

CIF Project #179 – University of Waterloo (MRF Location Optimization Project)

Background

This project involved developing a model to facilitate the placement of material recycling facilities in a theoretical “green field” scenario and contrast it to current placement of existing facilities. The project was intended to assist municipalities in the continued development of recycling infrastructure in the Province.

In Ontario, recyclable materials from residential sources are typically collected curbside, by private contractors (contracted by municipalities) or municipal employees. The steps through which these recycled materials are sorted, transported, processed and delivered to market varies widely across the Province resulting in disparities in unit costs (both direct and environmental) and efficiencies.

The objectives of this project were to:

1. Identify the physical steps involved with the sorting, transporting and processing of recyclable residential solid wastes in Ontario;
2. Determine the unit costs, capacities and efficiencies of transfer and processing facilities in the province and associated transfer and transportation costs;
3. Develop and implement a model which optimizes the placement of processing and transfer facilities from a transportation and processing cost perspective.
4. Apply the model to analyze and optimize and make recommendations on the placement of transfer and processing facilities in relation to current facilities and existing markets.
5. Document the project methodology and recommendations in a report to the CIF.

Summary of Results

The project was not completed as the data became redundant with CIF project 254 “Public Sector MRF Assessment Project” completed by AECOM study as requested by MIPC.

Financials

The CIF granted an upset limit of \$36,100.00. Only 25% of the total grant was paid as the project was not completed for a total of \$9,025.00.