Transportation Question Begs for an Answer: What's Behind the Nonsense about Traffic Gridlock in Canada?

Dr. Barry Wellar, MCIP
Professor Emeritus, University of Ottawa
Distinguished Research Fellow, Transport Action Canada
Policy and Research Advisor, Federation of Urban Neighbourhoods
Principal, Wellar Consulting Inc.

January, 2013

1. Background and Context for *Transportation Question Begs for an Answer: What's Behind the Nonsense about Traffic Gridlock in Canada?*

It was just over 37 years ago that I prepared a newspaper article, 'Taking steps towards the end of the automobile era' which was published in the Ottawa Citizen on December 9, 1975. The article can be viewed on the Transport Action Canada website at: http://www.transport-action.ca/dc/wellar-endauto.pdf.

I have re-visited that article in a number of papers, reports and presentations which are posted on various websites, including http://www.wellar.ca/wellarconsulting /http://www.slideshare.net/wellarb/documents, and http://www.transport2000.ca/, and I have plans for an update, so I do not discuss the details of that article in this paper.

Rather, what I want to point out is the media connection or popular literature connection between the 1975 newspaper publication, and the 2012 article titled "What's Behind the Traffic Gridlock Nonsense in Canada?", which has been provided to multiple outlets, one of which is newspapers.

In 1975, I was a senior research officer in the Research Branch, Ministry of State for Urban Affairs, Government of Canada, and while I had considerable freedom to publish, there was not (to be brutally honest) a large, general readership of federal government publications except, perhaps, income tax forms and guides.

Rather, it seemed to me, the 1970s was a time when a large proportion of adult Canadians read newspapers, and if you wanted to reach a local, regional, or national audience on a topic of general public interest then newspapers were the print medium of choice as opposed to government reports or publications in learned journals. And, for the record, the Internet did not exist in the 1970s.

There were, of course, issues associated with federal civil servants authoring materials which could be interpreted as critical of or conflicting with government policy.

Nevertheless, and perhaps encouraged by Transport Minister Jean Marchand who proclaimed in 1974 that "Canada's transportation policy is a mess", I proceeded to write a newspaper article which may or may not have criticized government policy (Who could tell, it was in a mess according to the Minister in charge.), and which has had a large readership over the past 37 years.

2. Intent of *'What's Behind the Nonsense about Traffic Gridlock in Canada?'*

The 2012 media or popular literature article, 'What's Behind the Nonsense about Traffic Gridlock in Canada?', and the present document in which I discuss the article, were preceded by a number of transportation and land use planning and development papers

in proceedings and journals, and by several dozen presentations and documents posted on a number of websites.

However, those research productions are not likely to come to the attention of the general public, the Internet notwithstanding.

Rather, they tend to reach or be sought out by select groups of readers and viewers, including researchers, professors and students, consultants, community association members, lawyers, advocates, professional engineers and planners, and the occasional elected official and media person.

The intent of the 2012 media or popular literature article, therefore, is similar to that of the 1975 article. That is, I want to engage the general public in considering a matter which I believe has broad, societal significance, but which to date has had little public exposure that gets beyond superficial commentary.

3. Transportation Economics 101: The Failure to Think and Act Intelligently Compounds Costs

To recall the 1970s situation, it was my impression that the automobile era needed a massive, fundamental correction.

However, while parts of what I proposed 37 years ago have come to pass and other parts are still in progress, the full correction has not yet occurred, and the private motor vehicle component of the urban transportation problem in many cities and metropolitan regions is becoming more complicated, more deep-rooted, and increasingly more costly with each passing year.

As a result, and given the reluctance to make timely, fundamental corrections to the private motor vehicle component of the urban transportation problem, there has been much frantic, stop-gap casting about over the past 35-40 years in Canada and elsewhere in search of simple solutions and easy fixes, no matter how temporary or flawed previous simple solutions and easy fixes prove themselves to be.

And, seemingly, it still matters little in some quarters, in Canada and elsewhere, that these gambits are more impediments than instruments when it comes to achieving changes that make substantive, sustaining contributions to correcting the private motor vehicle component of the urban transportation problem.

Rather, and frequently as part of so-called economic stimulus initiatives, it appears fair to say, there has been more emphasis on "getting shovels in the ground" and other acts of political expedience than on actually making fundamental changes to the multi-modal transportation and land use systems relationship.

4. The Importance of Understanding Both the Positive and Negative Aspects of Urban Traffic Congestion

I return to the impediments issue below, but in the spirit of lighting a candle rather than cursing the darkness let me briefly note why Canada does not lend itself to simple solutions and easy fixes in the transportation domain.

And, for those who still need to be disabused of the simple solution and easy fix notion, perhaps this brief account will suffice to establish why achieving multi-modal transportation smartness in Canada requires understanding the multi-dimensional complexity of the task, and then designing and implementing transportation systems and sub-systems accordingly.

Further, as a result of this brief but pointed account, it should also become self-evident to even the most out-of-touch-with-reality "spinners of gridlock", that slogans, branding campaigns, excited exhortations, and similar superficial and/or cosmetic excursions into fluff are just that: excursions into fluff, and hardly the stuff of robust, sustainable, and productive transportation and land use planning principles and practices.

Among countries, Canada occupies one of the largest land masses, is one of the least densely populated, is one of the most highly urbanized, is subject to relatively wide variations in weather and topography, and, it seems, is having more difficulty than most in terms of creating and implementing local, regional, and national multi-modal transportation plans which meet criteria of effectiveness, efficiency, economy, equity, reliability, accessibility, environmental responsibility, energy frugality, safety and security, sustainability, resilience, and so on.

Given those kinds of circumstances, it is not surprising that to date no simple solution or easy fix that summarily deals with Canada's diverse set of transportation problems has emerged. And, by extension, it should also come as no surprise that during the course of their activities, theoretical and/or applied in nature, transportation researchers pursue and present ideas which are not of the simple solution and easy fix variety.

That is, conceptualizing, interpreting, and describing or representing these ideas involve deep thinking and technical expertise, and in order for adoption and implementation to succeed, a major shift in public values, attitudes, and actions may be required.

One such "deep thought idea" which was part-and-parcel of the advent of urbanization, is conceptually and operationally complex, and is still a far-reaching force in terms of its direct and indirect implications, is that of congestion.

In the next several paragraphs I briefly outline several fundamentals of congestion, and use them to further illustrate why notions about traffic gridlock are not only nonsensical, but are counter-productive in terms of understanding both the positive and negative aspects of traffic congestion.

The beginnings of urban traffic congestion include people travelling on foot and in carts and wagons drawn by animals converging at a market place, and increasingly competing for space as they neared the shared destination.

Now, many hundreds of years later the congestion phenomenon continues, and while pedestrians are still part of the congestion scene we have moved from the transport of people and freight by animals pulling carts and wagons to transport by cycling, intra-city bus and light rail transit, inter-city bus and light rail transit, inter-city heavy rail passenger and freight service, inter-city air passenger and freight transport, and private motor vehicles (cars, minivans, SUVs, motorcycles, etc.) for moving people, as well as an array of trucks (from pick-ups and cubes to tractor trailers) for moving freight.

Understanding traffic congestion therefore requires understanding that it encompasses multiple modes, and appreciating that the presence of multiple modes not only creates the opportunity for conflict that may heighten congestion levels, it presents an opportunity for modal substitution that may lessen levels of congestion.

As for trip purposes, whereas early transport or mobility emphasis was on travelling to buy, sell, or trade commodities at market places, trip purposes involving daily mass movements of people and vehicles have expanded considerably to include work, shopping, recreation, education, entertainment, health, medical, institutional, business, shipping/cartage/delivery, and social activities.

Each type of trip purpose can cause convergence in time and space that involves people on foot and/or vehicles transporting people or goods. Understanding traffic congestion therefore requires understanding that it is comprised of multiple types of trip purposes, and appreciating that the presence of multiple trip purposes not only creates the opportunity for conflicts that may heighten levels of congestion, it presents an opportunity for lessening congestion levels through mixed use development in the right places at the right times.

Further, the capacity of transport infrastructure to move people and vehicles plays a major role in the levels of congestion experienced by mode and trip purpose.

Understanding traffic congestion therefore requires understanding the different kinds of infrastructure required to accommodate all modes of transport and all types of trip purposes, and appreciating that while transport infrastructure capacity may be a contributing factor to heightened levels of congestion, it may also represent an opportunity for lessening congestion levels through adjustments to the relative share of capacity assigned to each kind of transport infrastructure.

The final congestion fundamental discussed in this report is that of time of trips. We are far removed from the days of a one-hour peak in the morning from 7:30 to 8:30 and another in the afternoon from 4:00 to 5:00. Now, the A.M. peak may be three hours in duration from 5:30 to 8:30, and the P.M. peak may be from 3:00 to 6:00, 6:30, or 7:00, and the shoulders of the peaks may extend an hour or more earlier and later.

Understanding traffic congestion therefore requires understanding how time affects patterns of trip-making by mode and by purpose, and appreciating that while time may be a causal factor contributing to heightened levels of congestion, there is another side to the time coin.

That is, time also represents a means for manipulating congestion levels by modifying transit schedules, toll road rate schedules, traffic signal system timing, work hours, school day hours, etc.

There are many ways to describe the relationships among combinations of congestion fundamentals, but the following comments serve this report:

> 1. Congestion makes its presence increasingly felt when the volume of moving entities (people, vehicles) takes up more and more of the capacity provided by part or parts of the transport infrastructure to "process" people and vehicles.
>
> 2. Because there are constraints or limits on how many transport infrastructure users (people, vehicles) can have their travel demands (trip purposes, modes, origins-destinations) met at the same time, congestion increases as demand for infrastructure approaches the available supply of infrastructure for any part of any mode of the transport infrastructure – e.g., sidewalk, crosswalk, section of road, road intersection, on-street parking, surface parking lot, freeway on-ramp, freeway off-ramp, bike path segment, LRT rail segment, LRT car and train, LRT platform LRT escalator, bus, bus stop shelter, bus transitway segment, heavy rail segment, rail marshalling yard, airport runway, etc.

In the next section I use a selection of the materials from Part 4 to make what I hope is the last comment needed to "bury" the nonsensical notion of traffic gridlock.

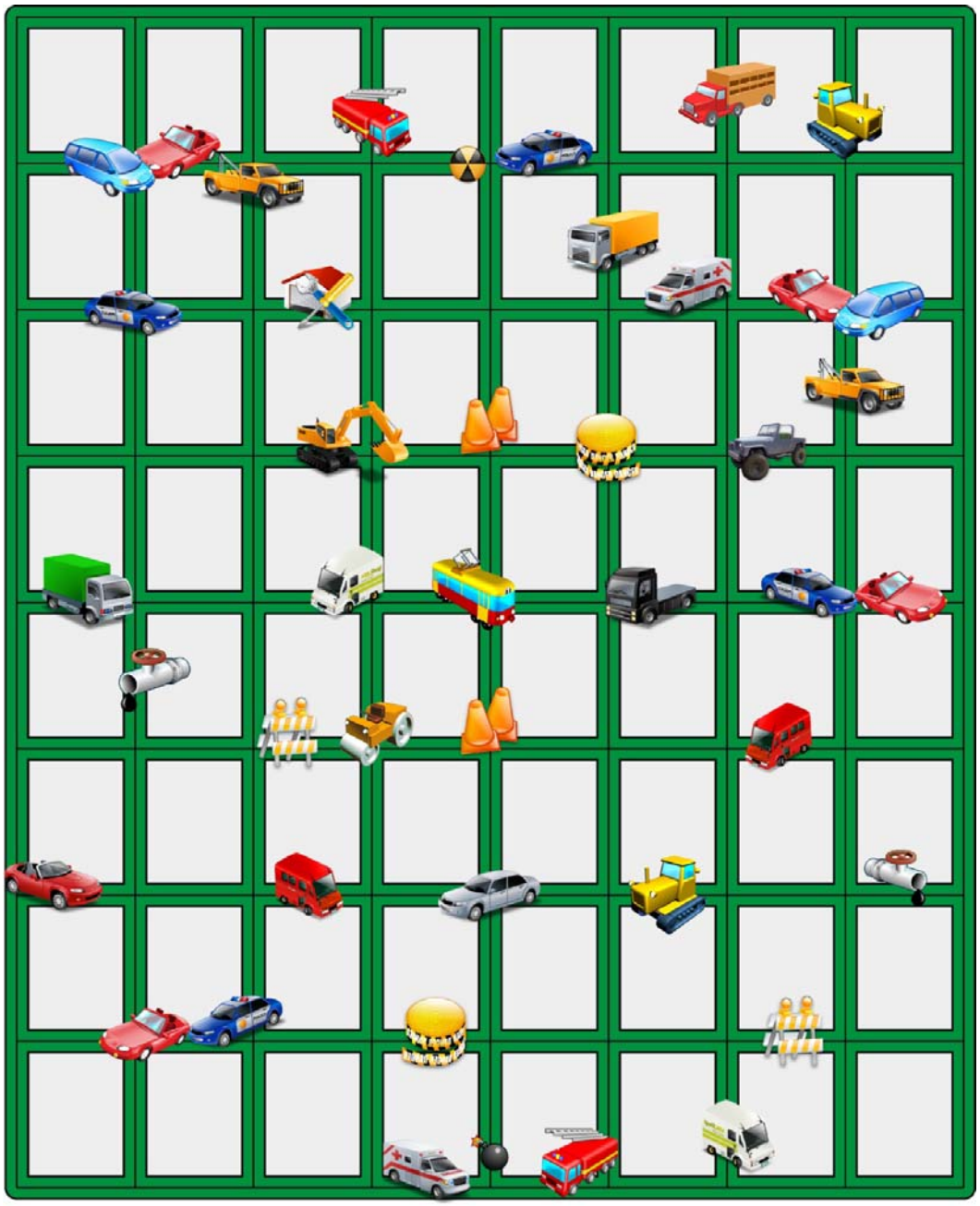
5. Using Several Fundamentals of Congestion to "Bury" the Notion of Traffic Gridlock

In the report, *Traffic Gridlock: A Bad, Mis-Leading Metaphor that Makes for Bad, Mis-Directed Public Policy*, graphics are used to illustrate the concepts of congestion and traffic gridlock.

The graphics are repeated on the next two pages for the convenience of the reader.

Figure A depicts a grid of streets experiencing a relatively low order of congestion with a number of open intersections and street segments, and Figure B depicts what traffic gridlock means in theory.

Figure A. Graphic Illustration of Traffic Incidents Causing Blockages of an Urban Traffic Grid

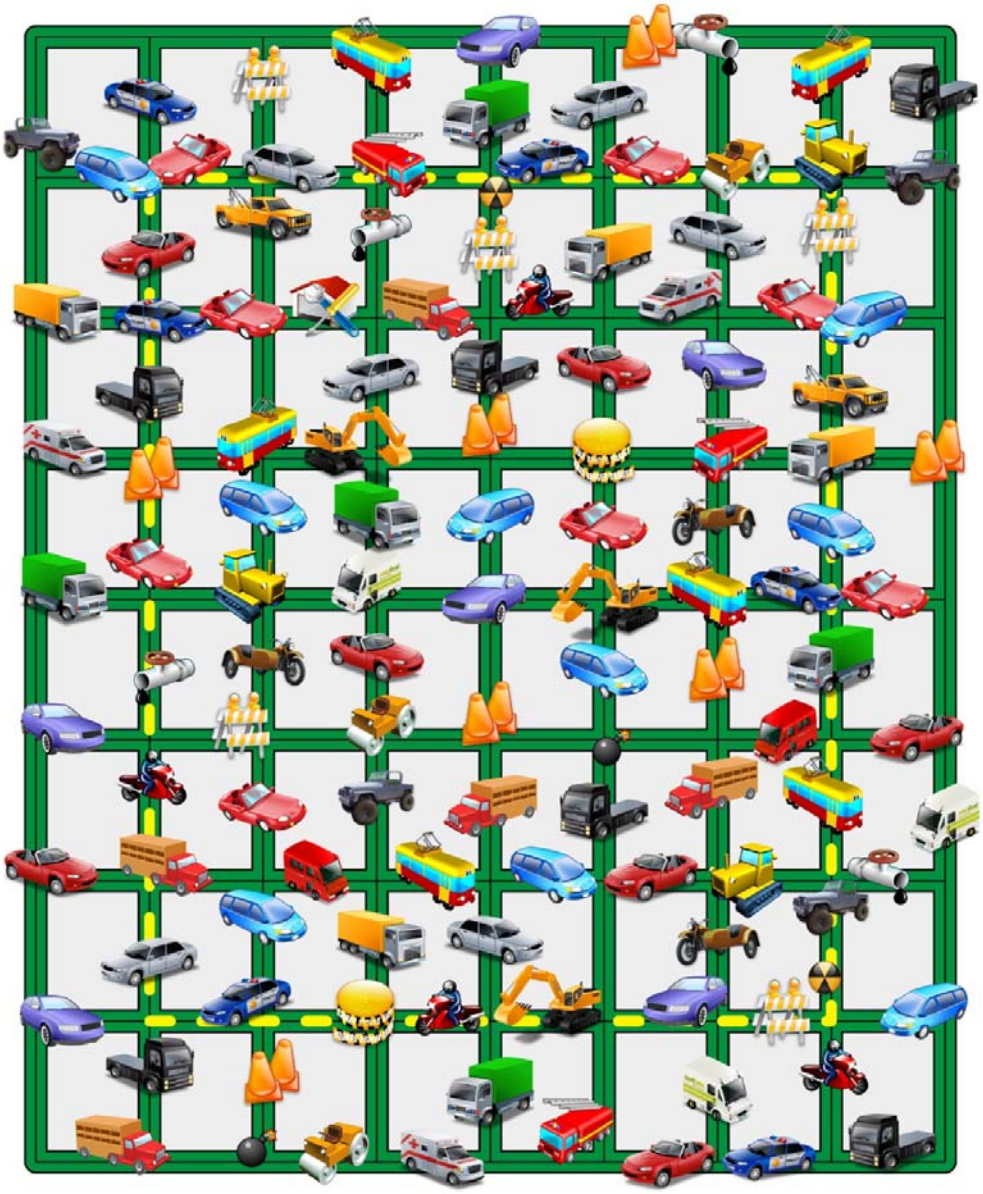


Legend

Green = Streets with unobstructed vehicle traffic flow
Icons = Incidents obstructing vehicle traffic flow
Grey in black border = City block
Dashed yellow line = Gridlocked area

Source: B. Wellar, 2011. Traffic Gridlock: A Bad, Mis-Leading Metaphor that Makes for Bad, Mis-Directed Public Policy, p. 8.

Figure B. Graphic Illustration of Traffic Incidents Causing Urban Traffic Gridlock



Legend

Green = Streets with unobstructed vehicle traffic flow
Icons = Incidents obstructing vehicle traffic flow
Grey in black border = City block
Dashed yellow line = Gridlocked area

Icons represent different traffic incidents such as: Collision; Slow-moving city road-work vehicle; Stopped delivery truck; Stopped sanitation vehicle; Vehicle pulled over by traffic police; Signal light malfunction; Construction site; OWS demonstration; Vehicle with flat tire; Funeral procession; Visiting dignitary procession

Source: B. Wellar, 2011. Traffic Gridlock: A Bad, Mis-Leading Metaphor that Makes for Bad, Mis-Directed Public Policy, p. 11.

To recall the interpretation of Figure B, all streets and intersections in a grid of streets and intersections are congested to such a high degree that road-using motorized vehicles including cars, trucks, and buses are locked into the grid, that is, they cannot go forwards, backwards, or sideways in order to escape their locations in the grid.

I believe that the picture painted by Figure B is worth a thousand words times about ten, since it would take that many words to properly tell the story that is contained in Figure B. However, there may be those who have difficulty comprehending Figure B, so let me use a simple mathematical expression and equation drawn from Part 4 to illustrate why it is appropriate to bury the notion of gridlock.

Two central variables in measuring congestion levels are volume of traffic and capacity of infrastructure to accommodate traffic, where traffic applies to all modes, that is, walking, cycling, transit, private motor vehicle, rail, air, water, or whatever other modes of transport are engaged in the movement of people and/or freight.

When combined in a ratio the two variables, volume of traffic and capacity of infrastructure, form the Volume to Capacity Ratio, or the Volume/Capacity Ratio. Findings from measurements of traffic volume and traffic capacity, when related through the Ratio, provide information as to the levels of congestion being experienced by, for example, minutes of hour, hours of day, days of week, weeks of month, months of year, etc., for one or more traffic modes.

The pertinence of the Volume/Capacity Ratio to relating congestion and gridlock involving road-based vehicular traffic may be outlined as follows.

Generally speaking, when an intersection is not fully congested this situation is indicated by the expression Volume/Capacity Ratio (V/CR) $\rightarrow$ 1.

That is, as long as the volume of traffic is less than the capacity of an intersection to process traffic for a specified time, number of light cycles, etc., the volume to capacity ratio tends towards 1, but it does not reach 1. It is only when the volume of traffic matches the capacity of the intersection to process traffic over a specified time span that the expression becomes the equation, Volume/Capacity = 1.

It is likely that most readers have been in a traffic jam or traffic tie-up where the Volume/Capacity Ratio = 1 applied but, and this is a very important but, a plugged intersection or segment of roadway is not gridlock.

Rather, it is merely "blocklock" or something similar involving one intersection, and/or several street segments, or it could be a section of freeway traffic that has been brought to a halt for various reasons (crash, fog, smoke, snow, freezing rain, collapsed bridge, etc.), and in point of fact such jams, blockages, stoppages, whatever, are a regular, daily feature of most if not all urban metropolitan highway networks in the world.

And as for how many intersections with V/C = 1 ratings are needed to constitute a non-trivial gridlock situation, this example illustrates why the notion of gridlock amounts to a pile of nonsense.

Cities such as Ottawa, Montreal, Toronto, Calgary, Edmonton, Mississauga, Hamilton, and Winnipeg, and many other cities around the world with populations ranging from 500,000 to several million, have between 500 and perhaps 2,500-3,000 signalized intersections. Let us consider what is required to achieve gridlock for just a small portion of the street network, say, a 5x5 square of city blocks covering 25 blocks in total, and the associated 36 signalized intersections which define the street segments that create the blocks.

For this 5x5 grid of city blocks to be locked – nothing moves forwards, backwards, or sideways – not only is it necessary for each of the 36 intersections bounding the blocks to be at full capacity, that is, each of them must have a V/C Ratio = 1, and the street segments are also full, but another 52 intersections (24 + 28) and the associated street segments which bound the initial 36 must also be at full capacity (plugged) in order to prevent vehicles escaping the "gridlocked" status. (Readers who prefer graphics to text may wish to refer to Figure A or Figure B to check out the 5x5 counts, as well as other situations such as an 8x8 grid, and even a 3x3.)

Or, to re-phrase, a grid comprised of 88 adjoining intersections and associated street segments would need to be totally plugged at the same time in order to achieve gridlock encompassing just a 5x5 set of city blocks.

Small wonder, therefore, given how much intersection and street segment blockage it takes to achieve actual traffic gridlock covering just a piddling 5x5 block area, that repeated searches and multiple requests for evidence of such an event ever occurring in any city in Canada has drawn a total blank.

Moreover, in addition to the number of intersections and street segments that must be plugged (each with a V/C Ratio = 1), there is the matter of location-based timing and sequencing.

In order to achieve gridlock for just a 5x5 grid, the plugging of intersections and associated street segments would generally have to move from the interior to the exterior intersections and street segments. Further, the plugging would have to be done in near-military precision so that the exterior intersections are plugged in time to prevent interior vehicles from escaping, and all the while there is a strong possibility that the municipalities' traffic signal units would be employing surveillance and sensing systems and computer applications to intervene at opportune moments to keep the traffic moving.

To repeat a comment made above, small wonder that there appears to be no evidence of a non-trivial traffic gridlock event in any city in Canada, which underlines the questions about the motivation of politicians, journalists, and anyone else using a

phrase which, upon little more than a moment's reflection, must surely present itself as a pile of nonsense.

And, as a final kick at the traffic gridlock can, consider the literature on simulation and animation.

Previous reviews of the literature in fields such as operations research, traffic engineering, and computer science failed to yield simulation or animation models, procedures, etc., which demonstrate how the state of traffic gridlock can be achieved for any size of grid, even a 3x3 "runt" of an event, regardless of the assumptions made about control over the signalling system, the vehicles using the road network, the routing of vehicles, characteristics of the street grid, etc.

Another search came up with the same result, but not because of lack of thought and effort by the contributors to a literature which in many ways is a fascinating read.

Rather, it appears fair to say, the process of specifying how gridlock occurs and then modelling that process is proving to be exceptionally difficult, which in turn should have been a heads up to professionals in any field who have used the term "traffic gridlock".

That is, if it is somewhere between highly difficult and extremely difficult to simulate or animate the process leading to a gridlock event, then that should be a major clue that the likelihood of the event occurring in real-world terms is in the range of highly unlikely to extremely unlikely.

Or, to re-phrase, the chances of a gridlock event actually occurring in Canada or in a number of other countries are about the same as those of a snowball enjoying an extended vacation on Australia's Bondi Beach during a heat wave.

To summarize, several fundamentals of congestion are combined in the Volume/Capacity Ratio to demonstrate that the notion of traffic gridlock is a pile of nonsense, a finding which was previously illustrated graphically, and which has been confirmed on repeated occasions by the failure of numerous users of the phrase to present evidence of even one gridlock event in the history of Canada.

I suggest that more than sufficient argument has been made to totally bury the notion of traffic gridlock, and in the next section I return to the matter of congestion.

6. Preliminary Thoughts about a Congestion Research Agenda

It was during the early days of my traffic gridlock research that I began to focus on the strong possibility that despite the length of time that the idea of congestion has been in circulation, there could be significant gaps in traffic congestion research.

Specifically, it seemed that a number of pertinent and perhaps some seemingly impertinent questions about both the positive and negative implications of traffic

congestion had not yet been asked and answered in general, and in a Canadian setting in particular.

In section 4, The Importance of Understanding Both the Positive and Negative Aspects of Urban Traffic Congestion, I begin to lay out some of the elements of a congestion research agenda.

Fortunately, given the complexity of the topic and the large literature on traffic congestion which encompasses at least a half-dozen disciplines, I have benefitted greatly from the very informed counsel of William L. Garrison, Professor Emeritus of Civil and Environmental Engineering, and Emeritus Research Engineer in the Institute of Transportation Studies, University of California at Berkeley.

I therefore wish to explicitly acknowledge the contribution of Professor Garrison to my thinking about the various aspects and implications of congestion processes, events, and situations.

During our discussions over a number of years, we frequently debated why some research findings are more readily accepted for public policy, program, and planning purposes than others, and the word impediments was frequently at the centre of our discussions.

The present concern about the relationship between congestion and traffic gridlock is no exception to that debate.

That is, while I believe that I have demonstrated that so-called traffic gridlock is conceptual, logical, and operational nonsense, and to date no one has provided evidence of even one non-trivial traffic gridlock event in the history of Canada, the term still gets mentioned in such venues as news media reports, government committee hearings, and board of trade productions.

To the extent then, that the notion of traffic gridlock has some measure of acceptance among elected officials, professional staff and, most importantly, members of the general public, it follows that such a notion is an impediment to engaging Canadians in substantive dialogue about both the positive and the negative aspects and implications of traffic congestion.

As a step towards removing that impediment, an article titled 'What's Behind the Nonsense about Traffic Gridlock in Canada?' has been sent to news media organizations, community associations, public interest groups, advocacy groups, list serve groups, Facebook groups, websites which post materials of public interest, as well as to elected officials and university faculty.

This approach differs from that used for the 1975 article, 'Taking steps towards the end of the automobile era', because dissemination of information about research initiatives at that time was by paper, and we are now very much into the digital/electronic era.

The aspect common to the 1975 and 2012 statements, therefore, is that in both cases a concerted effort was made to inform the public about a matter which I believed warranted public attention. And, in both cases, detailed reports were and are available to anyone wishing to examine the research behind the two statements.

As noted above, the 1975 article is posted on the Transport Action Canada website, and can be viewed by clicking on http://www.transport-action.ca/dc/wellar-endauto.pdf.

The 2012 article, What's Behind the Nonsense about Traffic Gridlock in Canada? which I prepared for news media and popular literature publication and distribution, follows below. And, I hasten to add, there is a very pragmatic reason for attaching the article.

That is, news organizations have their own motives for using terms, phrases, etc., and some of them have used the term "traffic gridlock".

Therefore, their reluctance/refusal to publish an article that refers to the centerpiece of some and in several cases many of their stories as a pile of nonsense should not surprise anyone. As a result, readers wanting to examine 'What's Behind the Nonsense about Traffic Gridlock in Canada?' can find it here.

Finally, 'What's Behind the Nonsense about Traffic Gridlock in Canada?' will serve its intended purpose wherever it is published if it generates public discussion about an important question with significant long-term implications.

And, it will more than serve its intended purpose if it prompts increased participation by ordinary citizens and public interest groups such as community associations in local, regional, and national initiatives to thoughtfully address the larger, fundamental matter of the positive and negative implications of traffic congestion.

7. What's Behind the Nonsense about Traffic Gridlock in Canada?

This article was prepared for news media, popular literature, list serve, social media, academic and association websites, and other means of communicating with the general public in Canada and abroad. Background reports on the topics of traffic gridlock and congestion may be viewed at the following sites: www.transport2000.ca/; www.wellarconsulting.com; www.slideshare.net; and www.urbanneighbourhoods.ca.

Based on the available evidence, there has never been a "traffic gridlock" event of any significance anywhere in Canada.

There have been traffic jams, intersection blockages, etc., but traffic gridlock in which block after block after block of city streets are totally paralyzed and vehicles cannot go forwards, backwards, or sideways within the street grid apparently has never happened in Canada, never, not even once.

Why, then, if there has never been a noteworthy traffic gridlock event in the history of Canada, does the term appear with regularity in news media stories, editorials, columns, and special reports, as well as in news releases by boards of trade and chambers of commerce, in pronouncements by municipal, provincial, and federal politicians, and in claims and dire predictions by members and supporters of the motor vehicle, road building, and development industries?

Moreover, as further testimony to its bizarre popularity, the term was used 51 times during two days of Hearings of the Government of Ontario Standing Committee on General Government - Traffic congestion, in June, 2012.

However, to emphatically underline the popularity versus evidence gap, not even one of the participants in the Hearings produced evidence to support contentions about traffic gridlock, and requests for evidence since the hearings have drawn a total blank.

What is going on here?

It has been known for hundreds of years that traffic congestion in urban areas is a natural condition. That is, if an area is urbanized then by definition it is congested, and if it is not congested then it is rural. This is not rocket science.

So, what induces seemingly informed individuals and representatives of political parties, government agencies, corporations, and organizations to base their arguments on a term which they must surely know is a pile of nonsense?

After numerous analyses into the technical aspects of measuring congestion and defining traffic gridlock, and finding no empirical evidence of traffic gridlock events, my focus shifted to questions about motivation.

Specifically, what could be the reasons behind using a term which at best is a bad, mis-leading metaphor, and which hinders rather than helps understanding the role of congestion in planning and developing more sustainable, accessible, and financially-sensible urban regions?

In a recent paper, Tracking the Motives behind the Phony War on "Traffic Gridlock", I identified about 50 motives, such as scaremongering, pandering to ideology, serving vested interests, influencing outcomes, creating false impressions, and twisting perceptions. The full list can be viewed at http://www.transport-action.ca/dc/Wellar_Gridlock2012.pdf.

One motive in particular, "influencing outcomes", caught the attention of many readers, prompting suggestions that I describe how this motive could be a driving force behind using a term which amounts to a pile of nonsense. The following example serves that purpose.

On the one hand, the large, politically-connected vested interest group comprised of the motor vehicle, road building, and development industries has a huge stake in retaining the transportation status quo which has prevailed in Canada since the 1960s.

That is, they want to maintain the primacy of the private motor vehicle for moving people and freight within and between cities, and one way of doing this is by spreading the traffic gridlock doom-and-gloom story at every opportunity, and applying pressure through news items, annual reports, public presentations, communications to politicians, communications through politicians, etc., to build and expand highways, roads, bridges, ramps, etc.

And, on the other hand, these same industries and their supporters have a huge stake in minimizing any shifts in the direction of alternative transportation for people – walking, cycling, transit, and rail passenger – or increased movement of freight by rail.

This outcome is achieved by means such as cutting alternative transportation services, letting infrastructure degrade or become obsolete, and postponing repairs, usually in the name of cost savings, which in turn are put into highway and road budgets to keep private motor vehicles rolling to the benefit of the motor vehicle, road building, and development industries at taxpayer expense.

Similar comments apply to numerous other motives, that is, claims about traffic gridlock have everything to do with vested interests and money, and little or nothing to do with transportation systems that best serve the public interest when it comes to mobility of people, movement of goods, and the intelligent planning and development of our built environment.

Because of the money factor, the vested interest crowd will no doubt continue to play the traffic gridlock card, but I am optimistic that Canadian good sense will prevail and begin to resoundingly reject that nonsense notion and its proponents.

And, I am also optimistic that organizations such as Transport Action Canada, the Federation of Urban Neighbourhoods, the Canadian Institute of Planners, and the Federation of Canadian Mayors will take the lead in designing, promoting, and facilitating a national education program to better understand the full, long-term traffic congestion message which has been ignored for far too long.

Finally, I close this report with a "Thank You" to ***Wordle*** creators and contributors for an educational and entertaining application, which is put to use on the cover page.