

Transfer Station Management System

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Organization Overview

- **RM of Springfield is located North East of Winnipeg and is the largest Rural Municipality in Manitoba with a population of 16,000.**
- **The RM is governed by Municipal Council. Municipal Government is third tier of governance.**
- **The RM is an Esri user since 2016 and has upgraded to Enterprise licensing in 2018.**

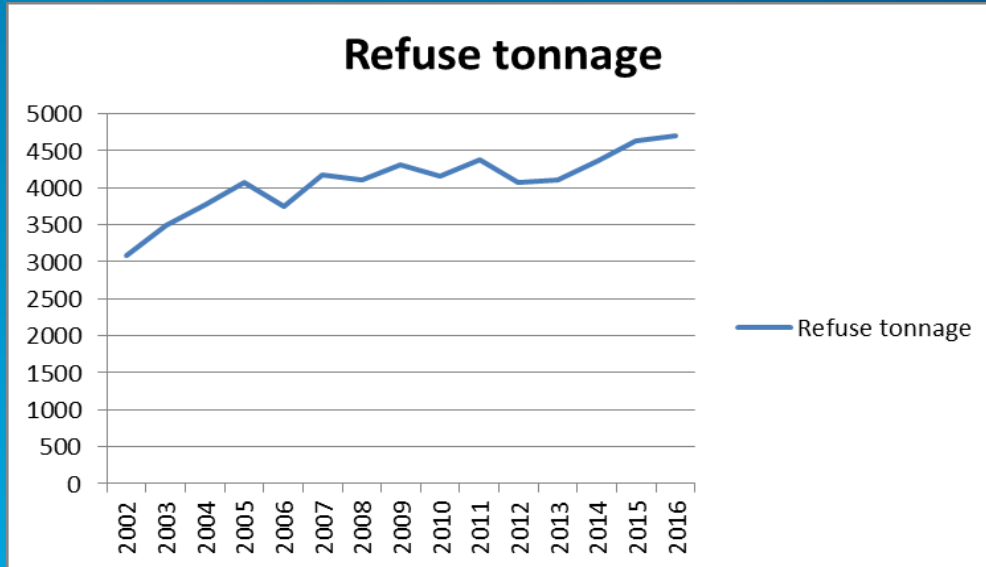
Project Overview

The project consist of controlling the access to municipal transfer stations and collecting real time user information and type and quantity of waste collected from each user. Each property was given an access card with a unique barcode number. A survey form was developed in Survey123.

The card is scanned at the transfer station through the Survey123 app to allow access and relevant data is recorded and uploaded at the end of each day.

Project Need

Transfer Stations – Refuse

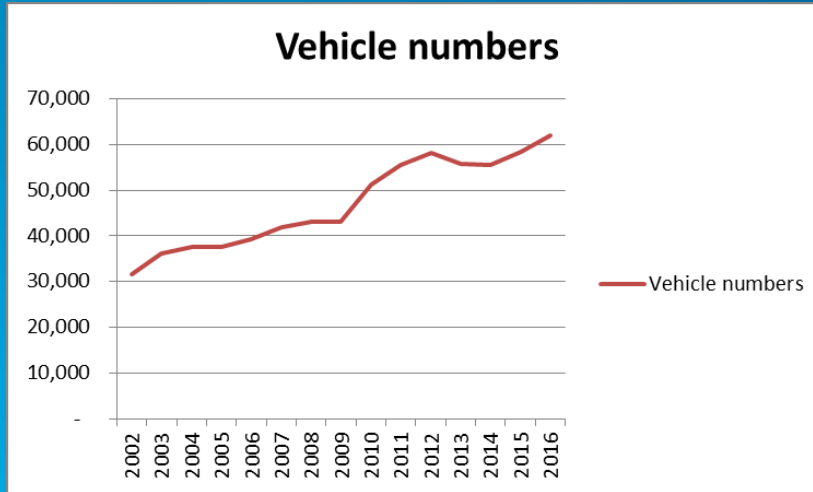


Refuse volumes grew by 52% from 2002 to 2016

Population growth for the same period is 21% from 12602 to 15342

Project Need

Transfer Stations- Number of vehicles



A growth of 95.5% from 2002 to 2016 against a population growth of 21% during the same period.

Project Goals

- **Control unauthorized access from outside the RM**
- **Prohibit commercial waste**
- **Understand daily and hourly traffic volumes**
- **Understand quantity and type of waste collected per household to design program to encourage recycling**
- **Provide a basis to implement User Pay system in future**

Project Implementation

- Council approved the project in May 2018
- Budget of \$12,000 funded from gas tax
- A total of 8000 properties on tax roll
- Property list compilation based on the property classes eligible to use transfer stations
 - Residential, farm, institutional
- Developed and tested the survey form in Survey123

Project Implementation Cont...

- **Printing/mailing of Access Cards**
- **Information/education for residents**
- **Hardware procurement**
- **Training attendants, creating online IDs**
- **Project trial started on Jan 8, 2019 until March 31, 2019**
- **Staff assigned to download and analyze information**

System Environment

- **Mini iPads/tablets or smart phone for required staff**
- **ArcGIS online access for the required number of staff**
- **Survey123 access and Survey Form**
- **Excel for analysing the data**

Survey App Screen Shots

TSAM-Oakwood

Current Date
March 14, 2019

Current Time
9:00 AM

Does Customer has Card?(Y/N)
 Yes
 No

Access Code
1117771

Verified User

User Type
Resi

Type of Vehicle
 Car or 1/4 Ton
 1/2 Ton or 4' Trailer
 3/4 Ton

TSAM-Oakwood

Verified User

User Type
Resi

Type of Vehicle
 Car or 1/4 Ton
 1/2 Ton or 4' Trailer
 3/4 Ton
 1 Ton
 8' Trailer
 3 Ton

Number of Garbage Bags
0

Number of Recycle Bags
0

Loose General Waste
 Yes
 No

TSAM-Oakwood

Pesticide Cans
 Yes
 No

Scrap Steel (estimated quantity in Kgs)
[Empty field]

Refrigerators
0

Used Oil (litres)
0

Number of Oil Filters
[Empty field]

Antifreeze (Liters)
[Empty field]

Tire without Rim
0

Project Achievements

- **Access is controlled now**
- **Data on daily and monthly traffic is reported to council now**
- **Type and quantity of waste collected is available property wise**
- **Paper records now not required for traffic counts and Eco Centre**
- **Capability to generate billing**
- **No cash handling or payment terminal required onsite**

Lesson Learned

- **More education for the users prior to implementation**
- **Double check property data**

There is a potential for other municipalities to use this system for managing their solid waste facilities.

Future Plans

- **Allow commercial properties to use transfer stations with fee**
- **Implement User Pay system for garbage**

The RM is hoping to better manage our transfer stations and increase waste diversion rates through this system

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