

CIF Project #362 – Eastern Ontario Transportation Logistics Analysis

Project Background

Rural Ontario is home to numerous depots which manage very small quantities of blue box materials. The volumes are insufficient to warrant installation of compaction systems but collectively, they represent a significant portion of Ontario's Blue Box program costs. The purpose of this project was to develop two models (Front-End and Roll-Off) for potential application to rural Ontario depot collection routing.

Methodology

GS Consulting was retained in August 2011 to assist the CIF in developing hauling metrics for the use of roll offs and front end loaders carrying single stream and dual stream loads from rural depots to existing MRFs.

Summary of Results

The study developed defensible and standardized metrics for use by municipalities wishing to explore options for the most efficient means of hauling materials to local MRF's.

In general, the study found that if depots were over 1.5 hours away from the MRF (one way) and managing less than 2500 tonnes per year of generation, single stream Front-end collection was the cheapest option. If the depots were over 2 hours away from the MRF (one way) and managing under 2,500 tonnes per year of generation and dual stream, the transportation costs for both Roll-off and Front-end collection became roughly equal. Dual stream under 2 hours away from the MRF (one way) and below 1,500 tonnes per year of generation appears to be more cost effectively collected via Roll-off, although the use of compactors will decrease haulage frequency. Where depots are over 1.5 hours away from the MRF (one way), over 700 tonnes per year, less than 2,500 tonnes per year and dual stream collection, solar compactors should be utilized as the avoided haulage cost difference of \$12k per year is enough to fund the solar compactors. Overall, where it is possible to develop a single stream Front-end rural collection route that is 9 hours/route or fewer in driving time per day, the model suggests it will be the most cost effective option from a transportation perspective.