MILITARY INSTITUTE OF SCIENCE AND TECHNOLOGY
Department of Environmental, Water Resources and Coastal Engineering
Level-3, (EWCE-351), Semester: Spring 2025

Due Date: 28 July 2025 Roll No:

Title:
Trip Generation Analysis Using Household Travel Survey Data

Objective:
Using the real data collected from your class through the Google Form (linked data sheet) you will:
1. Calculate the total number of trips produced by each household.
2. Calculate the average trip generation rate per person.
3. Break down trips by purpose: HBW (Home-Based Work), HBS (Home-Based School), HBO (Home-Based Other), NHB (Non-Home-Based).
4. Calculate group averages and interpret the results.

Dataset to Use:
Use this dataset:
https://docs.google.com/spreadsheets/d/1s_H4BtEW4K97pOW5UALfFzPJL51sMhBx5o5pE0Gzln8/edit?resourcekey=&gid=1289848700#gid=1289848700

Assignment Tasks:

1. Calculate Total Trips Produced for Each Household
For each household:
- HBW: 2 trips per working member.
- HBS: 2 trips per school/college-going member.
- HBO & NHB: Use the individual trip details provided in the sheet for each respondent. Classify trips based on purpose and whether they start/end at home.
Add up all trip types:
Total Trips = HBW + HBS + HBO + NHB

2. Calculate Average Trip Generation Rate per Person
Average Trip Rate Per Person = Total Trips ÷ Household Size

3. Find Trip Generation by Purpose
For each household, prepare a table like:

Trip Purpose	Trips Produced
HBW	___
HBS	___
HBO	___
NHB	___
Total	___

4. Calculate Group Averages

Look at Trip_Generation_Group_List uploaded with this HW. Work with your groupmates' households.

Combine your results to find:

- Average household size
- Average trips per household
- Average trip generation rate per person
- Average trips per household by purpose

Use this format:

Household	Household Size	HBW	HBS	HBO	NHB	Total Trips	Trips per Person
Student 1							
Student 2							
Student 3							
Student 4							
Student 5							
Average							

5. Short Interpretation

Write 5–6 sentences explaining:

- Which trip purpose generates the most trips?
- What is the average trip generation rate per person?

- How does your household compare to the group?
- What factors might explain differences?

Deliverables
You must submit:
1. An Excel/Google Sheets file with all your tables and calculations.
2. A handwritten report showing all calculations with your short interpretation.

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Bonus (Optional):
Write a short note: What could reduce or increase trips in your household in the future?

Submission Instructions:
• File names must include your name and ID.
• Submit the excel file with all your tables and calculations through LMS only. Handwritten copies to be handed over to the course teacher.

Good luck!

Note: I have taken help of AI to make this assignment. However, you should refrain from the use of any kind of AI tools in submission. I am open for discussion on the assignment every weekday from 1100 to 1140 hrs.