

COMMITTEE OF THE WHOLE
May 2nd, 2017

Report #PW-2017-11
Stephen Keeley – Public Works Manager

**WASTE & RECYCLING COLLECTION - SERVICE LEVEL & REASONS FOR
IMPLEMENTATION**

STAFF RECOMMENDATION(S)

It is recommended:

“THAT, Council approve the future household collection of waste and recycling from private roads at or near the end where they join the serviced road;

AND THAT, there is a Monday Collection of private roads following the May 24 weekend to the end of the Labour Day weekend;

AND THAT, Council approve the circulation of the Collection Information Card as attached in Appendix 2;

AND THAT, Council change the target start date to Fall of 2018.”

BACKGROUND

On March 7th, 2017 staff presented Report #PW-2017-07 - Landfill Master Plan - Transportation and Curbside Pickup to Committee of the Whole. As a result, Council directed staff to determine how soon roadside collection could be implemented. Staff had suggested October 2018 but it was possible implementation could take place as early as the start of 2018.

At present, of course, Waste & Recycling Collection (Collection) is not offered anywhere in the Township and all residents must pack up their waste, travel to the nearest landfill and place waste and recycling in the appropriate bins. There are safety concerns at the landfills that include slippery conditions, both mud and ice and wasps in the fall and actual traffic congestion problems year round. The intention is to offer Collection to all residents.

The focus of this report is to establish the extent of the increased service delivery offered by Collection along with the reasons and advantages to go from depot service to Collection. Also included is an information card (Attachment 2) to be distributed to the public informing them of the aspects of waste and recycling collection.

DISCUSSION

Roadside Waste and Recycling Collection - Service Delivery

Now that Council has authorized staff to proceed in implementation of Collection a number of decisions need to be made; the first of these being the level of service delivery.

There are 437 km of serviced roads made up of Ministry of Transportation, County and Municipal roads and 180 km of private roads. There are a total of about 2,300 permanent households, largely (but not totally), on the 437 km of serviced roads and approximately 1600 cottagers mostly on the private roads.

The approach to the collection service delivery question is best solved by first considering collection on serviced roads; data and calculations are shown in the Calculation of Collection Times (Attachment 1). The time in hours to cover the serviced roads is 53 hours and with 2 trucks that is 3.32 days per truck for all the serviced roads. Implicit to this approach is that all permanent residents on private roads will be serviced on one of Tuesday through Friday from after Labour Day to the May 24th weekend. During the rest of the year they would be picked up on Monday.

To a large extent the cottagers, located on private roads, will be leaving at the end of the weekend so Collection should happen on the Monday. If the length of the private roads are driven for Collection the time required is estimated at 92 hours. This is unmanageable for 2 reasons - each truck would log 20 hours on the Monday and the weekly work time would be over 45 hours. As well as time constraints there are physical challenges for Collection like dead ends and turn around points plus there are associated liabilities, insurance issues for private roads.

However, the time required on the Monday for private road collection at or near the end that joins the serviced roads is about 75 hours for the 2 trucks for the week. This appears to be entirely manageable as indicated by the limited data available.

This information leads to the recommendation of a Monday pickup at their end of private roads where they join the serviced roads from the May 24th weekend to Labour Day, followed by Tuesday through Friday collection on serviced roads.

Advantages of Collection at Tay Valley

Staffing and Site Suspension of Operation at Maberly and Stanleyville

The key to roadside waste & recycling collection (Collection) being financially viable is the reallocation of personnel. Through the suspension of operations of Maberly and Stanleyville waste sites potentially the same number of attendants can drive the collection trucks and keep one site open. It is expected that the Glen Tay Waste Site will remain open to the public two to three days per week, providing a number of essential activities not included with collection of waste and Blue Box. Thus, no additional personnel need be hired and the number of hours upon redeployment is increased marginally. This decision will be made at a future meeting.

Use of Compactor Assets

Suspending activity at the two depots adds a further advantage in that all the compactors can be moved to Glen Tay. Therefore, more compactors do not have to be purchased at this time. The compactor will handle a week of waste and in non-peak times they can go a full two weeks before moving the waste to the face of the landfill. This is provided that the compactors can be modified for top loading from the Collection trucks.

Remaining Activities at Open Site

The remaining activities at the open site at Glen Tay would be the Ontario Tire Stewardship program, Ontario Electronic Stewardship Program (Waste Electrical and Electronic Equipment or WEEE), metal drop off and large items such as mattresses and construction and demolition waste. Two other activities that greatly benefit the local area are the Reuse Centre and the bottle collection from the Kiwanis Club¹. Collection of Brush would have to be moved to the Glen Tay site from Stanleyville. These decisions will be made at a future meeting.

Environmental Advantages

There are hundreds, perhaps thousands, of vehicles driving to the waste sites each week. Collection would increase the service delivery and decrease the carbon footprint associated with the landfill by replacing the numerous vehicles with only 2 trucks. Collection, along with clear bags, affords more control as to what is entering the landfill reducing pollutants entering the site in addition to the convenience to taxpayers.

Pay as You Throw – Incentive to Reduce

The yearly debenture cost to purchase two Collection trucks,² the construction of ramps to properly unload the trucks and acquisition of enough bins to hold a week's worth of waste or the modification of existing compactors for top loading is \$82,700/y.³ With the consideration of a pay-as-you-throw practice such that the more waste a tax payer generates the more they contribute for collection provides an incentive to reduce.

Reduction in Net Operating Cost – Keeping Taxes Down

Using the same per bag cost as Rideau Lakes at \$2.50 per bag the cost for Collection would move from the aforementioned cost of \$82,700/y to a revenue position of \$182,000 as compared to the baseline. This is an actual overall reduction in net operating cost that can be used to keep taxes down in the future. It also allows residents to control their cost of waste disposal by providing an incentive to reduce.

¹ A total of \$11,000 in bottles was pickup last year and subsequently distributed to children's causes.

² According to Rideau Lakes a truck can pick up between 300 and 400 stops per day.

³ As per report PW 2017-07

Provincial Legislation

A future consideration of Provincial Legislation and in particular the Circular Economy Act is that whatever the recycling operation is when the Act is fully enacted means the producers need to take on 100% of the cost of the recycling Collection. If Collection is in effect the producers, in theory, would have to maintain that collection service. If, on the other hand Collection in the Township is not in effect it would be very difficult to move to a higher level of service delivery at Tay Valley. It is to Tay Valley's advantage to have the Collection process in effect prior to the full implementation of the already passed Act.

Pubic Communication – Collection Information Card

One of the disadvantages of going to Collection is that it is a large change and not everyone might embrace that change despite its advantages. To assist with understanding the change a Collection Information Card has been produced to distribute freely to the residents. The information card covers the advantages and conclusions listed herein, and answers the frequently asked questions that have been received in the last few weeks. It is essential that we distribute this information to the public ASAP.

Start Date Target

Finally, given that the above mentioned information card can be distributed to residents and Collection routes can be established early in the summer this leads to public meetings late in August of 2017. However, we at that time considering the present start date target of January 2018, need to be fully invested in capital items like trucks, ramps, bins and or compactor modifications and the layout of the landfill. There is little or no room for change at that time in response to public opinion.

Landfill Modification

Further to that, the landfill has to be modified to best accept the unloading of trucks either on the landfill footprint or potentially on off-site property - timing is tight to plan and accomplish this successfully. Moving implementation to the fall of 2018 would allow thorough planning, consideration of taxpayer input and smooth transition from Depot to Collection.

Start Date Target Recommendation

The Waste Management Working Group recommends to Council that the start date for Waste and Recycling Collection be targeted for October 2018 as originally recommended by Report #PW-2017-07.

FINANCIAL CONSIDERATIONS

Going to Collection is quite possible for Tay Valley Township because of a number of intrinsic advantages mentioned earlier. Reallocation of personnel and re-deployment of compactor assets and the levy already in place contributes to a relatively inexpensive move to Collection; 1.5 % on the levy. Plus, this relatively modest increase can be offset by user fees for bag tags, making the entire endeavour a rare increase in service delivery with a net cost

reduction.⁴ Price setting for bag tags can make this a cost saving endeavour, yet still being more than competitive with neighbouring communities that have Collection.

CONCLUSIONS

1. It is feasible for Tay Valley, with two small waste and recycling collection trucks, to service the entire community, provided private roads are collected at or near the end that joins the serviced road.
2. Driving the private roads for collections is not feasible at this time.
3. Permanent residents on private roads will be serviced with collection on Tuesday through Friday and on Monday from May 24th to Labour Day. During the rest of the year residents on private roads will be serviced on Monday.
4. Collection can be implemented relatively inexpensively as personnel can be reallocated.
5. Suspending activity at the two depots adds a further advantage in that all the compactors can be moved to Glen Tay.
6. Collection would increase the service delivery and decrease the carbon footprint associated with the landfill by replacing the numerous vehicles with only 2 trucks.
7. Reduction in Overall Net Operating Cost – Keeping Future Taxes Down.
8. Prepares the Township for Future Provincial Legislation.
9. The Waste Management Working Group endorses the draft report to Council on Waste and Recycling Service Levels & Reasons for Implementation and recommends to Council the approval of the recommendation.
10. The Waste Management Working Group recommends to Council that the start date for Waste and Recycling Collection be targeted for October 2018 as originally recommended by report PW#2017-07.

OPTIONS CONSIDERED

Option #1 (recommended) – Council approve the future household collection of waste and recycling from private roads at or near the end where they join the serviced road and that there is a Monday collection of private roads following the May 24 weekend to the end of the Labour Day weekend and that Council approve the circulation of the Collection Information Card (Attachment 2) and that Council change the target start date to Fall of 2018.

Option # 2 – Consider other options.

⁴ As per report PW 2017-07

ATTACHMENTS

- i) Calculation of Collection Times Appendix
- ii) Collection Information Card

Prepared and Submitted By:

Approved for Submission By:

Original Signed

Original Signed

**Stephen Keeley,
Public Works Manager**

**Larry Donaldson,
Chief Administrative Officer**

Attachment 1- Calculation of Collection Times

The data in Table 1 below is from the CGIS system that shows there are 437 km of serviced roads made up of Ministry of Transportation, County and Municipal roads, 180 km of private roads and 35 of Non-Maintained and so called Other like provincial park camp roads etc.

Table 1 Tay Valley Roads

Road Type	Number of Roads	Length (km)	Running Total (km)
MTO	1	28	28
County	11	141	169
Municipal	98	268	437
Private	261	180	617
Non Maintained	9	19	636
Other	10	15	651

There are a total of 2,300 permanent households, largely (but not totally), on the 437 km of serviced roads equating to an average linear density of households (hh) per km of 5.1 (hh/km). Some preliminary work on average drive speed, see below, Figure 1, indicates that at a linear density of 5 hh/km the average speed is just above 25 km/h.⁵ If that is the case, then the time in hours to cover the serviced roads using a conservative 20km/h equates to 22.5 h. Although not shown on this graph the max speed on private roads is just under 25 km/h and the collection average speed is 10km/h or slower.

The time for all routes for the week can be characterized by:

$$\text{Drive (h/w)} + \text{Pickup (h/w)} + \text{Return (h/w)}^6 * 2 + \text{Emptying (h/w)}$$

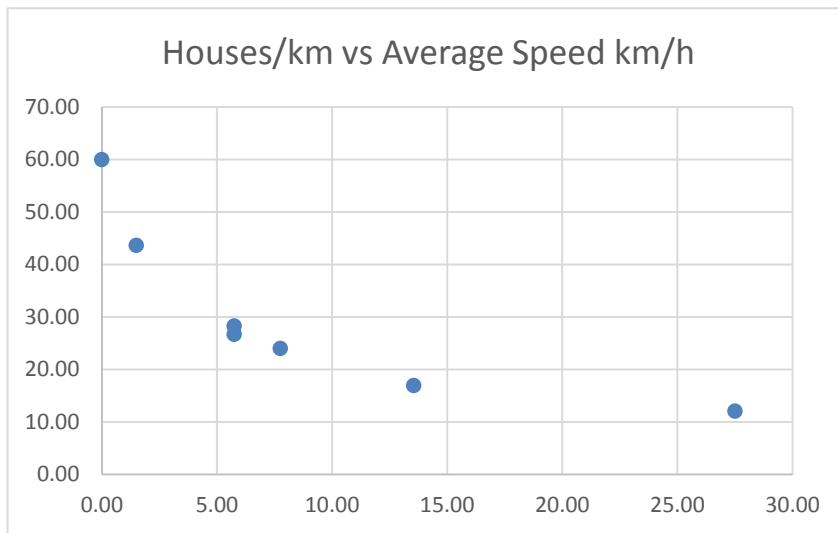
According to other users of this sort of collection truck at approximately 100 homes it will have to return to the landfill to empty. The return trip averages 60 (km/h) at an average distance of 15km therefore return, empty and re-return time is estimated at 0.5 hours⁷. With all the above considered the total truck time is 53 hours and with 2 trucks that is 3.32 days per truck for all the serviced roads. Implicit to this approach is that all permanent residents on private roads will be serviced on one day Tuesday through Friday from after Labour Day to the May 24th weekend.

⁵ Of course it is actually closer to 25 but using 20 gives a margin of safety

⁶ Twice the return time accounts for the drive to the site and then back to the last driveway picked up.

⁷ The 30 minute estimate is conservative because the first and last returns of the day are half that long.

Figure 1



To a large extent the 1600 cottagers will be leaving at the end of the weekend so collection should happen on the Monday for private roads. Permanent residents on private roads now will be picked up on Mondays. There are two ways to consider collection on private roads either at or near the end where they join the serviced road or to actually drive the length of the private road in a similar fashion to collection on serviced roads.

First, to consider the time required on the Monday for private road collection at or near the beginning that joins the serviced roads. There is approximately 300 km of driving to get to the private roads⁸ or 7.5 hours of driving. The pickup time is half of what it normally would be because the driver has to exit and enter the truck only once to pick up numerous bags. Using the same return and empty estimates as in the serviced roads residents a total Monday time is 22h or about 75 hours for the 2 trucks for the week. This appears to be entirely manageable as indicated by the limited data available.

If, on the other hand, the entirety of the private roads are driven for collection the time increases considerably. Considering an average speed of 10 km/h for collection noted above and the same pickup time as serviced roads and accounting for return occurrences the time for the Monday alone would be over 39 hours. The time for the week for serviced roads and private roads is now 92 hours. This is unmanageable for 2 reasons - each truck would log 20 hours on the Monday and the weekly work time would be over 45 hours.

⁸ Not all the roads of the township have to be traversed to get to the private roads i.e. private roads are prevalent in lake areas.

Table 2 Estimated Times for Routes

	Serviced Roads	Start of Private Roads	Driving Private Roads
Route Estimates	Winter	Summer	Summer
		Mondays	Mondays
Houses (H)	2300	1600	1600
Serviced Roads (km)	437		
Linear Density H/km	5.26		
Drive time			
km	437	300	180
Ave speed (km/h)	20	40	10
Drive Time (h)	21.85	7.5	18
Pickup time			
Stop Duration (min)	0.5	0.25	0.5
Total Stops	2300	1600	1600
Total time (min)	1150	400	800
Pickup Time (h)	19.17	6.67	13.33
Return and Empty			
Return Occurrences	23.00	16.00	16.00
Time /Occurrence (h)	0.50	0.50	0.50
Return Time (h)	11.50	8.00	8.00
Time/week (h)	52.52	22.17	39.33
Total Time/Week (h)		74.68	91.85

Please keep in mind this is very limited data but this information leads to the recommendation of a Monday pickup at their end of private roads where they join the serviced roads from the May 24th weekend to Labour Day, followed by Tuesday through Friday collection on serviced roads. Monday collection could be augmented by the use of students to retrieve the furthest private road collections.



Waste & Recycling Collection

In 2016 Township staff prepared a Landfill Master Plan which reviewed the Township's Waste Site operations and costs in extensive detail. The Landfill Master Plan revealed the feasibility of providing Waste & Recycling Collection. Staff presented their findings to Council on August 21st, 2016 and then in Report #PW-2017-07 on March 7th, 2017. Council passed a resolution directing staff to plan for the implementation of Waste & Recycling Collection with a target start date of January 2018.

WHAT DOES THIS MEAN FOR YOU?

Increase in Service at Low Cost

The Township will be providing a Waste & Recycling Collection Program on a user pay system. Residents will only pay for the waste they produce. Rather than an additional set fee on tax bills, residents will purchase the amount of bag tags they require.

Age Friendly & Lifestyle Convenience

One of the priority actions & goals of the Township's Age Friendly Community Planning Report is the need for waste and recycling collection. Waste & Recycling Collection will eliminate the need for individuals to haul waste and recycling to the waste site.

Reduced Greenhouse Gas Emissions

Waste & Recycling Collection will reduce the amount of vehicles travelling to the waste sites. Rather than thousands of vehicles, two collection trucks will pick up your waste and recycling. This will reduce the Township's carbon footprint and protect our planet for future generations.

QUESTIONS & ANSWERS

What?

Tay Valley Township is currently in the process of implementing Waste & Recycling Collection.

When?

The Township's target start date is January 2018.

Where?

Waste & Recycling Collection will be provided to all Township residents. Residents living on serviced roads (Provincial, County and Township) will receive pickup at the end of their driveway. Collection on serviced roads will take place Tuesday through Friday. Residents living on private roads will receive pickup near the beginning of their road where the private road joins a serviced road. Collection of private roads will take place on Monday from the May long weekend to the Labour Day weekend. Permanent residents located on private roads will receive collection on one of the Tuesday through Friday routes after the Labour Day weekend until the May long weekend.

Why?

Waste & Recycling Collection greatly expands service delivery to residents at limited cost and makes the Township a more attractive place in which to live, grow and remain. Additionally, the implementation of Waste & Recycling Collection prepares the Township for new Provincial Legislation. Finally, Waste & Recycling Collection will reduce the Township's carbon footprint.

How?

The Township currently operates a 4 stream recycling program. This will be replaced with a 2 stream program, making it easier for you to recycle! Waste will be picked up each week and recycling on a bi-weekly schedule by Township staff. Fibers (cardboard/paper) will be picked up one week and containers (plastic & glass containers/cans) the next week.

Stay Tuned for More Information

A Public Open-House will be held at the end of the summer for you to view the collection routes and ask staff questions.