

7-1-2010

How to Shift Into High Gear: An Analysis of the Implementation of London's Bicycle Master Plan

Kenneth Man
Western University

Follow this and additional works at: <https://ir.lib.uwo.ca/lgp-mrps>

 Part of the [Public Administration Commons](#)

Recommended Citation

Man, Kenneth, "How to Shift Into High Gear: An Analysis of the Implementation of London's Bicycle Master Plan" (2010). *MPA Major Research Papers*. 87.
<https://ir.lib.uwo.ca/lgp-mrps/87>

This Major Research Paper is brought to you for free and open access by the Local Government Program at Scholarship@Western. It has been accepted for inclusion in MPA Major Research Papers by an authorized administrator of Scholarship@Western. For more information, please contact tadam@uwo.ca, wlsadmin@uwo.ca.

**How to Shift Into High Gear:
An Analysis of the Implementation of London's Bicycle Master Plan**

MPA Research Report

Submitted to

The Local Government Program
Department of Political Science
The University of Western Ontario

Kenneth Man
July 2010

Acknowledgements

I would first like to thank John Lucas, manager of the Transportation Planning and Design group, for opening up his unit and for providing me with valuable information for my research. I would also like to express my appreciation to Brian Turcotte, Allison Cook, Erik Vettaiho, Sergeant Tom O'brien, and Peter Marks for their guidance and for sharing their thoughts and experiences on London's Bicycle Master Plan. I am very grateful to my supervisor Tim Cobban who advised me on my research project and for his vigilant attention to detail. Thank you to Andrea Becksted for taking the time to improve my report. A final thank you is necessary to my parents, for their continuing support of my academic pursuits.

Executive Summary

In 2008, the City of London amended its Official Plan by setting a 2 percent bicycling modal share target by 2024; a reduction from the previous 3 percent target by 2011. An important part of the strategy to divert individuals from their automobiles has been the creation of London's 2005 Bicycle Master Plan (BMP) and, particularly, its objective to build a comprehensive on-road bikeway network. Nevertheless, implementation since 2005 has been problematic. The current state of the on-road bikeway network is described as piecemeal, underdeveloped and as "routes that lead to nowhere". This report identifies several contributing factors that have plagued the implementation of the on-road portion of the BMP which include: a lack of funding, dedicated and skilled staff, political will, data collection, and the gap in public consultation.

Recent efforts by the Transportation Planning and Design group to collect data related to implementation of the BMP indicate that the City is ready to shift into high gear in terms of implementing the BMP. In addition to identifying the impediments to implementation, this report will offer policy recommendations which will enhance the City's capability to implement the BMP and subsequently achieve its policy goals.

Table of Contents

Executive Summary.....	i
Introduction	1
Benefits of Bikeways	1
Scope.....	3
Organization of Report.....	4
Methods.....	4
Background: London’s Bikeway Network and the BMP	6
Bikeway Network Construction before the BMP	6
The Creation of BMP	6
The Ultimate Bikeway Network	7
Suggested Approach to the Construction of the Bikeway Network	8
Problem Definition.....	11
Benchmarking Against Other Municipalities	13
Literature Review: The Theoretical Lens	16
The Conceptual Framework.....	17
Literature on Policy Implementation	17
The Theory of Automobility	19
Literature on Addressing the Impediments to Bike Plans	22
Case Studies: Bike Lane Projects.....	26
Colborne Street Case: The Perfect Storm	26
Ridout Street Case.....	29
Key Lessons from the Colborne and Ridout Street Case Studies.....	31
An Analysis of the Impediments to the Implementation of London’s BMP	31
A Lack of Funding	32
A Lack of Dedicated and Skilled Staff.....	34
A Gap in Public Consultation.....	36
A Lack of Political Will	38
A Lack of Data	40
Discussion: Has the Implementation of the BMP been Effective?	41
Environmental Scan: London’s Strengths and Opportunities for the BMP	44
Policy Recommendations.....	47
Conclusion.....	53
Works Cited.....	55
Appendices.....	58

List of Figures

Figure 1. The City of London's Ultimate Bikeway Network

Figure 2. The Number of Reported Bicycle – Car Collisions in London (2005-2009)

Figure 3. London Compared to other Similar-Sized Municipalities (July 2010)

Figure 4. Figure 5. Mazmanian and Sabatier's Policy Implementation Framework

Figure 5. The Cycle of Automobile Dependence

Figure 6. Conceptual Framework: Impediments Against BMP Implementation

Figure 7. On-road BMP Funding (2004-2019)

Figure 8. Commuting Distances of Londoners (2006 Census)

List of Tables

Table 1. Benchmarking Bicycle Facilities in other Municipalities (July 2010)

List of Acronyms

BMP: Bicycle Master Plan

BUGS: Bicycle User Groups

EA: Environmental Assessment

EIT: Engineer in Training

FTE: Full-Time Equivalent

GIS: Geographic Information System

GTF: Gas Tax Fund (Federal)

LPS: London Police Services

NIMBY: Not In My Backyard

OP: Official Plan

TDM: Travel Demand Management

TREA: Thames Region Ecological Association

TVP: Thames Valley Parkway

Introduction

In municipalities across Ontario, a noticeable shift towards encouraging active modes of transportation (any form of non-motorized transportation) has been articulated through the recent adoptions of numerous bicycling master plans and pedestrian-oriented policies.¹ Due in part to rising fuel prices, the loss of productivity from congestion and, more importantly, increased health and environmental awareness, municipalities have become more receptive to active modes of transportation as a means to mitigate the negative externalities associated with automobile use.

In London, the cornerstone initiative undertaken to encourage active modes of transportation was the creation of the Council-approved Bicycle Master Plan (BMP) in 2005. The BMP was necessitated by the City's Official Plan (OP) under section 18.2.13 and developed as a guiding document for the construction of a comprehensive bikeway network. Despite the presence of the BMP and the subsequent BMP implementation plan drafted by two consulting firms, MMM Group and Stantec, the network of bicycling infrastructure in London remains piecemeal, underdeveloped, and stalled.

The purpose of this report is twofold; (1) to identify the impediments to the implementation of London's Bicycle Master Plan, specifically its on-road bikeway network, and (2) to recommend potential methods for the mitigation of these impediments.

Benefits of Bikeways

The overall objective of a bikeway network is to encourage and increase the modal share of bicycling. In most cases, the development of a bikeway network and bicycling infrastructure policies have been premised on the adage, "If you build it, they will come". In fact, this notion has been supported by a growing body of research which

¹ Transportation Association of Canada. "Active Transportation: Making it work in Canadian Communities." Winter2008. <<http://www.tac-atc.ca/english/resourcecentre/readingroom/pdf/tacnews-winter2008.pdf>> .

has found a significant correlation between the presence of a developed bikeway network and high levels of bicycle ridership.² Furthermore, when a developed bikeway network is complemented by comprehensive bicycling safety programs, a positive relationship is generated between the former and high levels of bicycling safety. What is also interesting is the idea that the more individuals commute by bicycling, the safer bicycling becomes. Indeed time-series and cross-sectional data from studies conducted across countries have confirmed that “higher levels of cycling are very strongly correlated with lower levels of cycling deaths and injuries.”³ Thus, a well-developed bikeway network increases bicycle ridership and increases the safety of bicyclists.

The diversion of individuals from the use of their automobiles to cycling as a means of transportation also produces numerous additional benefits. Bicycling is an environmentally friendly mode of transportation, considering that the operation of a bicycle produces virtually no noise or air pollution. Similarly, bicycling has the potential to relieve congestion, allowing municipalities to realize cost-savings associated with the reduction of lost productivity. Moreover, bicycling is conducive to a healthy lifestyle as it engages the user in physical activity. From a social justice standpoint, bicycling is one of the most affordable modes of transportation as it is readily accessible to the majority of citizens. Finally, bicycling increases the safety and vibrancy of neighbourhoods and cities. The slower speed of bicycling encourages more points of interaction between individuals and their surrounding environment. As more people interact and share information, neighbourhood bonds are strengthened and people begin to take their neighbours' safety into greater consideration.⁴

² John Pucher, Jennifer Dill, and Susan Handy. “Infrastructure, Programs and Policies to Increase Bicycling: An International Review”. *Preventative Medicine*. 50.1 (2010): 107.

³ P. L. Jacobsen, “Safety in numbers: more walkers and bicyclists, safer walking and bicycling.” *Injury Prevention* 9 (2003): 208.

⁴ Dan Burden, *Street Design Guidelines for Healthy Neighbourhoods* (Sacramento, California: Local Government Commission, 1999) 3.

In addition to the benefits yielded from an increased modal share of cyclists, the physical presence alone of a developed bikeway network can serve to increase the level of safety of a neighbourhood and for the bicyclists. For example, shared roadways or “sharrows” can help to reduce traffic speeds especially on two-lane roadways.⁵ Additionally, other bicycling facilities such as contra-flow lanes have been used for traffic calming measures given that they reduce the speeds of automobiles.⁶ As automobile speed decreases, motorists’ vigilance and vision is heightened, resulting in higher levels of pedestrian safety in neighbourhoods.⁷

Scope

London’s BMP was designed as a bicycling policy package. It incorporates a broad spectrum of bicycling policies ranging from bicycle facility design best practices to funding schedules to promotion programming. The intention of this report is to address only the challenges that affect the construction of on-road bicycling facilities; those that may affect the off-road bicycling facilities will not be addressed. In essence, this report specifically examines the construction of the commuter bikeway network. It is worthwhile to mention that while the off-road bikeway network is used extensively by commuter bicyclists, the implementation of this system will not be examined as the construction of the off-road bikeway network does not face the similar institutional and political challenges that plague the implementation of the on-road network. For the balance of this report, BMP implementation will refer to the construction of on-road bicycling facilities.

⁵ John Forrester, Bicycle Transportation: A handbook for cycling transportation engineers (Cambridge: MIT Press 1994) 89.

⁶ Australia. Queensland Transport. Cycling and Traffic Calming (Government of Queensland: Australia, 2006)1.

⁷ Dom Nozzi, Road to Ruin: An Introduction to Sprawl and how to Cure it (Westport, Conn. London: Praeger, 2003) 26.

Organization of Report

This report is arranged into a number of sections providing various levels of analysis into the implementation of the BMP and London's specific experience with bikeway construction. An account of the research methodology followed by the genesis of London's BMP and its current state of implementation is presented. A literature review is conducted examining various causal theories to the challenges experienced in the construction of on-road bikeway networks and subsequently, a conceptual framework is introduced. Two case studies are examined to illustrate the experience of bikeway construction in London. Next, this report identifies the major obstacles that have hindered the implementation of the BMP. Briefly, these impediments include the problem of data collection, issues related to staffing, an insufficient level of funding and the lack of political will on the part of City Councillors resulting from low levels of bicycle-related advocacy. An assessment of the effectiveness of the BMP's implementation using six crucial criteria developed by policy implementation scholars Daniel Mazmanian and Paul Sabatier is conducted. Finally, this report offers a number of policy recommendations for the City of London to enhance its capacity for achieving the policy goals stated in the BMP.

Methods

This report focuses on the to-date implementation of the City of London's BMP. A qualitative approach was selected over a quantitative approach as an empirical examination of implementation would suffer from significant limitations and would be inadequate in describing causal linkages. The primary qualitative tools employed in this analysis consisted of stakeholder interviews, an examination of relevant literature, archival research, and participant observations.

A total of six stakeholder interviews were conducted lasting approximately an hour each. The interviewees comprised of key BMP implementation officials from the

City of London, a member of London Police Services, and a member from the Thames Region Ecological Association (TREA) who also functions as a member on London's Transportation Advisory Committee. Key implementation officials from the City specifically included the manager of the Transportation Planning and Design group, London's Travel Demand Management (TDM) coordinator, a staff member integral to the implementation of the BMP from the Transportation Planning and Design group, and a senior planner who authored the 2005 BMP. A sergeant for London Police Services' Traffic Operations Unit was also interviewed.

Archival research comprised an examination of city, provincial and consultant reports; Council and Committee minutes; local newspaper articles; publications from non-governmental organization; and a scan of local bicycling-related websites. Additionally, facts drawn from these sources were used in the creation of two case studies. In terms of participant observations, I attended three bicycling advocacy meetings organized by TREA.

Despite the inadequacy of a quantitative research approach, there is merit in conducting some empirical analysis. An empirical analysis will primarily be used to highlight trends and to draw comparisons between the status of London's current bikeway network and other comparable municipalities' networks. Finally, the literature review incorporates academic articles pertaining to policy implementation, bicycling-related research, theories of automobility, and various professional planning and bicycle transportation publications.

Background: London's Bikeway Network and the BMP

Bikeway Network Construction before the BMP

Prior to the BMP, there was no coordinated vision for the construction of on-road bicycling facilities and construction occurred as a result of planned capital projects.⁸

Simply put, when city engineers undertook a capital project to upgrade the services in a neighbourhood, bicycle facilities were considered if the road conditions allowed for them. This approach to bicycle facilities construction continued up until the creation of the BMP and led to the creation of a patchwork network which “didn’t seem to have any rhyme or reason.”⁹

The Creation of BMP

The catalyst for a coordinated approach to the construction of a bikeway network was London's Vision 96 exercise. During the mid-1990s, city staff responsible for the transportation portion of Vision 96 assessed the transportation best practices in other similarly-sized municipalities. They noticed that these municipalities' OPs emphasized the importance of the bicycle as a mode of transportation whereas London's OP did not. London's OP had mentioned the consideration of alternative modes of transportation; however, these clauses were extremely broad and abstract. To remedy this void, city staff added a clause into the OP stating that Council would endeavour to create a bicycle master plan.¹⁰ Interestingly, the inclusion of the above clause was passed with relative ease as the premiere transportation issue during the exercise was OP 88, the creation of a ring road around London which overshadowed any criticism towards the new bicycling clause.¹¹ The impetus for the creation of a bicycling master plan was ultimately a staff-led initiative.

⁸ Brian Turcotte, Senior Planner - Policy. Planning Division. City of London. Personal Interview. 30 June 2010.

⁹ Turcotte.

¹⁰ Turcotte.

¹¹ Turcotte.

The development of London's BMP was headed by the City's planning division in consultation with an ad hoc bicycling advisory committee. Recognizing that bicycling was a viable mode of transportation, the City of London's OP called for the creation of a bicycle master plan which would meet Council's mandate to "promote and initiate improvements to enhance cycling as a means of transportation."¹² Specifically, the BMP would provide a long-term vision for the construction of on- and off-road bicycling facilities, which would include bike lanes; paths adjacent to street; shared roadways (or "sharrows"); and signed and un-signed routes (please see Appendix 1 for a description of each). The BMP aimed to target those average bicyclists and citizens who did not normally commute by bicycle.¹³ As mentioned earlier, the framework for implementation was set out by two authoritative documents: the 2005 BMP and the subsequent 2007 BMP implementation study.

Approved in October 2005, the BMP was introduced with tacit support from City Council and overwhelming support from high-level city managers. In a historic move, the BMP was endorsed by eight department heads in addition to the endorsement by the then bicycle advisory committee; no other policy had garnered the same level of overwhelming support from senior administrators.¹⁴ Political support for the BMP was not as overt as manifested by the absence of resolutions from Council.

The Ultimate Bikeway Network

The ultimate network depicted in Figure 1 is designed for both commuting and recreational purposes. Under the BMP, a primary commuter network would be established on higher-order roads such as arterial roads. A secondary commuter network running in neighbourhoods would provide connections to the primary commuter network. At the same time, a primary recreational network comprising the Thames Valley

¹² City of London. Official Plan (London: The Province of Ontario, 2006) sec 18.2.13.

¹³ Turcotte.

¹⁴ Turcotte.

Parkway (TVP) would form the spine of the recreational network, which would also be supported with a secondary recreational network located on lower-order roads. The overall vision or policy goal of the BMP is to provide the target demographic with a bikeway network that promotes and encourages bicycling; is visible, safe and convenient; emphasizes connectivity to activity nodes and employment centres; facilitates effective commuting opportunities; and to provide a safe and enjoyable recreational experience.¹⁵

Suggested Approach to the Construction of the Bikeway Network

According to the BMP implementation study, a phasing strategy was recommended for the construction of bicycling facilities.¹⁶ Various projects were allocated to three phases: short term (2007-2011), medium term (2012-2016), and long term (2017-2026); with the majority of projects occurring in the short and medium terms. In the interim, it was recommended by the implementation study that bike route signs be installed on identified routes in anticipation for future construction. In terms of the construction of the bikeway network, coordination of construction was to be undertaken by two units. The on-road portion of the BMP was to be led by the Transportation Planning and Design group, while the off-road portion was to be headed by the Parks Planning and Design group.

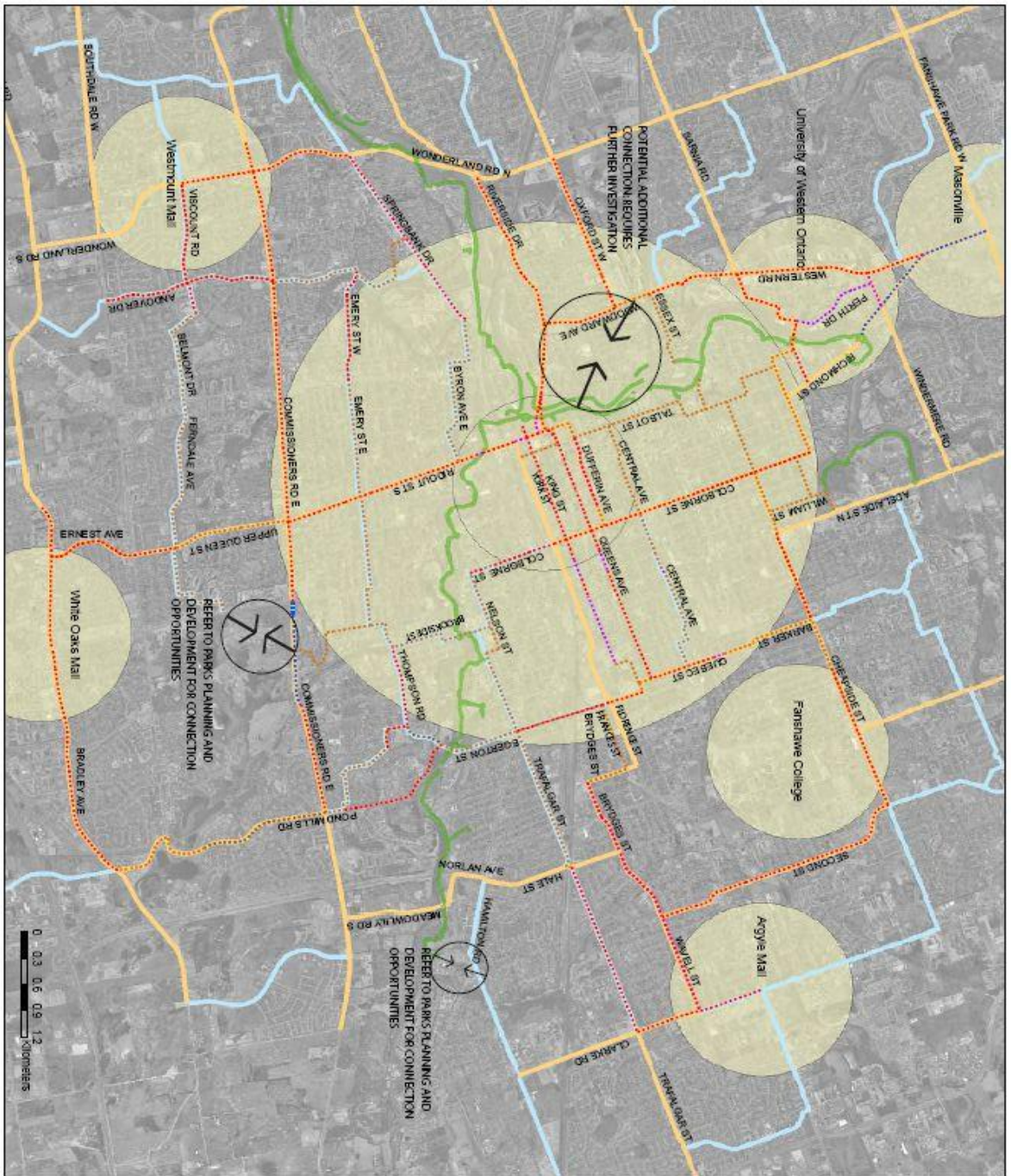
While clear timeframes are delineated in the implementation study, MMM Group and Stantec were careful to mention that the timings as well as the specified projects were not meant to be static in nature. Indeed, this is addressed in the study as well as in the nature of the implementation approach, which places emphasis on dovetailing bikeway construction with existing retrofit projects. Retrofit projects typically refer to a

¹⁵City of London. Bicycle Master Plan: A Guideline Document for Bicycle Infrastructure in the City of London (London: The Province of Ontario, 2005) 2.

¹⁶City of London. Bicycle Master Plan: A Guideline Document for Bicycle Infrastructure in the City of London 5-2.

package of construction projects that include upgrading sewer and water services as well as road widening; whereas dovetailing refers to attaching the construction of bicycle facilities onto retrofit projects. This dovetailing approach for bikeway construction is premised on the basis of achieving cost efficiencies. Thus, the resulting implementation of the majority of projects identified in the BMP is directly tied to the implementation schedules of large capital works projects.

Figure 1. The City of London's Ultimate Bikeway Network



LEGEND

London Bicycle Master Plan 2005

- Primary Route
- Secondary Route²
- Thames Valley Parkway (Primary Recreational Route)

Recommended Facilities
(based on feasibility assessment Summer 2008)

- Bike Lane
- Signed Route
- Wide Shared Lane
- "Hybrid"
- In-Boulevard Pathway
- Paved Shoulder

Study Areas

1. Primary Route as defined by Bicycle Master Plan. Signage and pavement markings are required and high volume of traffic (at least 1000 vehicles per hour) is required to be on the route. In-boulevard pathways or signed routes.

2. Secondary Route as defined by Bicycle Master Plan. Linking boulevards to the primary network, medium to high volume of traffic, intended to be signed on road routes.

CITY OF LONDON BICYCLE MASTER PLAN IMPLEMENTATION FEASIBILITY ASSESSMENT

FIGURE 3.12

RECOMMENDED FACILITY TYPES (Ultimate Network)

Logos: Smartx, London CANADA, MacMillan Mackenzie, M MacMillan Mackenzie

Problem Definition

It is difficult to definitively assert from a performance measurement standpoint that the implementation of London's BMP has been stalled. This is because London's BMP neglects to identify specific bicycle facilities targets, and when targets are identified, as in the case of the BMP implementation study, they are fluid (subject to change). To compound the complexity of measurement, there is a vacuum of accurate data pertaining to the inventory of bicycling facilities and the modal share of bicycling, as well as other essential data points. As one staff member pointed out, "we [the City of London] do a terrible job collecting data."¹⁷ This has also been recognized in past consultant reports that attributed this void of data to a lack of available resources in the Transportation Planning and Design group. As a result, a performance measurement scheme based primarily on empirical information is difficult, if not impossible, to conduct.

Nonetheless, an examination of the qualitative aspects of implementation and specific trends may be more informative. The fact that the City of London is unable to regularly collect and monitor crucial data points such as the total inventory of KM bicycle facilities is indicative of ineffective policy implementation. The availability of staff to conduct technical analysis and to regularly monitor compliance of a policy is an essential ingredient in effective policy implementation.¹⁸ London does not possess this capacity, suggesting problematic implementation.

Another telling indicator of ineffective policy implementation is the state of the bikeway network itself. As discussed earlier, the network (specifically the on-road network) has been criticized by users¹⁹, city staff and consultants as being piecemeal,

¹⁷ Anonymous.

¹⁸ Daniel A. Mazmanian and Paul A. Sabatier, Effective Policy Implementation (Toronto: Heath and Company, 1981) 11.

¹⁹ Peter, Marks. TREA representative on the Transportation Advisory Committee. City of London. Personal Interview. 3 June 2010.

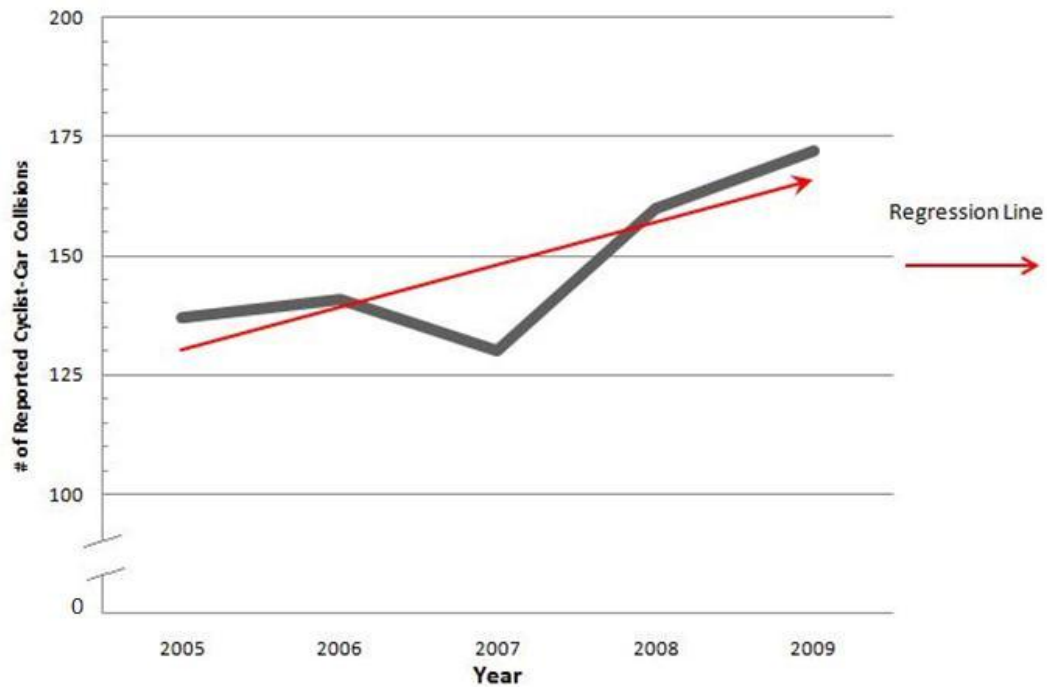
disconnected, and underdeveloped.²⁰ Consequently, the key policy goals of connectivity and creating a system that encourages cycling are not being achieved. The most recent example of a failure to achieve the policy goal of creating a connected network of bike paths is exemplified the Colborne Street case, which will be discussed in greater detail later.

Aside from the nature of the bikeway network and its implementation, there is a demonstrated need for the construction of a comprehensive and connected bikeway network in London. This need is highlighted by the increasing number of automobile collisions involving bicyclists. A review of collision statistics seen in Figure 2 in London collected by London Police Services (LPS) reveals a startling increasing trend of reported bicyclist-to-automobile collisions; a trend acknowledged by the LPS' Traffic Operations Unit.²¹ What is more, due to a variety of reasons such as the lack of an insurance-related incentive for bicyclists to report collisions, many cases of bicyclist-to-automobile collisions fail to get reported. Thus, these collision statistics may under represent the actual growing trend of bicyclist to automobile collisions.

²⁰ Aecom. City of London Discussion Paper: Active Transportation and Transportation Demand Management (Whitby, Ontario, 2010) 3.

²¹ Tom O'Brien, Sergeant. Traffic Operations Unit, London Police Services. City of London. Phone Interview. 3 June 2010.

Figure 2. The Number of Reported Bicycle - Car Collisions in London (2005-2009)



Benchmarking Against Other Municipalities

Benchmarking is a useful tool for illustrating the status of a municipality's bikeway networks in relation to its counterparts. Moreover, benchmarking may sometimes be useful in providing a cross-sectional depiction of municipalities' efforts in implementing their bicycle plans. A common unit of measurement for benchmarking purposes is to examine the kilometre of bicycle facilities per one hundred thousand residents of the municipality's population. In comparison to other municipalities within Ontario and others in Canada as seen in Table 1, the status and development of the City of London's bicycle facilities appears to be average. When contrasted to other similar-sized municipalities in Ontario seen in Figure 3, London's network falls below the 55.8 km median.

Table 1. Benchmarking Cyclable Facilities in other Municipalities (as of July 2010)

Municipality	KM Bicycle Facilities /100 000 Population	Population
Calgary	93.6	988,193
Montreal	35.4	1,620,693
Ottawa-Gatineau	96.0	1,054,253
Vancouver	71.1	578,000
Halifax	21.5	372,679
Toronto	21.3	2,503,281
Region of Durham	Data Unavailable	561,258
Halton Region	120.9	439,256
Hamilton	28.5	504,559
York Region	12.0	892,712
Region of Waterloo	54.4	478,121
Niagara Region	64.5	427,421
Town of Markham	40.4	272,500
London	37.5	352,395
Windsor	68.4	216,473

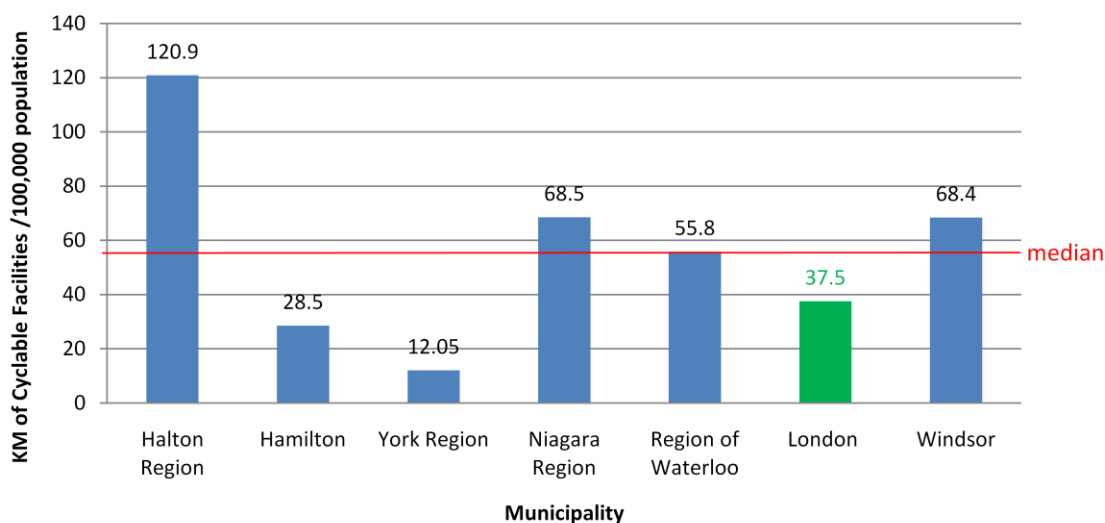
Nevertheless, the data provided in both Table 1 and Figure 3, benchmarking bicycle facilities possess inherent limitations and comparisons should be cautious. Most notably, limitations such as the variation in function, quality, and reporting techniques may distort attempts to accurately compare the status and level of municipalities' bicycle facility implementation. An example of a potential area for distortion is the reporting of off-road bicycling facilities. Many off-road bicycle facilities function in a recreation capacity and may not serve for the purposes of commuting. Conversely, in cases like the City of London, the off-road network known as the TVP serves in both a recreational and commuting capacity²².

Another relevant example is the outlying case of Halton Region. According to Figure 3, it appears that the implementation of Halton Region's Cycling and Pedestrian Infrastructure Plan is well ahead of other similar municipalities. Yet, the majority of Halton Region's 521km stock of bicycling facilities is made up of an extensive network of recreational and rural bike trails, namely the Bruce Trail and the Lake Ontario Waterfront

²² Cook, Allison. Travel Demand Management Coordinator. City of London. Personal Interview. June 2 2010.

Trail.²³ While the constructions of these trails are a notable feat, they distort the measurement of bicycling facilities for the purposes of benchmarking and therefore they are not indicative of exceptional implementation. This is because the construction of the rural trails does not face the same institutional and political challenges as the construction of urban bicycling facilities.

Figure 3. London Compared to other Similar-Sized Municipalities



Aside from the case of Halton Region, inferences on bikeway statuses between similarly sized municipalities located in the same province are fairly comparable. In particular, the selected regional and single-tier municipalities in Figure 3 all possess similar populations and are all responsible for the implementation of their BMPs. As noted earlier, the median of the sample suggests that the implementation of London's BMP and the subsequent construction of bicycling facilities is slightly lagging behind other similar-sized municipalities.

²³ Ontario. Metrolinx. "The Halton Partners Transportation Plan." GTTA Board, 2007 July. 28 June 2010. <www.metrolinx.com/Client%20Documents/1/haltonregion0707.pdf>.

Literature Review: The Theoretical Lens

A significant amount of literature exists on issues related to bicycling. Yet, there appears to be a shortage of literature that addresses the challenges faced by institutions in implementing bicycling policies within a car-dominated environment. This is surprising considering that almost every case in which a city has attempted to install an on-road bicycling network, similar institutional and political challenges have been experienced.

The most widely cited examples of bicycling network implementation success originate from cities such as Copenhagen, Berlin, Bogota, and Portland. From the start, these cities experienced a substantial amount of opposition to the removal of roadways for the installation of bicycling and pedestrian infrastructure.²⁴ Similar rates of automobile ownership and strong car cultures ensured that the implementation of bicycling policies was a challenging feat. In the Canadian context, an analysis of bicycling trends and policy implementation across the country has found that the lack of funding and political will have appeared to be the most substantial impediments to the construction of bicycle networks.²⁵ At the local level, and specific to Ontario municipalities, more precise impediments to implementation were identified in addition to limited financial resources and political will. Impediments such as the lack of professional staff devoted to bicycle policy implementation, confusion in coordination as a result of the division of responsibilities between upper and lower-tier municipalities, the disconnect between land-use and transportation planning, the low density nature of some municipalities, and contradictory provincial legislation have stalled the progress on numerous municipalities' bike plans.²⁶

²⁴ Paul Young, "Building Healthier Communities: Engaging the public in discussions about health and active transportation." *Ground 7* (2009):15.

²⁵ John Pucher and Ralph Buehler 57.

²⁶ Ontario. Metrolinx. *The State of Active Transportation, Greater Toronto, Hamilton and Beyond*. (Toronto: The Province of Ontario, 2008) 37.

The Conceptual Framework

To understand the causal factors of the barriers to implementation and the resulting impasse in the construction of bikeway networks, an examination of both the theories behind effective policy implementation and the notion of automobility or automobilisation must be conducted. It is the combination of these two theories that helps to form the conceptual framework of this analysis. With this conceptual framework, the report can explain the causal factors of the impediments to bikeway network construction.

Literature on Policy Implementation

Mazmanian and Sabatier's piece on effective policy implementation presents the most comprehensive policy implementation framework incorporating many other implementation scholars' principles. Mazmanian and Sabatier's model attempts to examine the macro-level legal, economic and political variables that structure the entire process of implementation and, through a more adequate understanding of these variables, the framework endeavours to portray how difficult policy issues can be ameliorated. For the purpose of developing a conceptual framework for this report, Mazmanian and Sabatier's model will be used.

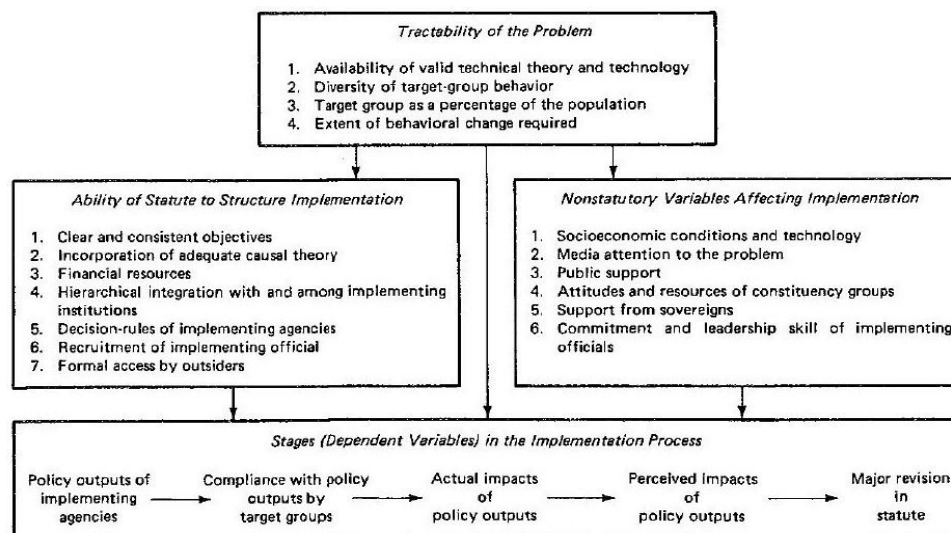
The model begins by identifying the factors or independent variables that affect the achievement of statutory objectives. These are delineated in three broad categories, consisting of (1) the tractability of the problem(s) being addressed by the state, (2) the ability of the statute to favourably structure the implementation process, and (3) the net effect of a variety of "political" variables on the balance of support for the statutory objectives.²⁷ These independent variables ultimately affect the dependent variables or the stages in the implementation process: the policy outputs of the implementing agencies, compliance with the policy outputs by target groups, the actual impacts of

²⁷ Mazmanian and Sabatier 6.

policy outputs, the perceived impacts of policy outputs, and major revisions in statute²⁸.

A depiction of the full model can be seen in Figure 4.

Figure 4. Mazmanian and Sabatier's Policy Implementation Framework



In regards to the dependent variables, Mazmanian and Sabatier contend that the tractability of the policy issue is contingent on a number of factors. There has to be a valid theory connecting behavioural change to problem amelioration; there is minimal variation in the behavioural practices that cause the problem; the target group constitutes an easily identifiable minority of the population and the amount of behavioural change is modest.²⁹

In addition, a carefully constructed policy can substantially affect the achievement of policy goals. More specifically, a policy that attempts to significantly alter target-group behaviour is more likely to succeed if the following factors are present: the objectives are precise and clearly ranked; adequate funds are provided to implementing agencies; the number of veto points in the implementation process are minimized and sanctions or inducements are provided to overcome resistance; the decision-rules of implementing officials' agencies are biased to support the policy's objectives;

²⁸ Mazmanian and Sabatier 6.

²⁹ Mazmanian and Sabatier 9.

implementation is assigned to agencies that support the spirit of the objectives; and the provisions for outsider participations are biased towards proponents of the policy.³⁰

Nonstatutory variables are also an important independent variable for affecting policy implementation. Mazmanian and Sabatier highlight the importance of a number of nonstatutory factors that are indicative of successful implementation. In particular, they suggest factors such as regular and/or periodic infusion of political support; sustained media attention; the presence of commitment and leadership skill of implementing officials; the high level of prosperity of the target groups that are more willing to accept non-productive costs and the unified support of proponents of the policy among political jurisdictions.³¹

The culmination of these understandings leads Mazmanian and Sabatier to offer six crucial conditions for effective policy implementation. These are:

1. Policy objectives are clear and consistent.
2. The policy incorporates a sound theory identifying principal factors and causal linkages affecting policy objectives.
3. A structured implementation process that maximizes the probability that implementing officials and target groups will perform as desired.
4. The leaders of the implementing agency possess substantial managerial and political skill and are committed to statutory goals.
5. Program is actively supported by organized constituency groups and key politicians.
6. The relative priority of the policy's objectives is not undermined over time by the emergence of conflicting public policies or by changes in relevant socioeconomic conditions that undermine the statute's causal theory of political support.

The Theory of Automobility

An examination of the concept of automobility is necessary considering it is precisely this concept that engenders the impediments to the effective implementation of municipalities' bike plans. More closely, the interaction between the principles of automobility and the policy implementation framework discussed earlier creates the

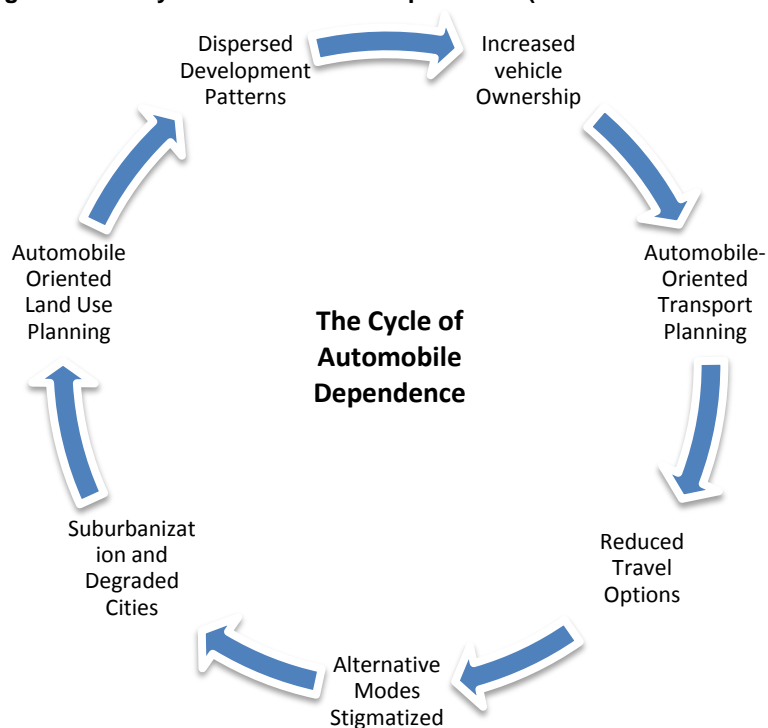
³⁰ Mazmanian and Sabatier 14.

³¹ Mazmanian and Sabatier 16.

obstacles that make it difficult for municipalities to achieve the policy goals outlined in their bike plans.

The theory of automobility is a modern mobility paradigm. It is interwoven into the fabric of North American contemporary society and is embodied in the predominance of the automobile as the primary mode of transportation. Automobility theorists such as Jorg Beckmann, Mimi Sheller, John Urry and Dom Nozzi contend that the ability for individuals to travel greater distances in shorter amounts time (made possible by the automobile) has facilitated the acceleration in the pace of life. Consequently, individuals are expected to conform to the fast-paced lifestyle requiring more individuals to purchase automobiles. The increasing use of the automobile creates a self-fulfilling cycle of automobile dependence. This cycle is best illustrated by Todd Litman's model seen in Figure 5 and is best described by

Figure 5. The Cycle of Automobile Dependence (Source: Litman 2007)



the notion of 'travel homeostasis'. Individuals in developed states cross-culturally devote on average 1.1 hours per person per day for travel time.³² As more individuals depend on the automobile to reduce travel times, congestion occurs. Travel homeostasis occurs when improvements made to reduce travel time

“result in a compensatory change in behaviour to maintain a constant travel time...a vicious cycle where an increase in supply places more demand on the network, which transportation systems expands to allow longer and higher-speed travel, people will disperse in a pattern that in the long run will return to that 1.1 hour round-trip commute equilibrium.”³³

A common principle of both the cycle of automobile dependence and travel homeostasis is the fact that policymakers are resigned to resist policies that restrict or limit automobility out of fear of upsetting an electorate.³⁴ Conversely, policymakers are compelled by the electorate to adopt car-oriented policies such as the widening of roadways and the construction of new roadways and highways at the expense of sustainable transportation policies like the construction of bike lanes.

It is the resulting effects of the interaction between the principles of automobility and the policy implementation framework that creates the antecedents conducive to the failure of achieving a municipality's bike plan's policy goals. As individuals become more dependent on their automobiles, they begin to lobby policymakers for more automobile conducive policies, for example, the creation of more highways and lanes. On the other hand, when policymakers adopt measures that limit the use of the automobile (for instance, the removal of on-street parking), automobile owners oppose them. Individuals' dependence on automobiles affects the independent variables of the policy implementation framework, consequently creating the barriers to the implementation of

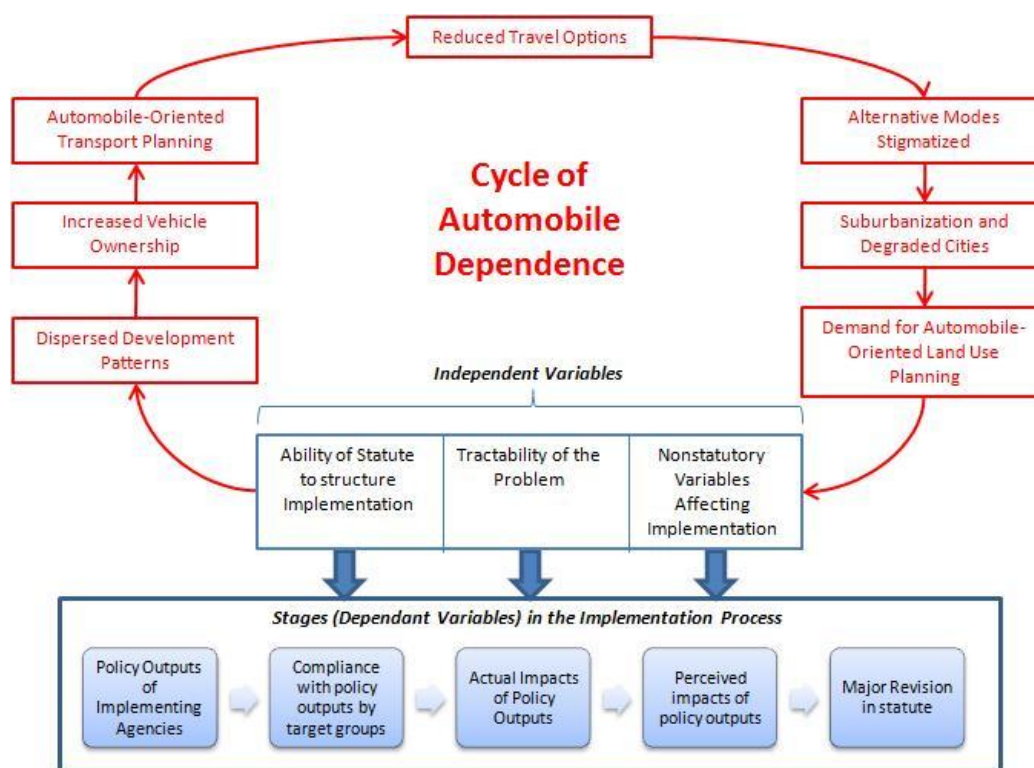
³² Dom Nozzi, Road to Ruin: An Introduction to Sprawl and how to Cure it. (Westport, Conn. London: Praeger, 2003) 16.

³³ Nozzi16.

³⁴ Jason Henderson, "Secessionist automobility: Racism, anti-urbanism, and the politics of automobility in Atlanta, Georgia". International Journal of Urban and Regional Research. 30.2 (2006): 295.

sustainable transportation policies like the BMP. This phenomenon is summarized in a Figure 6.

Figure 6. Conceptual Framework: Impediments Against BMP Implementation



Literature on Addressing the Impediments to Bike Plans

A scan of literature has found little research specifically addressing the impediments to the implementation of bike plans. A large portion of literature deals with broader issues related to policy implementation and the necessity of bicycle promotion, education and enforcement. Where literature on ameliorating the obstacles exists, scholars such as Piet Rietveld, Vanessa Daniel, John Pucher, Martin Lee-Gosselin, and David Banister present interesting and sometimes controversial solutions. They also suggest that the effectiveness of bike plan implementation rests in the application of both incentive policies or “carrot” policies and pull policies or “stick” policies.³⁵

³⁵ Rietveld Piet and Vanessa Daniel. “Determinants of bicycle use: do municipal policies matter?”. *Transportation Research* 38.1 (2004): 545.

Banister, Pucher and Lee-Gosselin present an informative piece on strategies that make sustainable transportation options (such as bicycling) more politically and publicly acceptable. They begin by correctly acknowledging car-dependence as the root cause of oppositions to sustainable transportation policies and that political acceptability is only achieved if there is public acceptability.³⁶ The authors posit that public acceptability originates through small, initial, well-supported, and well-publicized programs such as a car-free day that attempt to initiate new attitudes towards the automobile. Second, public acceptability can be further fostered through the *demonstration effect* where the positive outcome of a policy encourages the public to accept the policy. Finally, public acceptability can be achieved through individual marketing. This form of marketing involves the proactive provision of information on alternative modes of sustainable transportation for individuals to make a rational decision. This method is a dialogue-based technique used to promote other forms of transportation that the public would not have normally considered.³⁷

From these three methods, Banister, Pucher and Lee-Gosselin proceed to introduce seven key principles for policy implementation that seek to increase public, and subsequently political acceptability. The first four are fairly uncontroversial. First, the implementing institution should seek to provide information in way that articulates the importance of sustainable transportation policies emphasizing positive benefits to the individual and businesses. Second, the policy process must seek to involve all stakeholders so that buy-in or public acceptance is maximized. Third, implementing institutions should seek to package both “carrot” and “stick” policies to complement each

³⁶ D. Banister, John Pucher, and Martin Lee-Gosselin. “Making Sustainable Transport Politically and Publicly Acceptable: Lessons from the EU, USA and Canada”. in Rietveld, P. and Stough, R., eds., Institutions and Sustainable Transport: Regulatory Reform in Advanced Economies. (Cheltenham, England: Edward Elgar Publishing, 2007)14.

³⁷ Banister, Pucher and Lee-Gosselin 19.

other. Fourth, success of sustainable transportation policies must be regularly publicized.

Accompanying the uncontroversial principles of acceptability are three other more intrusive and controversial principles. The authors suggest that any adoption of controversial or “stick” sustainable transportation policies such as congestion pricing should be incrementally phased in. This is to ensure that support can be built up as citizens notice the resulting positive outcomes and other measurable improvements in their quality of life.³⁸ Another controversial principle is to, in the present, adopt sustainable transportation policies that will be essential in the long-term. For instance, a fuel tax is a policy that has been identified as an essential component of an effective sustainable transportation policy package in the future. Thus, fuel taxes should be adopted now and the tax should be increased incrementally as the positive effects such as funding for the development of public transit are realized. A final principle is the concept of adaptability. When the impact of strong measures are hard to predict, the authors propose that a good strategy is to implement piecemeal changes and test several solutions in small-scale experiments. As the results unfold, implementing officials should adapt the policy to ensure support from politicians, businesses and the public. However, the argument to adapt policies for public support should not be used as an excuse for weak action.³⁹

In an another article addressing the challenges faced by the city of Rio de Janeiro, Brazil, author Alfredo Sirkis identifies the politicization of the bikeway network as one of the primary impediments to the progress of the Rio Bike Plan. One of the major political issues attributed to the Rio Bike Plan came from the “fierce uproar...from shopkeepers, residents and students’ parents who parked their cars on the lane or the

³⁸ Banister, Pucher and Lee-Gosselin 21.

³⁹ Banister, Pucher and Lee-Gosselin 23.

sidewalk⁴⁰ who would be inconvenienced by the lack of parking spaces due to the installation of bike lanes. To address this political barrier, Sirkis proposed the use of a *demonstration effect* where building bikeways in high visibility areas would serve to “create a cultural impact and an effect multiplier.”⁴¹ The demonstration effect serves to dispel the myth that the installation of bicycling infrastructure would lead to increased chaos and inconvenience. In addition to the demonstration effect, Sirkis proposed the integration of municipal administrative staff in transportation and planning divisions to be merged with those of the bicycling planning unit. The objective of this arrangement is to emphasize that cycling alongside vehicle transportation is a legitimate mode of transportation and that the interests of bicyclists would be represented in future planning and transportation matters.

Similar to Sirkis’ integration technique, Hanson and Young suggest that certain institutional changes may be effective in addressing the politicization of implementing bicycling policies. For instance, the selection of professional managers that perceive bicycling to be crucial to the overall transportation system, the formalizing of government-citizen relationships through an advisory panel coupled with the incremental creation of bicycling infrastructure can be extremely effective in sidestepping political barriers associated with the installation of bike lanes.⁴² The experience in Arlington, Virginia revealed that these institutional changes allowed the County of Arlington to implement a successful bike plan.

The literature addressing the obstacles to implementing bike plans highlights several important factors. First, public acceptability of controversial bicycle policies (such as the removal of on-street parking or a traffic lane) should be adopted incrementally.

⁴⁰ Alfredo Sirkis, “Bike Networking in Rio: the challenges for non-motorised transport in an automobile-dominated government culture”. *Local Environment* 5.1. (2000): 87.

⁴¹ Sirkis 89.

⁴² Royce Hanson, and Garry Young. “Active Living and Biking: Tracing the Evolution of a Biking System in Arlington, Virginia”. *Journal of Health Politics, Policy and Law* 33.3 (2008): 400.

Moreover, the use of both “carrot” and “stick” policies are required to increase the effectiveness of bicycle policies. Second, public acceptability can be fostered through the use of the demonstration effect, where, the installation of bike lanes on major roads encourages others to commute by bicycle. Third, institutional factors related to the disposition of implementing officials towards bicycling and the presence of a citizen advisory committee are crucial components to ensuring the successful implementation of bicycle policies.

Case Studies: Bike Lane Projects

London’s experience with the installation of on-road bicycle facilities has been similar to other urban areas. Two case studies involving the removal of on-street parking for the purposes of installing a bike lane will be examined. The Colborne Street case will portray an unsuccessful attempt by the City to achieve the BMP’s policy goals while the Ridout Street case will depict a successful attempt.

Colborne Street Case: The Perfect Storm

The Colborne Street case provides an excellent illustration of the convergence or the “perfect storm” of the BMP’s impediments in the policy process, which led to the failure to achieve a policy goal. The Colborne Street example involves the installation of a bike lane at the cost of removing on-street parking amongst a backdrop of other large-scale construction projects in the winter of 2009. Since 2007, Colborne Street from Oxford Street to Huron Street had been identified as an excellent north-south corridor connecting the University of Western Ontario and the downtown core. According to set criteria for evaluating the desirability of a bike route (see Appendix 3), the existing conditions along Colborne Street were found to be highly conducive to the installation of

bike lane; it provided a continuous connection, the use of on-street parking was low and driveways of houses could accommodate several vehicles.⁴³

The bike lane consultation process took place alongside other consultation processes for the large-scale construction package that sought to upgrade the water and sewer system as well as initiate traffic calming measures. These large-scale capital works projects were the first of its kind in the Old North neighbourhood and would affect approximately 2840 homes.⁴⁴ The consultation process began in the spring of 2009 with a mass mail out informing residents that the capital works projects were being undertaken in the neighbourhood. Following the initial mass mail out, two other points of contact from surveyors and consultants were undertaken to solicit the views of residents on the projects. The information provided in the mail outs addressed all the projects that were slated to occur in the summer, not just the bike lanes.

Since the installation of bike lanes required the removal of on-street parking, it was city practice for a survey to be mailed (seen in Appendix 4) in order to gauge the community's position on the mitigation of on-street parking. Results from the November 2009 survey indicated that 50 percent⁴⁵ of residents supported the removal of on-street parking; regardless, when the concept of the design was introduced at a January 2010 public information centre to the neighbourhood, immediate opposition and accusations of poor consultation quality from a large group of residents ensued.⁴⁶ The neighbourhood quickly organized and lobbied its City Councillor, an individual who had regularly supported the pro-sustainable transportation package, to oppose the installation of the bike lanes.⁴⁷ The political environment soon heated up with the addition of media

⁴³ City of London. City of London Bicycle Master Plan Implementation Study. London: The Province of Ontario, August 2007. 3-5.

⁴⁴ Lucas, Personal Interview 20 May 2010.

⁴⁵ Lucas, Personal Interview 20 May 2010.

⁴⁶ Van Brenk, Deborah. "Residents Riled by Traffic Plan." The London Free Press. 15 Jan 2010. <<http://www.lfpress.com/news/london/2010/01/15/12488576.html>>.

⁴⁷ Van Brenk.

coverage from the London Free Press which criticized the City for failing to conduct a thorough public consultation. A public meeting was requested by the Councillor of the ward and at that point it was clear to the City that the policy goal of installing a bike route completing a north-south network had failed.⁴⁸ The Colborne Street case ended with Council voting unanimously against the installation of the bike lane; prospects for a future attempt to install a bike lane along Colborne were also quashed.⁴⁹

The failure to install a bike lane along Colborne Street was a product of the various obstacles affecting the BMP. First, staff pointed out that residents were generally confused as to the nature of the road construction that was set to occur on Colborne Street.⁵⁰ For instance, many residents inaccurately believed that the installation of a bike lane would require the City to remove the trees along the street⁵¹. Confusion was further elicited when traffic calming measures were simultaneously introduced. Indeed, poor communication, specifically the lack of a consultation framework and the lack of an existing organized community association with which to communicate were cited as detriments to the process.

Second, the lack of funding may have proven to be a contributor to the failure of the policy goal. It requires the construction of bicycling infrastructure to be undertaken in conjunction with major capital works projects, thereby creating a significant amount of confusion about the process. Furthermore, the loss of on-street parking for many neighbourhoods is a controversial issue and, when combined with other construction issues, the provision of information may be extremely confusing to residents. Worse, residents may perceive this action as an attempt to discreetly implement a controversial measure. In contrast, if the installation of a bike lane was implemented separately from a

⁴⁸ Van Brenk.

⁴⁹ Lucas. Personal Interview 20 May 2010.

⁵⁰ Veittiaho.

⁵¹ Veittiaho.

major construction package, the points of confusion could be minimized or mitigated. Thus, the pursuit of achieving cost savings by dovetailing bike lane construction alongside major construction projects may involve a trade off between achieving cost savings and achieving policy goals.

Not surprisingly, the third obstacle identified was the gap in consultation between the higher-order BMP and its implementation in specific neighbourhoods. Low levels of involvement during the consultation process of the initial BMP ensured that individuals' knowledge of implementation of the BMP in Old North would have been almost nonexistent. Similarly, the lack of an established public consultation framework resulted in the tardy delivery of information that failed to address numerous residents' irrational concerns. Thus, residents developed a negative perception of bike lanes before the relevant information could be used to convince them otherwise.

Ridout Street Case

A similar retrofit project was undertaken in the summer of 2009 along Ridout Street in the Old South neighbourhood. Ridout Street had been identified by the BMP as a spine in the primary commuter network connecting the downtown area to south London. Retrofitting on Ridout Street had been pursued in three phases. For this particular case study, the second phase involving the construction along Ridout Street between Elmwood Avenue to Windsor Avenue will be examined.

At the beginning of the construction year in February 2008, a public consultation process was initiated by the Transportation Planning and Design group. It had been identified by the group that the installation of bike lanes would pose significant impacts to parking, trees, and residents' front yards and, judiciously, a public consultation exercise was organized. A concept design was presented to residents and their feedback was solicited. Early on, residents realized the implications of the plan where the addition of a bike lane would either require the elimination of on-street parking or the widening of the

whole street. The latter would require the removal of trees. Despite some heated discussion, consensus was acquired for the removal of on-street parking after a resident suggested that this option was preferable to the loss of trees along the road; support for this option was unanimous. Interestingly, this consensus occurred even before the manager of the Transportation Planning and Design group had presented the option of removing on-street parking. Following the public consultation, a mailed survey was sent to residents to gauge their support for the removal of on-street parking; a survey that yielded positive results. Thus, in the Ridout Street case, policy goals were achieved and a bike lane was successfully installed.

In comparison to Colborne Street, the Ridout Street case succeeded for a number of important reasons. First, the Old South neighbourhood had previous experience with large-scale capital works projects and were accustomed to the planning process and construction schedules.⁵² Second and most significantly, the Old South neighbourhood had a highly organized and active community association who worked effectively with the City of London to provide the community with information on the planning process. This meant that residents were well informed of the proceedings and were generally more informed on civic issues in relation to the average ratepayer.⁵³ The community association was also thoroughly engaged in the policy implementation process by assisting the City in distributing the on-street parking surveys, in addition to encouraging property owners to respond in under a week.⁵⁴ A third important component was the fact that there “was a general buy-in at the policy level that bike lanes should go in.”⁵⁵ These factors created the antecedents for the successful installation of bike lanes despite the high degree of impact.

⁵² Lucas, Personal Interview 20 May 2010.

⁵³ Lucas, John. Manager. Transportation Planning and Design Group. City of London. Email Interview. 13 July 2010.

⁵⁴ Lucas, Email Interview 13 July 2010.

⁵⁵ Lucas, Personal Interview 20 May 2010.

Key Lessons from the Colborne and Ridout Street Case Studies

When we examine the Colborne Street and Ridout Street case, several key lessons can be derived. Most notably, formalizing a public consultation process that emphasizes proactive engagement and the provision of information, as demonstrated in the Ridout Street case, can often provide the necessary information for residents to dispel their irrational beliefs of the project's objective before they create their own conclusions. For instance, the parking survey mailed to the Colborne Street residence was criticized for being overly vague and led many to falsely assume that certain measures, such as the removal of trees, were required for the installation of bike lanes.⁵⁶ This vacuum of information eventually contributed to residents' vehement opposition to the bike lane policy. Had a public consultation been arranged earlier, information from city staff may have helped to assuage residents' irrational beliefs and policy goals may not have been compromised. Second, community associations in some cases can be an asset in the policy implementation process. Community associations are typically well organized and are often capable of disseminating information to residents in the neighbourhood. Finally, in some instances, the pursuit of achieving cost savings by dovetailing bike lane construction in conjunction with major construction packages may involve a trade off between achieving cost savings and achieving policy goals. If the dovetailing approach to bike lane construction is to be pursued, the city should take substantial measures to manage and disseminate accurate information to the target residents.

An Analysis of the Impediments to the Implementation of London's BMP

Interviews with various stakeholders, analysis from city and consultant reports, and recorded dialogues from Environment and Transportation Committee meetings revealed that the implementation of the BMP faces numerous challenges. The most

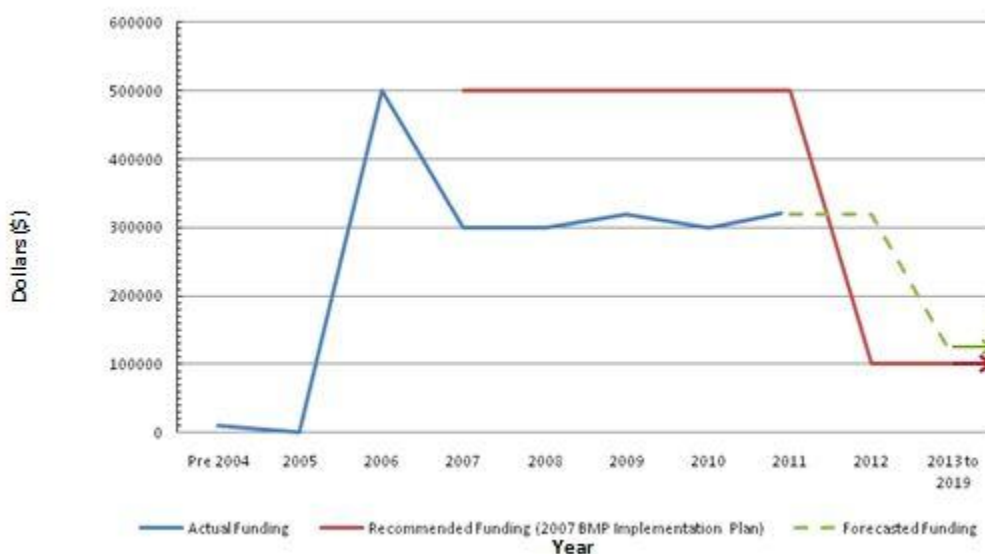
⁵⁶ Van Brenk.

salient impediments are the deficiency in funding, dedicated staff, a public consultation process, political will, and data.

A Lack of Funding

City staff tasked with the implementation of the BMP consistently identified the lack of funding as a significant impediment to fulfilling the policy goals of the plan. Before 2005 and the federal Gas Tax Fund (GTF), funding of \$10,000 per year for on-road bicycling facilities was provided for as a line item in capital budgets. Since 2006, the GTF has delivered approximately \$300,000 of annual funding towards the construction of on-road cycling facilities.⁵⁷ The funding of on-road cycling facilities is entirely dependent on GTF. Although the actual amount of funding and the forecasted funding listed in the 2009-2019 ten year capital budget forecast falls short of the prescribed funding levels in the BMP depicted in Figure 7, this shortfall in funds is not indicative of the true impediment to implementation. More precisely, the lack of funds affects implementation in two ways; it affects the City's approach to the construction of the bikeway network and, to a lesser extent, the maintenance of the network.

Figure 7. On-road BMP Funding from 2004-2019



⁵⁷ Lucas, Personal Interview 20 May 2010.

The construction of advanced bicycling facilities such as delineated bike lanes requires a substantial amount of infrastructure funding. To illustrate, the cost of widening 1KM to install a bike lane on both sides of the road is approximately \$115,000 (see appendix 2 for unit cost schedule); this represents a third of the total annual budget allotted to the on-road construction of bicycle facilities. The level of funding allocated to on-road bicycling facilities construction relegates implementing officials to make the most of the funding by dovetailing on large-scale capital works projects in an effort to achieve cost savings. In other words, if a neighbourhood is in the process of undergoing utilities, traffic calming or road maintenance upgrades, staff from the Transportation Planning and Design group would examine whether or not the upgrade has been identified as a route in the BMP and attempt to incorporate the construction of bicycle facilities at the same time, thereby minimizing duplication.

London's current approach to bikeway construction as a consequence of limited funding is perceived as an impediment to realizing the policy goals put forth by the BMP. The approach makes bikeway construction dependent on large-scale capital works projects that occur on routes identified by the BMP. Moreover, it is premised on the ethos that, despite a lack of definitive targets, "the ultimate network will eventually be completed."⁵⁸ The result of this approach, as described by one city staff member as "setting the BMP up for failure,"⁵⁹ produces a bikeway network that is piecemeal, disjointed, and from the standpoint of a number of reports, a system that leads to nowhere.⁶⁰ More importantly, the fluidity of large-scale capital works projects due to changing political and institutional priorities implies that some bikeway construction projects anticipated to occur at a given point in time may in reality become delayed or

⁵⁸ Turcotte.

⁵⁹ Anonymous.

⁶⁰ Aecom 3.

worse, may never become implemented.⁶¹ Another unfortunate consequence of the fluidity of large-scale capital projects is that the BMP initially planned the funding to mimic 2005 estimates of large capital works projects. Since the majority of the funding is allocated in the first five years followed by a significant decrease after 2011, there may be an insufficient level of funding to construct bicycling facilities if other large-scale capital works projects are delayed until after 2011.

Aside from delayed implementation and the failure of policy goals, the lack of funding extends to the general maintenance of the existing and future bikeway network. General maintenance refers to services that include bike lane snow, leaf and litter removal, as well as surface maintenance. Although the importance of these services is mentioned in the BMP implementation study, the reality is there is no funding available for these added services.⁶² A poorly maintained bikeway network creating unsafe bicycling conditions is likely to dissuade would-be bicyclists from utilizing the network, consequently failing in its stated objective to promote cycling.

A Lack of Dedicated and Skilled Staff

The implementation of the BMP has also been criticized for the deficiency of available staff who are skilled in policy implementation, specifically in the softer skills such as engaging the public and liaising with stakeholders. Currently, the City of London only has 1.5 full-time equivalents (FTE)⁶³ working on the implementation of the on-road component of the BMP. What is more surprising is the fact that the staff member tasked with the key role of coordinating BMP implementation only devotes approximately 30-40%⁶⁴ of his time to implementing the BMP.

⁶¹ Turcotte.

⁶² Lucas, Personal Interview 20 May 2010.

⁶³ Cook.

⁶⁴ Veittiaho, Erik. EIT. Transportation Planning and Design Group. City of London. Personal Interview. 2 June 2010.

It is perhaps the lack of consistent staff knowledgeable in policy implementation that has proven to be the most troublesome administrative issue. Since 2007, the coordination role of the BMP has been traditionally assigned to an Engineer in Training (EIT), an on-the-job training experience that prepares recent engineering graduates for their professional engineer registration.⁶⁵ The average tenure of an EIT within the Transportation Planning and Design group is approximately one year. EITs are expected to gather a diverse range of experiences, and as such, they regularly transfer from role to role and from unit to unit. EITs recently assigned the implementation role are also provided with limited training on best practices.⁶⁶ Past experiences in regards to staffing the coordination role is for EITs to inherit the portfolio, face a steep learning curve, develop a strategy for implementing the BMP, and subsequently depart for another assignment after twelve months. This lack of consistency means that there is a cyclical trend of inconsistent implementation strategies and corporate memory loss.

Another similar factor is the insufficient existing staff possessing the relevant skill sets to effectively implement the BMP. According to the manager of the group, what is lacking is not the technical expertise of the actual designing of bicycling facilities; rather it is the softer skills such as engaging stakeholders in consultation and the information aspect of the implementation process that are lacking.⁶⁷ This vacuum of soft skills is portrayed in the Colborne Street case study where an error attributed to the steep learning curve of an implementing official resulted in the failure to achieve a policy goal, the connection of the primary commuter network by a bike lane.⁶⁸

A final consideration related to staffing is the actual assignment of the coordination role. The current assignment of the coordination role does not ensure that

⁶⁵ Veittiaho.

⁶⁶ Veittiaho.

⁶⁷ Lucas, Personal Interview 20 May 2010.

⁶⁸ Veittiaho.

the role of the key implementation official is delegated to an individual who is knowledgeable and enthusiastic on issues related to bicycling. A knowledgeable and enthusiastic individual can affect implementation in two significant ways. First, an implementing official who is more predisposed to issues related to bicycling will be more effective in implementing bicycling-related policies. Second, this individual would be more capable in drawing on expertise to transfer relevant information to the public. Ultimately the factors related to staffing help to contribute to a less effective approach to implementing the BMP.

A Gap in Public Consultation

The public consultation process is another commonly cited impediment in the implementation of the BMP. According to staff, there is a disconnect in public consultation between higher-level planning documents such as the BMP and the actual implementation of the BMP in neighbourhoods.⁶⁹ Furthermore, public consultation during the creation of the BMP was quite limited and very few members of the public chose to participate. This gap in consultation poses potential negative repercussions especially when controversial actions like the removal of on-street parking is required for the facilitation of a bike route.

The City currently does not possess a set standard procedure on public consultation in regards to the installation of bicycle facilities, specifically bike lanes. This is because under the provincial *Environment Assessment Act*, the construction of bike lanes falls under schedule A+, which exempts municipalities from the requirement to conduct an Environmental Assessment (EA) and, consequently, the public consultation process as required by other projects under the Act.⁷⁰ Despite the provincial effort to

⁶⁹ Lucas, Personal Interview 20 May 2010.

⁷⁰ "Municipal Class Environment Assessment." Municipal Engineers Association. 11 June 2010. <<http://www.municipalengineers.on.ca/classea/manual/manualSimple.asp?section={50310A78-ECB2-45D6-A6CE-D1FB18B4DFA9}>>.

streamline the construction process of sustainable transportation infrastructure, an important mechanism of public consultation is effectively eliminated.

Public consultation is necessary for two important reasons. First, it is a democratic right; the policy process is seen as a locus for the articulation of values and preferences on policy options, and “public participation is a means of bringing the pattern of values and preference represented within the policy process closer to that existing within society as a whole.”⁷¹ Second, public consultation can enable policymakers to deliver better policy. Of course, “better” could imply policies that are more agreeable with the values of society. In addition to these two primary reasons, public consultations can produce other run-off benefits. For instance, public consultations can help to avoid conflicts later in the policy implementation process as they can serve to inform the public of the policy and dispel any irrational myths that may be contributing to their opposition to the policy. Policy failure as a result of a the lack of a proactive public consultation was apparent in the Colborne Street case study whereas a successful example of proactive public consultation was demonstrated in the Ridout Street case study.

Conversely, in some circumstances public consultation can present adverse effects. It can be extremely difficult to draw effective participation from all the policy’s stakeholders at public consultations. This is especially the case for environmental policy issues where public involvement succumbs to the problem of collective action. The problem of collective action, borrowing from the public choice theory, asserts that when a policy benefits a large proportion of the population, public participation is unlikely to be forthcoming. This is because the cost to becoming informed and to participate in a debate surrounding a given issue may be too high, considering that the benefits are diffused across the population, and the return to the individual may be small. At the

⁷¹ Yvonne Rydin, and Mark Pennington. “Public Participation and Local Environmental Planning: the collective action problem and the potential of social capital”. *Local Environment* 5.2 (2000): 154.

same time, if the policy's cost, (for instance the construction of a bike lane at the expense of the removal of on-street parking) is targeted at a specific neighbourhood, then the cost of participation by that neighbourhood's citizens may far outweigh the benefits (for example, saving time and money to get to the location of the public meeting) of not participating. The result is a disproportionate amount of vocal and well-organized interest groups or citizens expressing their dissent of the policy with city staff and the ward councillor leading to the policy's demise. The cost of the policy failure is consequently spread amongst the non-mobilized sections of the city.⁷² This was certainly the experience in the Colborne Street case and in other municipalities including Toronto.⁷³

Nonetheless, efforts by the City of London to consult the public on the construction of bike lanes should not be perceived as an exercise in futility. As the Ridout Street case study demonstrates, when public consultations are well organized, proactive and there is a high level of information disseminated to the public, policy goals can be achieved even amidst a relatively higher cost to the target neighbourhood.

A Lack of Political Will

The implementation of the BMP is plagued by the lack of political will amongst City Council. In interviews conducted with city staff and environmental advocacy groups, no political champions or city councillors that regularly supported bicycle-friendly policies could be identified. In terms of the current composition of City Council, general support for bicycling policies is folded into the broader package of sustainable transportation policies that include other forms of active transportation and, more importantly, public transportation.⁷⁴ Thus, when bicycling policies receive infusions of political support, it often occurs in conjunction with support for all modes of sustainable transportation.

⁷² Rydin and Pennington 156.

⁷³ Heaps.

⁷⁴ Lucas, Personal Interview 20 May 2010.

When asked to identify Councillors who regularly supported the “sustainable transportation package”, staff could only identify a group of four City Councillors from a Council of fourteen. While this group of City Councillors usually vote in favour of sustainable transportation, they are not impervious to constituency pressures as demonstrated in the Colborne Street case study.

The lack of political will can be attributed to two reasons. First, bicycling policies, let alone sustainable transportation policies, are not perceived as imperative in the City. In comparison to other major urban centres, London does not experience the severe negative externalities of automobile use. For example, severe road congestion, noise emissions and smog warnings are not experienced by Londoners and, therefore, these issues are not perceived by the public as critical issues to be addressed.⁷⁵ Second, bicycling interests are not well-represented in London; there are no organized and vocal bicycling advocacy groups in the City. An environmental scan conducted with city staff, environmental advocacy groups, local bicycle stores, on the internet and in the media did not produce any existing bicycling or active transportation advocacy group(s). Bicycling groups that were found were primarily organized for recreational purposes with no advocacy components.

Bicycling interests are not entirely without representation. Other environmental advocacy groups that cover a broad spectrum of environmental issues occasionally lobby for bicyclist-friendly policies. Groups such as the Urban League were instrumental in advocating for the installation of bicycle parking at community centres and libraries in London. Moreover, the Thames Region Ecological Association (TREA) helps to annually promote bicycling by organizing London’s week-long Bicycle Festival. Nevertheless, membership and the organization of these groups promoting sustainable transportation

⁷⁵ Aecom 22.

issues are often limited and support for bicycling is often intermittent.⁷⁶ Bicycling interests are also represented at City Hall on the Transportation Advisory Committee. Following the dissolution of the Bicycling Advisory Committee, two positions on a committee of twelve were set aside for individuals from the bicycling community and according to staff, they have been effective at representing bicycling interest at the committee.⁷⁷ Aside from the few individuals who lobby from time to time for bicycling-friendly policies, the critical mass of support, not to mention consistent support for the implementation of the BMP, is nonexistent.⁷⁸ In fact, the manager of the Transportation Planning and Design group stated that he could not recall any group or individual that has contacted him concerning bicycling-related issues.

A Lack of Data

Data collection has also been identified as a significant impediment by staff. Noted earlier, the City's efforts to collect data on matters related to percentage of bicycling as a modal share, the presence of bicycle parking, and even an inventory of bicycling facilities has been dismal. For instance, the most current statistics on modal split were gathered from a phone survey undertaken in 2002.⁷⁹ To further highlight the obsolescence of the current state of data, recent consultant reports point to citizens' negative perceptions of the bikeway network gathered from the same 2002 phone survey⁸⁰; a period of time before the actual BMP was drafted and the construction of a more substantial bikeway network began in earnest.

What is more, the inventory of up-and-coming large-scale capital road projects has not been kept up to date, meaning that key implementation opportunities could be

⁷⁶ Marks.

⁷⁷ Turcotte.

⁷⁸ Veittiaho.

⁷⁹ Aecom 10.

⁸⁰ Aecom 21.

lost and its progress cannot be gauged.⁸¹ Perhaps the more pertinent issue is the fact that the lack of up-to-date data means that the Transportation Planning and Design group cannot regularly report its success to Council or more importantly to citizens. It is necessary for both citizens and City Councillors to see value in public expenditures. Regularly reporting on successes may also enable the group to request more funding if they can adequately show to Council and to citizens that additional funding could yield greater results.

Discussion: Has the Implementation of the BMP been Effective?

In this section, the report will assess the probability that the BMP will achieve its policy goals under the current state of implementation. The report will utilize the six crucial criteria developed by Mazmanian and Sabatier which the authors derived from their effective policy implementation framework.

1. Are the policy objectives clear and consistent? (NO)

Although the BMP presents clear principles for the overall objectives of the bikeway network and the principles for the selection of bicycle routes and their design, the schedule for the actual implementation of bicycle facilities has not been established. What is more, there is much variability in the implementation schedule because it relies heavily on the construction schedule of large-scale capital projects. Therefore, policy objectives in terms of implementation objectives are not clear and given the fluidity of the large-scale capital works projects, the objectives are similarly inconsistent.

⁸¹ Veittiaho.

2. *Does the policy incorporate a sound theory identifying principal factors and causal linkages affecting policy objectives? (YES)*

A significant amount of literature exists confirming the validity of the causal theory: the presence of an effective and developed bikeway network increases the modal share and safety of bicyclists. The BMP's first principles acknowledge these casual theories and they are demonstrated in the selection of the bicycle routes identified in the BMP. For instance, the ultimate network emphasizes the notion of connectivity and convenience. These characteristics are indicative of an effective and developed bikeway network.

3. *Is there a structured implementation process that maximizes the probability that implementing officials and target groups will perform as desired? (NO)*

Aside from the established public consultation process mandated by the *Environmental Assessment Act* for road retrofits, there is no established process for public consultation pertaining to the construction of bicycling facilities. In a way, one could assert that the current process (or lack thereof) for public consultation minimizes the number of veto/clearance points in which an actor has the capacity to impede the achievement of the policy objectives. However, as demonstrated in the Colborne Street case study, the lack of public consultation process led to public distrust, confusion and subsequent hostility to the bike lane initiative. Another troubling factor is the insufficient amount of financial resources available to the implementing agency which limits the approaches to construction and the supporting programs necessary for the maintenance of the bikeway network.

4. *Do the leaders of the implementing agency possess substantial managerial and political skill and are committed to policy goals? (SOMEWHAT)*

There appears to be no shortage of managerial, technical or political skill on the part of the Transportation Planning and Design group. However, staffing issues may

indicate that the level of commitment to the policy goals is limited. As previously mentioned, the key staff member tasked with implementation diverts only 30-40% of his time to coordinating the BMP. Furthermore, this role has been historically delegated to a new EIT who receives little training in policy implementation and rotates to another training opportunity after one year. Given that the key implementation role of the BMP has consistently been assigned to inexperienced staff members, this could suggest that the commitment to achieving the policy goals of the BMP is limited.

5. *Is the policy actively supported by organized constituency groups and key politicians? (NO)*

The BMP is not actively supported by politicians and does not receive periodic infusions of political support. The origination of the BMP as a staff initiative, and the low levels of resources devoted to implementation are indicative of the low levels of political support. Support from organized constituency groups is also diffused and periodic. There are no specific organized constituency groups that advocate on the part of commuter bicyclists or, more broadly, active transportation. The two non-profit groups that support sustainable forms of transportation are oriented to broader environmental policies and thus are incapable of sustaining a consistent level of advocacy on bicycling issues.

6. *Is there potential for the relative priority of the policy's objectives to be undermined over time by the emergence of conflicting public policies or by changes in relevant socioeconomic conditions that undermine the statute's causal theory of political support? (SOMEWHAT)*

The current level of priority for the BMP appears to be low. However, the promotion of alternative modes of transportation appears to be progressing in line with all other modes of sustainable transportation albeit with extra emphasis on developing public transportation.⁸² The goal of TDM in London is to provide citizens with a wide array of alternative transportation options, therefore, the low priority of bicycling is not

⁸² Cook.

likely to be undermined by other conflicting public policies. Nevertheless, an argument can be made that bicycling policy priorities will be lowered as the level of funding is significantly decreased following 2011.

The analysis of the current state of BMP implementation using Mazmanian and Sabatier's six crucial criteria for estimating the probability that a policy will achieve its policy goals does not appear promising. Of the six criterion, three were not met, two were somewhat met and only one was fulfilled. This indicates that the implementation of the BMP to date has not been effective and if the status quo persists, policy goals may be jeopardized. The City of London should immediately adopt measures to mitigate the identified impediments. Some practical recommendations will be discussed in the next section.

Environmental Scan: London's Strengths and Opportunities for the BMP

Despite the troubled nature of implementation, there is cause for optimism. The City of London is in a unique situation in that it possesses many internal and external environmental characteristics that are conducive to both the implementation of the BMP and the facilitation of bicycling. Perhaps the most important strength is the short to-work commuting distance of Londoners observed in Figure 8. According to the 2006 Statistics Canada Census, forty-five percent (45%) of Londoners' to-work trips were less than 5km.⁸³ In addition, twenty-nine percent (29%) of Londoners representing the second largest cohort travelled less than 9.9km to work.⁸⁴ Even when accounting for outliers, the median commuting distance of Londoners was 5.6km.⁸⁵ The short to-work commuting distances presents London with a significant opportunity for two reasons. First, given that bicycling is the fastest mode of transportation under 5km, a large percentage of

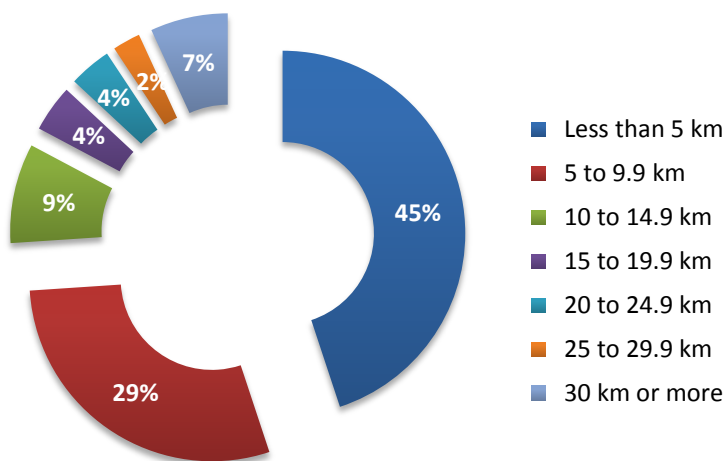
⁸³ Canada. Statistics Canada. Place of work, commuting to work 2009 June. 11 April 2010 <<http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/hlt/97-561/T605-eng.cfm?Lang=E&T=605&GH=2&GF=555&G5=0&SC=1&S=1&O=A>>.

⁸⁴ Canada.

⁸⁵ Canada.

Londoners are able to cut down their commuting times while benefiting from the positive externalities of bicycling. A second similar reason is the fact that the implementation of a comprehensive BMP and the promotion of bicycling as a mode of transportation is significantly easier to market to the public.

Figure 8. Commuting Distances of Londoners (2006 Census)



Another important strength of London is its geography. In particular, the topography of London is conducive to bicycling because the terrain is relatively flat and free of hills. Furthermore, the intersecting nature of the Thames Valley and the accompanying TVP multi-use pathway provides bicyclists with an established and uninterrupted east-west and northerly bicycle route. This existing network allows bicyclists (specifically inexperienced bicyclists) to safely and rapidly traverse the city without having to operate on main arterial roads.

Currently, the City of London's approach to Transportation Demand Management (TDM) or a range of policies, programs, and mobility services and products that influence individuals' travelling habits from automobiles to other forms of transportation⁸⁶ is primarily focused on "carrot" policies (incentive policies). In other words, the City's efforts to divert individuals from their automobiles into more sustainable forms of

⁸⁶ Aecom 6.

transportation have been, for the most part, related to encouraging citizens to utilize other forms of transportation by providing Londoners with a menu of transportation options.⁸⁷ Still, there is a significant capacity for the City to impose “stick” (pull policies) or car-restrictive policies to encourage Londoners to adopt other more sustainable forms of transportations such as bicycling. The opportunity for London is situated on the basis that the city does not experience a significant amount of congestion during peak rush hours. Therefore, car-restrictive policies such as road-diets (the removal of a lane) to incorporate a bicycle lane may be more politically feasible than in other more congested urban cities. The combination of both “carrot” and “stick” policies may increase the effectiveness of London’s BMP and TDM efforts. Indeed, studies examining European cities as well as Portland, Oregon have suggested that the combination of both “carrot” and “stick” policies significantly enhances the effectiveness of cycling policies.⁸⁸

In contrast, the lack of congestion may similarly serve as a barrier to the implementation of the BMP. In many municipalities facing a congestion crisis, there has been an acknowledgement that alternative forms of transportation like bicycling are no longer a luxury, but a necessity. Thus, in a congestion-free city such as London, there may not be the same impetus for the timely implementation of the BMP.

A final strength for the City is the lack of overt political opposition against the fulfilment of the BMP. Unlike other municipalities such as Toronto where overt political opposition on the part of City Councillors has significantly stalled the process of the bike plan,⁸⁹ London City Councillors for the most part are either indifferent to the BMP or somewhat supportive of it, albeit susceptible to constituents’ pressures.⁹⁰ It is important

⁸⁷ Cook.

⁸⁸ John Pucher and Ralph Buehler, “Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany.” *Transportation Reviews* 28.4 (2008): 525.

⁸⁹ Adrian Heaps, City Councillor, Ward 35, Toronto Cycling Committee, Chair, City of Toronto. Phone Interview 10 November 2009.

⁹⁰ John Lucas, Manager. Transportation Planning and Design Division. City of London. Personal Interview. 20 May 2010.

to note that the composition of City Council will change following the 2010 municipal elections; however, for the time being, an indifferent and somewhat supportive City Council may be a significant advantage in comparison to a hostile City Council.

Policy Recommendations

The current status of the bikeway network does not provide bicyclists and would-be bicyclists with a safe network that promotes bicycling. If it is the intent of Council to simply possess a bicycling master plan, then the implementation of the BMP has been successful and the status quo can be maintained. On the other hand, if Council is genuinely supportive of the principles and objectives outlined in the BMP then consideration must be given to the recommendations presented in this section.

The recommendations in this section coincide with the literature reviewed by this report and the impediments to implementation identified by field research. Cognizant of the need for fiscal prudence, these recommendations seek to enhance the capability of the Transportation Planning and Design group to effectively achieve the policy goals in terms of implementing the on-road portion of the bikeway network. The top three recommendations have been identified as a high priority with the emphasis on the first recommendation, while the fourth recommendation should be examined by the city in greater detail.

1. Improve Data Collection

The Transportation Planning and Design group should take significant measures to improve and update the collection of data points related to bicycling. These data points should encompass: up-to-date modal splits, the quality and inventory of bicycling facilities, citizens' perceptions of the current network, and a current and short- to medium-term schedule of road construction set to occur along the bike routes identified by the BMP. The current data used by the city in reports and in bicycle facilities construction coordination is antiquated. The collection of the data points above will

enable the group to track the actual implementation of the on-road bikeway network, ensure that other retrofitting opportunities are not missed, and to provide council with positive and tangible results so that future requests for funding are made in a more conducive climate. A funding recommendation was not included in this section as it is the opinion of this report that the improvement of data collection is necessary before any increased funding requests are justified.

2. Develop a Public Consultation Framework based on Procedural Justice

A formalized public consultation practice should be established for the purposes of mitigating the “gap” between higher-order planning documents and the implementation of those policy objectives within communities. Public consultations pertaining to the construction of the bikeway network should mimic a rudimentary version of the established public information centres as outlined by the EA process and be based on the degree of construction impact on the surrounding neighbourhood. Furthermore, the public consultation process should be held well ahead of the scheduled construction to provide residents with an opportunity to provide input. A potential three-tiered public consultation framework has been prepared and can be examined in Appendix 5.

When engaging a community in a public consultation, three important considerations should be taken into account. First, in bike lane projects with higher degrees of impact, public consultations should be held in advance of a mailed survey. The Ridout Street case revealed that the proactive engagement by the City was integral in eliminating residents’ confusion. In addition, a visual representation in the form of a concept drawing of the ultimate design should be provided early on in the consultation process to increase residents’ understanding of the project. Another effective option to deliver accurate information to citizens is to borrow from the efforts of the previously retained construction companies who provide information newsletters to residents of the

affected areas. These newsletters serve to regularly update residents on new developments in the construction process. This way the city can build a sense of transparency while keeping in touch with residents to ensure that they are well-informed of the process.

Second, the public consultation process should involve all the stakeholders of the BMP. To increase the effectiveness of public consultations, the presence of specific key stakeholders is necessary. Representation from city staff is required to provide participants with key background and technical information while the presence of the ward's councillor may provide political capital. Furthermore, representatives from the transportation advisory committee, specifically the bicycling representatives, can play a key role in not only increasing the legitimacy of the City's efforts, but also aiding the public in understanding the technical portion of the information. Research on advisory committees and environmental issues has shown that the members of advisory committees can be a powerful tool in helping citizens understand complex environmental issues.⁹¹ Non-profit organizations such as the Urban League and TREA should also be actively sought as participants. Not only are these groups well-informed on issues related to sustainable transportation, they are well-organized; in the case of the Urban League, regionally organized (see Appendix 6). This may be a great asset for city staff when dealing with "not in my back yard" (NIMBY) issues as they can draw on local support to address the collective action problem and counteract the majority of participants who attend the consultation with the intent to derail the bike lane initiative. The presence of local support for bike lane initiatives can help the City by creating a balanced and more neutral public consultation process.

⁹¹ Liette Vassuer, Lise Lafrance, and Colette Anseau. "Advisory Committee: A Powerful Tool for Helping Decision-Makers in Environmental Issues". Environmental Management 21.3 (1997): 359.

The third consideration of the public consultation process is to emphasize the notion of procedural justice by enhancing citizens' perceptions of a fair process. A structured public consultation process may assist the City in gaining the public's acceptance of controversial planning decisions.⁹² Studies conducted by Tom Tyler found that individuals who believe that they have been treated fairly were more likely to accept a decision even when the outcome was not in their favour.⁹³ To increase the public's sense of procedural justice, researchers have suggested four principle characteristics that should be inherent in the consultation process:

- a) *Voice*: people affected by a decision should have the opportunity to participate and to make their views heard
- b) *Use of information*: decisions should be based on sound information and should be capable of correction in light of new information
- c) *Fair treatment*: procedures should be applied consistently and fairly across participants and over time
- d) *Lack of bias*: decision-makers should be unbiased and not be influenced by self-interest

3. Create an Environmental Planning Position in the Transportation Planning and Design Group

This report recommends that an additional position, preferably that of an environmental planner, be created in the Transportation Planning and Design group. The responsibilities of this role should include:

- a) Collecting data related to modal splits, creating an inventory of bicycle facilities and updating the road construction schedule
- b) Coordinating the construction of bicycle facilities alongside other major capital works projects
- c) Coordinating the construction of bicycling facilities with Parks Planning and Design group
- d) Coordinating and facilitating public outreach and consultation
- e) Monitoring the progress of implementation

Ideally, when selecting an individual for this role, preference should be given to an individual who not only possess the technical planning knowledge, but also experience

⁹² B. M. Illsley, "Fair participation – a Canadian perspective". *Land Use Policy* 20 (2003): 266.

⁹³ Tom Tyler, "Obeying the law in America: procedural justice and the sense of fairness". *Issues of Democracy* July (2001): 16.

in engaging stakeholders and facilitating public consultations. In addition, the city should select an individual who is knowledgeable and enthusiastic about bicycling-related issues. The addition of a staff member will provide the group and the implementation of the BMP with much needed consistency.

4. Explore the potential for re-establishing the Bicycling Advisory Committee and the creation of programs led by the TDM coordinator that seek to provide resources for residents with an interest in bicycling to organize with other like-minded residents in their communities.

This report recommends that the city examine measures to increase the promotion of the bicycle as a viable mode of transportation. Measures may include re-establishing the Bicycle Advisory Committee and promotion programs which seek to organize bicyclists within their communities. Throughout all the interviews conducted, a consistent theme absent from the implementation process was the presence of a critical mass of constituents who consistently represented the interest of bicyclists in London. If the City of London is committed to promoting sustainable forms of transportation as stated in the numerous City documents including London's OP, the 2004 Transportation Master Plan, and reaffirmed more recently in Council's 2007-2010 Strategic Plan, then it must proactively address the issue of diffused and inconsistent support for bicycling-related policies.

A potential starting point for addressing this issue is the re-establishment of the Bicycle Advisory Committee. Not only was this committee exceptional at providing city staff with recommendations related to bicycle policies and issues, but they were extremely effective in championing the BMP and raising the profile of bicycling.⁹⁴ It must be noted that it is not the intention of this plan to recommend the creation of a formalized bicycle lobby group within the committee structure. Rather, it is the intention of this report to suggest that a separate Bicycling Advisory Committee may be more effective in

⁹⁴ Turcotte.

disseminating information to citizens and bicyclists while enhancing London's ability to consistently promote bicycling as a sustainable form of transportation. Moreover, the presence of a formalized bicycling group may help to mitigate the gap in public consultation mentioned earlier, considering that the committee is comprised of citizens. Although the current composition of the Transportation Advisory Committee provides considerations to bicycling interests and the bicycling representatives generally provide an acceptable level of representation for the bicycling community,⁹⁵ a more substantial effort must be pursued to increase the profile of bicycling in London - a theme that has consistently been highlighted by interviewees.

Another potential solution for increasing the representation for bicyclists is to proactively provide resources for citizens who have an interest in bicycling so they can connect and organize with similar minded citizens in their communities. Bicycle User Groups (BUG) were first created by the City of Toronto and adopted by cities in Britain as a successful solution to increasing the profile of bicycling. These groups function to promote bicycling as well as to provide the municipality with an avenue for informing bicyclists of relevant developments occurring in their neighbourhoods. On another level, BUGs could similarly be used by city staff as a tool to counteract NIMBYism by providing a more balanced environment during public consultations.

When presented with these two specific policy recommendations, staff at the City were generally hesitant to the idea of creating a community of interest. Nonetheless, a community of interest is precisely what the successful implementation of the BMP requires. Literature surrounding both policy implementation and bicycle transportation planning suggests that a key component to the successful implementation of a bicycling policy is to have the presence of a bicycling constituency. This fact is reiterated by John Forrester who suggests that "transportation official[s] need the support and advocacy of

⁹⁵ Turcotte.

reasonable cyclists...[and] establishing working and reciprocal relationships with the real local cycling clubs/groups is the best first step to developing support for a cycling transportation program.”⁹⁶ More importantly, the City of London is no stranger to creating communities of interest. In fact, communities of interest are already facilitated by the City through organizations such as Business Improvement Areas, community associations, and various partnerships with non-profit organizations. It is worthwhile for the city to research and re-evaluate measures to increase the overall profile of bicycling in London.

Conclusion

London’s current bikeway network does not present bicyclists and potential bicyclist with a viable commuting option. This report has revealed the various political, and structural and administrative obstacles that have impeded the progress of the construction of on-road bicycling facilities in London. Political factors such as pressures to maintain the transportation policy status quo and the general lack advocacy for bicycling-related issues translating in little to no political imperative have ensured the inadequate allocation of resources to the implementation of the BMP. On the other hand, structural and administrative factors including the problematic assignment of key implementation officials, the miniscule levels of data collection and the absence of a formalized public consultation process have contributed to the obstacles of effective implementation.

The findings of this report can also be applicable to the experience of bikeway construction in other Ontario municipalities. Specifically, the two case studies underscored the importance of information lag times and similarly the potential trade off of between achieving bikeway construction cost savings through dovetailing bikeway construction and achieving policy goals. Another key learning is the necessity of a

⁹⁶ John Forrester, Bicycle Transportation: A handbook for cycling transportation engineers. (Cambridge MIT Press 1994) 164.

formalized public consultation process that seeks to enhance procedural justice and balances participation.

The city has a strategic opportunity for developing a progressive transportation system through the construction of a comprehensive bikeway network and the promotion of bicycling as a mode of transportation. Nevertheless, if the status quo is maintained, a high probability for the failure of policy goals may persist and significant opportunities for increasing bicycling as a modal share are likely to be missed. There is evidence that London is ready to revisit its current practices on bikeway construction starting with the Transportation Planning and Design group's review of its public consultation practices and the identification of controversial neighbourhoods where the construction of bike lanes may be vehemently opposed. If the relatively minor recommendations put forth by this report are enacted, the City of London will be able to significantly enhance its capability of achieving the BMP's policy goals.

Works Cited

- Aecom. City of London Discussion Paper: Active Transportation and Transportation Demand Management. Whitby, Ontario, 2010.
- Australia. Queensland Transport. Cycling and Traffic Calming. Government of Queensland: Australia, 2006.
- Banister, D., Pucher, John., and Martin Lee-Gosselin. "Making Sustainable Transport Politically and Publicly Acceptable: Lessons from the EU, USA and Canada". in Rietveld, P. and Stough, R., eds., Institutions and Sustainable Transport: Regulatory Reform in Advanced Economies. Cheltenham, England: Edward Elgar Publishing, 2007.
- Burden, Dan. Street Design Guidelines for Healthy Neighbourhoods. Sacramento, California: Local Government Commission, 1999.
- Canada. Statistics Canada. Place of work, commuting to work 2009 June. 11 April 2010 <<http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/hlt/97-561/T605-eng.cfm?Lang=E&T=605&GH=2&GF=555&G5=0&SC=1&S=1&O=A>>.
- City of London. Bicycle Master Plan: A Guideline Document for Bicycle Infrastructure in the City of London. London: The Province of Ontario, 2005.
- City of London. "Bike Lanes: Frequently Asked Questions." 11 July 2010. <http://www.london.ca/d.aspx?s=/Transportation/Bike_Lanes.htm>.
- City of London. City of London Bicycle Master Plan Implementation Study. London: The Province of Ontario, August 2007.
- City of London. "Fact Sheet: Cycling in London." Transportation Planning and Design <http://www.london.ca/Transportation_Planning/pdfs/SmartMovesFact_Cycle_FIN_AL.pdf>.
- City of London. Official Plan London: The Province of Ontario, 2006.
- City of London. "Service Improvement Capital Budget 2010 to 2019 Forecast." Financial Planning and Policy 11 June. 2 Mar. 2010. <http://www.london.ca/budget/Budget_2010/2010_Tax_Supported_Approved_Budget/Growth_-_Capital.pdf>.
- City of London "Thames Valley Parkway and Other Multi-Use Pathways." 11 July 2010. <<http://www.london.ca/d.aspx?s=/Transportation/bikepage.htm>>.
- City of Windsor. "Trails." Parks and Recreation 2007. <<http://www.citywindsor.ca/003122.asp>>.
- Cook, Allison. Travel Demand Management Coordinator. City of London. Personal Interview. 2 June 2010.

- Forrester, John. Bicycle Transportation: A handbook for cycling transportation engineers. Cambridge: MIT Press, 1994.
- Grabowski, Karl. Transportation Design Engineer. Transportation Planning and Design. City of London. Email Interview. 8 July 2010.
- Hanson, Royce., and Garry Young. "Active Living and Biking: Tracing the Evolution of a Biking System in Arlington, Virginia." Journal of Health Politics, Policy and Law 33.3 (2008): 387-406.
- Heaps, Adrian. City Councillor, Ward 35, Toronto Cycling Committee, Chair, City of Toronto. Telephone Interview 10 November 2009.
- Henderson, Jason. "Secessionist automobility: Racism, anti-urbanism, and the politics of automobility in Atlanta, Georgia." International Journal of Urban and Regional Research 30.2 (2006): 293-307.
- Illsley, B., M. "Fair participation – a Canadian perspective." Land Use Policy 20 (2003): 265-273.
- Jacobsen, P., L. "Safety in numbers: more walkers and bicyclists, safer walking and bicycling." Injury Prevention 9 (2003): 205–209.
- Litman, Todd. Parking Management: Strategies, Evaluation and Planning. British Columbia, Victoria: Victoria Transport Policy Institute. 2007.
- Lucas, John. Manager. Transportation Planning and Design Division. City of London. Personal Interview. 20 May 2010.
- Lucas, John. Manager. Transportation Planning and Design Group. City of London. Email Interview. 13 July 2010.
- Marks, Peter. Member. TREA representative on the Transportation Advisory Committee. City of London. Personal Interview. 3 June 2010.
- Mazmanian, Daniel A., and Paul A. Sabatier. Effective Policy Implementation. Toronto: Heath and Company, 1981.
- "Municipal Class Environment Assessment." Municipal Engineers Association. 11 June 2010.
<<http://www.municipalengineers.on.ca/classea/manual/manualSimple.asp?section={50310A78-ECB2-45D6-A6CE-D1FB18B4DFA9}>>.
- Nozzi, Dom. Road to Ruin: An Introduction to Sprawl and how to Cure it. Westport, Conn. London: Praeger, 2003
- O'brien, Tom. Sergeant. Traffic Operations Unit, London Police Services. City of London. Phone Interview. 3 June 2010.
- Ontario. Metrolinx. The State of Active Transportation, Greater Toronto, Hamilton and Beyond. Toronto: The Province of Ontario, 2008.

- Ontario. Metrolinx. "The Halton Partners Transportation Plan." GTTA Board 2007 July. 28 June 2010. <www.metrolinx.com/Client%20Documents/1/haltonregion0707.pdf>.
- Pucher, John., Dill, Jennifer., and Susan Handy. "Infrastructure, Programs and Policies to Increase Bicycling: An International Review". Preventative Medicine 50.1 (2010):106-125.
- Pucher, John., and Ralph Buehler. "Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany." Transportation Reviews 28.4 (2008):495-528.
- Piet, Rietveld. And Vanessa Daniel. "Determinants of bicycle use: do municipal policies matter?" Transportation Research 38.1 (2004): 531-550.
- Pucher, John. and Ralph Buehler. "Cycling Trends and Policies in Canadian Cities." World Transport Policy and Practice 11.1 (2005):43-61.
- Regional Municipality of York. Pedestrian and Cycling Master Plan Study Newmarket: The Province of Ontario, 2008.
- Rydin, Yvonne. and Mark Pennington. "Public Participation and Local Environmental Planning: the collective action problem and the potential of social capital". Local Environment 5.2 (2000): 153-169.
- Sirkis, Alfredo. "Bike Networking in Rio: the challenges for non-motorised transport in an automobile-dominated government culture." Local Environment 5.1 (2000):83-95.
- Transportation Association of Canada. "Active Transportation: Making it work in Canadian Communities." Winter2008. <<http://www.tac-atc.ca/english/resourcecentre/readingroom/pdf/tacnews-winter2008.pdf>> .
- Turcotte, Brian. Senior Planner - Policy. Planning Division. City of London. Personal Interview. 30 June 2010.
- Tyler, Tom. "Obeying the law in America: procedural justice and the sense of fairness". Issues of Democracy July (2001).
- Van Brenk, Deborah. "Residents Riled by Traffic Plan." The London Free Press 15 Jan 2010. <<http://www.lfpress.com/news/london/2010/01/15/12488576.html>> .
- Vassuer, Liette., Lafrance, Lise., and Colette Anseau. "Advisory Committee: A Powerful Tool for Helping Decision-Makers in Environmental Issues." Environmental Management 21.3 (1997): 359-365.
- Veittiaho, Erik. EIT. Transportation Planning and Design Group. City of London. Personal Interview. 2 June 2010.
- Young, Paul. "Building Healthier Communities: Engaging the public in discussions about health and active transportation." Ground 7 (2009):1-44.

Appendices

Appendix 1 Bicycle Facilities Definitions

A **Bikeway network** is a system of roads, streets or paths designated for the use of bicyclists. Some portions of the network are designated solely for the bicycle use, while others are designed to accommodate other modes of transportation such as automobiles and pedestrians alongside bicyclists.

The City of London's current bikeway network comprises of five different types of facilities these are:

Bike Lanes: A bike lane is a 1.5 m wide, striped, signed lane marked with a large white bicycle stencil on the pavement. The lane is restricted to bicycle travel. On streets where there is on-street parking, bike lanes run to the left of parked vehicles. On streets without parking, bike lanes run alongside the curb.⁹⁷



Bike Lane

Multi-use Pathway and Paths Adjacent to Street : Multi-use pathways and paths adjacent to street are a system of asphalt-surfaced paths that are between 2.4 and 4 metres wide and are designated for two-way use.⁹⁸ Multi-use pathways or paths adjacent to streets are designated for all forms for active transportation use and are restricted to the use of automobiles.



Multi-use Pathway

Shared Roadway or “Sharrows”: Shared roadways or “sharrows” are bicycling routes designated by signage as preferred routes for bicycling. These routes are different from bike lanes as they are not delineated with a striped line indicating where automobiles are restricted from operating. Shared roadways can be identified by periodic stencilled markings indicating a shared roadway on the road.



Shared Roadway

Signed Bike Route: signed routes are bicycling routes designated by signage as a preferred route for bicyclists



Signed Bike Route

Unsigned Bike Route: unsigned routes are bicycling routes designated on the bicycling map as a preferred route for bicyclists. Unsigned routes are not identified by signage.

⁹⁷ City of London. “Bike Lanes: Frequently Asked Questions.” 11 July 2010. <http://www.london.ca/d.aspx?s=/Transportation/Bike_Lanes.htm>.

⁹⁸ City of London “Thames Valley Parkway and Other Multi-Use Pathways.” 11 July 2010. <<http://www.london.ca/d.aspx?s=/Transportation/bikepage.htm>>.

Appendix 2 Bicycling Facilities Unit Cost Schedule

Appendix C: Unit Cost Schedule			
ITEM	UNIT	UNIT PRICE	COMMENTS/ASSUMPTIONS
ON ROAD ROUTES			
		2008 DOLLARS	Note: unit prices for LKM are for both sides of a road unless otherwise noted.
1. Add 1.5m Paved Shoulder (both sides) over existing gravel shoulders	LKM	105,000	cycling project pays for minor adjustment to granular base and asphalt, includes signing
2. Minor widening of existing asphalt shoulder to 1.5/2.0m when road is resurfaced/rehabilitated	LKM	40,000	addition of asphalt and granular base adjustment beyond existing paved shoulder at time of road project
3. Wide Curb Lane in conjunction with urban road reconstruction project	LKM	76,000	widen urban road by 0.5m each side Includes catch basin leads on both sides of roads
4. Widen Curb Lane in conjunction with existing road reconstruction	LKM	170,000	full reconstruction cost for road widening by 0.5m for both sides
5. Add Bike Lane marking	LKM	3,750 -16,000	addition of bike pavement markings only (edge line and bike stencils and diamond symbols - both sides of road). Study uses \$8.00/m for bike lane and 6.00/m for wide shared lane
6. Add 1.5/1.8m Bike Lane with new road or when existing road is scheduled for widening	LKM	150,000	cost of additional asphalt and markings - road project pays for curbs, CB leads, road pavement structure
7. Retro-fit/widen urban road with 1.5m Bike Lanes on both sides	LKM	250,000	widen full pavement structure on both sides, pavement markings, curbs, catch basin leads, sub drain under curbs
8. On-road signed route in rural area	LKM	330	one sign each side per kilometre in rural areas
9. On-road signed route in urban area (no line painting)	LKM	1,660	average 5 signs/km/direction of travel (signs = \$165.00 each including labour and materials)
10. Replace catch basin covers with bicycle friendly model	LKM	260	price varies by municipality and supplier
11. Construct Median Refuge	each	20,000	average price for basic refuge
12. Construct Pedestrian activated traffic signal (PBS)	each	60,000	varies depending on number of signal heads required
13. Construct Concrete sidewalk	LKM	75,000	one side of street only
14. Construct pedestrian overpass of major arterial/highway	each	750,000	requirements vary widely, use price as general guideline only
15. Repaint/Restripe urban roadway including signage	LKM	4,000	Includes painting and signing at intersections (every 100m on average)
16. Relocate a Utility Pole	each	1,000-10,000	Includes painting and signing at intersections (every 100m on average)
TRANSITION AREAS (ON-ROAD TO OFF-ROAD)			
1. Trail/Road transition	each	2,500	typically includes 3 bollards, warning signs, curb cuts and minimal restoration (3.0m trail)
2. Trail/Road transition at existing signalized intersection	each	3,000	(at intersection with pedestrian crosswalk) typically includes 6 bollards, warning signs and minimal restoration
3. At grade mid-block crossing	each	5,000	typically includes pavement markings, 6 bollards, warning signs, curb cuts and minimal restoration
4. At grade railway crossing	each	64,000	flashing lights, motion sensing switch (C.N. estimate)
5. Below grade railway crossing	each	500,000	3.0m wide, unit culvert style approx 10 m long for single elevated railway track
6. Multi use subway under 4 lane road	each	1,200,000	guideline price for basic 3.3 m wide, lit
OFF ROAD ROUTES			
1. Rough Grading	LKM	12,000	Includes leveling and packing after leveling (3.0m wide)
2. Construct new granular surface trail	LKM	30,000	normal site conditions (3.0m wide)
3. Construct new asphalt trail (3.0m wide)	LKM	80,000	normal site conditions (3.0m wide, includes signing)
4. Construct new asphalt trail (4.0m wide)	LKM	110,000	normal site conditions (4.0m wide, includes signing)
5. Upgrading gravel trail to tar and chip	LKM	12,000	includes 1 coat primer and 2 coats surface (areas requiring "trail hardening"-3.0m wide)
6. Upgrading gravel trail to asphalt	LKM	45,000	price includes some upgrades to the base (3.0m wide)
7. Construct single track trail	LKM	10,000	includes clearing and grubbing with minor regrading, to eliminate high and low points (1.5m wide)
OTHER ITEMS			
A. Signage			
1. Regulatory and Caution Signage - Off-road Trail	each	75	trailside sign, 300mm x 300mm o/w metal post
2. Traffic Signs - On-road	each	200	per M.T.O. specs
3. Regulatory Signs	each	75	same as 1 above
4. Interpretive Sign	each	800	painted wood, 1m x 1.2m, sign only
5. Trailhead Kiosk	each	3,000	does not include design and supply of signboards
6. Signboards for trailhead kiosk	each	2,000	
7. Directional Sign Markers	each	50	bollard/post /w 100mm x100mm marker
B. Barriers and Access			
1. Lockable Gate (2 per road crossing)	each	2,000	price indicated for one side of road (2 required per road crossing)
2. Berring/boulders at road crossing	each	500	price indicated for one side of road (2 required per road crossing)
3. Granular Parking Lot at staging area (15 car capacity-gravel)	each	10,000	
4. Metal offset gates	each	1,200	provide 4 (\$4,800.00) per crossing to create maze-type barrier
C. Accessories			
1. Self weathering steel truss pedestrian bridge	LM	2,800	3.5 m wide
2. Self weathering steel truss pedestrian bridge	LM	1,800	1.8m wide
3. Metal stairs with hand railing and gutter to roll bicycle	vertical M	3,000	1.8m wide, galvanized steel stairs
4. Bicycle Rack	each	70	post and ring style stand
5. Bicycle Rack	each	500	holds 6 bicycles, price varies depending on manufacturer
6. Bicycle Locker	each	2,500	price varies depending on manufacturer

Appendix 3 BMP Route Selection Criteria

<i>Facility</i>	<i>Route Selection Criteria</i>						
	<i>Access*</i>	<i>Aesthetics*</i>	<i>Connectivity*</i>	<i>Delays*</i>	<i>Destinations*</i>	<i>Directness*</i>	<i>Road Width*</i>
Primary Commuter	*		*	*	*	*	*
Secondary Commuter	*		*	*	*	*	*
Primary Recreational	*	*	*				
Secondary Recreational	*	*	*				

Appendix 4 Colborne Street Survey



London
CANADA

November 27, 2009

File Number 210 040 41290

TO WHOM IT MAY CONCERN

Re: Parking Regulations – Colborne Street

Dear Sir/Madam:

The City of London is conducting a mail back survey to gauge the opinion of residents. The existing on-street parking on the west side of Colborne Street between Huron Street and Waverley Place (just south of Central Avenue) is being assessed for proposed cycling infrastructure. Colborne Street is designated as a Primary Commuter Route as part of the Bicycle Master Plan and is ultimately intended to have bike lanes. Options have been analyzed on how best to implement this infrastructure.

Option 1

Eliminate existing on-street parking and retrofit areas to incorporate bike lanes.

Option 2

Ultimately maintain both bike lanes and on-street parking.

Option 2, maintaining both bike lanes and on-street parking as part of the ultimate design, will require the future widening of Colborne to accommodate both types of infrastructure. This may include up to 1.75 metres from existing curb (each side) to be shifted toward your property as part of an ultimate design. If on-street parking is eliminated on Colborne Street (Huron to Waverley), the amount of road widening required will be reduced significantly and in some cases may be avoided.

The City of London's Official Plan recognizes the bicycle as a viable mode of transportation that is not only environmentally sustainable but supportive of active healthy lifestyles. The City is committed to enhance cycling as a means of transportation. Colborne Street will provide an important North-South connection into the downtown area. The proposal we are putting forward is whether or not you are favour of eliminating existing on-street parking on the west side of Colborne Street from Huron Street to Weaverley Place to introduce bike lanes. Interim improvements are scheduled to begin in 2010. Before taking any action, the Transportation, Planning & Design Division is soliciting the input of property owners regarding this request.

Please return your response by **December 18, 2009** in the postage paid envelope included or call me at 661-2500 ext 7359 if you require additional information.

Yours truly,

Erik Veittiaho,
Engineer-in-Training
Transportation Planning & Design

cc. Councillor Judy Bryant, Ward 13
Councillor Nancy Branscombe, Ward 8
Dave Leckie, Director of Roads and Transportation
Shane Maguire, Divisional Manager, Parking and Traffic Signals
John Lucas, Divisional Manager, Transportation Planning and Design

Detach and return the form below in the postage paid envelope included

File Number 210 040 41290

Address:

Please select your preferred option regarding existing on-street parking on the west side of Colborne Street between Huron and Waverley (south of Central Avenue)?

Option 1 Comments:

Option 2 Comments:

The Corporation of the City of London
Office: 519-661-2500 ext 7359
Fax: 519-661-4734
eveltia@london.ca
www.london.ca

Appendix 5 Proposed Framework for a Bike Lane Consultation Process

Degree of Impact	Scope of Consultation	Method	Members Present at Consultation	Timing
Insignificant: <ul style="list-style-type: none"> Signed routes 	Residents within 500m of affected street	Mailed notice	N/A	November of the year prior to construction w/ one month notice
Minimal: <ul style="list-style-type: none"> Bike lanes. No impact on on-street parking or roadway Shared-roadway, "Sharrow" 	Residents within 1km of the affected street	Ward-wide public meeting w/ mailed notice <ul style="list-style-type: none"> Concept of design 	<ul style="list-style-type: none"> Manager of Transportation Planning and Design BMP Implementation Coordinator Transportation Advisory Committee [bicycling representative(s)] Ward Councillor Community association (if applicable) Urban League TREA 	November of the year prior to construction w/ one month notice
Significant: <ul style="list-style-type: none"> Bike lane w/ removal of on-street parking Bike lane w/ removal of roadway lane Retro-fit / Widen urban road w/ bike lane 	Residents within 1km of the affected street	Ward-wide public meeting w/ mailed notice <ul style="list-style-type: none"> Concept of design Mailed Survey w/ concept of design (<i>Following public meeting</i>)* Email notice to Urban League and TREA Construction Information Newsletter 	<ul style="list-style-type: none"> Manager of Transportation Planning and Design BMP Implementation Coordinator Transportation Advisory Committee [bicycling representative(s)] Ward Councillor Community association (if applicable) Urban League TREA 	Determined in consultation with ward councillor to be held no later than February of the year before construction.

* When on-street parking removal is necessary

Appendix 6 The Geographic Distribution of the Urban League

