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Project Title	Primary Transit Network Economic Gap Analysis
Problem Statement	below
Objective	Below
Data Available	below
Mentor – Name, Experience, and Commitment	Filip Majcherkiewicz (Primary); other Transit employees based on specific need or expertise

Background:

Over the next 10 years Calgary Transit will be investing heavily into the Primary Transit Network, a core network of frequent services which will operate at least every 10 minutes for 15 hours per day, 7 days a week. This will allow Calgarians to get to their destinations more quickly and reliably by reducing time needed to wait for or connect to services, while increasing the number of economic, social, and recreational opportunities within an acceptable trip length.

Our current network is intended to distribute these benefits broadly to Calgarians, but ensure we are addressing equity approaches to socioeconomic groups that particularly rely on transit for their mobility. Thus, it is important to consider if there are any missing gaps within our network, and what changes (if any) should be explored to improve this. Furthermore, we should consider how much benefit may be realized by making an investment in closing these gaps.

This is particularly important with the heightened awareness and attention being paid to Canada's Housing Crisis, including efforts underway within the public transit industry to support affordable housing and transportation.

Problem Statement:

This project will assess the planned investments in the Primary Transit Network against socio-economic variables to determine if there are gaps or adjustments necessary. Students may consider variables such as socio-economic profiles of individuals/households or other equity seeking groups which may rely disproportionately on transit for their mobility (lower-income households, new/recent immigrants, service sector employment, affordable housing)

Example variables (students can choose these or propose their own, based on interest and data availability):

- Housing Affordability: the places with concentrations of affordable housing (either proportionally or in overall amount) are well served by transit
- Access to Jobs: that places where Calgarians live enjoy good access to employment opportunities. May be considered in overall terms or in terms of matching their skills and training.
- Transportation Affordability: considering the relative costs of various travel modes in both time and money, are there areas transit serves where people may be spending a disproportionately high amount of their income on transportation (e.g., forced to own car when they'd like more affordable option, but transit options are not competitive).

Data Available:

- Ridership data (by route, stop, time period, etc)
  - Will require a request to be made in advance, recommend at least 2 weeks prior to being needed.
- Conceptual "future state" transit network – either through City's Regional Transportation Model or provided as linework (e.g., a PDF) for the purposes of the exercise.
- Service Schedule data (GTFS)
- Transit "reach tool" or Isochrone Travel Map – which can calculate geographic areas reachable from bus stops and transit stations (either individually or as a network)
  - This is a custom tool developed within transit and may require access to programs and technical ability that students may or may not possess. Students with intermediate to advanced GIS knowledge may be able to replicate a similar tool using City of Calgary open source data (street network, stops, transit GTFS data, etc).
- Calgary Transit Customer Demographic Surveys
- City of Calgary Open Source Data (https://data.calgary.ca/)
- Federal Census Data

Outcome:

- A key outcome is to identify gaps within the future state network and the chosen variable.
- The team should be able to quantify the significance (or severity) of any gap and construct a narrative as to why it is important to close this gap.