

**Transform T.O. Presentation**

**Notes & Discussion Summary Notes**

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* The Transform TO model is an integrated model that incorporates land use, district energy, and transportation. The focus of the model is that it doesn’t just focus ion on one of these actions in isolation it looks at the various interconnections and co-benefits of each of the actions.
* Transform TO was possible through a joint venture between the City of Toronto and TAF. This project had limited funding and was completed in a span of two years. This presentation highlights the methodologies used to develop Transform TO.
* In 2007, The City of Toronto Council adopted their first Climate Change Plan which set out the GHG reduction target. As a result, a total of 64 actions were outlined in that Plan, 80% of these actions are currently in place either classified as “completed” or “on-going.”
* In 2014, an annual update stated the city has reduced ghg emissions by 24%. This report initiated discussions regarding whether the city is on track to meet 2030 and 2050 targets. The typical conversation regarding climate change focused around GHG emissions. In the development and execution of Transform TO conversations were directed towards:
1. Identifying co-benefits of a low carbon future (‘low-carbon’ meaning meeting the CCAP goal of reduced GHG emissions of 80% by 2050) from an economic, social/equity, and public health perspective.
2. Establishing and harnessing a collaborative initiative—engagement within the community and stakeholders became a focus.
3. Incorporate Science into developing a future model that makes the goal feasible and realistic.
* In 2015, a direction was established to develop a backward tracking model on what the municipality would have to do to meet the CCAP goal of 80% reductions.
* Community Engagement is essential as it increases ownership and commitment in taking action towards meeting the CCAP goals, approximately 2,000 people participated in Transform TO. This outreach consisted of: Online Survey was filled out by 200 people; Youth engagement and webinars (although were not as popular); 1,000 people signed up for an e-news letter, which establishes long-term engagement and awareness of the initiative. Community members demonstrated a strong desire to participate in neighbourhood-level action.
* A Surprise: Community members stepped up and began organizing their own events to spread the knowledge/interest. This was beneficial as the city was limited in time and resources.
* Feedback from the communities showed that they recognized: the importance of individual behavioural changes; the necessity to focus on changes within the urban system in regards to energy, infrastructure, and waste management; and lastly, they emphasized the interest in increasing green space found within the City. This feedback was fundamental in developing the Transform TO models.
* Expert Panels were held throughout various communities to share their knowledge and give the community members the opportunity to ask questions.
* The main consultant contracted for executing the scenario modeling was SSG (Sustainability Solutions Group), they were able to provide an open source tool called “Utilized City Insight Model” to account for the GHG inventory. What-if Technologies were subcontractors. SSG did a good job and went beyond what was expected (and paid for) within the contract. SSG is also working with the Province to develop a GHG methodology at the provincial level.
* The City is hoping to make this Utilized City Insight Model tool available for public use as users would be able to play around with variables and degrees of aggressiveness regarding municipal planning decisions associated with the final model.
* Three scenarios were used for modelling: Baseline Calibration (from the 2011 Census), Business-as-planned Scenario, and Low-carbon Scenario. The final model is influenced by the Global Protocol (GPC), which established an internationally acknowledged process of measuring total GHG emission levels at a city level.
* The City did not want to change any of the assumptions made from the previous city models regarding the population, climate forecast, transportation etc. The city is currently implementing plans that use these assumptions as foundations. This posed some conflicts with modellers because they were interested in changing some of the assumptions for the long term forecast model. Limited scenarios resulted due to limited resources—the Transform TO model only provides one long term scenario to achieve their GHG reduction goal. Having three or four different models would have been beneficial to start discussions around focusing in on different variables in council.
* If the city continues in the business-as-usual trajectory, the city would achieve a 5 million mega tonne reduction in GHG emissions from 2011 to 2050. This results in a 9 million mega tonne gap of GHG emissions to achieve the 80% reduction target.
* The Low Carbon Future presented consists of 36 different strategies with broad categories. The biggest category is building and energy: Net Zero standards for all new builds, retrofits in existing buildings with an average of 50% on improvement on energy efficiency, future plans focus on developing nodes which provides the perfect foundation to introduce low carbon, thermal district energy developments. Currently, there are approximately 30 areas within the city where this type of district energy system would be applicable.
* The second biggest focus is Transportation: There is a need to switch to a low carbon source, electrification provides this opportunity at a large scale. Other fuel sources, such as hydrogen, are also viable options. The transportation sector underpins successes in other modeled strategies. If the city were to focus solely on this sector alone, it would not be considered a key carbon driver. The greatest challenge to tackle is the pattern of inbound and outbound trips within/between municipalities (anything greater than a 10+ km range), this process is very dependant on automobiles. Autonomous vehicles could very well add to GHG emissions, especially on the onset of incorporation due to the overall increase in vehicle use vs. transit or if it encourages more commuting and further distances between work and home. Additionally, the transfer from combustible engines to electric vehicles is a slow transition.
* The third category that will be focused on is the building on Community Energy Planning through the promotion of active transportation.
* Currently, the technology is available to achieve the Climate Change Plan GHG reduction target.
* Co-benefits focused on areas relating to the local economy, social equity, and public health. The modelling advisory committee played an important role in the development of this section of the report. The consultant undertook this advisory committee through a rigorous multi-criteria analysis spanning 9 months to complete. The cross-sectoral modelling advisory group consisted of 35 members—25 of these members represented members of the community, the remaining 10 people were city staff members.
* There are multiple co-benefit with low carbon action, this occurs when the intention to achieve the co-benefits are established throughout the planning/design stage of the subsequent actions. Negative impacts exist but can be mitigated with proper planning and awareness. The carbon impact of tree planting was not incorporated into the model. The resulting co-benefits chart indicated increases in:
	+ Public and community resilience
	+ Energy cost savings (average of 50%)
	+ Productivity, innovation and competitiveness
	+ New local jobs and investment opportunities, especially in the building sector where approx. 80,000 buildings need to be retrofitted
	+ More accessible transportation
	+ Public Health
* There is a focus on increasing alignment with other strategies to achieve multi-sectoral synergies.
* The City is recognized as a corporation and ghgs result from those corporate operations. The City is called to lead by example; and therefore, established aggressive goals in order to achieve actions as a prerequisite prior to being in a better position to advance these actions to other corporations.
* Reporting on how well the city is implementing actions/strategies will occur every two years. A variety of indicators will be developed in order to efficiently track GHG reductions and co-benefits. Additionally, reporting will be tied with the Term of Council in the first quarter of the year for council.
* GHG emissions are based on Scope 1 and Scope 2 sector based emissions, this does not include consumption based emissions. It has been recommended to council to consider researching and developing communication strategies regarding Scope 3 emissions to spread awareness within the communities regarding appropriate action. (Portland and Seattle have been leaders in this area and will be used as examples).
* Council will need to continue to support the implementation of existing policies, plans and programs that contribute to the ability of the City to achieve progress towards the ghg reduction target. Council is encouraged to accelerate action by allocating funding & initiating a set of immediate strategies—all strategies have been fully endorsed by Council, not all of them have been fully funded however.
* There is an annual increase of 7 million dollar for the operating budget to commence the implementation of those strategies. This funding is largely directed towards community-wide investment; this involves community engagement, staff training etc.
* Council has initiated three acceleration campaigns that embrace a multi-benefits approach.
* Mobilizing low-carbon neighbourhoods: according to the community engagement feedback, there is a lot of interest in harnessing community level movements/actions. There are a lot of things already occurring, this initiative looks to address how to build upon work that is already being done.
* Prepare for Electric Mobility: There are already +2,000 electric vehicles licenced in Toronto. This initiative promotes more charging stations and awareness of their locations. Sacramento is developing projects that provide electric powered car share opportunities for residents living in social housing, whom are usually removed from public transportation. Toronto success story: Toronto’s Taxi by-law established emission standards, over 1/3 of the 5,000 cabs are electric plug-ins. By 2020, all the cabs should be electric. There are still issues with Uber since this by-law does not apply to participating cars.
* Energy Retrofits in Buildings: focuses on energy retrofits and how to take advantage of economic activity (jobs and training) in a way that is easily accessible/attainable for everyone in the community.
* Next Steps include: Long-term Road Map will be presented to Council the first week of July, if and when this gets endorsed; and, a January/February 2018 budget would have to be approved in order to have the strategies funded.

**Panel Discussion—Main Points**

* Yes, the municipality has believed it to be beneficial to partner with the province and align priorities, it might backfire if the province or federal government decide to draw back from their standards (fuel/vehicle emissions standards etc.). So far, the model incorporates carbon pricing, return on investment, and other federal strategies.
* Transform TO was ready to be presented to council in June, but it kept being put off until news that the US were pulling out from the Paris Agreement, since then, the council has been keen on driving more environmental initiatives.
* The Toronto Island flooding has also grabbed the public’s attention to the implications of climate change and seems to have influenced more involvement in mitigation and adaptation strategies.
* The scenario modelled in the report is not to be mistaken for a forecast of the future, it just highlights a possibility. Even though there is only one scenario being presented, the information that the model provides gives people the perspective of the magnitude of change/enforcement that needs to take place in order to drive down GHG emissions. This report highlights that the city is able to reach their target goal and it is feasible using commercially available technology.
* The priority moving forward is to focus on the potential to better quantify the co-benefits addressed in the report. There is some hesitancy in going forward with the low carbon path because of the high upfront costs, this is why the cost benefit analysis would be a good discussion starter to get the ball rolling.
* In regards to acquiring staff capacity needed to develop Transform TO, the focus was not on the business cases to get people hired but on the short term strategies and recommendations that was in alignment with achieving the Climate Plan’s GHG reduction target—for this reason, the Parks and Recreation department justified hiring more staff as they felt like they needed to get started right away.
* Compelling argument: there are a lot of private and public funds available to get started on developing long term plans in regards to reductions in GHG emissions.
* Funding: $100,000 grant from TAF and $175, 000 FCM
* Low carbon emissions definition is addressed in the model report if there is interest in exact specification/assumptions of the terminology.

**Next Steps**

* It would be great to compile the lessons learned from the participants involved in this process, this would be something the CAC would be interested in learning from.

**Summary of Feedback from Small Group Discussions on Transform TO**

1. **What insights does the results of Transform TO hold for the Region?**
* Outreach & Communication: Strategies to develop community ownership. This is a large component of the project and it should be given more time and attention in regards to addressing engagement and support, setting a standard for other cities to be able to refer to
* Branding of Transform TO was well done – the focus on looking at co-benefits is very valuable
* Leadership and support from senior staff – would like to learn more on how that was achieved
* Focus on partnerships with external stakeholders and with not just the usual suspects – looking at co-benefits strengthened the variety of stakeholders
* Addressing co-benefits helps generate traction across areas not simply within one area
* Transportation/transit is seen to have a large area of improvement but building sector is illustrated as having the highest potential. This might be the reverse for outside the 416 area. Buildings/Transportation.
* No municipality has progressed significantly on implementation of their Community Plans, partnerships should be an absolute requirement of any CCAP.
* Appreciated the movement into Scenarios vs. just the forecasting perspective
* Toronto has done heavy lifting for setting targets
* How actions from Transform TO can be included in Community Energy Plans
* The actions that are likely to be able to help the region reach the needed target are likely to be the actions identified in Transform TO.
* Trying to understand more how community engagement could be used for the modelling, was the modelling influenced by the community feedback?
* Presents significant opportunities for the Region to ‘row in the same direction’
1. **How does it lend itself to transferability? How doesn’t it?**
* Maybe not replicable at the same scale for other smaller municipalities (Transportation/Transit)
* Corporate targets are more transferable
* Communication and engagement techniques
* Lessons learned
* Applies to CEPs/ MEPs
* Provides ideas using community groups
* Addresses co-benefits
* Some data is regional other is local – would like to learn more about what data they used and where they accessed it.
* EV vehicle implementation is easier with parking spaces (perhaps easier outside Toronto)
1. **Could it be scaled to a regional level? If so, what value would it have for the Region?**
* Focus on near zero and net zero (waste/energy)
* Transportation will be different but lesson’s learned re transit being an enabling action for many of the co-benefits that are priorities to municipalities across the region. Affordability/equity/accessibility.
* Corporate targets are easily transferable
* Co-benefits are transferable
* Builds an even stronger business case with the retrofits
* Joint consistent communication i.e. TAF common communication strategy that is applicable between the suburban an urban centers—addresses the difference in capacity issues
* Geographical variety at region level might limit choices/opportunities for some of the cations to have a significant impact on ghg reductions –transit opportunities for example/newer building stock.
1. **If isn’t transferable to the Region level what value might it have for the Region?**
* Not a model that provides the business case for programs
* Not necessarily able to scale it up to the region and maintain granularity
* Assumptions might not be transferable
* More consistency /standardized procedures i.e.: waste policies
* Data availability
* Building/development standards harder to apply across the region than in Toronto
* Municipal council needs to be on board
* Education of Councils across the region needs to occur to increase the possibility for transferability.
1. **What value could it have for individual municipalities?**
* Lessons learned can be applied to other energy, sustainable work (it could be more consistent communication i.e. waste)
* Understanding and communicating co-benefits
* Barrier: applicability throughout all the municipalities (councils)
* Collaborative approach could be better to maintain control over assumptions
* Strengthen non-existing and increased partnerships with stakeholders (internal and external) across sectors
* More chances of success when everyone is involved and participating towards a common goal