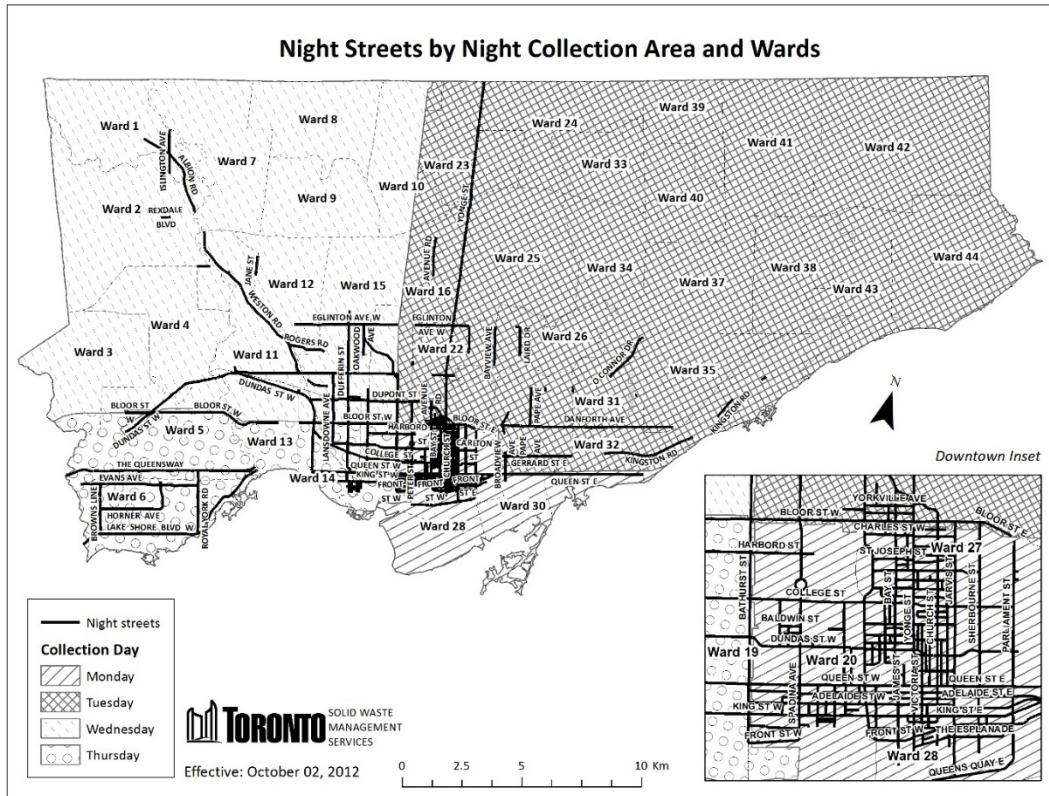


# Appendix A: Collection Cost Review Supporting Figures and Tables

**Figure i - Nights Collection Routes**



**Table I – Curbside Collection Stops by District and Customer Type (2014)**

Customer Type	District 1	District 2	District 3	District 4	Nights
Single Family	65,587	150,901	114,198	119,402	7,087
Multi-Residential	129	818	394	59	381
Commercial	172	1,951	911	1,576	14,254
ABCCs	84	263	176	82	155
Non-Residential	62	264	188	150	486
Residential Unit Above Commercial (RUAC)	23	1,248	549	171	9,438
<b>Total</b>	<b>66,057</b>	<b>155,445</b>	<b>116,416</b>	<b>121,440</b>	<b>31,801</b>
<b>Total Curbside Stops</b>	D1, D2, D3, D4 <b>459,358</b>				D1, D2, D3, D4 & Nights <b>491,159</b>

## Contracting Out Options - Additional Analysis

In addition to the basic analysis outlined in the report, a more detailed analysis of a range of scenarios was undertaken to provide an estimated range of costs or savings with further contracting out east of Yonge Street. External advice was sought to undertake this analysis and it was completed by a subject matter expert from RWDI Consulting Engineers & Scientists ("RWDI").

The most significant factors affecting a decision to further contract out are:

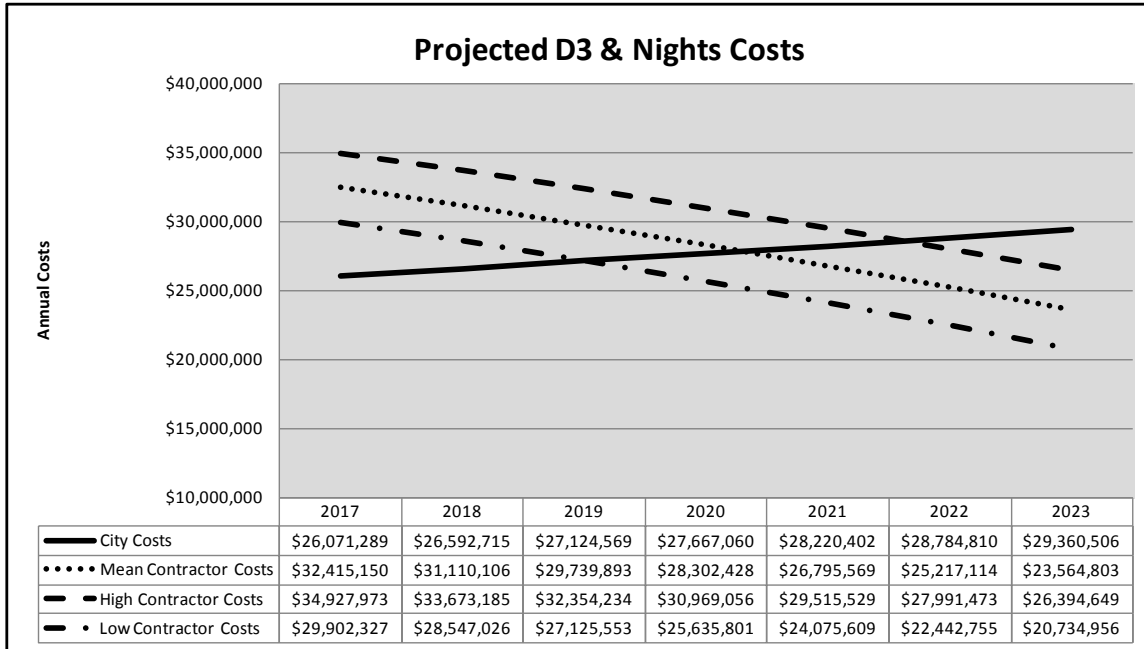
- Short term cost to redeploy displaced staff
- Uncertainty in private sector pricing

Another consideration is the cost and effort required to undertake a procurement process. The analysis assumes that any contracts would start in January 2017 based on an 18 month timeframe to develop, issue, and award a contract. Procurement costs have not been included in the analysis.

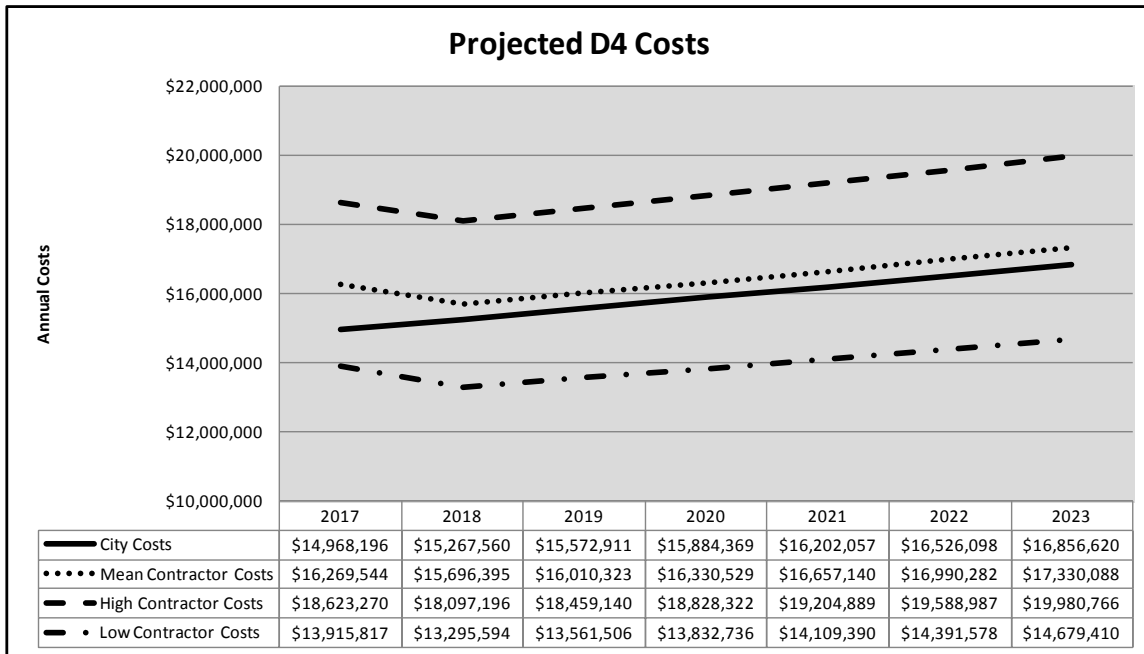
The analysis of the potential future costs undertaken by RWDI is presented in Figures ii, iii, iv and Table II, based on financial information provided by the City of Toronto and on the following assumptions:

- Variance of potential bids going forward based on a standard deviation analysis of bids undertaken in 2014 (District 1) and 2011 (District 2)
- Seven year forecast of costs from 2017 to 2023, based on escalation of 2014 actual costs from SAP
- 2% saving for the years 2016 and 2017 in the in-house costs
- All escalations beyond 2015 would be at 2%
- Contract Management costs have been added
- Savings in annual in-house fleet reserve contribution based on 100% replacement of in-house fleet
- 2% increase for in-house costs for potential Long Term Disability costs that may be incurred for the years 2017 to 2023 (estimated based on 2014 actuals)
- Affected staff can be redeployed at a rate of 25 employees per year, referred to as the Staff Deployment Rate
- 3% discount rate for Net Present Value comparison of options

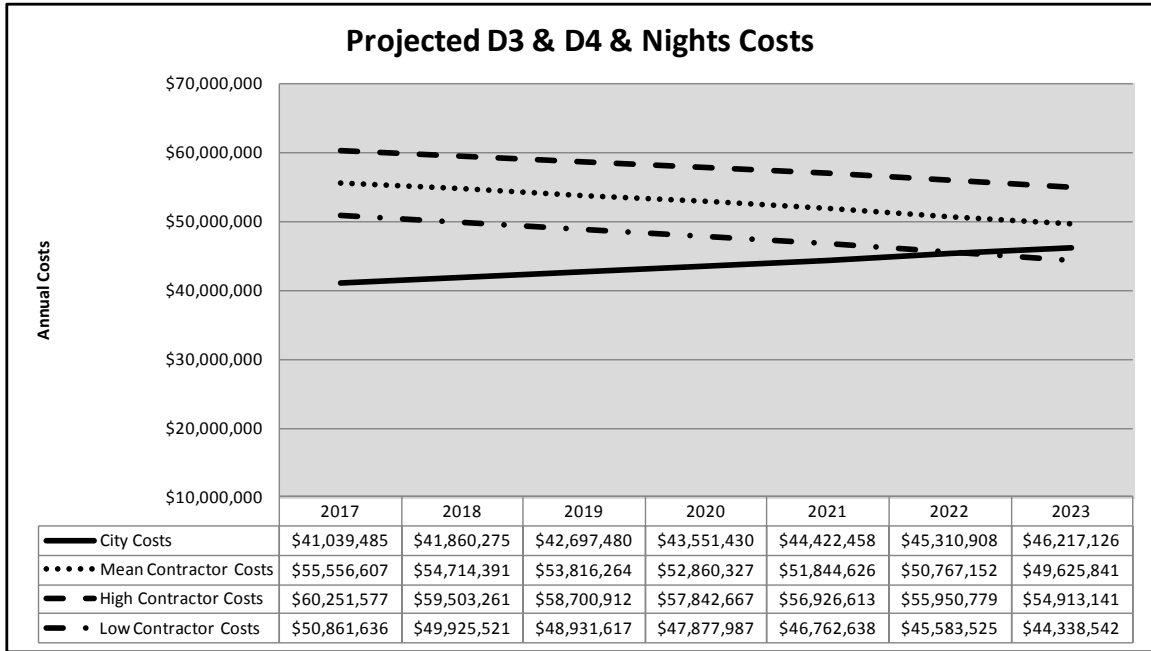
**Figure ii- Contracting out District 3 and Nights**



**Figure iii-Contracting Out District 4**



**Figure iv - Contracting Out East of Yonge Street**



Net Present Value Analysis

A Net Present Value Analysis of the scenarios was carried out based on bid price variances and Staff Deployment Rate (SDR) variances, compared to City costs (all in-house related costs). The results, provided in Table II, indicate that if the winning bid comes within the average to high end, it is more financially attractive to continue with in-house collection. In all cases, full privatization east of Yonge is more costly due to the high staff redeployment costs.

**Table II - Seven Year Net Present Value Analysis of Contracting Out Options**

Potential Cost /	22 Staff Deployment Rate (SDR)		
(Savings)	Low	Mean	High
D4	\$ (11,833,105)	\$ 3,704,651	\$ 19,242,408
D3 & Nights	\$ (6,891,941)	\$ 9,696,065	\$ 26,284,070
D4, D3 & Nights	\$ 32,657,450	\$ 63,650,563	\$ 94,643,676

Potential Cost /	25 SDR		
(Savings)	Low	Mean	High
D4	\$ (11,907,115)	\$ 3,630,642	\$ 19,168,398
D3 & Nights	\$ (12,142,334)	\$ 4,445,672	\$ 21,033,677
D4, D3 & Nights	\$ 27,407,057	\$ 58,400,170	\$ 89,393,283

Potential Cost /	28 SDR		
(Savings)	Low	Mean	High
D4	\$ (11,907,115)	\$ 3,630,642	\$ 19,168,398
D3 & Nights	\$ (16,901,731)	\$ (313,725)	\$ 16,274,280
D4, D3 & Nights	\$ 22,156,664	\$ 53,149,777	\$ 84,142,891