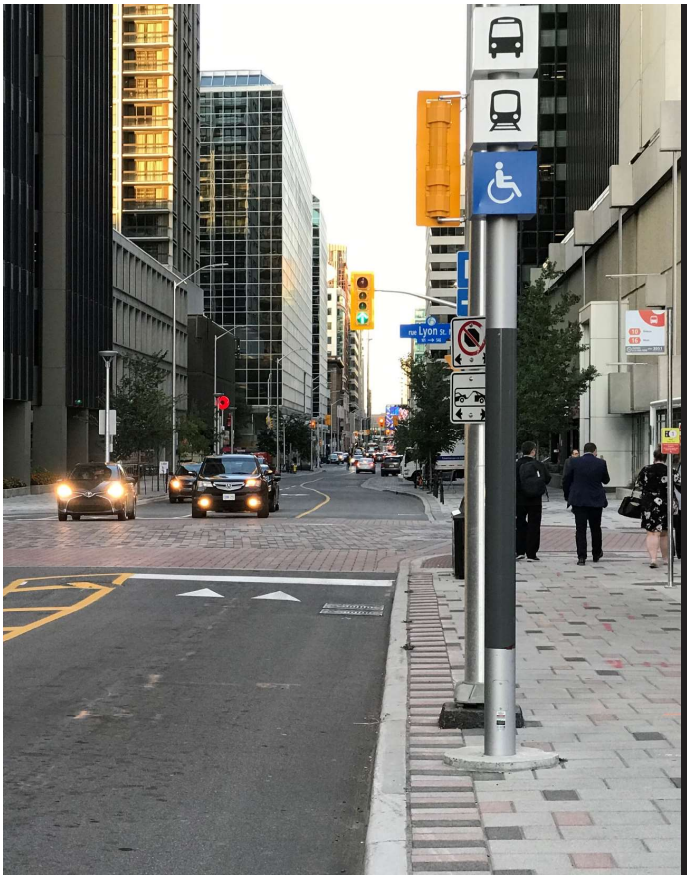


Introduction Industry Practices, Tools, and Guidelines

Transportation Planning and Traffic Engineering

Stantec

Carleton UNIVERSITY

Introduction

Ahmed Abdelnaby
Contract Instructor



Degrees/Affiliations: M.Sc., P.Eng., RSP1.

Experience: 7 years in transportation planning, traffic operations and modelling, and traffic safety.

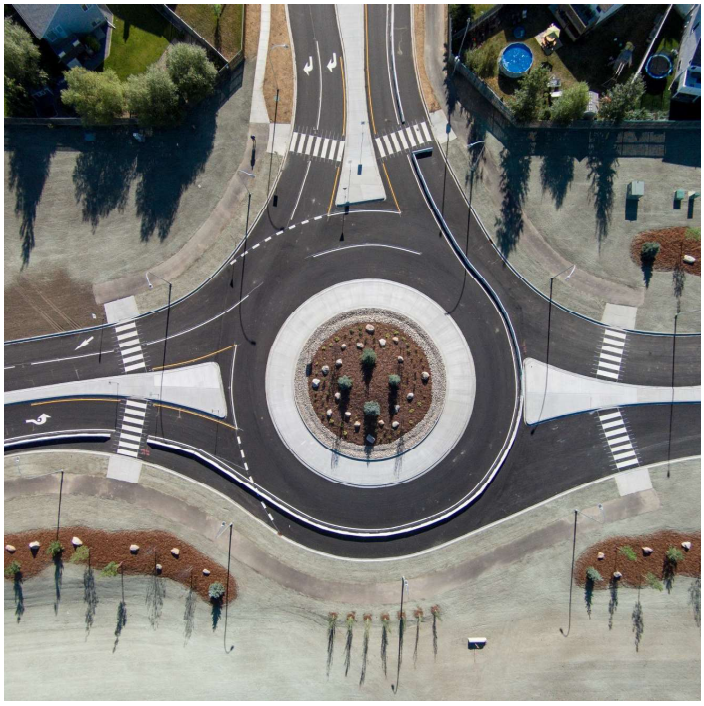
Current Role: Project Engineer at Stantec Consulting Ltd.

Teaching Assignment (Winter 2021): Introduction to Transportation Engineering Industrial Practices – CIVE 5809

Class Time: Fridays 6:05 PM – 8:55 PM

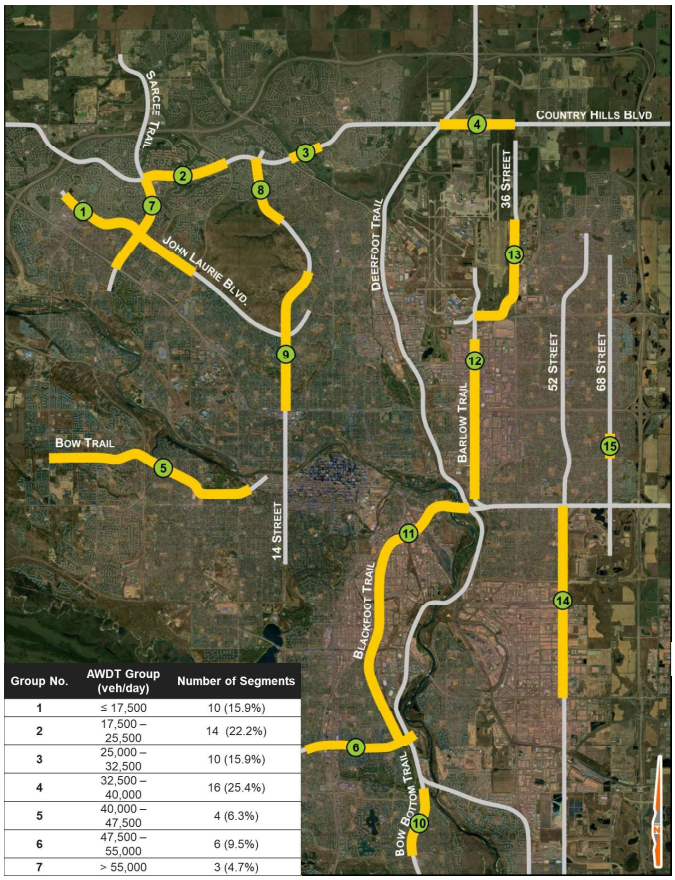
Course Objectives

- Introduce transportation planning and engineering studies practices in the industry;
- Introduce common concepts, tools, software, and techniques to perform engineering studies; and
- Prepare participants with proper understanding transportation planning prior to joining the work force.



Course Topics

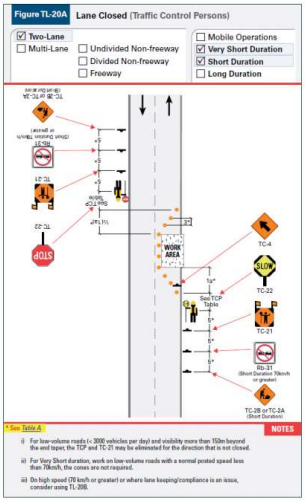
1. Introduction to Traffic Studies Methods and Tools
2. Principles of Accessibility and Network Operations
3. Intersection Controls
4. Traffic Safety versus Operations
5. A Full Traffic Impact Assessment Case Study – Ottawa
6. Introduction to Synchro and VISSIM
7. Special Studies and Applications

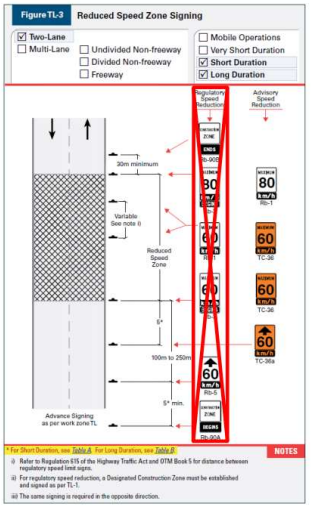


Group No.	AWDT Group (veh/day)	Number of Segments
1	≤ 17,500	10 (15.9%)
2	17,500 – 25,500	14 (22.2%)
3	25,000 – 32,500	10 (15.9%)
4	32,500 – 40,000	16 (25.4%)
5	40,000 – 47,500	4 (6.3%)
6	47,500 – 55,000	6 (9.5%)
7	> 55,000	3 (4.7%)

Resources

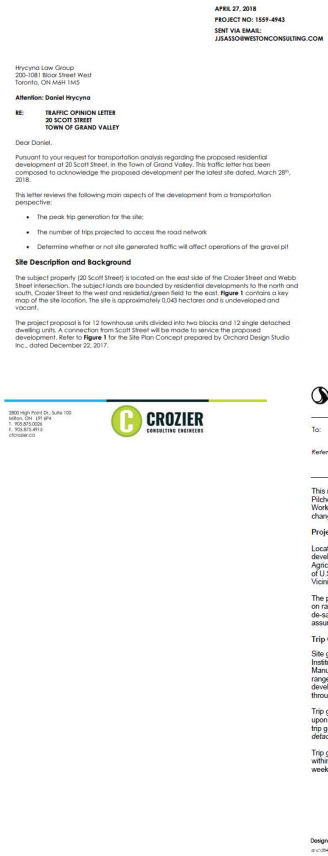
- Ontario Traffic Manual (OTM) Books 1-15;
- TAC 2017;
- Ottawa / Calgary / Edmonton / Toronto TIA, TIS guidelines, Transportation Master Plans, and Zoning by-laws;
- Previous TIAs and Safety Studies performed by Stantec;
- ITE Trip Generation (10th Edition) and Parking Generation Manual 4th edition;
- ITE Trip Generation Handbook 3rd edition and NCHRP Internal Capture, report 640;
- Trans-committee residential Trip Generation rates and O-D Surveys;
- Texas DOT Guide for Determining Time Requirements for Traffic Signal Preemption at Highway Rail Grade Crossings.





Evaluation

- Attendance and Participation (10%)
- Mid-term Presentation (25%)
- Quizzes (20%)
- Project Report (30%)
- Final Project Presentation (15%)



APRIL 27, 2018
PROJECT NO: 1559-4943
SENT VIA EMAIL:
JJSASSO@WESTONCONSULTING.COM

Hrycyna Law Group
200-1081 Bloor Street West
Toronto, ON M6H 1M5

Attention: Daniel Hrycyna

RE: TRAFFIC OPINION LETTER
20 SCOTT STREET
TOWN OF GRAND VALLEY

Dear Daniel,

Pursuant to your request for transportation analysis regarding the proposed residential development at 20 Scott Street, in the Town of Grand Valley. This traffic letter has been composed to acknowledge the proposed development per the latest site dated, March 28th, 2018.

This letter reviews the following main aspects of the development from a transportation perspective:

- The peak trip generation for the site;
- The number of trips projected to access the road network
- Determine whether or not site generated traffic will affect operations of the gravel pit

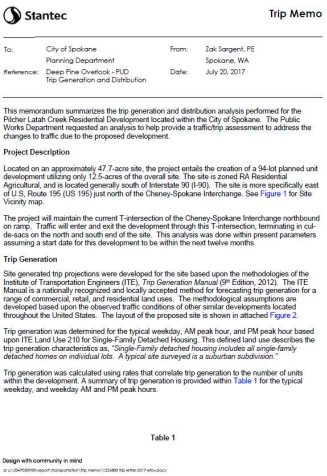
Site Description and Background

The subject property (20 Scott Street) is located on the east side of the Crozier Street and Webb Street intersection. The subject lands are bounded by residential developments to the north and south, Crozier Street to the west and residential/green field to the east. **Figure 1** contains a key map of the site location. The site is approximately 0.043 hectares and is undeveloped and vacant.

The project proposal is for 12 townhouse units divided into two blocks and 12 single detached dwelling units. A connection from Scott Street will be made to service the proposed development. Refer to **Figure 1** for the Site Plan Concept prepared by Orchard Design Studio Inc., dated December 22, 2017.

2800 High Point Dr., Suite 100
Milton, ON L9T 6P4
T. 905.875.0005
F. 905.875.4915
ctcrozier.ca

CROZIER
CONSULTING ENGINEERS



Stantec

Trip Memo

To: City of Spokane, Planning Department
From: Zak Sargent, PE, Spokane, WA
Reference: Deep Pine Overlook - PUD, Trip Generation and Distribution
Date: July 20, 2017

This memorandum summarizes the trip generation and distribution analysis performed for the Pilcher Latah Creek Residential Development located within the City of Spokane. The Public Works Department requested an analysis to help provide a traffic/trip assessment to address the changes to traffic due to the proposed development.

Project Description

Located on an approximately 47.7-acre site, the project entails the creation of a 94-lot planned unit development utilizing only 12.5-acres of the overall site. The site is zoned RA Residential Agricultural, and is located generally south of Interstate 90 (I-90). The site is more specifically east of U.S. Route 195 (US 195) just north of the Cheney-Spokane Interchange. See Figure 1 for Site Vicinity map.

The project will maintain the current T-intersection of the Cheney-Spokane Interchange northbound on ramp. Traffic will enter and exit the development through this T-intersection, terminating in cul-de-sacs on the north and south end of the site. This analysis was done within present parameters assuming a start date for this development to be within the next twelve months.

Trip Generation

Site generated trip projections were developed for the site based upon the methodologies of the Institute of Transportation Engineers (ITE), *Trip Generation Manual* (9th Edition, 2012). The ITE Manual is a nationally recognized and locally accepted method for forecasting trip generation for a range of commercial, retail, and residential land uses. The methodological assumptions are developed based upon the observed traffic conditions of other similar developments located throughout the United States. The layout of the proposed site is shown in attached Figure 2.

Trip generation was determined for the typical weekday, AM peak hour, and PM peak hour based upon ITE Land Use 210 for Single-Family Detached Housing. This defined land use describes the trip generation characteristics as, *"Single-Family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision."*

Trip generation was calculated using rates that correlate trip generation to the number of units within the development. A summary of trip generation is provided within Table 1 for the typical weekday, and weekday AM and PM peak hours.

Table 1

Design with community in mind

Contact

- Ahmed.Abdelnaby@carleton.ca