OXFORD ECONOMICS

TARIFF-INDUCED CONSTRUCTION COST ESCALATION ANALYSIS

MUNICIPALITY MODELLING TOOL

AMO

Model guide and overview

May 2025

Municipality Modelling Tool

Primary objective

A user-friendly Excel model that will help individual municipalities make an initial estimate of the expected impact of tariffs on their construction budget for FY26 and FY27.

Key User Personas:

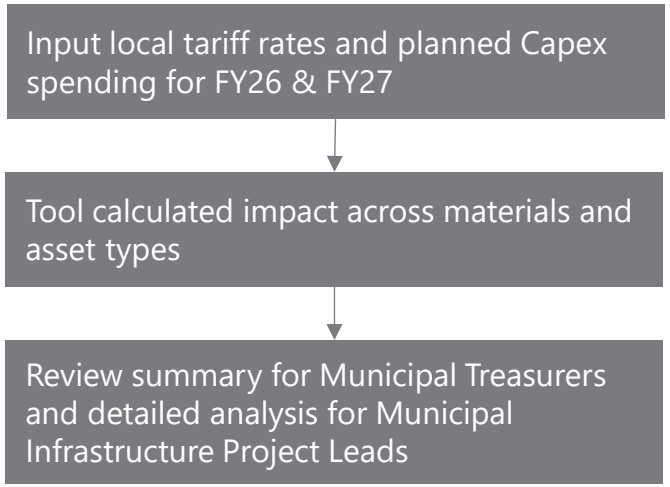
Municipal Infrastructure Project Leads who will use the tool's analysis to inform project decisions. They will support their teams to input data, analyse detailed results and interact with tariff inputs and Capex data entry.

Municipal Treasurers who need clear summaries for budget planning and focus on the aggregate impacts and key takeaways.

Key Benefits:

- **Customisable:** Each municipality inputs their own data for personalized estimates.
- **User-friendly:** Provides both high-level summaries and detailed breakdowns.
- **Time-saving:** Quickly generates initial tariff impact assessments.
- **Comparative:** Shows which factors have the highest contribution to cost increases.

How It Works



What’s in – what’s out?

Use cases included

Early Impact Overview
Quickly assess potential tariff effects on construction costs with approximate percentage increases to support early budget framing.

Preliminary Budget Discussion
Use initial estimates to guide budget conversation, flag at-risk projects and begin stakeholder engagement with ballpark figures.

Preliminary Tariff Screening
Enter basic tariff rates and estimated Capex to generate early-stage impact assessments and support planning decisions.

Initial Comparative Analysis
Identify which construction materials and asset types are more exposed to tariffs to prioritise detailed review.

Scenario Testing
Explore alternative tariff scenarios to estimate cost ranges, document assumptions, and identify projects that may require further analysis.

Use cases excluded

Estimate the impact on maintenance and operating budgets
Does not estimate effects on maintenance or operating budget – the tool is limited to the impact on capital expenditure budgets only.

Supply substitution
Does not evaluate potential supply substitution from domestic or alternative import sources due to the complexity and project-specific inputs required.

Impact of indirect effects
Does not consider other indirect impacts (i.e. exchange rate shifts) – instead the model focuses on the direct effect of the import tariffs

Model overview

Home page

Association of Municipalities of Ontario

OXFORD ECONOMICS

Municipality Modelling Tool

Estimating Tariff Impact on Municipal Construction

A user-friendly tool to help individual municipalities make an initial estimate of the expected impact of tariffs on their construction budget for FY26 and FY27.

Please navigate this workbook using the links below

Section	Tab	Description
Inputs >>>		
	Core Inputs Interface	*Input planned Capex spending by asset category and local tariff rates*
	Optional Project-Level Input	*Additionally, if you'd like to customize your input with project-level details, fill out the table below — this is entirely optional.*
	Glossary	*A consolidated list of descriptions for terms and categories used throughout the tool*
Outputs >>>		
	Summary	*Estimated tariff impact by asset and material type*
	Detailed Breakdown	*Detailed breakdown of estimated tariff impact by asset and material type*
	Downloadable Outputs	*A machine readable output table that can be imported into other visualisations or software packages*
Model >>>		
	Model Calcuations	*This sheet features all calculations used to estimate all outputs*

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End of Home Page

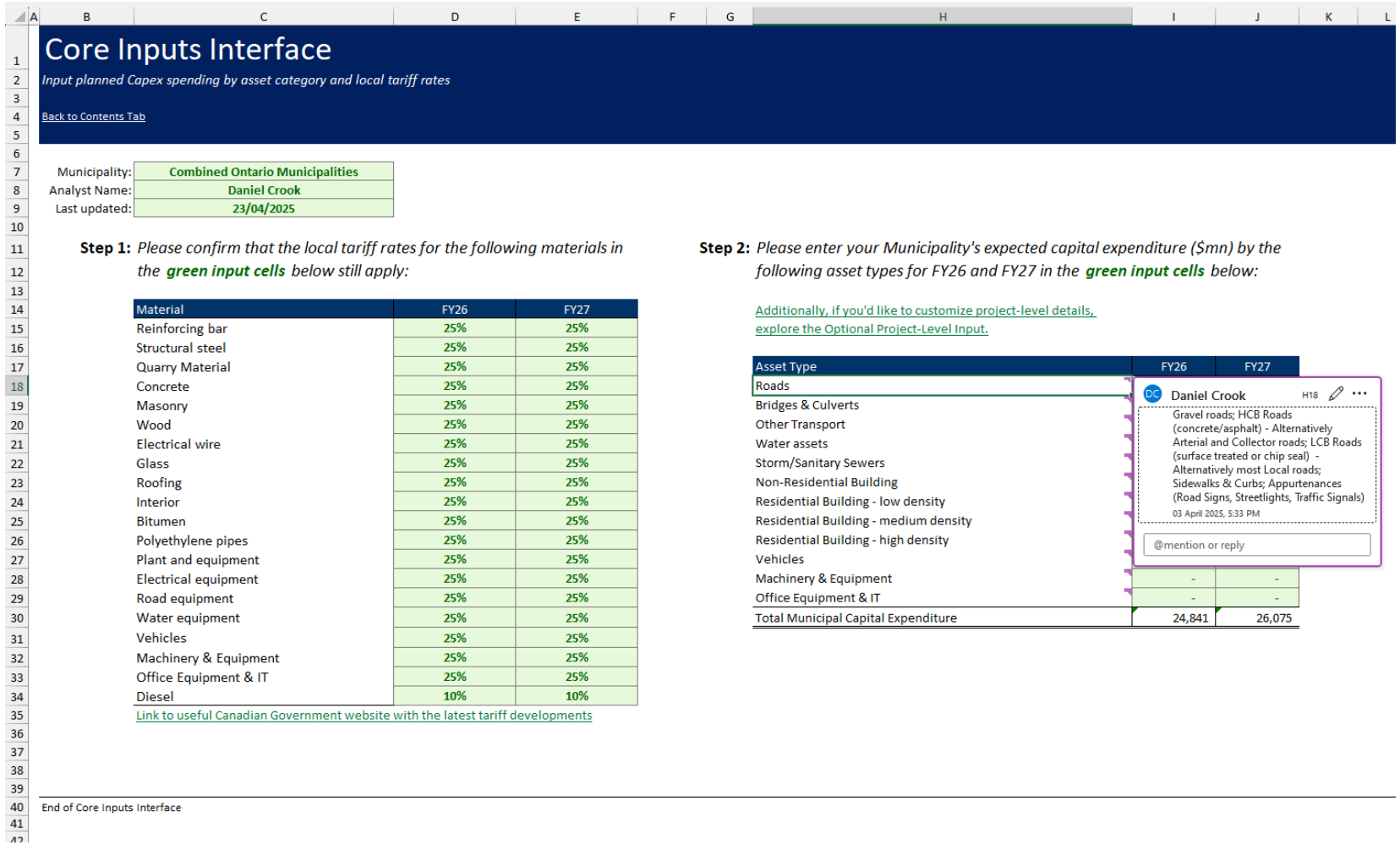
Purpose

Provides the user key information and a centralised place to help navigate the tool

Key Features

- Model name and purpose
- Model navigation links & descriptions
- Contact details for key parties involved (AMO & Oxford Economics)

Core Inputs Interface



Core Inputs Interface

Input planned Capex spending by asset category and local tariff rates

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Municipality:	Combined Ontario Municipalities
Analyst Name:	Daniel Crook
Last updated:	23/04/2025

Step 1: *Please confirm that the local tariff rates for the following materials in the **green input cells** below still apply:*

Material	FY26	FY27
Reinforcing bar	25%	25%
Structural steel	25%	25%
Quarry Material	25%	25%
Concrete	25%	25%
Masonry	25%	25%
Wood	25%	25%
Electrical wire	25%	25%
Glass	25%	25%
Roofing	25%	25%
Interior	25%	25%
Bitumen	25%	25%
Polyethylene pipes	25%	25%
Plant and equipment	25%	25%
Electrical equipment	25%	25%
Road equipment	25%	25%
Water equipment	25%	25%
Vehicles	25%	25%
Machinery & Equipment	25%	25%
Office Equipment & IT	25%	25%
Diesel	10%	10%

Link to useful Canadian Government website with the latest tariff developments

Step 2: *Please enter your Municipality's expected capital expenditure ($mn) by the following asset types for FY26 and FY27 in the **green input cells** below:*

Additionally, if you'd like to customize project-level details, explore the Optional Project-Level Input.

Asset Type	FY26	FY27
Roads		
Bridges & Culverts		
Other Transport		
Water assets		
Storm/Sanitary Sewers		
Non-Residential Building		
Residential Building - low density		
Residential Building - medium density		
Residential Building - high density		
Vehicles		
Machinery & Equipment	-	-
Office Equipment & IT	-	-
Total Municipal Capital Expenditure	24,841	26,075

Daniel Crook H18

Gravel roads; HCB Roads (concrete/asphalt) - Alternatively Arterial and Collector roads; LCB Roads (surface treated or chip seal) - Alternatively most Local roads; Sidewalks & Curbs; Appurtenances (Road Signs, Streetlights, Traffic Signals)

03 April 2025, 5:33 PM

@mention or reply

End of Core Inputs Interface

Purpose

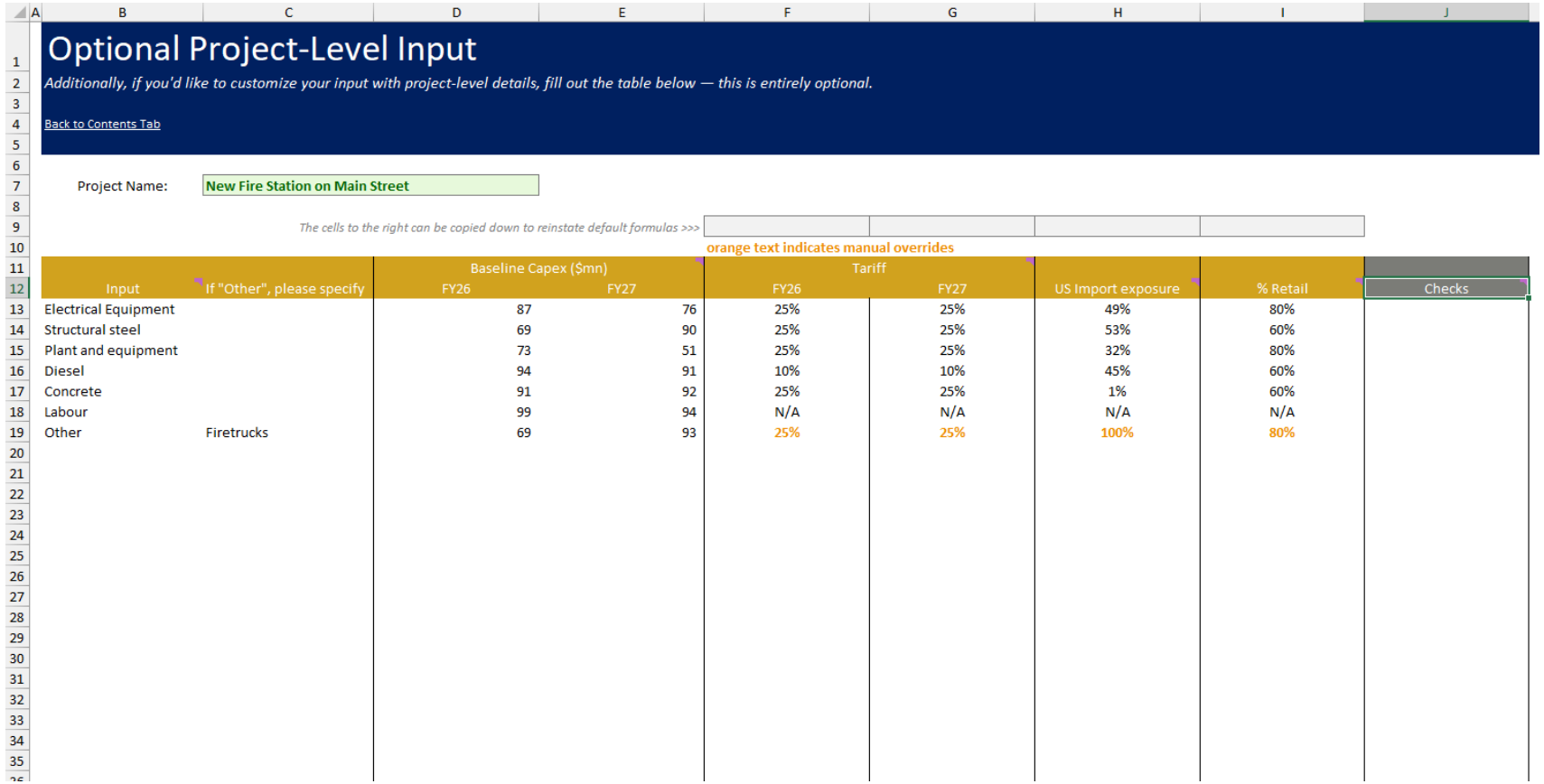
*An intuitive user interface for **Municipal Infrastructure Project Leads** to input expected capital expenditure & local tariff rates*

Key Features

- Easy to understand 2-step process with clearly labelled **Input** cells to guide the user to allow the user to change:
  - Local tariff rate by material type
  - Expected capital expenditure by asset type
- General admin notes in case the analyst completes the assessment and then shares the workbook with Municipal Treasure or other stakeholders
- Added comments to each of the asset types to help with understanding

Note: the figures shown above are solely for illustrative purposes

Optional Project-Level Inputs



Optional Project-Level Input

Additionally, if you'd like to customize your input with project-level details, fill out the table below — this is entirely optional.

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Project Name: **New Fire Station on Main Street**

The cells to the right can be copied down to reinstate default formulas >>>

orange text indicates manual overrides

Input	If "Other", please specify	Baseline Capex ($mn) FY26	Baseline Capex ($mn) FY27	Tariff FY26	Tariff FY27	US Import exposure	% Retail	Checks
Electrical Equipment		87	76	25%	25%	49%	80%	
Structural steel		69	90	25%	25%	53%	60%	
Plant and equipment		73	51	25%	25%	32%	80%	
Diesel		94	91	10%	10%	45%	60%	
Concrete		91	92	25%	25%	1%	60%	
Labour		99	94	N/A	N/A	N/A	N/A	
Other	Firetrucks	69	93	25%	25%	100%	80%	

Purpose

An additional input interface which allows users to input their expected capital expenditure at a project level

Key Features

- Intuitive input table that then links into the model
- Allows user to adjust material intensities
- Allows uses to input "other" construction inputs
- Comments in each of the column headings to user navigate the inputs

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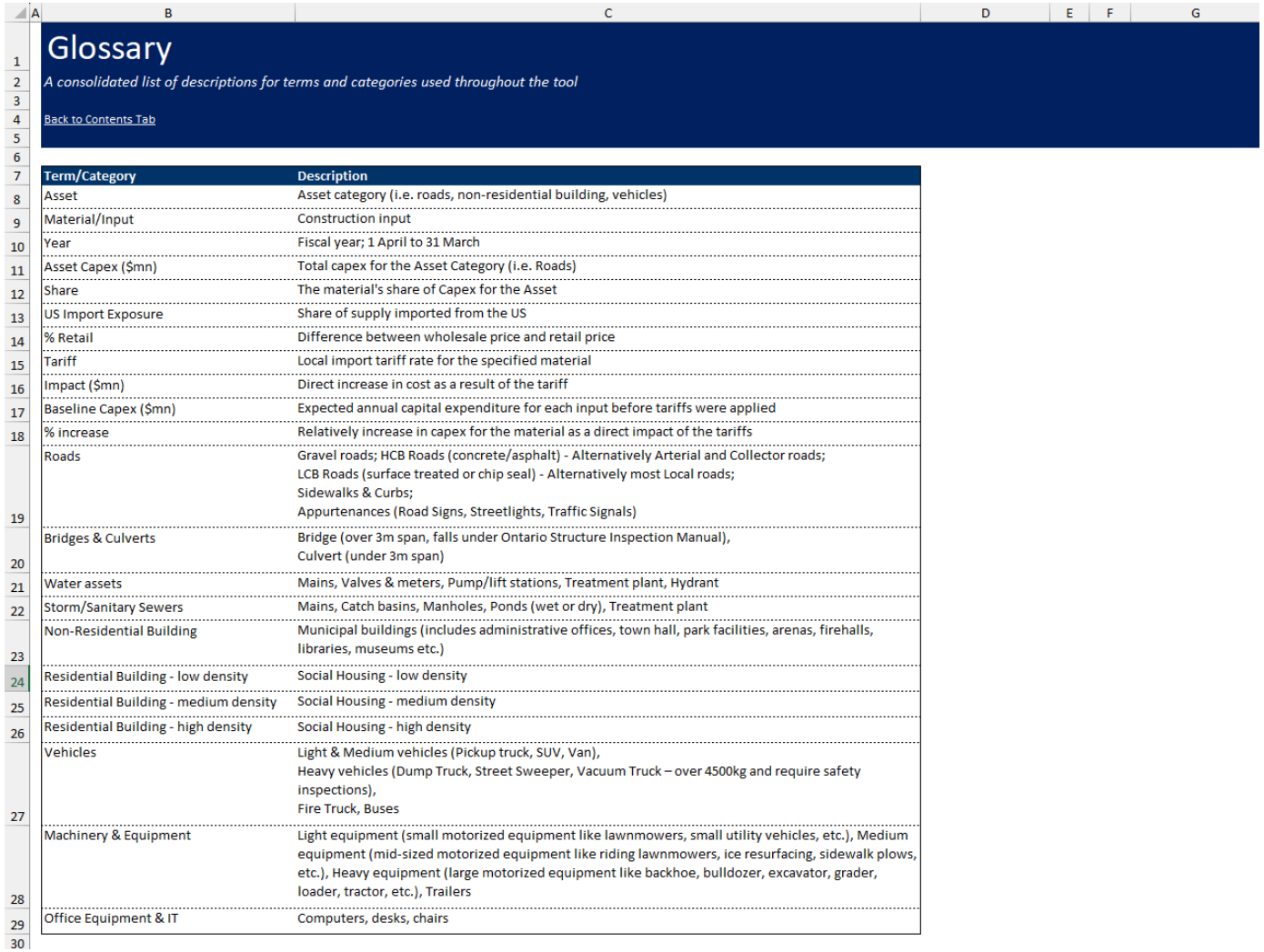
Glossary



Glossary

A consolidated list of descriptions for terms and categories used throughout the tool

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Term/Category	Description
Asset	Asset category (i.e. roads, non-residential building, vehicles)
Material/Input	Construction input
Year	Fiscal year; 1 April to 31 March
Asset Capex ($mn)	Total capex for the Asset Category (i.e. Roads)
Share	The material's share of Capex for the Asset
US Import Exposure	Share of supply imported from the US
% Retail	Difference between wholesale price and retail price
Tariff	Local import tariff rate for the specified material
Impact ($mn)	Direct increase in cost as a result of the tariff
Baseline Capex ($mn)	Expected annual capital expenditure for each input before tariffs were applied
% increase	Relatively increase in capex for the material as a direct impact of the tariffs
Roads	Gravel roads; HCB Roads (concrete/asphalt) - Alternatively Arterial and Collector roads; LCB Roads (surface treated or chip seal) - Alternatively most Local roads; Sidewalks & Curbs; Appurtenances (Road Signs, Streetlights, Traffic Signals)
Bridges & Culverts	Bridge (over 3m span, falls under Ontario Structure Inspection Manual), Culvert (under 3m span)
Water assets	Mains, Valves & meters, Pump/lift stations, Treatment plant, Hydrant
Storm/Sanitary Sewers	Mains, Catch basins, Manholes, Ponds (wet or dry), Treatment plant
Non-Residential Building	Municipal buildings (includes administrative offices, town hall, park facilities, arenas, firehalls, libraries, museums etc.)
Residential Building - low density	Social Housing - low density
Residential Building - medium density	Social Housing - medium density
Residential Building - high density	Social Housing - high density
Vehicles	Light & Medium vehicles (Pickup truck, SUV, Van), Heavy vehicles (Dump Truck, Street Sweeper, Vacuum Truck – over 4500kg and require safety inspections), Fire Truck, Buses
Machinery & Equipment	Light equipment (small motorized equipment like lawnmowers, small utility vehicles, etc.), Medium equipment (mid-sized motorized equipment like riding lawnmowers, ice resurfacing, sidewalk plows, etc.), Heavy equipment (large motorized equipment like backhoe, bulldozer, excavator, grader, loader, tractor, etc.), Trailers
Office Equipment & IT	Computers, desks, chairs

Purpose

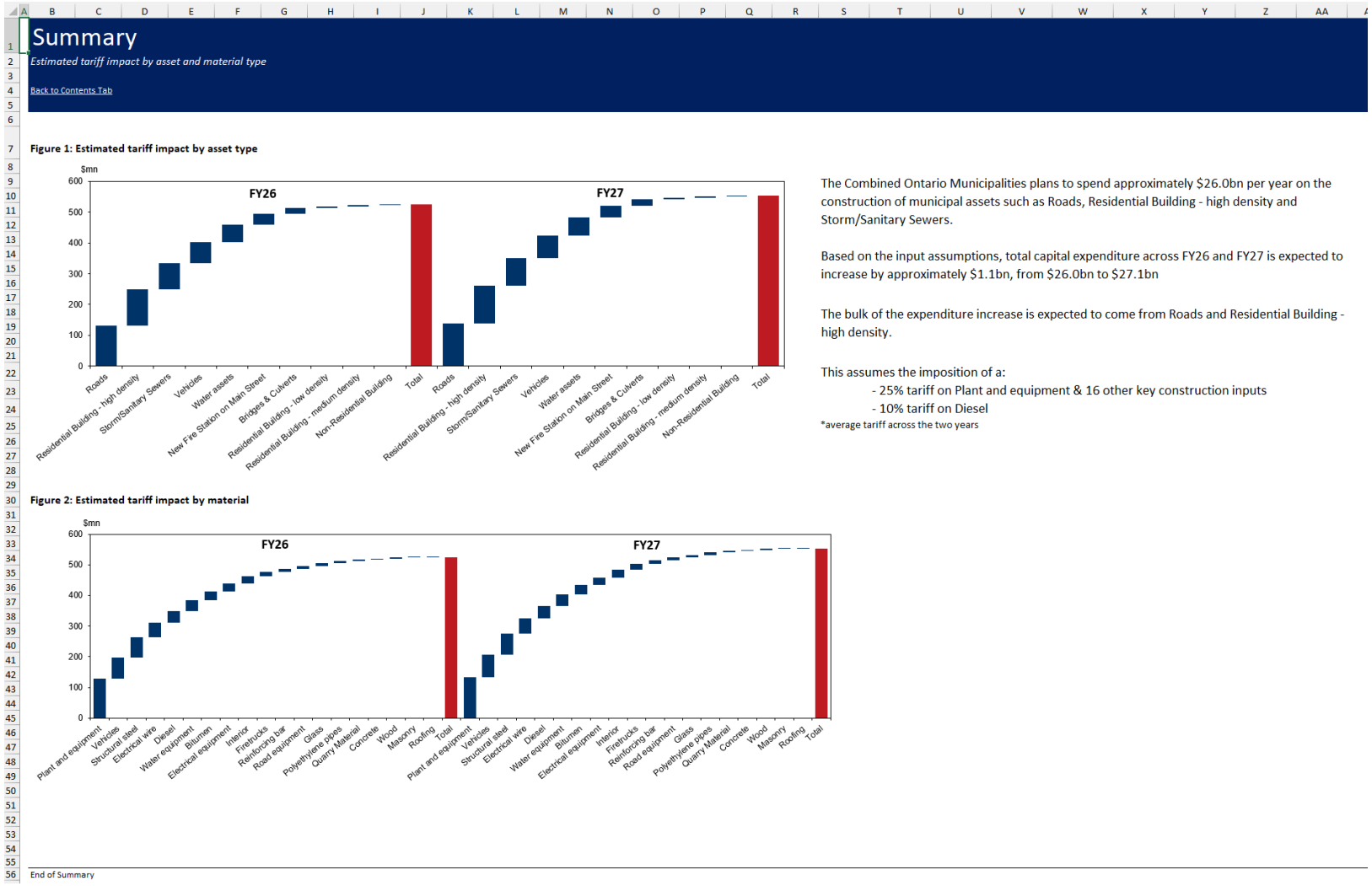
A consolidated list of descriptions for all terms and categories used throughout the tool

Key Features

- Compiles the list of descriptions featured throughout the model

Note: the figures shown above are solely for illustrative purposes

Outputs - Summary



Summary

Estimated tariff impact by asset and material type

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Figure 1: Estimated tariff impact by asset type

The Combined Ontario Municipalities plans to spend approximately $26.0bn per year on the construction of municipal assets such as Roads, Residential Building - high density and Storm/Sanitary Sewers.

Based on the input assumptions, total capital expenditure across FY26 and FY27 is expected to increase by approximately $1.1bn, from $26.0bn to $27.1bn

The bulk of the expenditure increase is expected to come from Roads and Residential Building - high density.

This assumes the imposition of a:
- 25% tariff on Plant and equipment & 16 other key construction inputs
- 10% tariff on Diesel

*average tariff across the two years

Figure 2: Estimated tariff impact by material

End of Summary

Purpose

*High-level summary of key results, highlighting what is most important for **Municipal Treasurers***

Key Features

- Easy to find headline numbers
- Simple visualisation breaking down the impact by year, asset and material type
- Automated text designed to highlight key findings
- Short summary of tariff assumptions

Note: the figures shown above are solely for illustrative purposes

Outputs – Detailed Breakdown

Detailed Breakdown

Detailed breakdown of estimated tariff impact by asset and material type

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Roads

Input	Share	Exposure	% Retail	Baseline Capex ($mn) FY26	Baseline Capex ($mn) FY27	Tariff FY26	Tariff FY27	Impact ($mn) FY26	Impact ($mn) FY27	% FY26	% FY27
Plant and equipment	8%	32%	80%	724	761	25%	25%	45.7	48.0	6.3%	6.3%
Bitumen	14%	15%	60%	1304	1370	25%	25%	29.3	30.8	2.2%	2.2%
Electrical wire	2%	81%	60%	193	203	25%	25%	23.4	24.6	12.1%	12.1%
Diesel	6%	45%	60%	579	609	10%	10%	15.8	16.6	2.7%	2.7%
Road equipment	2%	23%	80%	193	203	25%	25%	9.1	9.5	4.7%	4.7%
Quarry Material	4%	9%	60%	386	406	25%	25%	5.3	5.5	1.4%	1.4%
Reinforcing bar	3%	8%	60%	241	254	25%	25%	3.0	3.2	1.3%	1.3%
Concrete	5%	1%	60%	482.9	507.5	25%	25%	0.8	0.9	0.2%	0.2%
Labour	38%	N/A	N/A	3621.4	3805.9	N/A	N/A	0.0	0.0	0.0%	0.0%
Engineering design	20%	N/A	N/A	1931.4	2029.8	N/A	N/A	0.0	0.0	0.0%	0.0%
Total				9657	10149			132	139	1.4%	1.4%

The Combined Ontario Municipalities plans to spend approximately $9.9bn per year on the construction of municipal Roads.

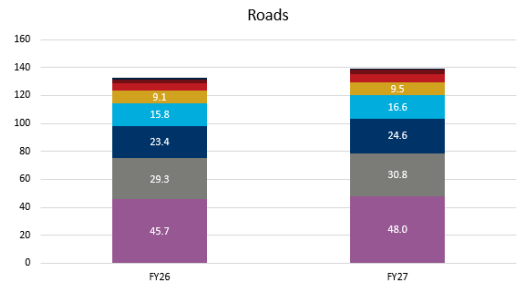
Based on the input assumptions, total capital expenditure across FY26 and FY27 is expected to increase by approximately $271mn, from $9.9bn to $10.2bn

The bulk of the expenditure increase is expected to come from Plant and equipment and Bitumen.

This assumes the imposition of a:

- 25% tariff on Plant and equipment & 6 other key Roads construction inputs
- 10% tariff on Diesel

*average tariff across the two years



Detailed Breakdown

Purpose

*Provide a detailed breakdown of the material cost increase for each asset type for **Municipal Infrastructure Project Leads***

Key Features

- Detailed table with key assumptions & impact by year
- Visualisation breaking down the impact by year and material type
- Automated text designed to highlight key findings
- Drop-down toggle to change between asset types with table, chart and text updating automatically
- Comments in each of the column headings to user navigate the outputs

Note: the figures shown above are solely for illustrative purposes

Outputs – Downloadable Outputs

Downloadable Outputs

A machine readable output table that can be imported into other visualisations or software packages

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Asset	Input	Year	Asset Capex ($bn	Shar	Exposur	% Reta	Tariff	Impact ($bn	Baseline Capex ($bn	% increas
Residential Building - high density	Labour	FY26	5500.00	40%	N/A	N/A	N/A	0.00	2172.50	0.0%
Residential Building - high density	Engineering design	FY26	5500.00	2%	N/A	N/A	N/A	0.00	110.00	0.0%
Residential Building - high density	Reinforcing bar	FY26	5500.00	8%	8%	60%	25%	5.55	440.00	1.3%
Residential Building - high density	Structural steel	FY26	5500.00	4%	53%	60%	25%	17.33	220.00	7.9%
Residential Building - high density	Concrete	FY26	5500.00	10%	1%	60%	25%	0.95	550.00	0.2%
Residential Building - high density	Masonry	FY26	5500.00	1%	10%	60%	25%	0.81	55.00	1.5%
Residential Building - high density	Wood	FY26	5500.00	1%	14%	60%	25%	1.14	55.00	2.1%
Residential Building - high density	Electrical wire	FY26	5500.00	2%	81%	60%	25%	13.31	110.00	12.1%
Residential Building - high density	Glass	FY26	5500.00	4%	24%	60%	25%	7.99	220.00	3.6%
Residential Building - high density	Roofing	FY26	5500.00	9%	0%	60%	25%	0.02	467.50	0.0%
Residential Building - high density	Interior	FY26	5500.00	5%	54%	60%	25%	22.30	275.00	8.1%
Residential Building - high density	Polyethylene pipes	FY26	5500.00	1%	13%	60%	25%	0.53	27.50	1.9%
Residential Building - high density	Plant and equipment	FY26	5500.00	7%	32%	80%	25%	22.56	357.50	6.3%
Residential Building - high density	Electrical equipment	FY26	5500.00	3%	49%	80%	25%	16.02	165.00	9.7%
Residential Building - high density	Diesel	FY26	5500.00	5%	45%	60%	10%	7.48	275.00	2.7%
Residential Building - high density	Labour	FY27	5780.00	40%	N/A	N/A	N/A	0.00	2283.10	0.0%
Residential Building - high density	Engineering design	FY27	5780.00	2%	N/A	N/A	N/A	0.00	115.60	0.0%
Residential Building - high density	Reinforcing bar	FY27	5780.00	8%	8%	60%	25%	5.83	462.40	1.3%
Residential Building - high density	Structural steel	FY27	5780.00	4%	53%	60%	25%	18.21	231.20	7.9%
Residential Building - high density	Concrete	FY27	5780.00	10%	1%	60%	25%	0.99	578.00	0.2%
Residential Building - high density	Masonry	FY27	5780.00	1%	10%	60%	25%	0.85	57.80	1.5%
Residential Building - high density	Wood	FY27	5780.00	1%	14%	60%	25%	1.20	57.80	2.1%
Residential Building - high density	Electrical wire	FY27	5780.00	2%	81%	60%	25%	13.99	115.60	12.1%
Residential Building - high density	Glass	FY27	5780.00	4%	24%	60%	25%	8.40	231.20	3.6%
Residential Building - high density	Roofing	FY27	5780.00	9%	0%	60%	25%	0.02	491.30	0.0%
Residential Building - high density	Interior	FY27	5780.00	5%	54%	60%	25%	23.43	289.00	8.1%
Residential Building - high density	Polyethylene pipes	FY27	5780.00	1%	13%	60%	25%	0.56	28.90	1.9%
Residential Building - high density	Plant and equipment	FY27	5780.00	7%	32%	80%	25%	23.70	375.70	6.3%
Residential Building - high density	Electrical equipment	FY27	5780.00	3%	49%	80%	25%	16.84	173.40	9.7%
Residential Building - high density	Diesel	FY27	5780.00	5%	45%	60%	10%	7.86	289.00	2.7%
Residential Building - medium density	Labour	FY26	186.00	42%	N/A	N/A	N/A	0.00	77.19	0.0%
Residential Building - medium density	Reinforcing bar	FY26	186.00	3%	8%	60%	25%	0.07	5.58	1.3%
Residential Building - medium density	Structural steel	FY26	186.00	2%	53%	60%	25%	0.29	3.72	7.9%
Residential Building - medium density	Concrete	FY26	186.00	4%	1%	60%	25%	0.01	7.44	0.2%
Residential Building - medium density	Masonry	FY26	186.00	2%	10%	60%	25%	0.05	3.72	1.5%

Purpose

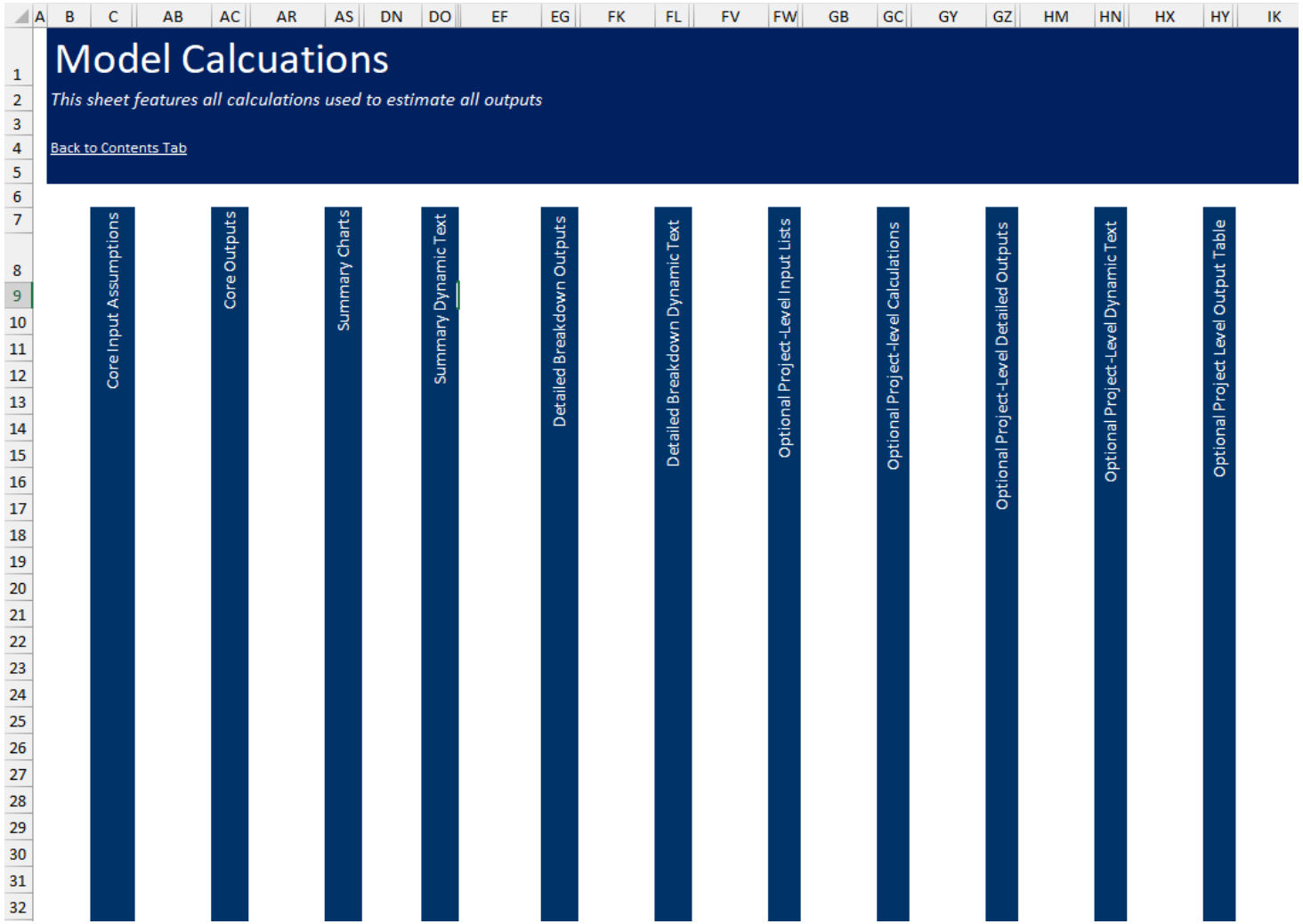
Provide users with the raw outputs that can be imported into other visualisation software

Key Features

- Output table that allows users to download the outputs themselves, and then import into their preferred visualisation or software package
- Comments in each of the column headings to user navigate the outputs

Note: the figures shown above are solely for illustrative purposes

Model Calculations



Purpose

If the user wises to dive deeper into the background calculations they are all accessible

Key Features

- Stores all the background calculations on a single worksheet – organised by function and purpose
- This allows interested users to understand the calculations that take place between the inputs and outputs
- This allows them to also adjust core input assumptions should they wish (i.e. material intensity or US import share).

Note: the figures shown above are solely for illustrative purposes

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