An Outlook of London Ontario's Transportation Emission from Google Environmental Insights Explorer

*Takeaway from the Presentation by **Ayo Daniel Abiola, P.Eng** to the Transportation Advisory Committee (TAC) on November 26, 2019*

London is the first, and currently the only city in Ontario to be available on the Environmental Insights Explorer, (EIE) a new online tool created by Google in collaboration with the Global Convent of Mayors for Climate and Energy (GCoM) to make it easier for cities obtain and access climate –relevant data. This resource is an added opportunity for the TAC to establish a plan and a **collaborative working group** to access, review, monitor and use transportation related emission data to advice-on the environmental, social and economic goals of the Transportation Management Plan. Access EIE at https://insights.sustainability.google

1. According to the EIE estimates, London's transportation greenhouse gas (GHG) emissions in 2018 was classified as MEDIUM among other cities.

   1,200,000 Total CO_2e

   CO2e/yr = metric tons of carbon dioxide equivalent per year.

2. The above EIE estimate could be close to the **1,380 kCO_2e** estimate reported in the City's 2018 Inventory Outlook, if adjusted for:
   a. Fuel dispensed in Automobile originating in London and burnt outside city boundary
   b. Aviation fuel consumption (unreported in EIE data)

3. According to Google the EIE estimates, based on trip data locally and continuously measured by within each city, were extensively validated with Ground truth road sensors sampling data.

4. EIE emission data have been rolled only out in few cities across the world, is only available for London in Ontario and a few others in other provinces. Other cities are scheduled for future roll-out.

5. The availability of these EIE data may be an opportunity for easier, cheaper and reliable access to transportation data for city planning and climate change mitigation + adaptation strategies.

6. Transportation emissions have been implicated as a chief source of greenhouse gas emissions and climate change challenges.

7. London, Ontario declared a **climate emergency** in April 2019, with "the purpose of naming, framing and deepening our commitment to protecting our economy, our eco systems, and our community from climate change".

8. The city's **Strategic Plan** includes several plans for improving and enhancing safe transportation, active transportation, access to various modes, and protecting the environment.

9. The 2030 London **Transportation Management Plan** (TMP) recognizes that residents are embracing more sustainable transportation forms, which could help reduce costly and disruptive road widening projects. Hence, the TMP's 5 Smart Moves are aligned to actions that help achieve overall environmental benefits.

10. With the mandate of the TAC being to advise and support council implementation of the City's TMP, we need to actively work towards the Smart Moves and its successor plans, expected around 2022.

11. The EIE estimates for London and growing cities around the world is an opportunity to accelerate efforts towards this.

12. The current 2018 EIE data for London, as expected shows that automobile transportation contributes the largest share of transportation emissions. But more significantly, it shows the automobile share to be a staggering 95%, same as its estimated share in the 2018 GHG Inventory report. This is despite only 75% of trips were automotive modes.

13. EIE data also reveal similar trends in other Canadian and US cities – over 95% of transportation emissions are from automotive modes.

14. Outside North America, two assessment of EIE data for Dublin, Ireland and Melbourne Australia shows lower share of transportation emission were from automotive mode; primarily due to availability of rail and trams.

15. The EIE data indicates that Melbourne Australia reported a total transportation emission value of 1,010 kCO_2e, slightly lower than London's 1,200 kCO_2e values, despite being 10x more populous and 5x the land area.

16. Melbourne's relatively much lower emissions is thanks to its 600V electricity powered tram network, the largest anywhere in the world. Public transportation in that city also has over 50% modal share for work trips.

17. My summary analysis of the 2018 EIE data suggests that we could achieve lower transportation related emissions in London by analysing combination of the following strategies:

    a. Fewer fossil fuel automobile based trips,
    b. Increasing the share of zero (e.g. walking) or lower emission transportation modes (electrified transit buses perhaps?),
    c. Enhancing the adoption greener automotive options,
    d. Or other strategies that could achieve these goals

18. Of course, if reducing transportation emissions is one of our critical goals, as per the City climate emergency declaration, then we should align our actions to match or possibly exceed identified environmental goals, such as:
    a. 50% reduction in all emissions by 2030 recommended by the IPCC,
    b. 30% reduction of all emissions by 2030, pledged by the Federal Government, or
    c. Provincial GHG reduction targets

19. We can expect the next version of the London Transportation Management Plan, and other City of London policy documents to provide specific targets for emission reduction.

20. As a committee, we can complement ongoing efforts for advising the next TMP, immediate and future transportation investments by leveraging the data available on the EIE.

21. Like all sustainability-oriented efforts, collaboration is key, my main recommendation on way forward will be to immediately commission a **"cross-committee working group"** to include the (i) Advisory Committee on Environment (ii) Cycling Advisory Committee and/or any other identified Council committees with direct or indirect interests on transportation related climate risks.