

## E&E Project Summary Report

**Project Name:** York Collection and Processing Optimization Study

**Project Number:** 207

**Lead Sponsor:** York Region

**Total project cost:** \$67,300

**Priority Area:** MRF Rationalization

**Completed By:** Shaun Spalding

**E&E fund contribution:** \$39,645

### Project Overview:

#### I. Goals

The objective of this project was to determine the optimal compaction on single stream collection vehicles (to reduce the number of collection vehicles required) while maintaining MRF processing efficiency and end-product quality. To accomplish this, other jurisdictions were surveyed regarding collecting compacted recyclables; and three separate compaction tests were carried out to determine how well the MRF processed different levels of compacted material.

#### II. Accomplishments

- The survey of North American (mainly Ontario) jurisdictions revealed there is no standard policy regarding compaction during collection nor is there a standard for MRF processing operations.
- The compaction tests showed that the MRF could not produce newspaper or mixed paper that met the end market specifications at the tested compaction rates (2.4 to 1 for the first test; 2.8 to 1 for the second test; and 3.0 to 1 for the third test).

#### III. Lessons Learned/Best Practice implications

- York Region's MRF equipment supplier's recommendation of 2.5 to 1 compaction could be acceptable only if the MRF processing operations are modified to accommodate the compacted feedstock.
- If the appropriate adjustments cannot be implemented, a lower compaction rate, such as 2 to 1, could be used (York's current compaction rate is 1.6 : 1) . Further studies are required to determine this.

#### IV. Limitations

- Of the 140 North American jurisdictions that were contacted, only 66 completed the survey.
- Only three compaction tests were done.
- The composition of the blue box stream fluctuates and this variability may have impacted on the results.
- The MRF staff was aware of the study and this may have impacted on their actions.

#### Impacts (including tonnes diverted and cost impacts)

- Although there is general agreement on the system cost saving opportunities associated with compaction, these need to be balanced with the investments and additional labour costs made necessary by compaction. More research is therefore needed to determine the business case for moving towards increased compaction.

#### Other information

- The findings from this project will be forwarded to the *Recycling Program Enhancement and Best Practices Assessment* project team for their review and input.

