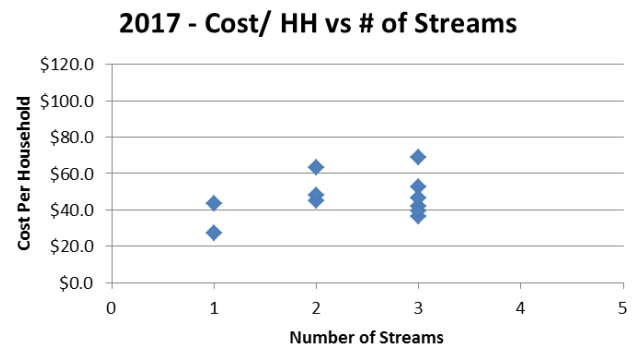
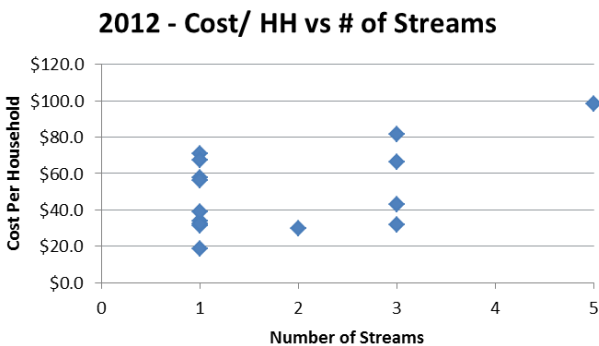
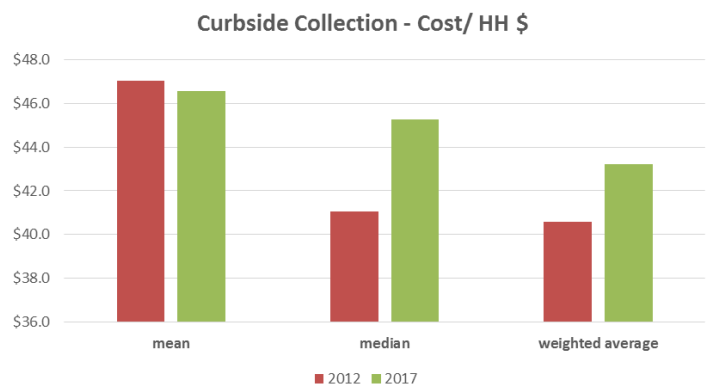
Diversion in 2017 ranged from 42 Kg/HH to 200 Kg/HH. Diversion in 2012 was from 48 Kg/HH to 270 Kg/HH.

Cost/HH in 2017 ranged from \$27 to \$69 (cost/HH in 2012 was from \$19 - \$98).

- Mean⁴ \$47
- Median⁵ \$45
- Weighted average by HH⁶ \$43

The five-year change in cost/HH ranged from a decrease of 55% to an increase of 156%.

- Mean -1%
- Median 10%
- Weighted Average 6%



⁴ Mean: the average of the numbers

⁵ Median: the middle number in a list of sorted numbers

⁶ Weighted Average: the mean in which each item being averaged is multiplied by a number (weight) based on the item's relative importance (in this case, number of households).

Multi-Family Collection

Based on the responses received, 5 multi-family collection programs were studied in 2018.

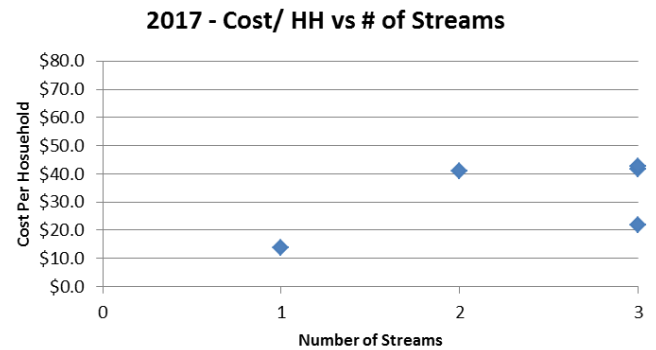
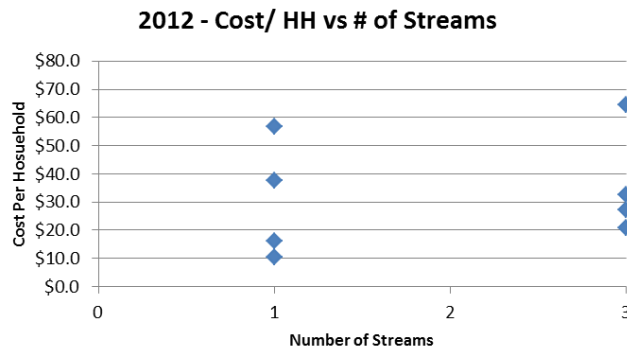
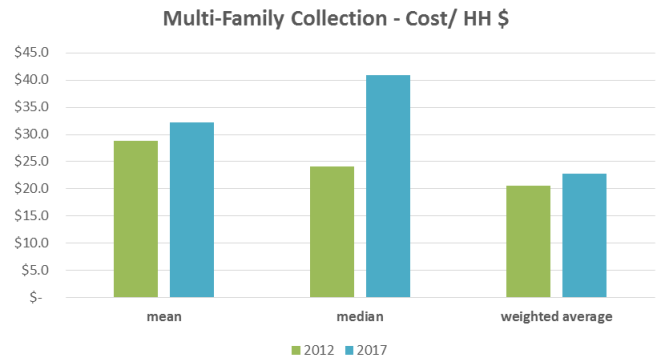
Diversion in 2017 ranged from 67 Kg/HH to 91 Kg/HH. Diversion in 2012 was from 73 Kg/HH to 136 Kg/HH).

Cost/HH in 2017 ranged from \$14 to \$43 (cost/HH in 2012 was from \$10 to \$65).

- Mean \$32
- Median \$41
- Weighted average by HH \$23

The five-year change in cost/HH ranged from a decrease of 28% to an increase of 56%.

- Mean 11%
- Median 70%
- Weighted Average 11%



Depot Collection

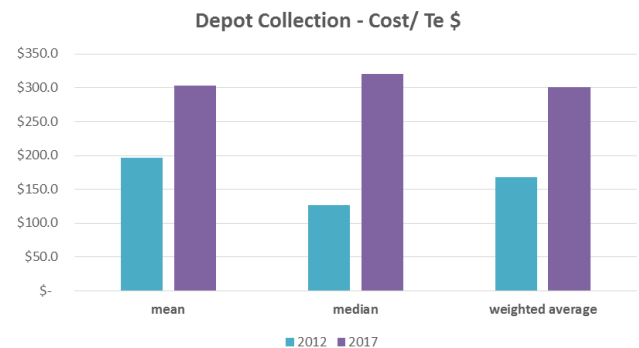
Based on the responses received, 8 depot collection programs were studied in 2018.

Cost/tonne in 2017 ranged from \$148 to \$420 (cost/tonne in 2012 was from \$37 to \$595).

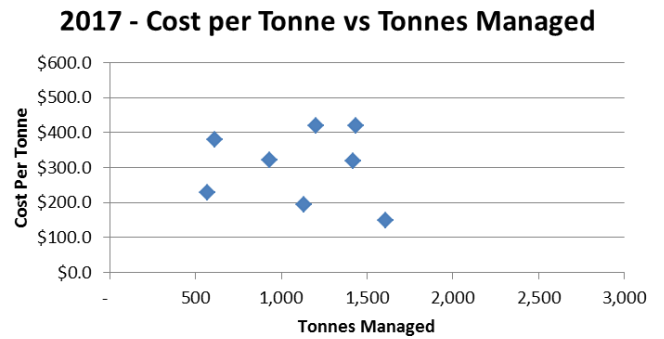
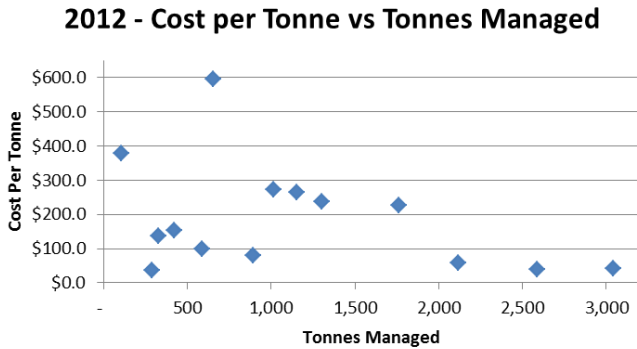
- Mean \$304
- Median \$320
- Weighted average by HH \$301

The five-year change in cost/tonne ranged from a decrease of 30% to an increase of 383%

- Mean 54%
- Median 153%
- Weighted Average 79%



The substantial increase in costs appears to be attributable to a shift from unstaffed depots to staffed depots.



Promotion and Education

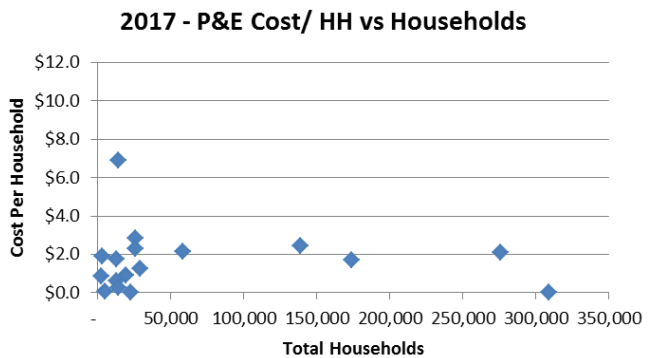
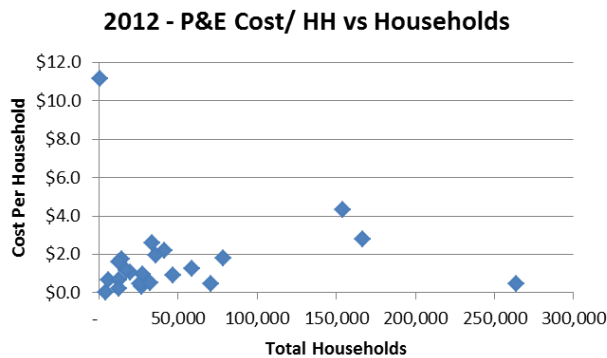
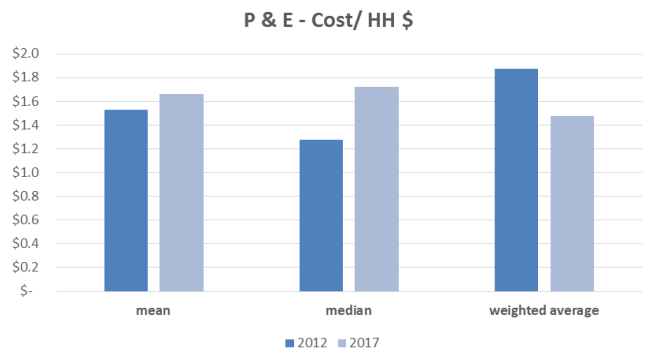
Based on the responses received, 17 locations' data were studied in 2018.

Cost/HH in 2017 ranged from \$0.02 to \$7 (cost/HH in 2012 was from \$0.24 to \$11).

- Mean \$1.70
- Median \$1.70
- Weighted average by HH \$1.50

The five-year change in cost/HH ranged from a decrease of 98% to an increase of >2700%

- Weighted Average -39%



Service Administration

Based on the responses received, 17 locations' data were studied in 2018.

Cost/HH in 2017 ranged from \$0.18 to \$8 (cost/HH in 2012 was from \$0.91 to \$25).

- Mean \$2.50
- Median \$1.40
- Weighted average by HH \$1.60

The five-year change in cost/HH ranged from a decrease of 96% to an increase of 142%

- Weighted Average -62%

