

# **Cars, Roads, & Highways**

## **GGR424 - Transportation Geography & Planning**

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## Today:

- ▶ Cars & Highways - A Brief History
- ▶ Road Networks & Hierarchy
- ▶ Accessibility & Mobility
- ▶ Induced Demand, Highway Expansion
- ▶ Activity - Debate?

## Mode Share for all trips in the GTHA (Greater Toronto & Hamilton Area)

<b>Mode</b>	<b>% of Trips</b>
Transit	15.96%
Auto	76.50%
Bicycle	1.44%
Walk	5.15%
Other	0.95%

Source: 2016 Transportation Tomorrow Survey



Via UofT Map & Data Library [https://maps.library.utoronto.ca/datapub/digital/NG/historicTOMaps/1893BarclayClark.Chromolithograph\\_of\\_City\\_of\\_Toronto.JPG](https://maps.library.utoronto.ca/datapub/digital/NG/historicTOMaps/1893BarclayClark.Chromolithograph_of_City_of_Toronto.JPG)



YONGE ST. NORTH FROM KING OCT 18 1911 1:35 PM

City of Toronto Archives, Series 372 s0372\_ss0100\_lt0239

Year	Cars	People	Cars / person
1903	178	5,651,000	0.00
1913	54,380	7,632,000	0.01
1919	342,433	8,311,000	0.04
1930	1,061,500	10,208,000	0.10
1933	919,900	10,633,000	0.09
1941	1,281,200	11,507,000	0.11
1945	1,161,300	12,072,000	0.10
1956	3,200,000	16,081,000	0.20
1961	4,100,000	18,239,000	0.22
1982	10,500,000	25,118,000	0.42
2008	27,900,000	33,506,000	0.83
2013	31,046,000	35,158,300	0.88
2019	35,700,000	37,589,262	0.95

Sources:

- McNally, Larry. "Roads, Streets, and Highways," in Building Canada: a history of public works
- <https://www.statcan.gc.ca/en/topics-start/automotive>



FIGURE 3. (a) The Middle Road before 1930.

SOURCE: Ontario Archives

The Queen Elizabeth Way: Public Utility Versus Public Space =

<https://www.erudit.org/en/journals/uhr/1900-v1-n1-uhr0860/1018953ar.pdf>

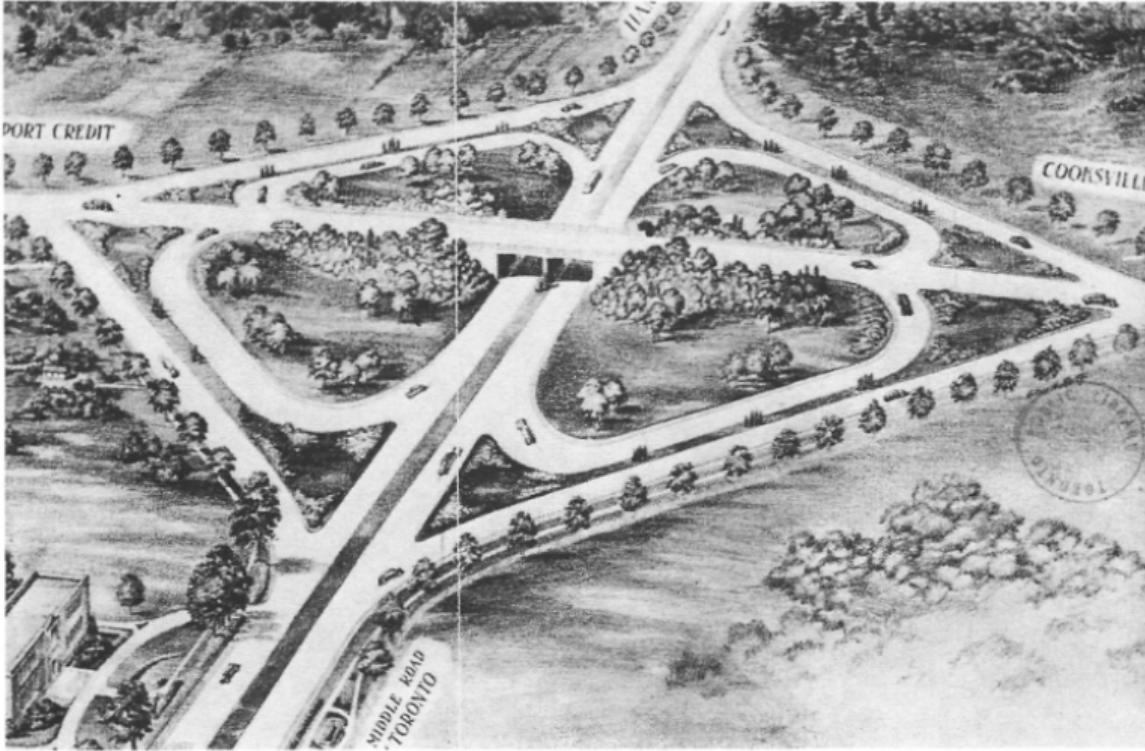


FIGURE 3. (b) The Middle Road after it was widened in 1939 to form the Queen Elizabeth Way.

SOURCE: Ontario Archives

The Queen Elizabeth Way: Public Utility Versus Public Space =

<https://www.erudit.org/en/journals/uhr/1900-v1-n1-uhr0860/1018953ar.pdf>



**FIGURE 4.** (a) Sketch for a cloverleaf at the intersection of the Middle Road and Hurontario Street, the first of its kind in Canada.

SOURCE: Toronto Public Library

The Queen Elizabeth Way: Public Utility Versus Public Space =

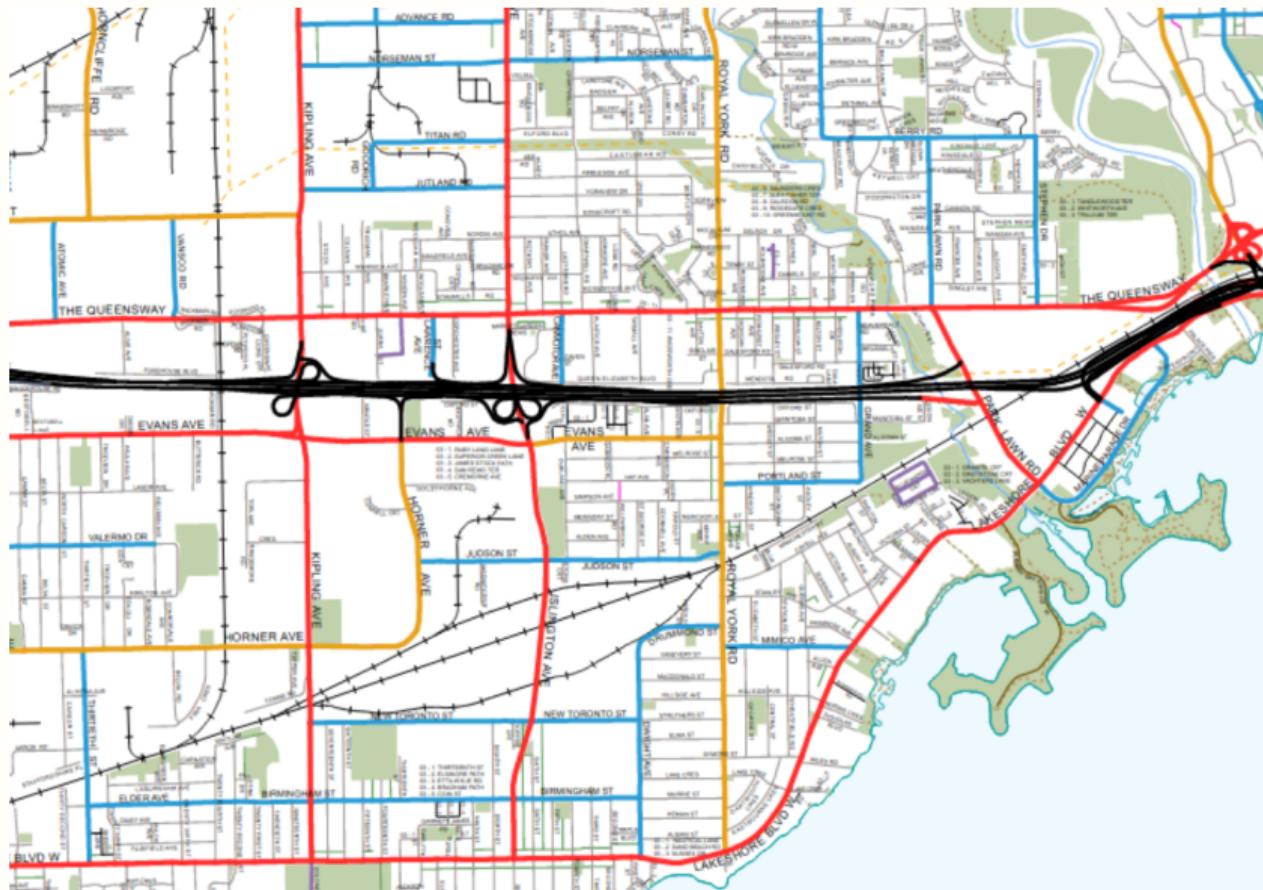
<https://www.erudit.org/en/journals/uhr/1900-v1-n1-uhr0860/1018953ar.pdf>



## Road Hierarchy

- ▶ Ranking of roads based on their functions and characteristics
- ▶ Historically (and still usually) based on vehicle speeds and throughput
- ▶ e.g. common hierarchy
  - 1. Highway / Motorway
  - 2. Major Arterial
  - 3. Minor Arterial
  - 4. Collector
  - 5. Local
- ▶ Used for design and maintenance of road networks

# Current Road Hierarchy in Toronto:



## Key Concepts in Urban Transportation

- ▶ Travel Demand
- ▶ Activity Participation
- ▶ Utility
- ▶ Travel Behaviour
- ▶ **Mobility**
- ▶ Accessibility

## **Mobility**

- ▶ The ease of travelling

## **Accessibility**

- ▶ The ease of reaching destinations
- ▶ Depends on mobility, but also land-use (i.e. the proximity of destinations)

## **Next Week**

### Cycling & Walking:

- ▶ Walking and cycling in the city
- ▶ Health benefits of active travel
- ▶ Safety issues
- ▶ Streets as public space
- ▶ Designing complete streets