Sustainable Transport: Is There Anybody Here Who Can Win This Game?

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Comments and Graphics for
a Presentation at the

NATIONAL TRAVELWISE ASSOCIATION (NTWA) CONFERENCE

Transport & Climate Change: Understand the Problem – Be Part of the Solution

Belfast, Northern Ireland
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Presentation Objectives

1. Establish that transport is a climate change factor, that we are all part of the problem and part of the solution, but so far our contributions to the problem far exceed our contributions to the solution.

2. Demonstrate that while it is easy to access a huge body of documentation on sustainable transport principles, it is much more difficult to find evidence of achieved sustainable transport practices.

3. Persuade delegates that an accountable and transparent way to create a record of practices that have been achieved is to use a framework that explicitly recognizes the three stages of identifying, adopting, and implementing practices. Once that record begins to be compiled, the bandwagon effect can occur among winners. As for the losers, there is no place to hide a failure to act.

4. Promote discussion among delegates as to which sustainable transport practices belong in the classes of worst, worse, bad, neutral, good, better, best. This critical part of the sustainable transport debate has received very little attention, and the Belfast forum is an excellent opportunity to put the matter on the public agenda.

5. Present an indicative selection of best and worst sustainable transport practices from the Canadian experience, and make the argument that application of a similar approach in Northern Ireland would be very informative in terms of learning how close NI is to turning the tide in favour of sustainable transport contributing more to the climate change solution, and unsustainable transport contributing less to the climate change problem.

6. Identify both conventional and unconventional ways to accelerate the sustainable transport best practice process, with emphasis on the role of children ages 8-14 as a key to winning the sustainable transport struggle in less than a decade.

Presentation Outline

The Belfast NTWA presentation in 2007 continues the author's record of research, publication, and public discourse in the field of sustainable transport that began in the 1970s. Excerpts from several published documents are used for background and context purposes.

The first excerpts are from two publications by Wellar in 1975 titled, "Housing for the future", and "Taking steps towards the end of the automobile era". The excerpts are followed by a brief comment on the current pertinence of what was written in 1975, and the extent to which sustainable transport initiatives identified in 1975 are regarded as original ideas in 2007. As the reader no doubt appreciates, the tone of the Belfast presentation in 2007 is shaped by what has been achieved, or not, over the intervening 32 years.

The second set of excerpts consists of several slides from a presentation in 2007 to the Kiwanis Club of Ottawa. That presentation is titled "Sustainable transport: Does anybody here know how to win this game?". My objective in the Kiwanis paper was to establish that in order to win the sustainable transport game you need to know how to play it. Brief comments are provided to explain the content and purpose of the selected slides.

The closing Background and Context section contains a selection of excerpts from the 2007 Fleming Lecture that I presented at the Annual Meeting of the Association of American Geographers in San Francisco. The Fleming Lecture is titled, "Sustainable Transport Best Practices and Geography: Making Connections in Canada", and represents one of the first analyses of the extent to which considerations of geography are explicitly factored into Canada's experience with sustainable transport practices.

Building on those and other prior works, I then address the question, "Is there anybody here who can win this game?". (Please note the emphasis on can via the underline, as in can)

I do so by first establishing that the transport sector and climate change are related, and then by discussing the sustainable transport practices and instruments that are available to governments, corporations and individuals committed to winning the sustainable transport game, and thereby being part of the **Transport & Climate Change Solution**.

Background and Context Part1
Barry Wellar's Early Questions and Comments on Sustainable Transport: Excerpts from two articles published in 1975

Introduction to Background and Context Part 1

These excerpts reveal a longstanding concern about sustainable transport practices, and help to account for the 'edge' in the address.

"Will urban land uses, including housing, be so distributed that we profligately consume scarce or non-renewable resources while travelling millions of journey-to-work person-miles every day, that walking school children are put in competition for space with driving adults, that city residence-to-recreation site distances are routinely separated on a greater-than-walking distance basis?"

"If 1 million Canadians travel an average of 10 miles per day in cars yielding 100 miles per gallon of gas, we consume 100,000 gallons per day and 36,500,000 per year… Change the input numbers to 20,000,000 trip-makers each driving 20 miles per day at 20 miles per gallon, and our consumption numbers change to 20,000,000 gallons per day, and 7,300,000,000 per year. That is, 7 billion, 300 million gallons of gasoline are burned off in order to drive the family automobile each year, every year, as a minimum, most likely."

"… Traffic counts … have so far yielded the following tally for both eastbound and westbound traffic flow during the morning and evening rush hours: one-person cars (273); two-person cars (19); three-person cars (2); four-person cars (3). That is, out of a total of 297 cars, 92 per cent of them carried one person."

"Buses carrying in excess of 70 passengers wait at lights and intersections while one or a dozen cars (carrying one person each much more often than not) proceed through."

"… The Citizen (Oct.9, 1975) tells us that the City of Ottawa is installing a computer to improve traffic flow. Presumably if the traffic flow improves, then we can resolve current congestion problems, and maybe handle even more automobiles at some 260 intersections. Is it the policy of officials to encourage automobile traffic?"

"Transportation facilities consume resources that can be put to alternative uses (housing, recreation, etc.), and cars consume resources that can be put to alternative uses (chemicals, food, heating, etc.). Does anyone believe that anything more than small percentages of the resources committed in the name of the car are being put to their highest and best use?"

"Selected streets should have buses-only sections and lanes during the morning and evening peak hours. Buses should be equipped with devices for changing light signals upon approach. Buses in cities should have legal and acknowledged right-of-

way for turns at intersections and into traffic, regardless of street signals and markings."

"Capital expenditures by governments on prospective urban transportation facilities with an automobile bias should be postponed for a minimum of five years."

"Operating costs for transportation facilities should be diverted into public transit-related expenditures for a five-year period."

"Gasoline prices in smaller or more remote communities which cannot support a public transit service should be subsidized by revenues collected from gasoline sales in places like … where there is no excuse for not having and not using public transit for work and other trips."

"Governments should begin to speak publicly, now, about the inevitable demise of the automobile industry as we currently know it."

"The futurists of a decade ago suggested that the negative aspects of the automobile were increasing at an algebraic rate, and that problems of any magnitude were a number of generations away. Unfortunately, things are coming to a head at a geometric clip …."

"While it has not reached tidal wave proportions, there is at least a groundswell indication that many people have serious misgivings about the car continuing as a dominant force in our way of life."

Comment on Background and Context Part 1

It is now 32 years since the two articles were published, and without exception every comment, finding, suggestion, exhortation, and recommendation presented in 1975 appears today in Canadian-based government publications, newspapers, academic articles, trade magazines, interest group publications, professional publications, and numerous Internet site entries. Of direct relevance to the title of this presentation, and its content, is the fact that many current speakers/writers on sustainable transport seem unaware that their exhortations, proposals, etc., are at least three decades old!

(References for the two 1975 articles can be found in the report, "Sustainable Transport Best Practices and Geography: Making Connections". The report can be viewed at: transport2000.ca, and at geotrans.hofstra.edu/geotrans/tgsg.

Background and Context Part 2
Some Recent Comments and Graphics by Barry Wellar on Sustainable Transport: Excerpts from a Presentation in 2007 to Kiwanis Club of Ottawa

Introduction to Background and Context Part 2

There are 12 PowerPoint slides in the Kiwanis presentation; six are selected as graphics for the Belfast NTWA presentation.

Graphics and Comments in Background and Context Part 2

The full Kiwanis presentation is available, so the comments about the graphics are limited to brief remarks tying the Kiwanis presentation to the Belfast address.

Figure 1. Meaning of win in sustainable transport: Principles are not enough.

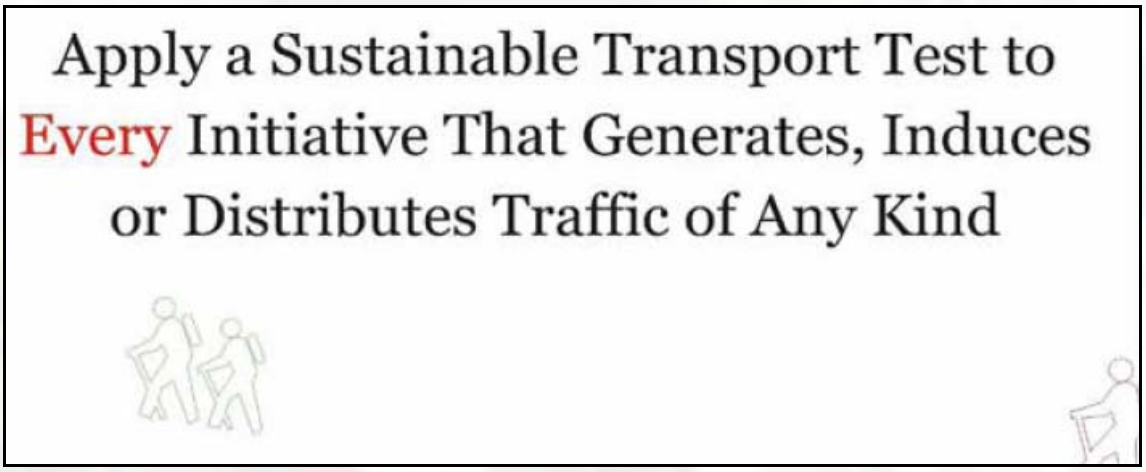
If principles were enough, the sustainable transport problem would not have arisen much less deepened!

Sustainable transport principles have been in the literature in detail for at least 30 years, at a general level for 50 years before that, and their origins could likely be traced back more than 150 years to the works of people like John Stuart Mill. In the interests of winning as opposed to just playing games, let's recognize the truth: principles are not enough to create winners.

Figure 2. Meaning of win in sustainable transport: Get Real!

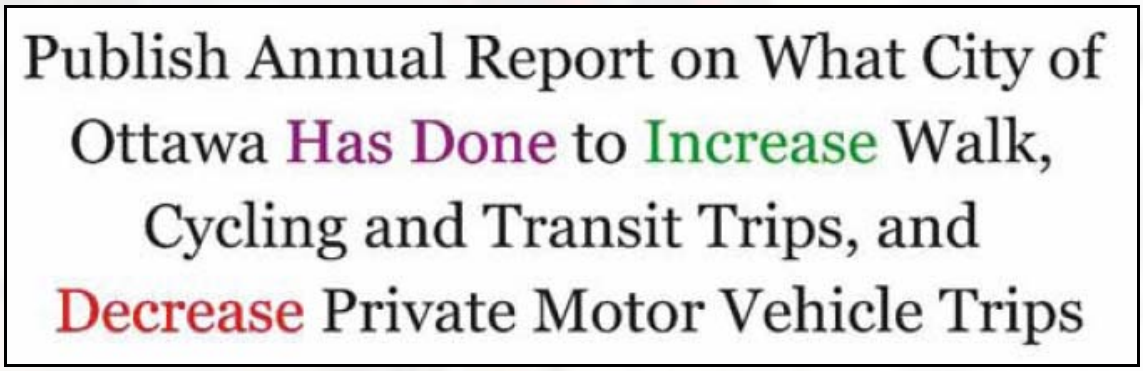
People understand the importance of practice in order to be a winner in soccer, rugby, cricket, hockey, piano, and maybe even keyboarding. However, when it comes to transportation, a key element of every country's economic, social, industrial, energy, environmental, health, and security fabric, many people appear to hope that transportation-related problems will resolve themselves. That do-nothing approach hasn't worked anywhere at any time. For those who can answer "Yes" or want to answer "Yes" to the question, "Sustainable transport: Does anybody here know how to win this game?", the next several slides illustrate what it will take to move beyond rhetoric and make things happen.

Figure 3. Sustainable transport suggestion: City of Ottawa. Sustainable transport test.



Being a winner in achieving sustainable transport practices requires a body of logic to guide and support decision-making. The City of Ottawa makes decisions in the same ways they have been made for the past 35 years. Top-of-the-head and seat-of-the-pants decision-making in the land use-transportation domain is the *modus operandi* of losers. To be a winner the City of Ottawa must apply a robust Sustainable Transport Test to its own initiatives, as well as to initiatives of the Province of Ontario and Government of Canada that affect the walk, cycle, transit, and private vehicle modes (people and freight) of transport in Ottawa.

Figure 4. Sustainable transport suggestion: City of Ottawa. Annual achievement report.



The essence of achieving sustainable transport practices is to **simultaneously** increase the share of walk, cycle, and transit trips while decreasing the share of private motor vehicle trips. The time is long overdue for the City of Ottawa to produce a detailed yearly report on exactly what it has done and achieved regarding sustainable transport practices.

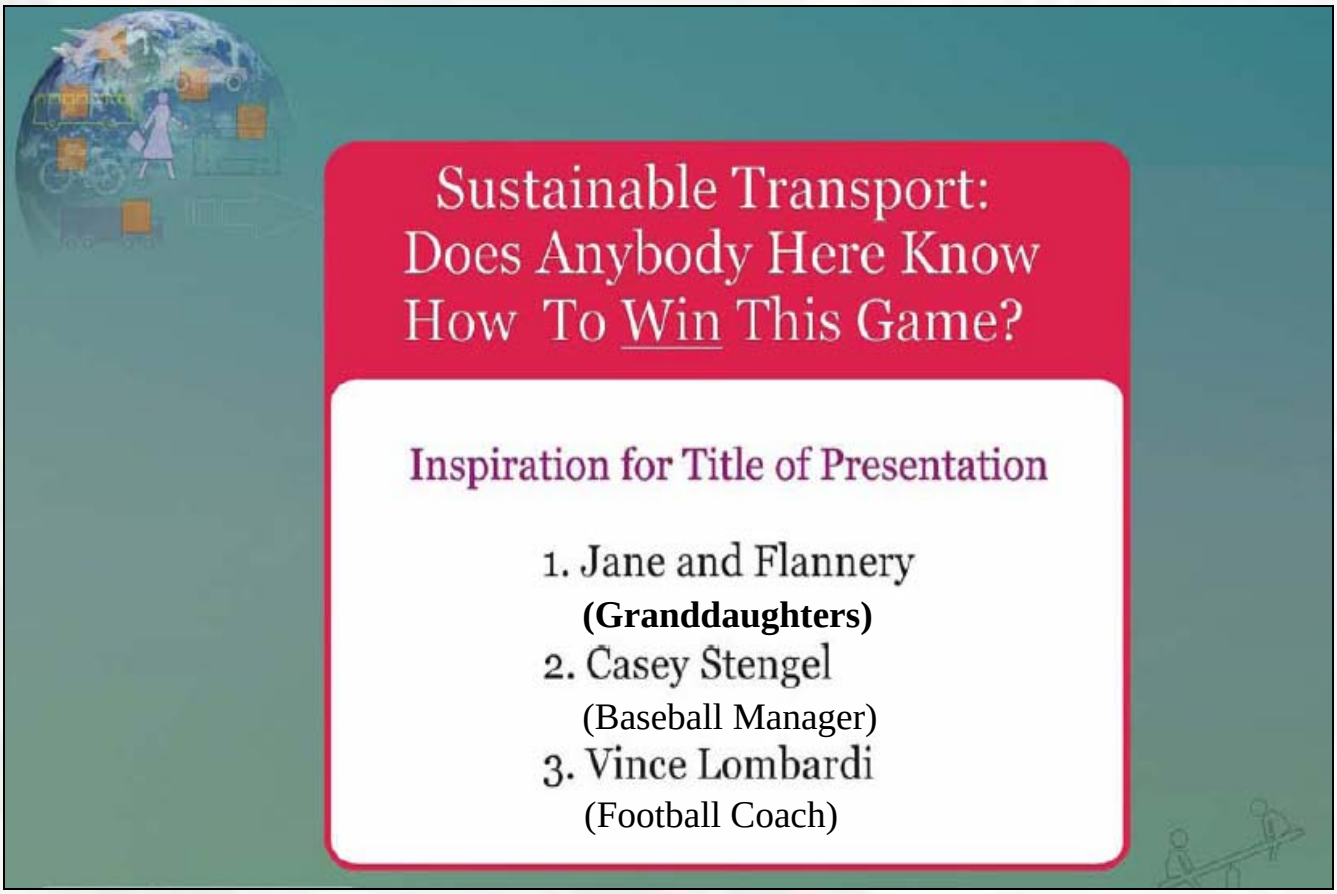
Figure 5. Sustainable transport suggestion: Ottawa corporations. Annual achievement report.

Corporations could do a lot more than they have to implement sustainable transport practices. It is past time for the private sector to demonstrate the **can do-will do attitude** necessary to achieve sustainable transport practices.

Figure 6. Sustainable transport suggestion: Ottawa residents. Leave your cars at home, folks, leave your cars at home.

The notion that the transportation mess in Canada and Ottawa is "somebody else's fault" is an exercise in denial. Worse, looking to governments or corporations to do most of the heavy lifting is fantasy. It has never happened, and there is no sign that it ever will; individuals must do what has to be done to achieve sustainable transport in practice.

(The PowerPoint presentation to the Kiwanis Club of Ottawa on "Sustainable transport: Does anybody here know how to win this game?" can be viewed at **transport2000.ca** and **www.geomatics.uottawa.ca**)



Background and Context Part 3
Some Recent Comments and Graphics by Barry Wellar on Sustainable Transport: Excerpts from the 2007 Fleming Lecture Association of American Geographers San Francisco

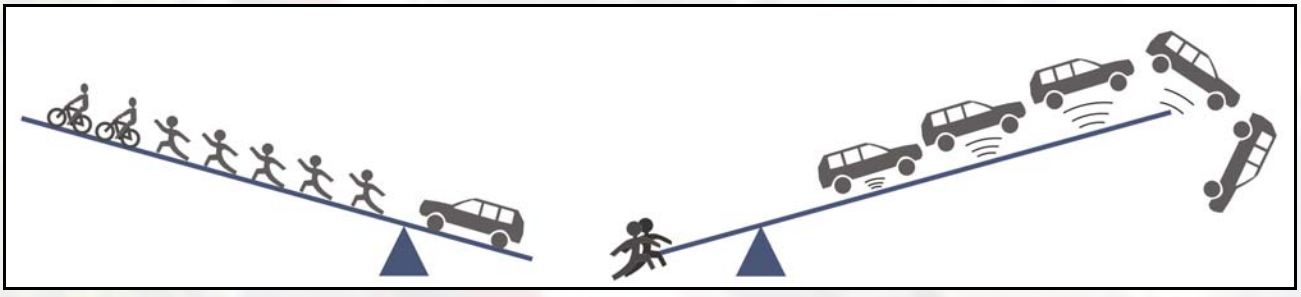
Introduction to Background and Context Part 3

There are 46 PowerPoint slides in the Fleming Lecture address; 22 are selected as background for the Belfast NTWA presentation.

Comments on Graphics in Background and Context Part 3

The text and the PowerPoint slide presentation of the Fleming Lecture are available, so the comments are limited to brief remarks that relate the Lecture to the Belfast address.

Figure 7. It's past time for a change!



For almost 100 years the private motor vehicle (pmv) has dominated the urban transportation teeter totter. This graphic says "Whoa, there is a new day dawning".

Figure 8. Scenes for the video '*Automobilitis*'.

Figure 9. How long does it take to get it right?

Taking steps towards the end of the automobile era (Wellar, 1975)
Housing for the future (Wellar, 1975)

Hope springs eternal. After 30 years of sitting in the ST wilderness, Canadian cities are slowly grasping the basics of sustainable transport practices.

Figure 10. Does anybody here understand the concept of half?

While ideologues and spin doctors argue about the differences between half full and half empty, the fossil fuel gauge drops and the climate changes.

Figure 11. Language, an excellent tool for separating ST losers and winners.

Promise –> **Perform**	*In The Mail* –> **Done**
Talk –> **Act**	*On The Way* –> **Done**
Will Do –> **Done**	*In Process* –> **Done**
Under Consideration –> **Done**	

Figure 12. The sustainable transport bandwagon is full only because tickets to ride are so easily obtained.

1. Sustainable Transport Test.
2. Integrated Land Use and Transportation System Planning and Development.
3. Smart Growth/New Urbanism.
4. Development and Adoption of a Pedestrian Charter.
5. Incorporating Time as a Criterion for Defining Sustainable Transport.
6. Incorporating the Geo-Factor in Sustainable Transport Measures.
7. Using Indexes for Decision Support.
8. Defining Road/Highway "Improvements" in Sustainable Transport Terms.
9. Implementing Measures to Simultaneously Increase Walk, Cycle, and Transit/Train Trips While Decreasing Trips by Private Motor Vehicle.

The ST bar has been set too low for too long; this initial list of ST practices raises the bar and separates winners and losers in short order.

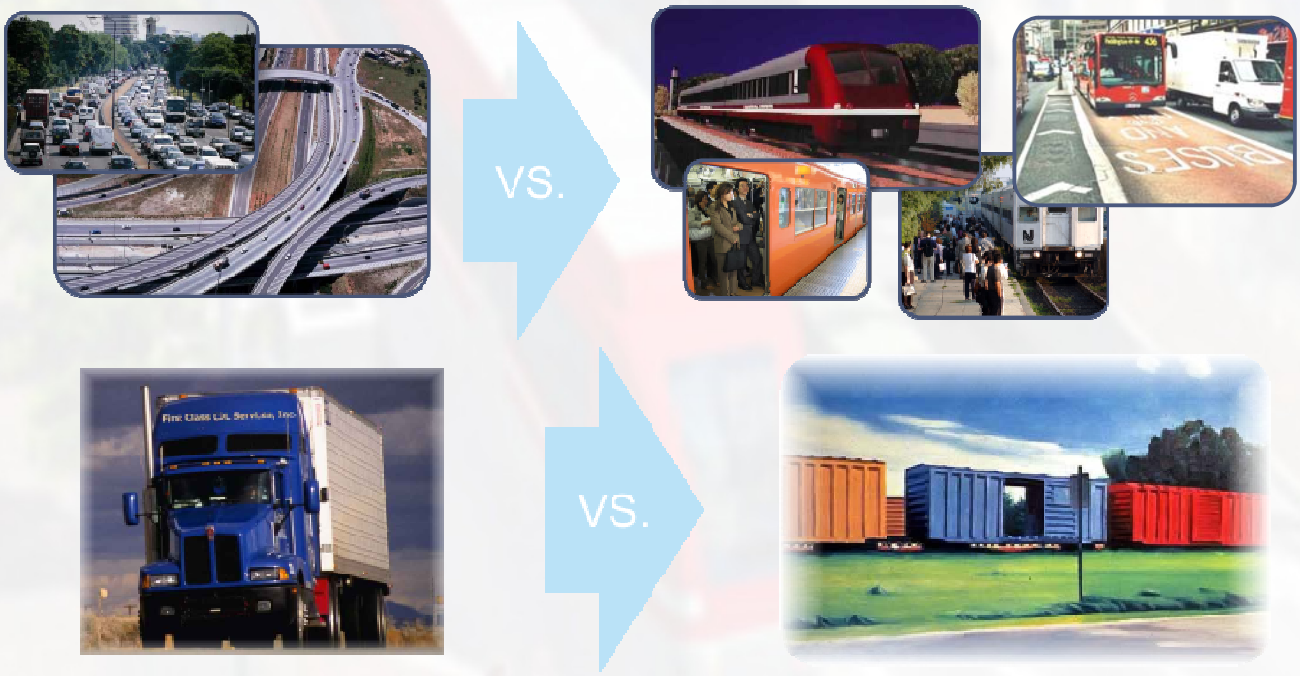
Figure 13. Where are the sustainable transport tests?

Tests have been applied in every walk of life for decades, even centuries, and the time is long overdue for sustainable transport tests in metropolitan regions, with emphasis on the climate change aspect.

Figure 14. Bad sustainable transport practices occur by design!

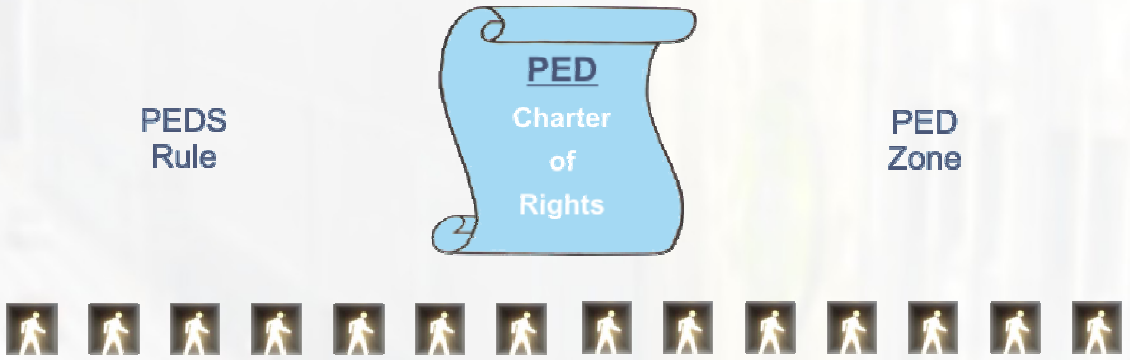
Let us recall that bad, worse, and worst sustainable transport practices are rooted in part in bad, worse, and worst land use planning and development practices.

Figure 15. Sustainable transport practices still not clear? Maybe pictures will help.



These images effectively illustrate the visual differences between less sustainable and more sustainable modes of transport.

Figure 16. Sustainable transport practices begin with pedestrians.



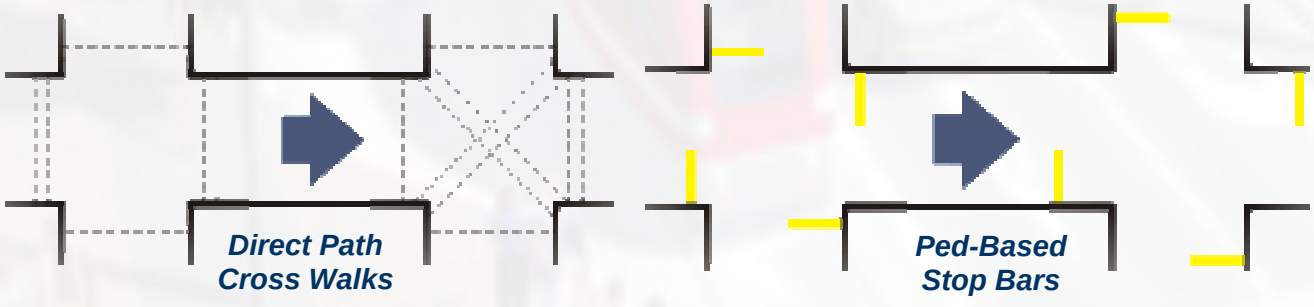
Recognition that pedestrians are first-class citizens of sustainable transport practices is long overdue, as are attitudes and instruments to transform recognition into reality.

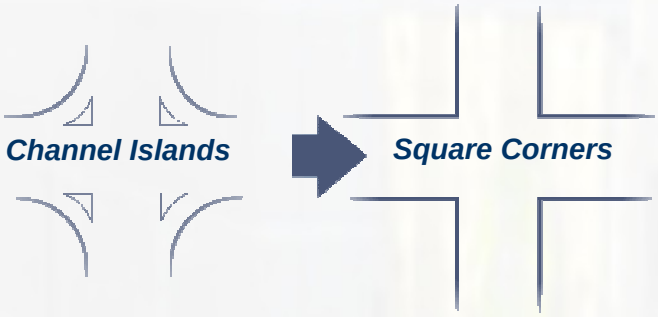
Figure 17. "In the fullness of time" from the television series "Yes, Minister".

"Absence of a time frame with set due dates has been central to sustainability avoidance strategies, and concepts like JIT for truck shipments are sheer spin; those forms of manipulation must be exposed, and then buried."

"Yes, Minister".

Figure 18. Geography, the overlooked dimension of intersection design for pedestrians.



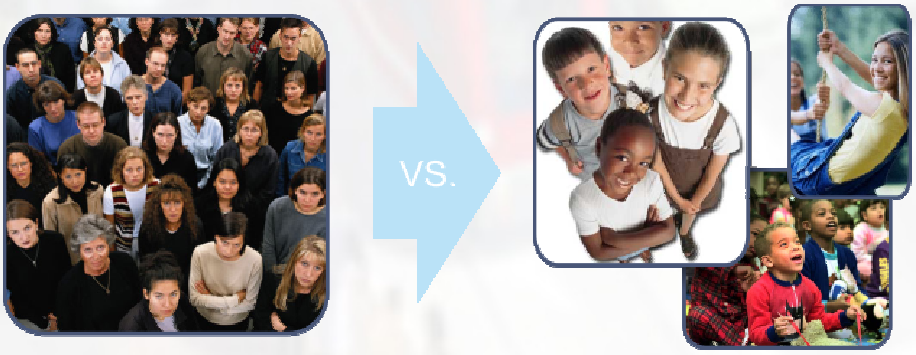


Basic geography calls for shortest paths for people who walk, and extended separation between oncoming vehicles and pedestrians in crosswalks. It is bizarre that these simple concepts have overwhelmed intersection designers for decades.

Figure 19. Getting out the word on sustainability: Local media.

Sustainable transport practices have little appeal to the 'big' media which prefer the sensational to the substantive. Look to community-based information outlets as earnest purveyors of the ST story.

Figure 20. Look to children as the key people for achieving sustainable transport practices by design rather than by default.



Changing older generations' proclivity to drive at every opportunity is no easy task, but if change is to occur it appears evident that children must be the agents of change.

Figure 21. Look to children to pressure adults about acting on climate change issues.

The Doomsday Map concept has a 25-year history, and the Global Warming/Global Frying slide is from a presentation that I made in 1992 in Washington, DC. Over the past 25 years, children have asked more and better questions than adults about climate change, and cared more about the answers.

Figure 22. A lament regarding 'the great masses'.

> "As for the great masses
> They can be divided into two classes;
> Those for whom thinking is painful
> And those for whom it is impossible".
> **H.L. Mencken**

The final excerpt from the Fleming Lecture that I have selected for inclusion in this presentation is a quote by U.S. essayist and social commentator H.L. Mencken. I do not know whether Mr. Mencken was generalizing about the intellectual capacity of a population on all matters, or whether he was provoked by a particular incident. Either way, his words are cause for pause whenever a public initiative is contemplated in Canada, the United States, Northern Ireland, or anywhere else.

Figure 23. A solution regarding 'the great masses'.

> "Find ways to ease the burden of thinking in order to achieve the desired actions."
>
> **B. Wellar**

In the case of this Lecture, Mr. Mencken's lament is taken as a piece of sage advice. That is, since I believe that the great masses are part of the sustainable transport problem, and are a driving part of the sustainable transport solution, the message that I take from Mr. Mencken is crystal clear. That is, rather than curse the darkness, light a candle; and, instead of cursing the dullards, the selfish, and the disinterested, try to make them an offer that they cannot refuse. Now there is a challenge to test anyone's sustainability.

(The PowerPoint presentation and the text of the 2007 Fleming Lecture, "Sustainable Transport Best Practices and Geography: Making Connections in Canada" can be viewed at transport2000.ca/ and via several links at geotrans.hofstra.edu/geotrans/tgsg.)

A core message imbedded in the Background and Context materials is that the more you know about playing the sustainable transport game, the greater the likelihood that you can win the ST game. Or, to rephrase, achieving sustainable transport practices is a game of skill rather than of chance, so the better you understand the issues behind the problem the greater the prospects that you can obtain an effective, efficient, and equitable solution.

With the argument in place that knowing the game underpins winning the game, it is now time to entertain the question that is the title of my remarks, Sustainable transport: Is there anybody here who can win this game?

Answering the Question about Sustainable Transport: Is There Anybody Here Who Can Win This Game?"

I am not going to name names or places, but I am going to do my best in a short span of time to make it clear why we need ST winners, what is involved in achieving the status of ST winner, and what it takes to become and remain an ST winner. The approach for this part of the presentation is to use graphics to highlight key points, and include brief comments to remind attendees of my comments on the graphics.

Figure 24. Is there a cause-effect relationship between the transport sector and climate change?

> No less an authority than the Environment Commissioner of Canada has made the connection, with the industrial sector and the transport sector being ranked one-two as sources of greenhouse gases and contributors to climate change.

Figure 25. Does the Canadian federal government agree that there is a cause-effect relationship between the transport sector and climate change?

> The Government of Canada (first the Liberals, now the Conservatives), ever a staunch supporter of economic expansion and industrial development which is largely driven by fossil fuel consumption across the country, agrees that transport is a major contributor to greenhouse gases and climate change.

Figure 26. How does having a logical way of classifying practices help to become a sustainable transport winner?

> There are at least six classes of sustainable transport practice: worst, worse, bad, good, better, best. Governments, corporations, and people using this or a similar rating system could be ST winners because of their ability to intelligently match practices to policy, plan, program or strategic objectives.

Figure 27. How can a record of performance promote progress in achieving sustainable transport best practices?

As shown in Graphic 28, the ST practice record of Panacea, Ontario is there for everyone to see, monitor, evaluate, replicate, improve on, etc. A current study did not yield any city in Canada with such a record in place, but responses indicate that cities wanting to be on the winning ST side will implement such a record-tracking instrument.

Figure 28. Experience of Panacea, Ontario with sustainable transport best practices.

Sustainable Transport Practice	Year in Which Practice		
	Identified	Adopted	Implemented
Integration of land use and transportation planning	1974	1991	--------
Application of sustainability test to transportation projects, planning applications, and rezoning applications	2006	--------	--------
Bike rack requirement at private commercial buildings and public facilities	1993	2001	2005
Signal activation by transmitters in city buses	1988	1999	2006
Application of Walking Security Index to assess intersection performance for pedestrians	1998	2004	--------
Use of traffic calming devices to promote walking and cycling	1983	1985	1987
Moratorium on road or intersection widening	2000	2001	2003
Restrictive motor idling by-law	1991	--------	--------

Figure 29. Good, better, best sustainable transport practices in urban metro regions: List 1.

- Land use and transportation system integration based on walk, cycle, and transit as primary transport modes
- Signal light priority given to pedestrians at intersections
- Intersections designed to achieve safety, comfort, and convenience of pedestrians
- Roundabouts designed to achieve safety, comfort, and convenience of pedestrians
- Intersections designed to achieve safety, comfort, and convenience of cyclists
- Roundabouts designed to achieve safety, comfort, and convenience of cyclists

Figure 30. Good, better, best sustainable transport practices in urban metro regions: List 2.

- Transit vehicles equipped to change signal lights
- Transit vehicles given priority right-of-way to enter traffic lanes
- As private motor vehicle use declines, roads and streets are removed from city networks and converted to alternative transport uses, or other land uses
- Surface parking lots removed from areas served by transit
- Moratorium imposed on road and street expenditures
- Road maintenance budgets reduced to accelerate the shift from private motor vehicle to walk, cycle and transit modes

Figure 31. Good, better, best sustainable transport practices in urban metro regions: List 3.

- Sustainable transport test applied to transportation projects, official plan amendments, rezoning applications
- Truck trailers loaded onto rail cars based on ST criteria
- Standard for high occupancy vehicle (HOV) lanes set at 4, 5, and 6 or more occupants in a private motor vehicle
- Standard for high efficiency vehicle (HEV) lanes set at 3 or more occupants
- Strict, zero-tolerance enforcement of speed limits in school and community traffic zones

Figure 32. Comment on lists of winning sustainable transport practices.

Known sustainable transport good, better and best practices number in the hundreds, and many governments, corporations, and individuals embrace at least some of them. It is most likely that any jurisdiction that has implemented those listed above would be a leading contender for the **Sustainable Transport Challenge Cup**.

Figure 33. Bad, worse, and worst sustainable transport practices in urban metro regions: List 1.

- Uncontrolled ring roads built to increase speeds and reduce trip times
- Intersections expanded to reduce private motor vehicle congestion
- 'Green' private motor vehicle purchases subsidized
- Hiring of transit operators who dislike people
- Disconnected bike paths
- Bike paths in structural disrepair

Figure 34. Bad, worse, and worst sustainable transport practices in urban metro regions: List 2.

- Construction of new inter-urban roads
- Reducing budgets for maintenance of sidewalks and bicycle paths
- Traffic signals timed to increase flow speeds of private motor vehicles
- Lack of sidewalks along arterial roads
- Inadequate sidewalk maintenance programs
- Inadequate vehicle traffic enforcement
- Tinted vehicle windshields and windows

Figure 35. Bad, worse, and worst sustainable transport practices in urban metro regions: List 3.

- Speed limits raised to appeal to vehicle operators
- Free parking for private motor vehicles at shopping centres
- Standard for 'HOV' lanes set at 2 occupants in a private motor vehicle
- Roads widened to reduce congestion
- Transit service reduced to balance the transport budget
- Cutting transit fare subsidies for seniors and students

Figure 36. Comment on lists of losing sustainable transport practices.

You could write a book about transport practices that are designed to increase the share of urban metro region trips by private motor vehicle, and reduce trips by the walk, cycle and transit modes. Any jurisdiction that is marked by the practices listed in slides H, I, J would be quickly relegated to the LOSERS bracket in the **Sustainable Transport Challenge Cup** competition.

Figure 37. Analysis of evidence based on share of trips by mode, Swagger, Ontario, 1990-2007: LOSER.

Mode	% Share by Year									
	90	91	92	93	94	95	04	05	06	07
Walk	3	3	3	3	4	4	4	5	5	5
Cycle	1	1	1	1	1	2	2	2	2	2
Transit	12	12	12	13	13	13	13	13	14	14
Private Motor Vehicle	84	84	84	83	82	81	81	80	79	79

Figure 38. Analysis of evidence, share of trips by mode, Exemplary, NI, 1990-2007: WINNER.

Mode	% Share by Year									
	90	91	92	93	94	95	04	05	06	07
Walk	10	12	14	16	16	17	22	23	24	25
Cycle	3	3	4	4	5	9	10	11	12	14
Transit	22	23	25	26	27	28	32	33	35	38
Private Motor Vehicle	65	62	57	54	52	46	36	33	29	23

Figure 39. Comment on analysis of evidence, share of trips by mode.

There appears to be very little public information on regional, national or global losers and winners when it comes to identifying, adopting and implementing good, better and best sustainable transport practices.

It seems highly likely, however, that most governments, corporations and individuals would rather be among the winners than the losers.

Evidence along the above lines would greatly assist in separating sustainable transport performers from pretenders.

As a modest contribution towards that end, over the past several months I conducted an informal survey of a selection of Canadian municipal and provincial governments, and federal agencies. The purposes of the survey included testing the instrument shown in Figure 28, and gaining a sense of how sustainable transport practices are perceived and treated by governments. Initial analyses suggest that the instrument does indeed help to separate pretenders from performers, and I invite its application in other venues. I would be pleased to compare notes.

Conclusion

Sustainable Transport:
Is There Anybody Here
Who Can Win This Game?

Yes, Anyone Who

Understands the consequences of losing the sustainable transport game

Has the wits to win

Has the will to win

Has the powers of persuasion needed to achieve the win

Acknowledgements

I wish to acknowledge the support that my sustainable transport research has received from Transport 2000 Canada, and from officials in a number of Canada's municipal, provincial, and federal government departments and agencies. In addition, I am pleased to acknowledge the assistance of Sam Herold, a graduate student in the Laboratory for Applied Geomatics and Geographic Information Systems Science, University of Ottawa, in preparing the graphics for this document. Finally, a special thank you is due to Marjorie Wellar for editorial assistance.

Achieving Practices

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