

***Limitations to the Literature on  
Methodologies for Identifying and Ranking  
Sustainable Transport Practices in Urban Regions***

***INTERIM REPORT 5***

Transport Canada Project

**Methodologies for Identifying and Ranking  
Sustainable Transport Practices in Urban Regions**

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Ottawa, Ontario  
December 15, 2008

## 1. Background and Context

The purpose of the research undertaken for Interim Report 5 is contained in the following section from the project's first posted document, *Methodologies for Identifying and Ranking Sustainable Transport Practices in Urban Regions: Synopsis Report* (Wellar, 2008a).

**Task 3** – Using the results of literature reviews and the suggestions of experts and practitioners, prioritize the pertinent bodies of literature, and conduct the literature search and review process to produce as representative a set of findings on methodologies for identifying and ranking sustainable transport practices in urban regions as resources (funds and time) permit.

Prioritizing the pertinent bodies of literature serves three very important functions, which are summarized as follows:

1. The terms of reference for the project, and especially the time factor, underline the need for project researchers to focus attention on the literature which is most pertinent to the project, and to consider less pertinent materials only as time permits.
2. In regard to communications among government and non-government experts and practitioners contributing to the project, attaching an order of importance to the literature that must be read, should be read, and could be read promotes the effective and efficient use of scarce time, and enhances both the quality of the deliberations and the output of these deliberations.

Clearly, the participants will have encountered other literatures that are pertinent to the project, and this material is not precluded from consideration. However, by specifying what might be called a core body of documentation, the search for common ground is expedited and the selected literature can be given its due, primary attention. Then, once the primary literature has been processed, the branching out activity can occur as a sort of bonus activity.

3. In my experience municipal government respondents and other officials are likely to focus attention on the bodies of literature which are pertinent to their respective professional and/or operational fields (planning, engineering, health, traffic studies, public transit, alternative transport, etc.). Conversely, it is less likely that they conduct literature searches and reviews in other fields, and even more unlikely that they delve into the latest issues of the various literatures associated with methodologies, methods, and techniques used in making decisions about sustainable transport practices.

Due to the design of this project, Interim Report 5 is not intended to affect how respondents initially reply to the survey questions about methodologies, methods, and techniques that are used in decision making. However, findings from the review of the literature could serve an important self-examination or evaluative function. That is, the results could inform municipal respondents about important sources of information at the exploratory and confirmatory levels, and serve as a stimulus for the respondents to re-visit their initial survey responses for fine-tuning, clarification, and other purposes.

Further, and along the lines of the “Be prepared for alternative outcomes” principle, it is also important to have due regard for the question, “What if the literature search does not yield a rich body of pertinent literature?” Should that be the case, then one implication to draw is that municipal governments have an opportunity, and perhaps a duty, to contribute to a body of literature that they would surely want to have available to their elected and appointed officials, and citizens, as well as to counterparts in other municipal governments.

The point here is that many of the municipal governments invited to participate in the survey are talking about and/or embracing the idea of sustainable transport. It therefore follows that rather than looking to others to generate the literature, they should be active participants in the knowledge-building process, which includes contributing to the literature on the methodologies, methods, and techniques which underlie their decision-making processes.

Beyond its intended use by project researchers, by contributors and advisors to the project, as well as by municipal respondents, it is anticipated that the project client (Transport Canada), provincial agencies, and transportation consultants and researchers will also have an interest in the literature review. And, as major players in determining what gets into the literature, it occurs that journal editors and editorial boards, conference organizers, and others responsible for the contents and organization of published materials may also have an interest in the results of the literature search activity.

## **B. Potential Bodies of Pertinent Literature**

The transport of people and freight and the movement of data are topics of wide scientific and societal interest, and as a result they are discussed in a variety of venues. And, when the terms **sustainable and practice** are added to the mix, an even larger constituency emerges with many things to be said or written in regard to identifying, adopting, and implementing sustainable transport practices.

A search for reports arising from prior literature searches on the topic of methodologies for identifying and ranking sustainable transport practices in urban regions was undertaken, but no results from prior searches were located. A similar result was obtained for searches for reports in which the terms methods and techniques were substituted for methodologies. This is not to say that

searches were not done, or that reports of searches do not exist; rather, it is merely a statement of fact that no reports of literature searches were located, and to invite readers to correct any error of oversight at the earliest moment.

As a result of not finding a precedent list of prioritized or even potential bodies of pertinent literature that were derived from prior searches, it was necessary to create a list for this project. The approach taken was to begin by compiling a “long list” of literatures from prior, related studies undertaken by the Principal Investigator, and to move towards a “short list” by contacting government and non-government officials for their views on likely candidates. The long list of potential bodies of pertinent literature is presented in Table 1.

The prior literature search activities were undertaken during projects for the City of Ottawa (Wellar, 1996), the Canadian Council on Geographic Education (Wellar, 2005a), Transport 2000 Canada (Wellar, 2006), and two invited lectures at annual meetings of the Association of American Geographers (Wellar, 2005b, 2007a). The interested reader can consult the original documents for brief descriptions of the contents of the respective literatures, and can go to libraries or use a search engine to obtain more details

**Table 1. Potential Bodies of Literature Containing Materials on Methodologies for Identifying and Ranking Sustainable Transport Practices in Urban Regions**

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|---|
| <ol style="list-style-type: none"><li>1. Academic journals</li><li>2. Conference proceedings</li><li>3. Dissertations and theses</li><li>4. Government documents</li><li>5. Professional association documents</li><li>6. Research institute documents</li><li>7. Interest group documents</li><li>8. Public interest documents</li><li>9. Vested interest documents</li><li>10. Internet postings</li><li>11. Legal documents</li><li>12. Newspaper items</li><li>13. Radio items</li><li>14. Television items</li></ol> |
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In the absence of any found lists of bodies of literature that could contain materials pertinent to this project, the entries in Table 1 are presented as a reasonable, preliminary “long list” for this project task.

## **C. Bodies of Documentation Selected for the First Round of the Literature Review**

Discussions with government and non-government contacts led to the decision to focus the first round of the search on Internet materials, and to use lessons learned from that search to review academic journals, conference proceedings, dissertations, and research institute materials. Then, time and resources permitting, and tempered by the issue of whether further searches are likely to be needed or productive, a further round of reviews could be considered.

As to the nature of papers, articles, videos, audios, and other documentation that is of interest, materials involving empirical studies, whether curiosity-driven, client-driven, or a mix of the two approaches are most highly regarded. The reasons for the emphasis on empirical studies for this project (involving sustainable transport practices) have been discussed in prior project documents (Wellar, 2008d, 2008f), so there is no need to discuss that matter again.

In addition to documentation that is based on empirical studies, however, consideration is also given to other kinds of materials that could be used by municipal governments in making decisions about identifying, adopting, and implementing sustainable transport practices.

This project design feature reflects the relative newness of the field of sustainable transport (emergence of the concept by the 1960s, widespread adoption in principle in the 1990s), as well as the diverse forces that could influence municipal government decision processes. The intended effect of this design decision is to create an environment for building a broad-based foundation of pertinent literature on the topic of methodologies for identifying and ranking sustainable transport practices in urban regions.

As a result, materials of interest could include literature reviews, opinion pieces, commentaries, newspaper columns, books, editorials, columns, op-ed articles, guest features, invited or feature articles, thought pieces, etc., and they could fit into any of the cataloguing, hypothesizing, or theorizing domains of the knowledge-building process (Wellar, 2008f).

That said, this project is not a Library of Canada, Library of U.S. Congress, or Google search engine enterprise that can cast a wide net with a fine mesh, and collect and organize millions of bits-and-pieces of documentation from various and sundry sources, volumes, issues, editions, etc. Rather, the search is for substantial, established bodies of literature containing pertinent, systematically-organized materials that can be located and retrieved with minimal time, effort, and resources. I note that this research design feature is not only consistent with the projects funding and scope, but it also appears to be in step with the seemingly limited resources that government officials have to become and remain apprised of the state of the literature in the sustainable transport field.

## **D. Results of the Search of the Literature for Studies of Methodologies**

### **1. Internet as a Literature Source or Literature Guide**

The Internet part of the search for studies was specified as follows:

Conduct a keyword-based, electronic search of pertinent literatures for articles and reports on precedent studies (Wellar, 2008a).

The results of the Internet search for information about studies are discussed in detail in Interim Report 4. Several findings from the prior report are sufficient to establish what was learned from the Internet search (Wellar, 2008e):

“For the keyword phrases which did yield Google search procedure results, they appear to fall into four categories.

A. The phrases are used in webpage texts, but they do not actually involve presenting or discussing methodologies, methods, or techniques. Simply put, they apparently just happen to be there, sometimes seemingly as filler, and sometimes seemingly as “bait” or “hooks” to have items receive search engine attention, but they have no contribution to make to this project.

B. The phrases are used in an exhortative rather than a demonstrative manner, whereby the author or originator calls for or wishes for something to occur; however, the materials do not contain evidence of anything actually having been done, or of any lessons learned, and as a consequence do not provide substantive advice which can be used with confidence in this project.

C. Some results locate webpages which report on materials that contain bits-and-pieces or segments of the research that is being undertaken in this project, but I did not locate any prior study that could serve as a precedent or a guide for the research design of this project. I hasten to add, however, that the webpages located by the Google search could be useful in discussions of particular methodologies, methods, or techniques.

D. Some of the results refer to webpages containing materials associated with this Transport Canada project, including posted documents, association announcements, organization announcements, and listserve communications. Those webpages are useful as means of disseminating information about the project, and in particular the nature of the research agenda, but they do not directly contribute to

making an informed decision about pertinent, precedent studies that could be the basis for a confirmatory research design.”

The general finding from the Google search for studies about, or studies of methodologies, methods, and techniques used in making decisions about sustainable transport practices, is that insufficient evidence was encountered to point to any of the bodies as the “go to” source.

That is, when structured keyword phrases are used, the results from Google searches drop from 6-figure and 7-figure numbers to zero or almost zero. Such a disproportionate distribution appears to convincingly demonstrate that there is no body of open literature that contains a significant mass, much less a critical mass, of studies on the topic of methodologies for identifying and ranking sustainable transport practices in urban regions.

As for the non-studies literature, it appears to account for the vast majority of results achieved from the Google search using (unstructured) keyword phrases. Examination of the results from “Googling” the phrases in Interim Report 4 reveals, however, that a large number of postings represent media opinion pieces, media releases by government agencies, announcements by university and business organizations, blog entries, newspaper columns, calls for papers, calls for action by advocacy groups, announcements of conferences, etc.. And, again, there is no significant mass, much less a critical mass, of non-study-derived materials on the topic of methodologies for identifying and ranking sustainable transport practices in urban regions.

The summary outcome of the Internet examination, therefore, is that the Internet did not contain, nor did the Google search point to, a body of literature containing pertinent, systematically-organized materials that can be located and retrieved with minimal time, effort, and resources.

Consequently, not only must we look elsewhere for literature on the methodologies for identifying and ranking sustainable transport practices in urban regions, but it seems fair to say that neither the Internet nor the Google search engine are going to be of much help in locating the “go to” source. It is, of course, possible that other search engines might be more productive, or other searchers may be more effective in their use of search engines, and I look forward to learning about the results of such searches.

## **2. Academic Journals as a Literature Source or Literature Guide**

No journal surfaced as a “go to” source for one reason in particular. Many contributors to the academic literature are strong on prescribing things to be done, or making general suggestions under the rubric of sustainable transport, but when it comes to the matter of methodologies used in making decisions about identifying, adopting, or implementing sustainable transport practices, the literature is very short on connecting methodologies to the decision process.

By way of illustration, it would have been most useful to find one or several journals that offer both exploratory and confirmatory articles containing several dozen tables that present a cumulative, building-block story relating the elements of methodologies to each of the three decision stages. However, the results of Google and other (electronic) searches did not locate even one such table in even one journal, much less multiple tables in multiple articles in multiple journals. Moreover, and as a modest confirmation of that finding, my communications with government and non-government experts / practitioners did not identify any journals with a substantive publication record along the lines of what is needed for Task 3.

I hasten to add by way of clarification that I am not suggesting the non-existence of the occasional, pertinent article in the learned literature. Rather, the purpose of this project task is to locate journals that make significant contributions to the body of methodologies underlying the decisions behind sustainable transport practices, and I have not been successful in locating what might be called “flagship journals”.

### **3. Conference Proceedings as a Literature Source or Literature Guide**

Electronic searches and listserves were used to access information on a number of professional, technical, academic, and interest group conferences in Canada, the U.S., Europe, the Far East, Australia, New Zealand, etc., including the meetings of planners, engineers, geographers, environmentalists, politicians, walk groups, cycling organizations, transit groups, etc. Some of the papers (and in some cases abstracts) comprising the conference proceedings mention methodologies, methods, and techniques in association with sustainable transport research projects, but as a rule the discussions by presenters and discussants are limited to the paper being presented.

On those occasions when a session is organized around the topics of methodologies, methods, or techniques, such as for a roundtable or other activity with a methodological orientation, it is often a relatively rare event that may occur twice in ten years within organizations. That, however, need not be the case. As a contributor to such sessions at various conferences, it is my perception that there is considerable potential for conference proceedings to assume a prominent role as a venue for discourse on the methodologies, methods, and techniques used in making decisions about sustainable transport practices.

That said, at this point in time, and acknowledging again that bits-and-pieces of the literature are available, I have not been able to locate a “go to” conference or conference proceedings that provides a cumulative, systematic body of literature that serves Task 3 of this project.



#### **4. Dissertations as a Literature Source or Literature Guide**

It was anticipated that government and non-government experts and practitioners might direct me to information about completed or in-process dissertations that provide literature search information along the lines of this task. The hoped-for result is locating or being able to readily compile a collection of pertinent dissertations, perhaps through a network of university, association, or discipline libraries, which would expedite the literature search and review burden.

By way of a brief word of clarification about this search and review task, accessing such material could require sifting through many hundreds of dissertations from universities around the world that deal with one or more aspects of this inquiry about the connection between methodologies and sustainable transport decision processes. Fortunately, the sifting process can be streamlined via electronic searches, so the potential of dissertations as a literature source or literature guide seems high.

The feedback from contacts is that there are moves afoot to create a world-wide network reporting on dissertation research in the planning field, as well as in the engineering field. However, no one identified such an initiative or resource in Canada, and especially one that would allow electronic access to those parts of dissertations that deal specifically with the methodologies, methods, or techniques used in making decisions about sustainable transport practices.

In view of its potential utility, it is unfortunate that a one-stop type of source for accessing dissertations from Canadian and other universities was not found. Should this lack of success represent an oversight on my part, I welcome being apprised of this literature search service.

#### **5. Research Centres and Institutes as a Literature Source or Literature Guide**

The first step in reviewing the offerings of research centres and institutes was to invite participation in the project by a selection of senior individuals from several centres and institutes. The invitation included requesting information about prior work that could contribute to the design of this project, and especially precedent work that could be cited for reference purposes or perhaps even used directly. In addition, commentaries on methods and techniques for inclusion in the research reports were requested. (Wellar, 2008b, 2008c) Those invitations to participate did not yield any information about materials that could be used in Task 3.

The second step involved examination of Google search results that identified the websites of Canadian research centres and institutes. It is my finding that many of the centres and institutes produce occasional documents which are pertinent to aspects of the project. However, it does not appear that any research centre or institute website offers a comprehensive, systematically-organized body of materials that can be “pulled off the shelf” on the topic of methodologies for

identifying and ranking sustainable transport practices in urban regions. As a result, while the research centres and institutes are sources of sustainable transport expertise and opinion, I do not find them to be a useful resource for those seeking literature or guides to literature on the methodologies behind sustainable transport decision processes or outcomes.

## **6. Other Potential Bodies of Literature Containing Materials on Methodologies for Identifying and Ranking Sustainable Transport Practices in Urban Regions**

Fourteen bodies of literature were identified as potential sources of material that is pertinent to this project. Of the fourteen prospects, five primary candidates -- Internet, academic journals, conference proceedings, dissertations, and research institutes are discussed above. A high level of professional involvement with these sources of literature over many years, in combination with electronic search capabilities, made it possible to examine them within the time and resource parameters of the project.

However, that circumstance does not extend to the other nine sources of materials -- government documents, professional association documents, interest group documents, public interest documents, interest group documents, vested interest documents, legal documents, newspaper items, radio items, and television items, and as a result they cannot be reviewed in detail for this project. Sources of difficulty include the following: not all of these literatures are accessible by electronic searches; not all publications are open to the public; the volume of materials to be searched can be relatively large, which often requires a lengthy search procedure: interest groups may represent separate transport modes and not share information; in some cases permission to use materials may be required, and/or not easily obtained; and, in the case of website postings, they can be here today and gone tomorrow if the website is not maintained under a contractual or other type of obligatory arrangement.

It is my experience that each of these bodies of literature contributes to the file of documentation on methodologies behind the sustainable transport practices decision process. It is my further experience, however, that none of the bodies alone provides a comprehensive, systematically-organized holding of materials on methodologies for identifying, adopting and implementing sustainable transport practices in urban regions.

## **E. Progress in Producing a Representative Set of Findings on Methodologies from the Literature**

The literature search activity generated a limited amount of information regarding the topic of methodologies behind decisions to identify, adopt, or implement sustainable transport practices in urban regions. The search initially focused on empirical studies, since they were deemed to be the most likely way that

substantive findings about methodologies could be derived. In addition, however, consideration was also given to non-empirical study materials, such as literature reviews, opinion pieces, commentaries, newspaper columns, books, editorials, columns, op-ed articles, guest features, invited or feature articles, thought pieces, etc., and they could fit into any of the cataloguing, hypothesizing, or theorizing domains of the knowledge-building process. It warrants emphasizing that our interest is not in occasional contributions; rather, the search is for a body or bodies of material from which a representative set of findings about methodologies can be derived.

To summarize this part of the project, a representative set of findings about methodologies was not derived from the literature search activity. Detailed examination of the five primary bodies of literature (Internet, academic journals, conference proceedings, dissertations, and research institute reports) did not lead to a comprehensive body of materials that is systematically organized, or which can be systematically searched, for the purpose of obtaining information about the methodologies used to identify, adopt, and implement sustainable transport practices in urban regions.

As for the other nine bodies of literature, no indications were encountered in the prior searches that any of them would succeed where the prime candidates failed. Further, none of these bodies of literature was “touted” by government and non-government experts and practitioners as a likely source of detailed information about the methodologies used in making decisions about sustainable transport practices in urban regions.

Since these bodies of literature remain to be considered, three avenues for their potential disposition come to mind:

- 1) That that they be searched at a later date (time and resources permitting) as part of this project;
- 2) That they be searched as part of a subsequent or different project;
- 3) That one or more of the contributors to these bodies of literature conduct a search along the lines of those done in this project, and assemble the materials that contribute to building a body of documentation on the topic of methodologies for identifying, adopting, and implementing sustainable transport practices in urban regions.

The closing note in regard to the progress matter is that since a representative set of findings was not achieved, this project remains in the exploratory mode. (Wellar, 2008c, 2008e) In the event, however, that substantial evidence about methodologies is somehow uncovered or received in the next several weeks, the research design of the project will be modified for the remaining tasks, circumstances permitting.

## **F. Conclusion**

After selecting the priority bodies of literature (Internet, academic journals, conference proceedings, dissertations, research institute reports) from among 14 candidates, communications were sent and electronic searches were conducted achieve the bottom line of Task 3, that is “to produce as representative a set of findings on methodologies for identifying and ranking sustainable transport practices in urban regions as resources (funds and time) permit.”

The outcome of the communications and searches is that the bodies of Canadian literature do not provide comprehensive, systematically-organized holdings of materials that permit or promote deriving a representative set of findings about methodologies used in making sustainable transport decisions.

To prevent misunderstandings, it is emphasized that **each of the bodies contains bits-and-pieces of the story**, but none of them is (yet) able to present the full story, or even the beginnings of the full story. And, as explained above, this project does not have either sufficient time or financial resources to “extricate” individual reports, papers, news items, etc., put them together in a coherent package, and build an information resource base “from the bottom up”.

One critical finding of the literature search activity, therefore, is that there does not appear to be a well-worn path for this research to follow in regard to representing the state of methodologies used in sustainable transport decisions. As a result, and in the absence of materials that could be the basis of a confirmatory approach, the research design of the project remains exploratory.

A second and related critical finding involves the legitimacy of claims about purported best practices.

That is, best practices are presumably the result of methodologically-based studies, which means that if there are a number of claims about best practices then there should be a substantial body of methodologically-based evidence to support the claims (Wellar, 2007b). The lack of success in finding the supporting methodological evidence therefore raises serious questions about claims or assertions regarding purported best practices and, more specifically, the validity of the claims or assertions.

The message taken from these two critical findings is that the importance of the survey of municipal governments cannot be over-emphasized. The significance of the survey can be outlined as follows.

Since this appears to be the first methodologically-based study in Canada, and one which may have few precedents in other countries, there is not a substantive body of literature around which can be called upon to guide this research, or to provide answers to questions which arise over the course of the project.

Given that the survey developed for this project is apparently the sole source of empirical data about the methodologies that are used by municipal governments in making decisions about identifying, adopting, and implementing sustainable transport practices, it therefore becomes the foundation of a one-of-a-kind database, and a key input for exploring the extent to which claims or assertions about best practices are methodologically-based outcomes.

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## **INTERIM REPORT 5**

*Limitations to the Literature on Methodologies for Identifying and Ranking Sustainable Transport Practices in Urban Regions*

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