

# THE GENERATION Y EFFECT

## How a Generation's Behaviours will Reduce Energy Use

### INTRODUCTION

Generation Y, born 1985 to 2004, is expected to comprise 50% of Canada's decision-making population (ages 25 to 65) by 2025 (Fig. 1).

It is crucial to understand the effect that Gen Y will have on Canada's energy use in personal transport.

A survey of Generations X & Y was conducted to compare the Gen Y Effect to the projected transportation data from CESAR to 2060 [1].

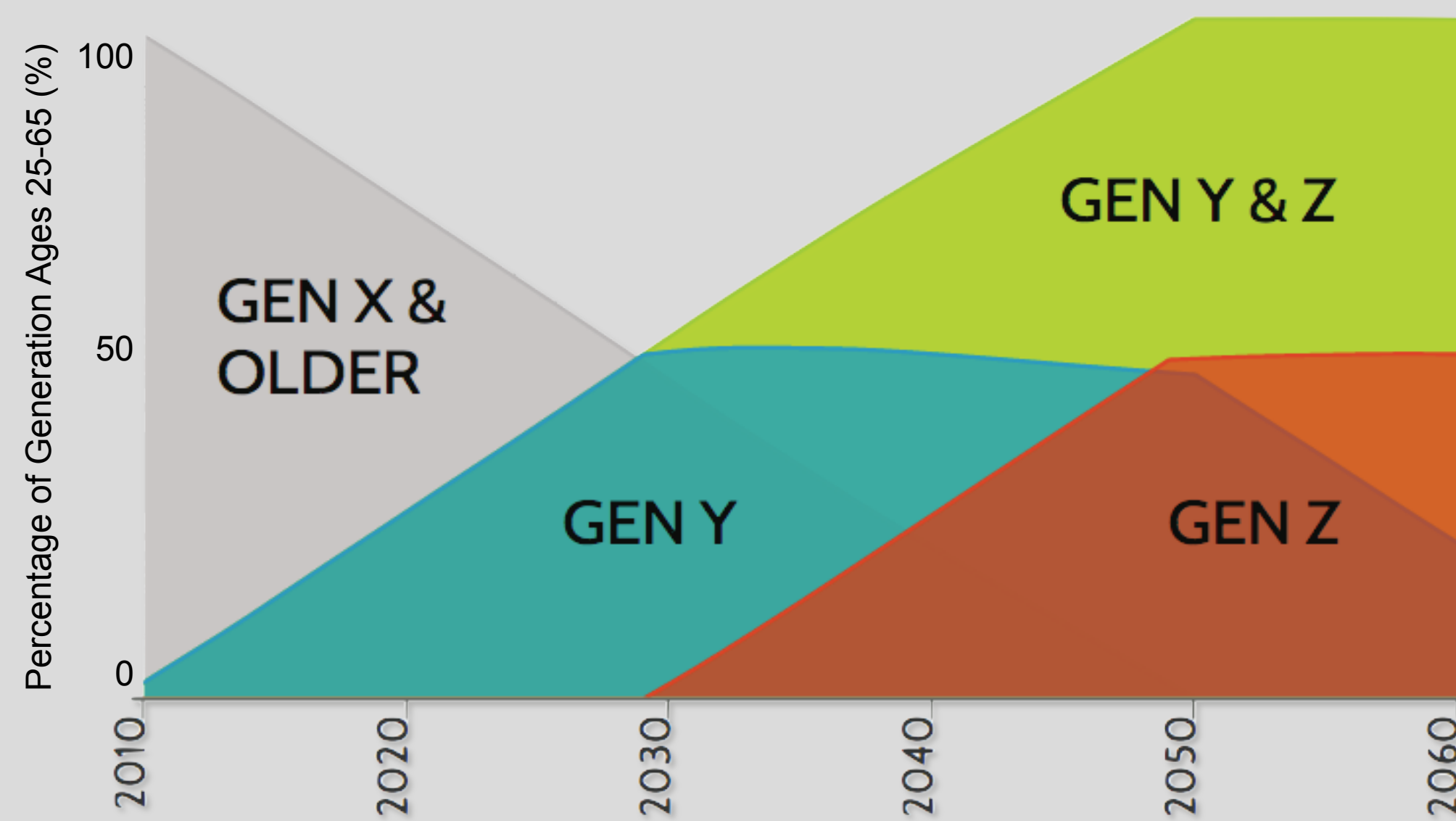


Fig. 1. Generation's Percent of Decision Making Population

### METHODS

Previous studies show that Generation Y's desire for connectivity increases their likelihood to move from suburbs to inner city dwellings [2]. We have assumed this trend to be true for Gen Y.

We conducted a transport survey of 150 participants of various ages & locations, with the results serving as the assumptions for Generation Y's behavioural changes. Three assumptions were made:

- Transport modes shift to favour public transit (Fig. 2).

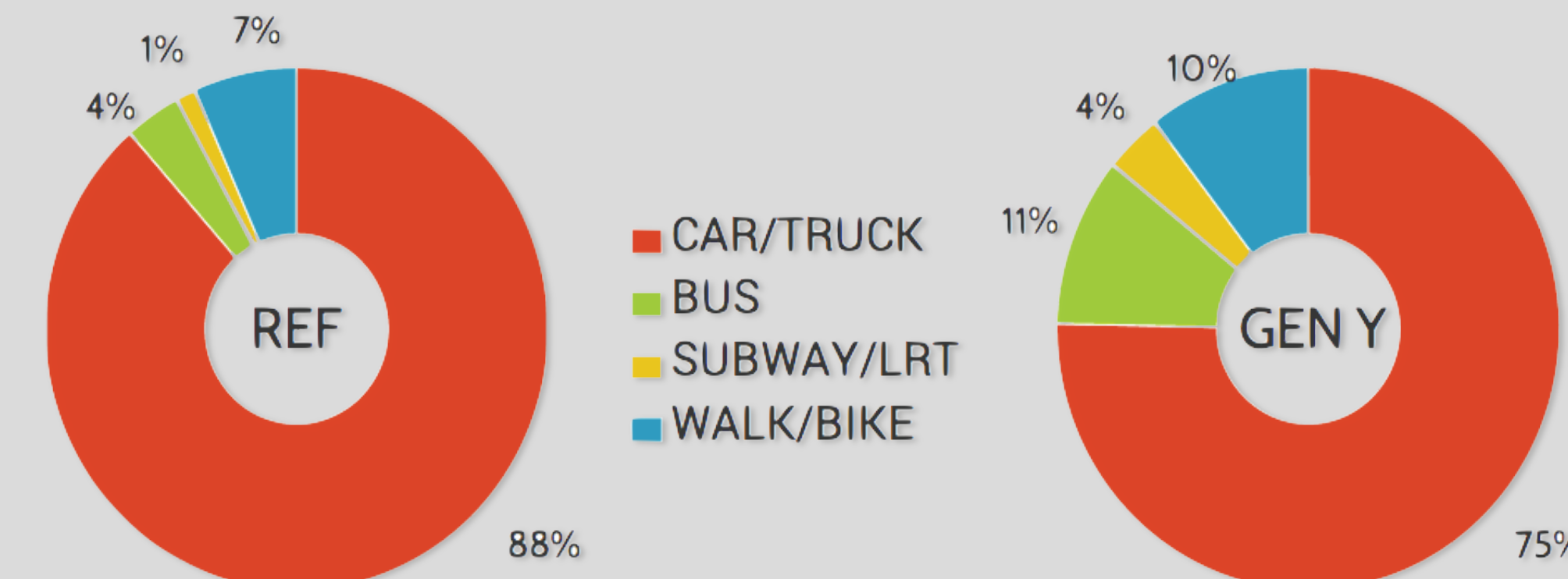


Fig. 2. Generation Y's Transportation Modes in 2030

- Commuter trip length will start to decrease in 2020.
- Personal vehicle preference will favour cars instead trucks, contrary to what is currently in the CanESS reference model [1].

The introduction of Generation Y's preferences will follow the demographics for the decision making population as mentioned above.

### RESULTS

#### A. TRANSPORT INFRASTRUCTURE

The Generation Y Scenario shows that public transit use will increase (Fig. 3).

- 7% increase from reference model in use of Public Transit by 2030
- 11% decrease from reference model in use of Personal Vehicles by 2030

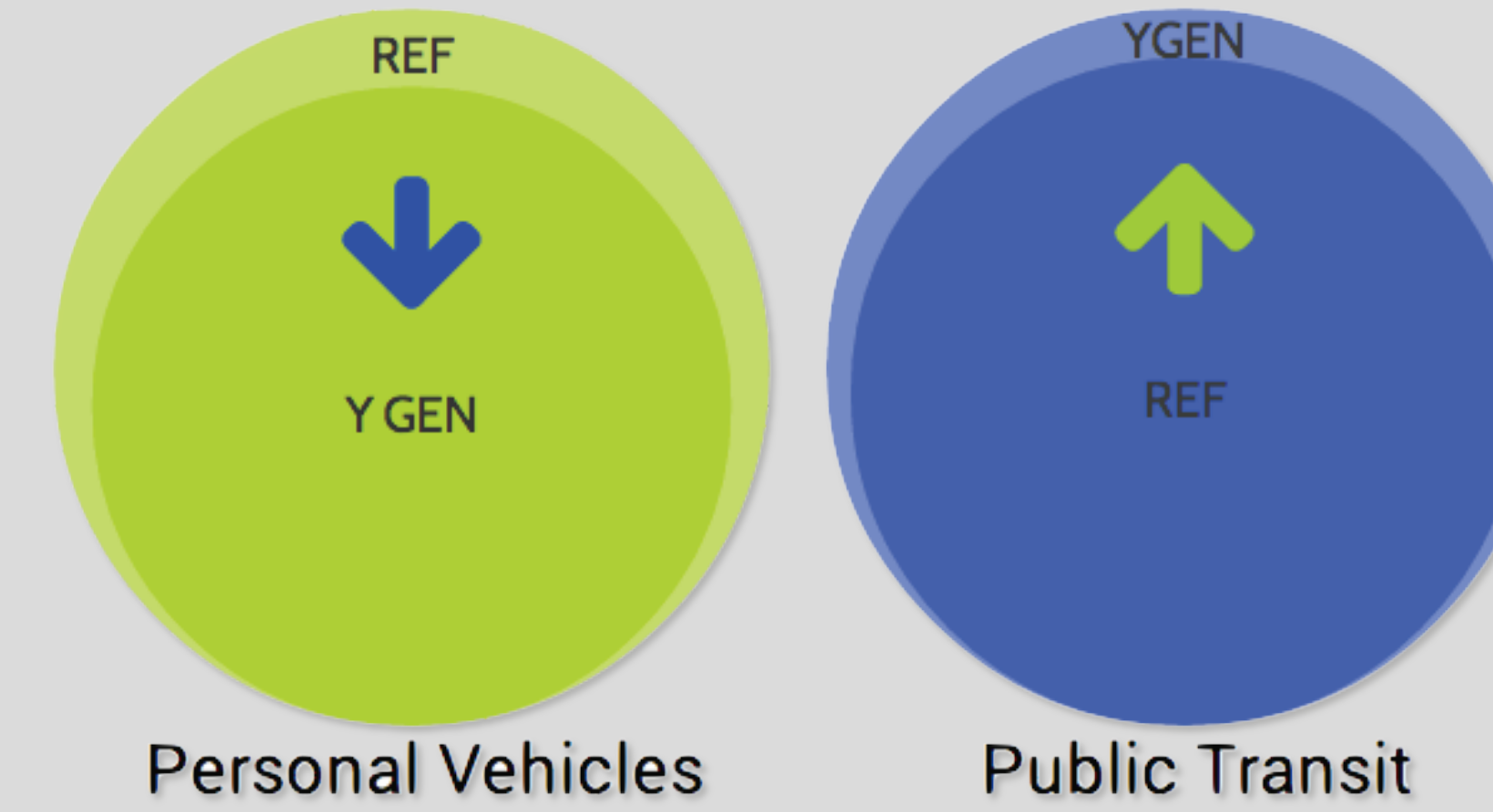
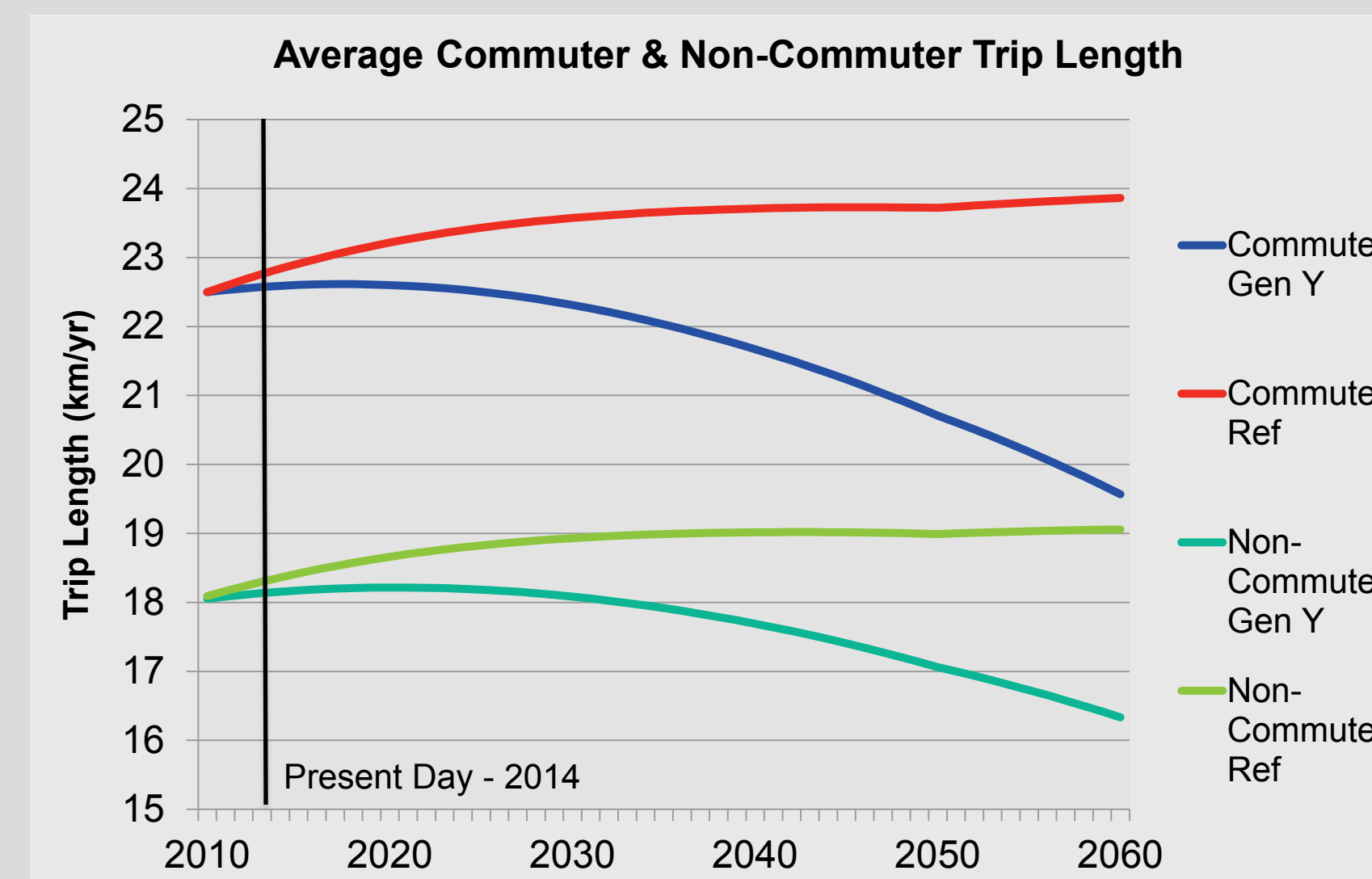


Fig. 3. Transportation Infrastructure.

#### B. AVERAGE TRIP LENGTH

The Generation Y Effect decreases commuter and non-commuter trip length by 1.3 km and 0.8 km respectively by 2030 (Fig. 4a).

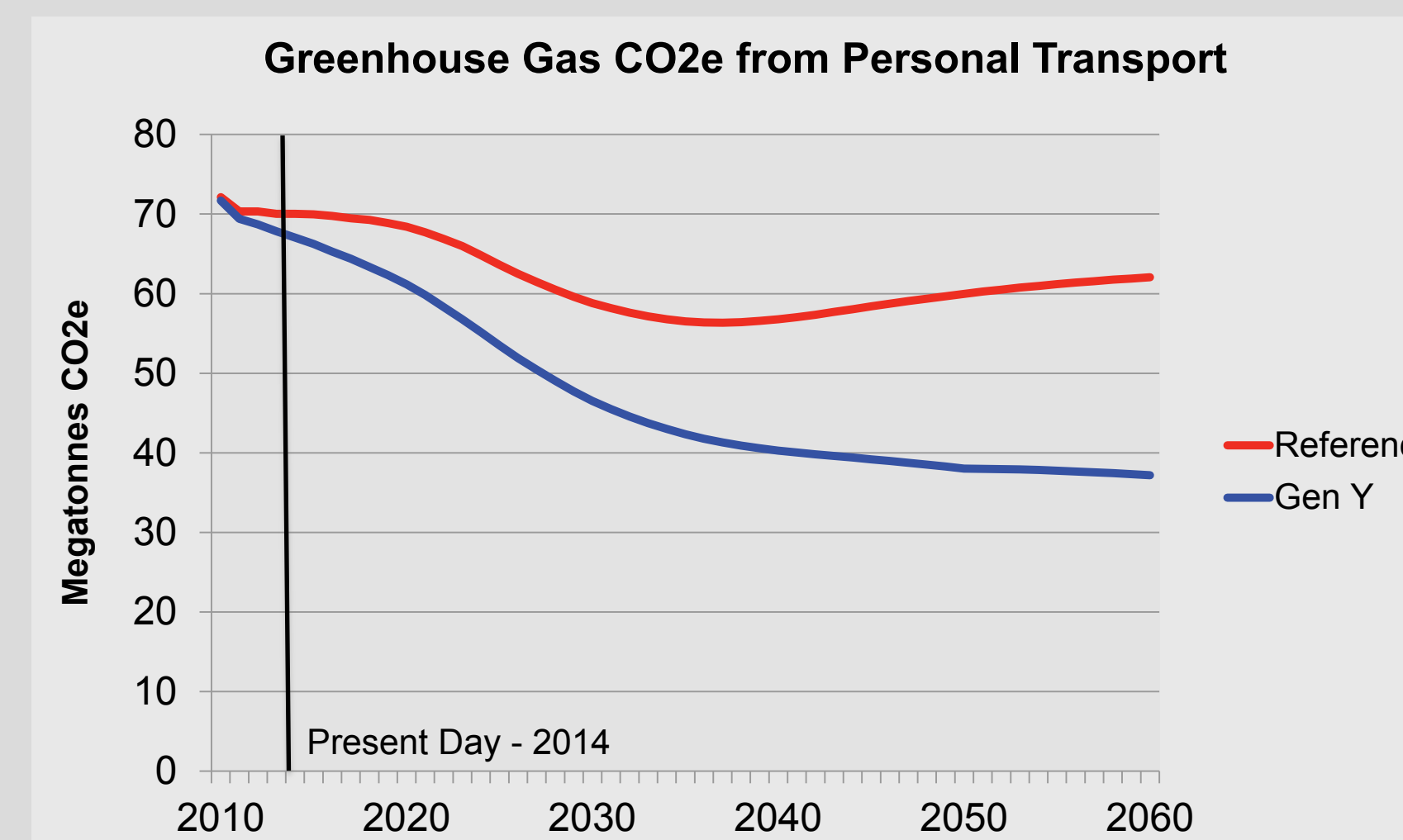


- 2030 decrease:
  - 1.3 km Commuter
  - 0.8 km Other
- 2050 decrease:
  - 3.0 km Commuter,
  - 1.9 km Other

#### C. GHG EMISSIONS

The Generation Y Effect has 12.3 MT/yr lower emissions than the reference scenario by 2030 (Fig. 4b)

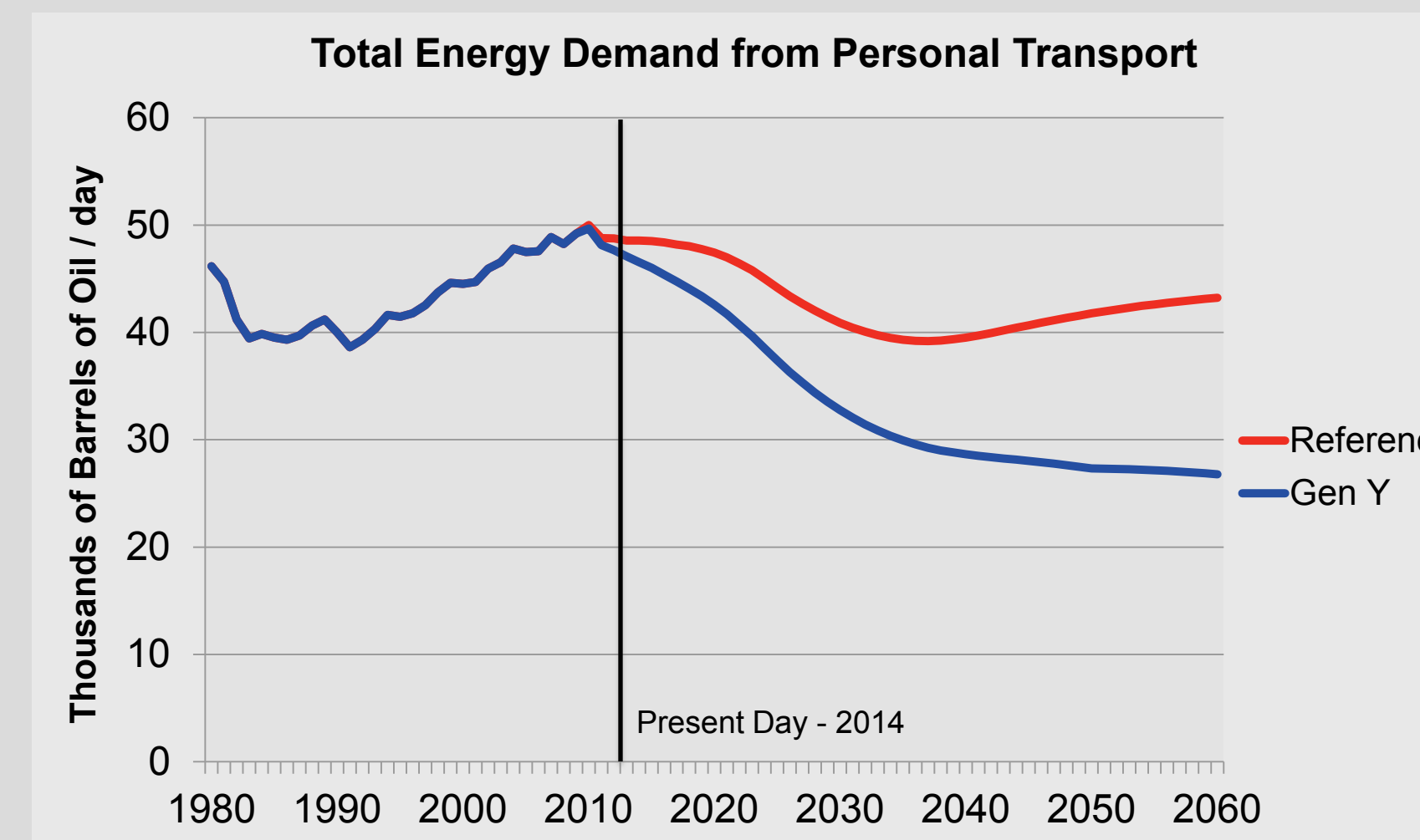
- This shift is due to combined factors of shift in mode share, trip length, and vehicle type.



- 2030: 12.3 MT/yr decreased
- 2050: 22 MT/yr decreased

#### D. ENERGY DEMAND

In the Generation Y scenario, energy demand has decreased 81,000 barrels of oil per day than the reference scenario by 2030 (Fig. 4c).



- 2030: 81,000 bbl/d decreased
- 2050: 144,000 bbl/d decreased

Fig. 4. Generation Y Changes to Reference Model

### DISCUSSION

Oil demand is projected to decrease significantly in the Gen Y Scenario. The United States, Great Britain, Japan, and other countries have experienced similar trends in their respective Gen Y behavior [3].

Shifts in transport infrastructure and living preference should be considered by city planners, expanding public transit and leaning towards "Smart-Growth" Neighbourhoods [4].

Research completed by the US PIRG in 2012 yielded similar values to our transportation survey [4], with trends of decreasing trip length and desire to live in urban city centers.

Some limitations of our results include the small sample size, and not accounting for advances in technology, such as the electric car.

### CONCLUSIONS

Generation Y's changing behaviours for transport mode, trip length and vehicle preference will reduce greenhouse gas emissions by 12.3 megatonnes by 2030.

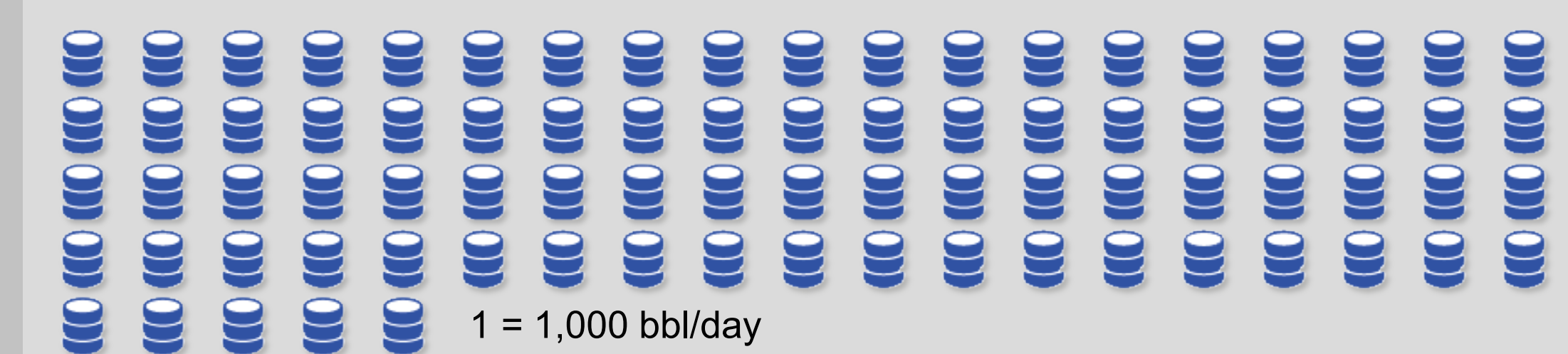


Fig. 5. Barrels of Oil Unused per day by Generation Y in 2030

The oil demand for Canada is projected to decrease ~81,000 barrels per day by 2030 due to shifting preferences of Gen Y (Fig. 5). This is 1.3% of the projected crude oil production in 2030 [5].

Municipal governments may have ability to accommodate these preferences by encouraging high density development in and around city centers through subsidies, tax breaks, or other legislation.

### REFERENCES

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[6] Peter Tertzakian, Chief Energy Economist at Arc Financial. Personal Communication  
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