Transportation Incentive Model – White Paper

Adjusting to Changes in the Assumptions Underlying the Model

2013 Proposed Rate Changes

Contents

Original Program Design

Transport Cost Components

Incentive Rates are derived from three collection cost components:

- ***Local collection costs*** which includes delivery costs to either processing facilities (where the facility is located within or proximate to the collection zone) or to a sorting or consolidation yard;
- ***Sorting yard costs*** that include the costs of sorting and reloading tires for delivery to a domestic processing facility;
- ***Onward delivery costs*** from a sorting yard to a domestic processing facility

Local Collection Costs Components

Zones are defined based on collection density or efficiency of collection:

- ***Truck type***
- ***Average # tires per load***
- ***Average load/unload time***
- ***Driver/helper wage rates***
- ***Average kilometres driven (route plus to drop facility)***
- ***Truck operating costs per kilometre***
- ***Administration & overhead allocation***

Sorting Yard Cost Components

Assumed minimum annual volume for an efficient yard:

- ***Urban Yard – 1,000,000 PTE***
- ***Rural Yard – 500,000 PTE***
- ***Average re-load time***
- ***Labour wage rates***
- ***Annual equipment costs***

- ***Annual facility/land costs***

Final Transport Cost Components

Assumed average distance to processing facilities:

- ***Deliveries assumed to be to the nearest processor with reliable capacity***
- ***Ontario transport operating costs per Km from Transport Canada Truck Operating Cost Surveys adjusted for changes to the transportation component of the Consumer Price Index***

ADJUSTING THE MODEL

To date there have been no significant adjustments to the OTS Transportation Incentive model and core assumptions since 2009. This stability was seen to be prudent given the disruptive impact of the implementation of the Used Tires Program and the scheme of incentives it introduced; the entry into the market of new Transportation service providers and the progressive changes in the Processing capacity landscape in Ontario. As a result Transportation Incentive rates have been maintained at higher rates than would otherwise have been indicated by the market changes under the program to date.

For 2013 however, faced with a more stable and mature Ontario market for used tires, OTS is seeking to adjust the assumptions in the Transportation Incentive rate model to reflect the actual market conditions. These changes are based on data collected by OTS through claims' filings, discussions with stakeholders and an examination of best practices in other jurisdictions.

Local Collection Costs

For the 2012 rates the cost components of driver/helper wage rates, truck operating costs per kilometre and administration & overhead allocation were adjusted upward by approximately 8% based on a review of these costs versus the original costs in 2009 which resulted in a net increase of 4% for the non-fuel components of the local collection rates . No adjustments to these cost elements are proposed for 2013. The fuel component of truck operating costs per kilometre are adjusted quarterly based on changes to the average fuel costs as tracked by the Ontario Ministry of transportation.

There have been no adjustments to the truck type, average # tires per load, average load/unload time, average kilometres driven (route plus to drop facility) prior to 2013. Based on three years of data the average # of tires collected per load for those collection zones that are served primarily by a 5 ton truck was increased by 10% which results in a decrease in the average credit per tire. The net impact of this changes is approximately a 3% decrease overall in the TI rates. The impact is greater for zones close to processing facilities, particularly GTA and SouthCentral.

Sorting Yard Cost Components

For the 2012 rates the cost components of labour wage rates and equipment/facility and land costs were adjusted upward approximately 4% based on a review of these costs versus the original cost in 2009. No adjustments to these cost elements are proposed for 2013. No adjustments have been made to the average yard volumes, average re-load times in the past and none are proposed for 2013. Adjustments to the percentage of tires assumed to go through sorting yards have been made each year based on data collected by the program and overall this has resulted in a decrease of about 40% to the assumed usage of sorting yards. This has had a net cumulative impact of reducing TI credit by slightly less than 8% over the first three years of the program and forecast into the 2013 year. The 2013 impact is a less than 1% decrease as the collection patterns appear to have stabilized.

Final Transport Cost Components

The fuel component of the operating costs per km are adjusted quarterly based on changes to the average fuel costs as tracked by the Ontario Ministry of transportation. The remaining elements of transport operating costs were adjusted for the 2012 year based on changes since 2009. No adjustments are proposed to these cost elements for 2013. The cost changes for these non-fuel components of final transportation costs have changed 1.9% in the past year and would have a net effect of an increase of approximately 1.4% on the final transportation cost components of the rates.

Each year since the commencement of the program the assumed end processing destination of scrap tires has been adjusted. These adjustments lag the actual processing capacity in the province to allow for a buffer for changes in capacity.

In 2009 when the program commenced all tires were assumed to go a central collection point in Milton. There was little consistent processing capacity in the program at that time and what di existing in the Greater Toronto, Brantford and Brampton areas. In consultation with the industry the model was designed around a single fictional facility in Milton. In 2010-2011 based on the experience for the pervious years and estimates for the following year tires from each zone were assumed to go to the nearest facility with reliable capacity in one or more of five general processing zones: Moose Creek, Chatham, Brantford, Brampton and Toronto. Efforts were made to not overestimate the processing capacity of any facility and excess generation was assumed to go to the Brantford/GTA areas in equal proportions as they were the highest volume processing areas and that is where the rates for redirects to out of province facilities were calculated from. Part way through the year it became evident that the facility in Moose Creek would not meet its estimated processing capacity and adjustments were made to the model resulting in increased TI rates in the Southeast collection zone.

In preparation for the 2012 year, a number of new facilities came in existence but processing capacity in these facilities was erratic and unreliable. This included additional capacity in Brantford and newly recognized capacity in Sturgeon Falls. No adjustments to the assumed five general processing zones were made to recognize these changes to ensure these facilities had time to stabilize before processors were assumed to be able to deliver there on a reliable basis.

For 2013 most of this capacity has been proven and reliable and the adjustment to expected end processing capacity locations was introduced into the model. The following tables illustrate the changes in assumed end processing capacity by tire by showing where tire originating in each zone are expected to be processed based on the nearest facility with reliable capacity. The originating collection zone is shown on the left side of the charts and the processing destination zone is shown along the top of the charts. The percentage of the tires originating in each collection zone that is processed in each processing zone is shown in the row next to each collection zone. The chart on the left for each tire type shows the assumptions for the 2011 and 2012 years and the chart on the right shows the assumptions for the 2013 year.

PLT											
2011-12						**2013**					
	North	**Southeast**	**SouthCentral**	**GTA**	**Southwest**		**North**	**Southeast**	**SouthCentral**	**GTA**	**Southwest**
North	0%	0%	35%	65%	0%	**North**	75%	0%	10%	15%	0%
Southeast	0%	20%	29%	51%	0%	**Southeast**	0%	65%	25%	10%	0%
SouthCentral	0%	0%	75%	25%	0%	**SouthCentral**	0%	0%	60%	40%	0%
GTA	0%	0%	72%	28%	0%	**GTA**	0%	0%	75%	25%	0%
Southwest	0%	0%	70%	0%	30%	**Southwest**	0%	0%	15%	45%	40%

type.

These PLT adjustments were based on the following major changes in processing capacity:

- Northern processing capacity recognized for first time in the Sturgeon Falls area
- Significant increase in reliable southeast processing capacity recognized in the Moose Creek area
- Southwest processing capacity increased slightly spread across a small number of facilities

MT											
2011-12						2013					
	North	Southeast	SouthCentral	GTA	Southwest		North	Southeast	SouthCentral	GTA	Southwest
North	0%	50%	50%	0%	0%	North	65%	10%	25%	0%	0%
Southeast	0%	100%	0%	0%	0%	Southeast	0%	100%	0%	0%	0%
SouthCentral	0%	0%	77%	23%	0%	SouthCentral	0%	0%	100%	0%	0%
GTA	0%	033	60%	7%	0%	GTA	0%	0%	100%	0%	0%
Southwest	0%	0%	37%	0%	63%	Southwest	0%	0%	30%	0%	70%

These MT adjustments were based on the following major changes in processing capacity:

- Northern processing capacity recognized for first time in the Sturgeon Falls area
- GTA/Southcentral processing capacity has centralized in Brantford area with an overall overcapacity
- Southwest processing capacity increased slightly spread across a small number of facilities

OTR 2011-12	North	Southeast	SouthCentral	GTA	Southwest	2013	North	Southeast	SouthCentral	GTA	Southwest
North	0%	100%	0%	0%	0%	North	0%	100%	0%	0%	0%
Southeast	0%	100%	0%	0%	0%	Southeast	0%	100%	0%	0%	0%
SouthCentral	0%	90%	0%	0%	10%	SouthCentral	0%	0%	100%	0%	0%
GTA	0%	68%	0%	0%	32%	GTA	0%	0%	100%	0%	0%
Southwest	0%	0%	0%	0%	100%	Southwest	0%	0%	0%	0%	100%

These OTR adjustments were based on the following major changes in processing capacity:

- Southcentral processing capacity recognized for the first time
- Southcentral and GTA tires now go to Southcentral processors instead of to Moose Creek

OVERALL RATE IMPACTS

Average TI Rate Decreases

- *PLTs – 15%*
- *MTs – 13%*
- *SOTRS – 12%*
- *LOTRS – 11%*

Most decreases are in the 0-26% rates with a small number of exceptions for zones that were added to the GTA zone that range up to 50% to bring them into line with the proximate zones in their area.

CONSOLIDATING THE ZONES

One additional change to the model was made to improve the consistency of rates between neighboring zones; after the rates for the individual FSA were calculated the 523 individual FSAs were consolidated into 42 mini FSA zones to minimize anomalies between these neighboring zones. The weighted average rates were applied to the consolidated mini-zones based on the first three years of collection data. Because of the weighted average approach used there was no decrease in the total TI payable based on this model but rates were now leveled for all FSAs in each mini-zone. To minimize any distortion in this process zones were only grouped with similar zones whose rates fid not vary by greater than a 5% variance on average with exceptions up to 25% incurred in three northern mini-zones. The changes to the assignment of individual FSAs to the five major collection zones is illustrated in the attached document *revised FSA zone mapping 2013* and the 42 consolidated mini-zones are illustrated in the document *Mini Zones* for reference. It is possible and likely that further consolidation of these zones will be completed to further eliminate and smooth variances between adjacent zones and simplify the application of rates in the industry, while still recognizing variances between regions.