

TERM PAPER

Options

- (1) Paper based on literature review and synthesis. Although some suggested topics are noted below, please feel free to select your own favourite topic.
 - (2) Paper based on computer-aided analysis or design (e.g., a selected case study). In this case the paper will include problem definition, methodology, data, analysis, results, and conclusions. Also, relevant literature should be cited
 - (3) Define an original research problem to be solved, methodology (or methodology options), data sources (just identification at this stage), model structure, computer methods (e.g., MATLAB, a simulator, etc.), and expected product.
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Format

(1) Professional technical report format/Scientific paper format

NOTE: You may wish to use the Abdulkader Alkadry and Ata Khan paper on adaptive traffic control as an example (This paper is to be reviewed for Problem Set 1, to be posted on the course website)

(2) Contents: Title page, abstract/Executive summary, table of contents, list of tables & list of figures, chapter and section numbers, references, appendix (if applicable).

(3) References can be listed alphabetically and can be cited in the text by using the last name of author or agency name -- e.g., Kent (2020), City of Ottawa (2020).

(4) Sources of information should be shown in the text

(5) Please use Times New Roma, 1.15 line space, space between paragraphs. Justified.

(6) Additional Format Instructions (e.g. Length, references, etc.) are noted following the list of topics. (Source (Courtesy): The Canadian Journal of Civil Engineering)

Some Suggested Topics

1. Safety and geometric design.
2. Safety and traffic control.
3. Safety and driver education.
4. Safety and alcohol use.
5. Safety and speed
6. Safety and in-vehicle telematics, cell phone (texting, telephone conversation), in-vehicle infotainment systems, etc.
7. Safety and road weather information systems.
8. Safety and trucks on highways.
9. Human factors research: role of driving simulator & microsimulator.
10. Security of traffic infrastructure

11. Fuel consumption and traffic
12. Emissions and traffic
13. Traffic noise
14. Environmental impacts (the broader picture)
15. Modern roundabouts: capacity, safety, and operational features.
16. ITS and safety.
17. ITS and road capacity.
18. ITS - Advanced traveller information systems.
19. ITS - Advanced traffic control.
20. ITS - Advanced traffic management.
21. ITS - Freeway traffic management.
22. ITS - Ramp metering.
23. ITS + GPS: road pricing innovations.
24. ITS - predictive travel time.
25. ITS - Real-time control, real-time prediction of delay and maximum queue length
26. ITS - probe vehicles.

27. Mobile intelligent devices as a part of traveller information systems and/or traffic control
28. Connected vehicles: safety, operations, new services such as use-based toll and use-based insurance.
29. Accommodation of autonomous vehicles and autonomous driving on public roads/highways and urban traffic networks
30. ITS - highway automation.
31. Traffic calming.
32. Traffic operations & emergency preparedness.
33. Parking innovations.
34. Traffic planning for special events.
35. Planning for high occupancy vehicle (HOV) and high occupancy toll (HOT) lanes.
36. Comparison of capacity analysis methods of selected countries.

Additional Format Instructions

Source (Courtesy): The Canadian Journal of Civil Engineering

Length — “papers should normally be limited to 9000 words or word equivalents, including tables and figures. (As a guide, a typical table or figure should be counted as 250 words.)”.

Spelling “should follow that of *Webster’s Third New International Dictionary* or the *Oxford English Dictionary*. Authors are responsible for consistency in spelling”.

Abbreviations, nomenclature, and symbols for units of measurement

“should conform to international recommendations. **SI units** (Système international d’unités) should be used or SI equivalents should be given. This system is

explained and other useful information is given in the *Canadian Metric Practice Guide* (2000) CAN/CSA-Z234.1–10, published by Canadian Standards Association (5060 Spectrum Way, Suite 100, Mississauga, ON M9W 1R3, Canada). For practical reasons, some exceptions to SI units are allowed”.

Acronyms “should be defined when they are first mentioned in the text”.

Acknowledgements “should be written in the third person and kept to a concise recognition of relevant contributions”.

References — “The author is responsible for verifying each reference against the original article. Each reference must be cited **in the text** using the surnames of the authors and the year, for example, (Walpole 1985) or Green and Brown (2004). Depending on the sentence construction, the names may or may not be in parentheses,

but the year must be. If there are three or more authors, the citation should give the name of the first author followed by et al. (e.g., Green et al. 2001). If references occur that are not uniquely identified by the authors' names and year, use *a*, *b*, *c*, etc., after the year, for example, Green 1993*a*, 1993*b*; Green and Brown 1998*a*, 1998*b*, for the text citation and in the reference list”.

“Uniform resource locators (URLs) or digital object identifiers (DOIs) are useful in locating references on the World Wide Web, and authors are encouraged to include these; they should be added to the reference in the reference list”.

Unpublished reports, private communications, and In press references
— “References to unpublished reports, private communications, and papers

submitted but not yet accepted are not included in the reference list but instead must be included as footnotes or in parentheses in the text, giving all authors' names with initials; for a private communication, year of communication should also be given (e.g., J.S. Jones (personal communication, 2010)). If an unpublished book or article **has been accepted for publication**, include it in the reference list followed by the notation "In press". Do not include volume, page number, or year in an in-press reference, as these are subject to change before publication".

"References must be listed in alphabetical order according to the name of the first author and not numbered. References with the same first author are listed in the following order. (i) Papers with **one author**

only are listed first in chronological order, beginning with the earliest paper. *(ii)* Papers with **dual authorship** follow and are listed in alphabetical order by the last name of the second author. *(iii)* Papers with **three or more authors** appear after the dual-authored papers and are arranged chronologically. Names of periodicals should be written out in full.”

“References to **nonrefereed documents** (e.g., contract reports) must include the address where they can be obtained”.