

## **CIF Project #401 & #402 – 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 examine the cost efficiencies of various hauling options to service a representative group of depots to determine what options might generate improved hauling costs.

### **Methodology**

Earth's Edge Consulting and their subcontractor were retained in August 2011 to assist the CIF in testing recently developed hauling metrics in a representative part of rural Ontario. An area including 43 rural depots located in the area east of Hwy 41 and north of Hwy 7 in Eastern Ontario was selected for the study. Cost models developed under CIF Project 362 were used to examine the use of roll offs and front end loaders carrying single stream and dual stream loads to existing facilities.

### **Summary of Results**

The study drew a number of important conclusions which run contrary to common beliefs. For instance, single stream collection whether done by Roll-off or Front-end in a rural setting was found to always be more cost effective from a transportation perspective. If depots were over 1.5 hours away from the MRF (one way) and managing less than 2500 tonnes per year of generation, the study found single stream Front-end collection to be 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.

The reader is cautioned, however, that the purpose of the study was not to develop actual options for the selected area but rather to test the model and its assumptions in a real world environment. The results are preliminary at best and further analysis of other cost factors must be considered when applying the model for decision making purposes.