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AN ASSESSMENT OF BICYCLE TRANSPORTATION POLICY

IN ONTARIO

by

Patrick Dunn

A Thesis
submitted to the
Faculty of Graduate Studies and Research
through the Department of
Political Science in Partial Fulfillment
of the requirements for the Degree
of Master of Arts at the
University of Windsor

Windsor, Ontario, Canada
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ABSTRACT

This thesis examined Ontario's bicycle transportation policy. An attempt was made to understand why bicycle transportation is receiving attention and what conditions - political and practical - are necessary to increase bicycle use in Ontario's urban centres.

Using the Netherlands as a policy model, the political factors driving bicycle transportation were identified as well as the practical components to increase bicycle travel. In the broader policy environment, substantive policy measures are motivated by a political necessity to limit automobile use, while supporting transportation alternatives. As policy is an important determinant of mode choice, bicycle transportation must be supported by pro-active policy. In addition, bicycle users must have effective interest group representation to ensure their needs are safeguarded and that they have access to the decision-making process.

Applying this model to Ontario, it was determined that there are serious problems with the auto-centred system. Environmental stress and social costs have created a policy environment amenable to consideration of transportation alternatives. However, the economic and political clout of the automotive industry, the entrenched position of roads policy, and the general disdain for anti-automobile initiatives are formidable obstacles to any
fundamental redirection of urban transportation policy.

As automobile use increases, it is likely to reach a politically unacceptable level. At this time, transportation alternatives will receive serious consideration. While the bicycle is presently relegated to the fringe of transportation options, bicycle interest groups are in place to promote bicycle transportation and the provincial government now officially accepts the bicycle as a transportation mode. With Dutch experience as a guide, the bicycle can fulfill a valuable role in a multi-modal urban transportation system.
DEDICATION

I thank Professor Trevor Price, Professor Joan Boase and Mr. Douglas Caruso for their valuable contribution to this thesis. Their assistance and commentary was greatly appreciated.

I also wish to express my gratitude to Marie-Paule Avanthay. Her generosity and support enabled me to manage the demands of work and school.

Most importantly, I thank my brother Shaun - for everything.
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CHAPTER I

INTRODUCTION

In 1992, Ontario's provincial government reviewed its bicycle policy. While previously classified as a recreational vehicle only, this revised policy accepts the bicycle as an alternative means of transportation. This new policy direction, and the growing popularity of bicycling generally, warrant an examination of the bicycle's role in Ontario's urban transportation system. In particular, why is bicycle policy being considered today and what are the necessary conditions to increase bicycle use in urban areas.

The Canadian Cycling Association estimates that 17.72 million Canadians bicycle, however infrequent. Of this total, 13.52 million are adults.¹ Ontario has 2 million regular bicycle users with 6% of the population 15 years of age or older using the bicycle as a primary means of transportation.² While bicycling has always been a popular recreational activity,³ there is growing interest in bicycle transportation. Initiatives at the municipal level indicate that bicycling is being seriously considered as a viable form

¹Canadian Cycling Association, Demographic Trends of Canadian Cycling in the 90's, (February,1993), 2.


³Canadian Cycling Association, Demographic Trends, 1. Bicycling is the third most popular sport/fitness activity for those over 18 years of age. / 40% of Canadians bicycle at least once per year. (Statistics Canada, Canadian Social Trends No.25 (Summer,1992), 19.)
of travel. In turn, this activity has led the provincial government to develop a bicycle transportation policy.

Montreal spends $1 million per year on bicycle facilities.¹ The city's official bicycle plan calls for an expansion of the present 152 kilometres of bicycle routes - mostly recreational - to 260 kilometres by 1998. Support for such initiatives is confirmed by the highly successful Tour de 'Ille, the world's largest one-day bicycle ride, which is forced to restrict the number of participants to 40-45,000.²

Aware that upwards of 70% of air pollution in the Vancouver area is attributed to the automobile, Vancouver City Council has taken steps to promote bicycle use. Transportation modes are now arranged according to a new hierarchy: 1) walking. 2) bicycling. 3) public transit. 4) movement of goods. 5) automobiles.³ In support of this initiative, City Council passed a resolution to double the number of bicycle commuters by 1995.⁴ It was also recommended that any new development be required to include adequate space

¹Montreal Gazette, (August 12, 1991), B4-5.


⁴Vancouver Sun, (July 7, 1993), B1,B6. Bicyclists account for 1% of the 740,000 daily rush-hour work trips in Greater Vancouver. In the last seven years, the number of bicyclists commuting to work has doubled from approximately 2,250 to 4,500.
for bicycle parking and provide showers and lockers.\textsuperscript{8}

Toronto has made substantial gains for bicyclists, largely through the efforts of a well-organized and active bicycle community. Bicycle trips have increased 180\% since 1976.\textsuperscript{9} Most recently, designated bicycle lanes have been introduced into the downtown core.\textsuperscript{10} The bicycle is also included in the Bay Street Urban Clearway initiative, restricting one lane of traffic each way to buses, taxis and bicycles.\textsuperscript{11} For these efforts, \textit{Bicycling} magazine has selected Toronto as the best "Cycling City" in North America for 1995.\textsuperscript{12} In addition, a number of communities have introduced police bicycle patrols. This practice has proved successful, fulfilling the mandate of community policing while displaying the bicycle's utility as an urban vehicle.

These examples are taken from Canada's three largest cities; they are not the only communities adopting pro-bicycle policies. Achievements range from the seemingly simple installation of a parking rack to the $500,000 Winnipeg has

\textsuperscript{8}Globe and Mail, (April 21, 1990), D1-2.

\textsuperscript{9}Toronto City Cycling Committee, \textit{Bike to the Future:A Vision for a Bicycle-Friendly Toronto}, 1. Calculated using the Department of Public Works annual cordon count.

\textsuperscript{10}Toronto City Cycling Committee, \textit{Cyclometer} No.37 (April, 1993). To develop the bicycle lanes, 180 parking metres were removed. This action is expected to reduce revenue by approximately $178,000.

\textsuperscript{11}7 a.m. - 7 p.m weekdays.

\textsuperscript{12}Toronto City Cycling Committee, \textit{Cyclometer} No.53 (November/December, 1995)
A number of cities also possess, or are in the process of developing, municipal bicycle plans. While these studies are not binding, they are a valuable first step in the process of institutionalizing the bicycle into transportation planning.

Bicycle interest groups have been instrumental in the development of these pro-bicycle policies. In response to increasing bicycle ridership, municipal governments have created Bicycle Advisory Committees (BAC). While minor actors in the political arena, BAC's enjoy access to the decision-making process, providing input into the myriad plans and policies municipalities deal with on a regular basis. Environmental groups have also contributed. These groups have been vocal in their demand for limitations on automobile use and increased funding for public transit and the environmentally benign bicycle. This growing interest and support for bicycle transportation has led to a policy reversal at the provincial level.

Both Ontario and British Columbia have recently abandoned their long-standing classification of the bicycle as a recreational vehicle. Ontario's Bicycle Policy: Review and Update (1992) has as its primary recommendation "acceptance of

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15Winnipeg Free Press, (March 8, 1993), A1. Winnipeg announced this initiative as part of its $9.8 million budget for street renewal. Winnipeg has 34,000 regular bicyclists - 9,000 commute to work or school on any given day, 25,000 ride daily for recreation.
the bicycle as an alternative mode of transportation."\textsuperscript{14} British Columbia's \textit{Interim Cycling Policy} (1993) states that "cycle travel will be recognized as an efficient and healthy use of the provincial infrastructure."\textsuperscript{15} Similarly, in the United States, the \textit{National Bicycling and Walking Study} (1994) aims "to increase the use of these two travel modes by developing a plan for making bicycling and walking safer and more appealing modes of personal transportation.\textsuperscript{16}

These policies acknowledge the changing transportation realities in urban centres. In addition, decision-makers realize that cities are faced with increasing traffic congestion and air and noise pollution. Policy can no longer provide for the unlimited growth of the automobile infrastructure. Change is necessary.

With the growing concern over man-made damage to the natural environment, environmental issues are now a permanent fixture of the policy agenda. While support continues to "wax and wane" in step with changing economic and political realities, the "green" perspective is generally considered


when making policy decisions. The automobile is a major contributor to environmental degradation, ranging from global warming and the generation of greenhouse gases to noise pollution and traffic congestion. The culpability of the automobile is well established.

Environment Canada states that:

Cars and their associated infrastructure use resources, consume energy, and emit pollutants on a substantial scale. They are a source of noise and congestion and a leading cause of accidental deaths. They have also radically reshaped the landscape — directly through the building of expressways, roads, and other infrastructure, and indirectly through effects on settlement patterns.\(^\text{17}\)

In an urban context, "(t)he prospect for cities generally seems to be one of growing traffic congestion, with all its implications for air pollution and fuel consumption."\(^\text{13}\)

Provincially, Ontario's Ministry of Transportation identified the major issues and pressures on southern Ontario's transportation system. The primary concerns are pollution, energy waste, traffic congestion, commuter frustration, accidents, rapid population growth and economic expansion, and threats to economic competitiveness.\(^\text{19}\) In a more direct manner, Ontario's Sectoral Task Force on Transportation concluded that the:

high energy, petroleum-based, auto-centred transportation system of Ontario is not


sustainable. It explodes non-renewable fossil fuels, creates pollution and wastes, and is increasingly failing to fulfil its role of moving people and goods efficiently.\footnote{Ontario Round Table on Environment and Economy, \textit{Sectoral Task Force Report - Transportation}, 1992, 9.}

These critical assessments of Ontario's primary mode of transportation confirm the need for a reassessment of traditional approaches to the provision of transportation services. An unsatisfactory compromise exists between the inertia of established practice and the realization that serious problems will develop without a fundamental redirection of policy. Decision-makers are aware of the importance of supporting alternative means of transportation that are not as destructive to the environment, broadly defined.

To this end, the bicycle possesses a number of positive characteristics:

\textbf{energy efficient} - The bicycle requires very little energy to operate, save the metabolic - and renewable - energy expended by the rider. In fact, the bicycle is the most energy efficient form of travel. The average bicyclist burns 21 calories per kilometre whereas an automobile with one occupant burns 1,116 calories per kilometre, and walking burns 60 calories.\footnote{Marcia Lowe, \textit{The Bicycle: Vehicle for a Small Planet}, Worldwatch Paper \#90, 21. Data converted to kilometres.}
**non-polluting** - The bicycle has a negligible impact on the natural environment, producing no emissions and requiring relatively few resources for its manufacture. Ontario's Ministry of Transportation (MTO) estimates that Ontarians who use the bicycle as a primary means of transportation reduce the amount of pollutants per year by approximately 80,000 tonnes and save 156 million litres of oil per year, by not using the automobile for these trips.²²

**quiet.**

**inexpensive** - The estimated annual cost to own and operate a bicycle is $150. In contrast, the Canadian Automobile Association estimates the average cost to own and operate an automobile is $7,031.60 per year.²³ The Bicycle Federation of America (BFA) provides a more minute estimate, placing the cost of bicycling at $0.05 per mile, and automobile travel at $0.35–$0.45 per mile.²⁴

**health and fitness** - Fitness Canada suggests that riding a bicycle 5 kilometres, three times a week, satisfies its recommended fitness level.²⁵ The British Medical Association conducted a cost–benefit analysis of bicycle use, measuring

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²³Canadian Automobile Association, *Car Costs 1993–94*. The average Canadian motorist drives 24,000 kilometres per year.


²⁵*Globe and Mail*, (April 24, 1993), A12.
"life years" lost through accidents to "life years" gained through regular exercise.\textsuperscript{26} The report concluded that health benefits outweigh the risk of road casualties by a 20:1 margin. The potential for improving public health and reducing health care costs by meeting the latent demand for bicycling therefore is "considerable."\textsuperscript{27}

The bicycle is cost effective. Bicycle facilities are relatively inexpensive compared to the substantial expenditures required for automobile infrastructure. Often, bicycle facilities require only slight modifications to the existing infrastructure. In addition, the bicycle is capable of replacing the automobile for short, emission-intensive, trips. Where traffic congestion exists, the bicycle can rival or better the travel time of an automobile.

There are also limitations to widespread bicycle use. The automobile has helped create development patterns that result in excessive distances between trip destinations.\textsuperscript{28} Even in certain urban centres, an automobile is necessary to satisfy basic transportation needs. As the political scientist Edmund Fowler states: "The physical infrastructure of roads


\textsuperscript{27}Hillman, \textit{Cycling Towards Health and Safety}, 121. The report goes on to state that "policy decisions regarding bicycling have focused on the relatively high injury rate among bicyclists rather than being based on the benefits of bicycling, including healthy longevity..."

\textsuperscript{28}The philosopher Ivan Illich observed that motorized vehicles create distances which they alone can shrink.
connects essential elements in our lives — home, food, work, recreation — and these connections are nearly impossible to make without a car." This reliance upon the automobile has drawn attention to urban redesign. High density planning and mixed-use development would, among other things, reduce trip distances. At present, however, trip distance is a barrier to increased bicycle use.

Additional obstacles are safety and seasonal variation. The bicycle is regarded as a recreational pursuit more than a legitimate transportation mode. This belief, and the risk of conflict with automobiles, deters many potential bicycle users. Weather is a further impediment. Cold temperatures and winter road conditions can make bicycling impractical. These factors are major obstacles to increased bicycle use.

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THE ROLE OF POLICY

Ontario now has a bicycle transportation policy. Yet, there is no indication as to whether bicycle transportation is feasible. Policy statements are expressed in general terminology rather than in any explicit plan of action. How precisely is "acceptance" of the bicycle defined? Or the benefits of bicycle travel "recognized"? It is important, then, to discover the necessary conditions to increase bicycle use.

Policy plays an important role in developing modal choice. Favourable or unfavourable conditions certainly influence any decision to bicycle but policy, essentially, creates the conditions to make it a viable option. Policy can assist in reducing whatever barriers do exist. Environmental researcher Wolfgang Zuckermann states that:

In the Western countries it is often supposed that bicycle use thrives only in flat terrain and temperate climates. However, ... an enlightened public policy is much more important as an element of success. Not merely important, but perhaps even critical.30

With the absence of a clearly delineated policy for the promotion of bicycle transportation and the paucity of research in this area, a policy model is employed here to furnish a framework for the research.

A policy model serves as a guide for the examination of

a policy area. Not only the mechanics of a specific policy but also the broader environment that shapes policy, either directly or indirectly. Only then is an accurate assessment attained and lessons derived from the study. The policy model will identify the necessary conditions for bicycle transportation by examining the broader policy environment and what measures are required to sustain and increase bicycle use.

The Netherlands has been selected as a policy model. For the Dutch, the bicycle is widely regarded as a legitimate transportation mode. The widespread use of the bicycle is complemented by government policy that promotes bicycle use. As a western industrialized country, it is believed that the Dutch experience will provide valuable insight into the political factors underpinning support for bicycle transportation and the components that contribute to a successful bicycle policy.

It is important to note the role that policy has on the selection of mode choice. John Pucher, an American urban planner, compared transportation policies and travel behaviour in twelve countries from western Europe and North America.31 Pucher analyzed policy variance, determining the extent to which countries offer "inducements" that favour either

Pucher states that:

(t)here are large differences in urban transportation systems and urban travel behavior even among countries with comparable standards of living and similar levels of technology, industrialization, and urbanization. Adjusting for differences in climate, topography, population density and various socioeconomic factors does not explain much of the variation among such countries.\(^{13}\)

Rather, Pucher maintains "that differences in travel behavior are largely due to differences in public policies."\(^{14}\) Pucher acknowledges that policy is not the only determinant of travel behaviour but contends that it "play(s) a more important role than underlying social or cultural preferences in the evolution of transportation systems and travel behavior."\(^{15}\)

Policy, however, does not operate in a vacuum. Other factors assist in shaping policy, directly or indirectly. By examining the Dutch experience, the political and practical conditions that influence bicycle policy will be identified.

\(^{12}\)Pucher examines levels of subsidization and taxation which directly affect travel choices, along with indirect influences such as land use controls and housing programs.

\(^{13}\)Pucher, "Urban Travel Behavior as the Outcome of Public Policy," 510. The author goes on to state that "(a)t the very least, public policies magnify whatever differences underlying preferences would have generated."

\(^{14}\)Pucher, "Urban Travel Behavior as the Outcome of Public Policy," 509. Pucher states that "travel behaviour is not simply the outcome of consumer sovereignty."

\(^{15}\)Pucher, "Urban Travel Behavior as the Outcome of Public Policy," 510. The author goes on to state that "(a)t the very least, public policies magnify whatever differences underlying preferences would have generated."
CHAPTER II

Using the Netherlands as a policy model, this section will examine the political and practical conditions necessary for the creation and success of a comprehensive bicycle policy. Essentially, why do they have a bicycle policy? Why is bicycle use so widespread? Lessons derived from Dutch experience can then be applied to Ontario. Along with specific measures to promote bicycle transportation, it is important to examine the broader context or policy environment which impacts on bicycle policy. For example, it becomes immediately evident that official support for bicycle transportation is associated with a need to address concerns over private automobile use. Clearly, bicycle policy does not operate in a vacuum.

OVERVIEW

The Netherlands is a unitary state. The national government has overall responsibility for transportation policy - drafting legislation and providing financial support. Local authorities raise approximately 10% of their total revenue, with the remaining 90% received from the national government through the National Municipality Fund. Provincial and municipal governments, consequently, are firmly tied to policies of the national government.\textsuperscript{36} Before 1992, the

\textsuperscript{36}\textit{Bicycle Master Plan}, 6.
national government had no direct role in bicycle policy. The national government provided financial assistance but the provincial and municipal governments developed bicycle policy, and were primarily responsible for the construction and maintenance of bicycle facilities.

The Netherlands is renowned for bicycling - nowhere in the industrialized world is the bicycle so widely used for transportation. The Dutch are favoured with a flat terrain, mild climate, dense population patterns and a widespread acceptance of the bicycle as a form of transportation.\textsuperscript{37} Indeed, the bicycle was the primary mode of transportation until 1960. At this point, automobile use increased dramatically.\textsuperscript{38} The bicycle remains a major transportation mode, but usage is below pre-1960 levels. At the same time, automobile use continues to rise. While most industrialized countries are now forced to contend with unwelcome automobile growth to varying degrees, the Dutch situation requires immediate attention.

\textsuperscript{37} Although North Sea winds and a 6\% average annual rainfall dampen bicyclists' enthusiasm somewhat. It is interesting to note that Dutch bicyclists perceive weather conditions to be unfavourable. "Wind and rain" is a common lament.

\textsuperscript{38} While North America developed an auto-centred transportation system immediately following World War II, European countries had to first await completion of post-war Reconstruction.
A small and densely inhabited country, the Netherlands cannot accommodate further automobile growth. In fact, the Dutch already claim the world's highest density of automobiles. Estimates of continued growth led the Dutch government to implement a pro-active transportation policy designed to stabilize automobile use. This ambitious document sets out a number of policy instruments to discourage automobile travel, while at the same time, actively support alternative modes of transportation. The bicycle is a major component of this new policy.

39The Netherlands is 200 kilometres long and 150 kilometres wide. The population is 15 million.

40Martin Kroon, "Traffic and Environmental Policy in the Netherlands," in Rodney Tolley, ed., The Greening of Urban Transport: Planning for Walking and Cycling in Western Cities (Belhaven Press, 1990), 115. In 1986, there were approximately 120 passenger automobiles per square kilometre. The Netherlands, however, has a lower number of automobiles per capita than does Canada.
TABLE 1

MODAL-SPLIT IN THE NETHERLANDS

<table>
<thead>
<tr>
<th>MODE</th>
<th>NUMBER OF TRIPS</th>
<th>DISTANCE (KM'S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile (Driver)</td>
<td>34%</td>
<td>50%</td>
</tr>
<tr>
<td>Automobile (Passenger)</td>
<td>13%</td>
<td>25%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>29%</td>
<td>9%</td>
</tr>
<tr>
<td>Walking</td>
<td>17%</td>
<td>3%</td>
</tr>
<tr>
<td>Public Transit*</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Moped</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>


*Public transit includes train, bus, tram and subway.

The bicycle emerged as a dominant transportation mode in the 1920's. This trend was encouraged by government and private efforts to construct bicycle paths. The bicycle remained the primary mode of transportation until 1960 when the unprecedented growth of the automobile reduced bicycle travel by half. Bicycling enjoyed a mild resurgence in the 1970's because of oil concerns and an emphasis on healthy

living. The 1980's witnessed a more pronounced increase in bicycle use owing to growing environmental awareness. This trend was supported by the national government which established high levels of funding for bicycle facilities.

In 1975, the Dutch government adopted the First Multi-Year Plan for Passenger Transport. This Plan acknowledged the negative environmental effects of automobile use and established the foundation for a more balanced multi-modal approach to transportation planning. The bicycle and public transit received increased financial support while funding for highway development declined.

One component of the First Multi-Year Plan was the Bicycle Tracks Grant Act which increased the level of funding for bicycle facilities. Between 1975-85, the Ministry of Transport, Public Works and Water Management spent 500 million guilders on bicycle facilities. By 1982, bicycle funding exceeded 10% of the total capital budget for roads. The Bicycle Tracks Grant Act was discontinued in 1985.

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45 Replogle, Bicycles and Public Transportation, 75.

46 Of a combined road network stretching 103,100 kilometres, there are 14,889 kilometres of bicycle paths and 1,171 kilometres
In conjunction with the First Multi-Year Plan, demonstration projects were undertaken in several Dutch cities.

Groningen began to actively support bicycle use and public transit in 1977.\(^{47}\) Funding for these transportation modes was increased, high density land use policies were encouraged, and automobile travel discouraged. To make driving inconvenient, the city was divided into four zones which could not be directly accessed by automobile. Groningen also implemented a strict parking policy to make automobile use impractical. Initially, residents opposed such "drastic" measures, and retailers were especially concerned, fearing a drop in business. Today, both retailers and citizens are satisfied.\(^{48}\) The result is an enviable modal-split, with 57% of citizens using the bicycle for transportation.\(^{49}\) Despite

\(^{47}\)G. van Werven, "The city of Groningen experience," in *Still More Bikes Behind the Dikes* (The Netherlands, 1992), 61. Groningen has a population of 170,000 and is located 200 kilometres north of Amsterdam.


\(^{49}\)van Werven, "The city of Groningen experience," 61. The automobile is used for 37% of all trips.
this impressive level of bicycle use, Groningen's city council has initiated a ten-year program to further improve its bicycle network.\textsuperscript{50}

Another demonstration project was undertaken in Delft. Between the national and municipal government, $38 million (U.S.) was spent over a five-year period to develop an extensive bicycle network.\textsuperscript{51} 43\% of citizens now use the bicycle for commuting and to fulfil other transportation needs.

Both Delft and Groningen possess an extensive bicycle infrastructure which includes overpasses, tunnels, bridges, off-ramps, bicycle traffic signals and parking.\textsuperscript{52} The high levels of bicycle use reflect a strong commitment to the bicycle. While a combination of pro-bicycle policies and funding largely account for the success of these demonstration projects, Groningen and Delft are also university towns, which are generally receptive to bicycle initiatives.\textsuperscript{53}

\textsuperscript{50}Van Werven, "The city of Groningen experience," 67. The estimated cost of this project is 150 million guilders with the national government providing financial assistance. This initiative has two objectives: Groningen plans to incorporate the metropolitan area into its bicycle network and is further upgrading facilities to ensure no decrease in bicycle use occurs.

\textsuperscript{51}United States Department of Transportation, Bicycle and Pedestrian Programs in European Countries, 11.

\textsuperscript{52}United States Department of Transportation. Federal Highway Administration, National Bicycling and Walking Study. Case Study No. 15, The Environmental Benefits of Bicycling and Walking, (1993), 64.

\textsuperscript{53}In the United States, for example, several university towns possess a significant bicycling population: University of
The Netherlands also has an active bicycle community. There are numerous organizations serving the varied needs of Dutch bicyclists. The Fietsersbond enfh or Dutch Cyclists' Union(DCU) is the most politically active organization, promoting the bicycle as a transportation mode. The DCU was established in 1975 in response to growing automobile use and its subsequent negative impact on bicycle travel. A number of municipal chapters formed soon after. Initially, the DCU lacked access to the decision-making process and had no institutionalized capacity to influence policy. As a result, they were forced to operate outside of the political process, using public demonstrations to politicize issues. Gradually, the DCU became institutionalized through cooperation with decision-makers at all levels of government and persistent effort on their own behalf. Today the DCU represents the interests of Dutch bicyclists at both the national and local level. They enjoy regular consultation with government on bicycle issues, work

California at Davis - 25%, University of Wisconsin at Madison - 11%, University of Colorado at Boulder - 9.3%. In all three cities, over 20% of the population is composed of students, over 40% of the total population commute eight kilometres or less, and bicycle infrastructure is in place. (United States Department of Transportation, Bicycle and Pedestrian Programs in European Countries, 47,62.)

The umbrella group for bicyclists in Europe is the European Cyclists Federation which represents 21 groups from 15 countries.

in conjunction with the National Railway to improve bicycle access to transit stations and promote the benefits of bicycle transportation. The importance of these groups should not be understated. Dutch experience has shown that permanent, institutionalized attention to bicycle issues in transportation policy and planning is sometimes more important than financial considerations.

Pro-active policy measures, high levels of funding, an active bicycle community and efforts to discourage automobile use have helped sustain bicycle transportation. The Dutch national government is now building upon this success by assuming a direct role in bicycle policy and its promotion to limit the growth of private automobile use. As travel patterns continue to favour the automobile, at the bicycle's expense, the need to address automobile issues becomes urgent.
AUTOMOBILE USE

The Netherlands is one of the most polluted countries in western Europe.\textsuperscript{56} This dubious distinction only heightens awareness of the environmental impact of the automobile. Motor traffic is the single largest source of air pollution\textsuperscript{57} and 60\% of Dutch citizens complain of noise pollution from traffic.\textsuperscript{58} Automobile emissions are a contributing factor to the broader problems of global warming and acid rain, both of which have serious implications for the Dutch.\textsuperscript{59}

In economic terms, the automobile is creating unacceptable levels of congestion in urban centres, and especially around the major transport axes in the western part of the country.\textsuperscript{60} Congestion is a serious threat to economic vitality given the Dutch role as a "major gateway to the northern industrial core" of the European Community, and upon which, the economy is largely dependent.\textsuperscript{61}

\textsuperscript{56}Kroon, "Traffic and Environmental Policy," 115. This statement is Kroon's personal viewpoint.

\textsuperscript{57}Kroon, "Traffic and Environmental Policy," 114.


\textsuperscript{59}Automobiles account for 18\% of acid rain deposition which is responsible for the extensive damage caused to forests and heathlands. Furthermore, close proximity to the North Sea makes the dire consequences of global warming, with its rising sea levels, more immediate.

\textsuperscript{60}van Werven, "The city of Groningen experience," 61. Transportation routes are said to be "choked."

\textsuperscript{61}Alan Sturt, "Going Dutch," Town and Country Planning 61:2 (February, 1992), 48.
Overshadowing these concerns is the general trend in automobile use. The number of automobiles in the Netherlands has steadily increased, along with the number of kilometres travelled. If current trends continue, it is estimated that automobile use will rise by an alarming 70% by 2010. This forecast has prompted the Dutch government to re-evaluate the direction of transportation policy.

**TABLE 2**

<table>
<thead>
<tr>
<th>VEHICLE OWNERSHIP BY MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile</td>
</tr>
<tr>
<td>Bicycle</td>
</tr>
</tbody>
</table>

Source: *Still More Bikes Behind The Dikes*, 120.

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TABLE 3

Annual Vehicle Kilometres
1950-1989

STRUCTURED SCHEME FOR TRAFFIC AND TRANSPORT

In 1989, the Netherlands unveiled its National Environmental Policy Plan (NEPP), reflecting a broad concern with environmental issues. By the late 1980's, environmental issues were a serious priority, moving near the top of the political agenda.\(^3\) The NEPP outlines an ambitious plan to achieve sustainable development.\(^4\) In support of the NEPP, a number of more specific policies were introduced.

In 1990, the Dutch Parliament ushered in a long-term transportation policy. The Structured Scheme for Traffic and Transport (SSTT) contains measures to limit automobile use, while actively encouraging alternative modes of transportation. This is a significant departure from the traditional approach to transportation planning at the national level, whereby emphasis was placed on accommodating the projected growth of transportation modes, usually by increasing capacity. SSTT takes transportation policy in a different direction. The Dutch are now practicing demand


\(^4\)The NEPP is based on Our Common Future. World Commission on Environment and Development (1987). Sustainable development strives to meet the needs of the present generation without compromising the opportunities for future generations to meet their own needs. Acceptance of the NEPP benefitted from the conclusions of the Ministry of Economic Affairs which found that the macro-economic impact of the NEPP is only slightly negative. As a result, economic growth would not be impeded by the proposed policy measures.
management, using policy to influence the choice of transportation modes, rather than simply responding to demand. SSTT established a number of ambitious objectives to be met by 2010:65

- Reduce the forecasted increase in automobile use. Instead of 70%, the SSTT plans to limit automobile growth to 35%.
- Reduce carbon dioxide emissions by 10%.
- Reduce nitrogen oxide and volatile organic compound emissions by 75%.
- Reduce noise pollution by half.
- Reduce road fatalities by 50%.
- Reduce serious injuries by 40%.

If these ambitious objectives are to be met, alternatives must be in place that are capable of satisfying displaced transportation needs. Before discussing the formal measures outlined in the SSTT, it must be noted that attempts to curtail automobile travel are an established practice.

In the early 1970's, the woonerf was introduced. A woonerf or "living yard" is a planning principle which redesigns residential streets to accommodate children, pedestrians, and bicyclists, as well as motorists. Automobiles are considered guests, and should behave accordingly. The idea was initiated by citizens upset over

65Bicycle Master Plan, 8.
the high rate of accidents involving automobiles and children. By 1983, approximately 2,700 woonerven neighbourhoods were constructed, with serious accidents reduced by half. ⁶⁶

A woonervf usually encompasses two or three residential streets, forming a protected zone. Automobile travel is discouraged by design alterations, whereby sections of the street are narrowed, obstacles are placed in the roadway to impede traffic flow, park areas are created using trees, planters and street furniture, and entrances and exits to a protected zone are clearly marked. As a planning technique, woonerfs have proved effective and quite popular. Both the speed and volume of traffic in these areas has declined. Moreover, 70% of the population approve of woonerfs, with a majority of respondents in complete agreement with the restriction on automobiles. ⁶⁷

While woonerfs are used mostly in residential areas, other measures focus on urban areas. ⁶⁸ Several towns have established zones or sectors to discourage automobile use. Other transportation modes can freely access these sectors but automobiles are not allowed to travel directly from one to another.

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⁶⁶ United States Department of Transportation, Bicycle and Pedestrian Programs in European Countries, 12.

⁶⁷ United States Department of Transportation, Bicycle and Pedestrian Programs in European Countries, 12,13. 30 km/hr speed reduction zones were also introduced.

⁶⁸ In 1988, the Dutch government amended its legislation to provide a wider interpretation of the woonervf concept, extending it beyond residential areas to cover pedestrian zones and city centres.
another. Instead, they must use a ring road which encircles the city. While only a few towns have adopted this strategy, it has reduced automobile travel.

There is also a movement to ban the automobile outright from the inner-core of cities. This initiative has its beginning in the pedestrian-only areas which have emerged in a number of European cities. Amsterdam has taken this approach one step further. As part of a long-term plan to eventually restrict all non-essential motor traffic from its inner-core, Amsterdam has widened sidewalks, introduced more bicycle lanes, liberally placed speed bumps on the streets, and slowly begun removing parking places.\(^5^9\)

These municipal initiatives to discourage automobile travel are complemented by high levels of taxation. Gasoline is quite expensive in the Netherlands, largely owing to a 245% tax placed on the pre-tax price. In addition, sales tax as a percentage of the pre-tax purchase price for new automobiles is 47%.\(^7^0\) High gasoline and sales taxes are the result of deliberate taxation policies to hinder automobile use, rather than any significant difference in the actual cost of gasoline


\(^7^0\)John Pucher, "Urban Travel Behavior as the Outcome of Public Policy: The Example of Modal-Split in Western Europe and North America," Journal of the American Planning Association 54:4 (Autumn, 1988), 513. This gasoline tax is 189 percentage points higher than the Canadian tax of 55%. In addition, the annual tax payment for a medium-sized automobile in the Netherlands is $825.
or automobile ownership.\textsuperscript{71}

SSTT introduces several additional policy instruments to reduce automobile use. One recommendation is a road pricing policy, with motorists paying a fee for travel during rush-hour and in congested areas.\textsuperscript{72} Facing opposition from interest groups and political parties, road pricing is not yet in effect. The national government has imposed sharp increases on transport fuel excise duty, increased parking charges, and introduced a toll system.\textsuperscript{73} There is also a voluntary program designed to improve fuel-efficiency by providing financial incentives to those motorists who adopt the necessary measures.\textsuperscript{74}

SSTT is supporting the bicycle and public transit to

\textsuperscript{71}Denmark imposes a whopping 186\% tax on the purchase price of a new automobile. Far from a covert practice, the Danish Ministry of Transport openly describes this policy as "paying for three cars and getting only one." It is no coincidence that Denmark also boasts a high level of bicycle use, accounting for 19\% of all trips nationwide.

\textsuperscript{72}Chris Gossop, "Choose it or Lose it - Lessons from the Netherlands NEPP," \textit{Town and Country Planning} 59:6 (June, 1990), 180.

\textsuperscript{73}Sturt, "Going Dutch," 49. The toll system is presently limited to select bridges and tunnels. Tolls, too, face opposition.

\textsuperscript{74}Kroon, "Traffic and Environmental Policy," 114,121. The Netherlands lags behind Canada in regard to emissions improvements. Catalytic converters were introduced later and leaded gasoline was not phased out until 1986. The Dutch government is also constrained in enacting legislation to improve emission levels because the European Community has jurisdiction over this policy area.
ensure viable alternatives are available to replace automobile trips. The bicycle is encouraged for short urban trips, and an inter-modal approach is recommended for longer trips, whereby a combination of the bicycle and public transit is used.

Public transit is underdeveloped.\(^\text{75}\) The national government realizes, however, that a committed effort to improve public transit is crucial to reduce automobile use. Consequently, the government is now investing heavily in transit to create a more efficient, accessible and comprehensive system.

A major obstacle to the greater use of bicycles and public transit is distance. These modes are simply not viable unless they can access desired destinations within a reasonable time period. Acknowledging this fact, the Fourth Report on Physical Planning was introduced. Although land use planning must contend with "uncontrollable economic and demographic trends, private sector and subnational independence and the intrusion of politics,"\(^\text{76}\) the Fourth Report advocates a "compact city" model of development,

\(^{75}\) Centre for Research and Contract Standardization in Civil and Traffic Engineering, "Quicker by Bicycle," in Cycling in the City, Pedalling in the Polder (The Netherlands, 1993), 33. The subsidization and general cost of public transit is often criticized. Presently, commuters pay 20% of the total cost of travel.

promoting high density planning to contain urban sprawl and decentralization.\textsuperscript{77} Residential and commercial development is monitored for accessibility, making alternative modes of transportation more practical.

**BICYCLE MASTER PLAN**

The *Bicycle Master Plan* (1992) establishes an active role for the national government. As a component of the SSTT, bicycle policy is now incorporated into the overall transportation policies. The Master Plan sets out a number of objectives designed to further stimulate bicycle use.

**Objectives**

- The number of kilometres travelled by bicycle annually will be increased 3.5 billion (30\%) by 2010. The Dutch Institute for Applied Sociology has found that 47\% of urban trips, according to motorists themselves, can be made by bicycle.\textsuperscript{78} These short trips are ideally suited to the bicycle and indicate potential for increased bicycle use.

\textsuperscript{77}Sturt, "Going Dutch," 51. While the Fourth Report on Physical Planning has an effective classification system to achieve higher densities, there is a concern that a set criteria which is decided upon by the national government may result in political tension amongst the highly competitive Dutch municipalities. It does appear, however, that the government has the resolve. Toshiba intended to locate its European headquarters in the Netherlands but was refused because the development did not meet the specified land use criteria. Toshiba subsequently relocated elsewhere, sparking considerable political debate.

- Aware that travel time is a key determinant of modal choice, bicycle routes will be upgraded to reduce travelling time by 20% to desired destinations. This is to be accomplished by providing 'short cuts' and uninterrupted, direct routes. To give bicyclists an advantage over other road users and make trips quicker and safer, a number of measures have been implemented. Bicyclists can turn right against red lights and special road markings are in place at traffic lights which give priority to bicycles. In addition, provision is often made for bicyclists to travel in both directions on one-way streets.

- The number of bicycle commuters is to be increased by 50%. This target will be supported by additional facilities. In a survey of Metropolitan Toronto bicycle users, an overwhelming number of respondents stated that bicycle lanes would encourage them to commute more often (75.8%). A Toronto City Cycling Committee survey found that 27% of non-commuting bicyclists would bicycle to work or school with the provision of bicycle lanes. Another study estimated the "potential increase of utilitarian bicycle use in Metropolitan Toronto

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7 Metro By Cycle, Two Wheeling Into The Future: A Snapshot of Cycling in Metro Toronto, 1993. The survey encompasses the City of Toronto, Etobicoke, Scarborough, York, East York, North York and outside areas. It must be noted that 60% of respondents reside in the City of Toronto which has a higher level of bicycle use for transportation purposes.

could be substantial if a comprehensive network of bicycle facilities is implemented as well as other measures."\textsuperscript{81} The increase could range from 1.5-3.4% up to 5.2% of total trips.
- By 1995, all businesses having 50 or more employees must develop a transport plan which includes the bicycle.
- The connection between bicycle routes and public transit stations will be upgraded. Bicycles are useful for travel to and from transit stations. Presently, railways offer either guarded or unguarded bicycle storage facilities at all 351 stations. Underground and multi-story parking garages are available at busier stations. In 1991, bicycles accounted for 44% of pre-transit trips, and 14% of post-transit trips.\textsuperscript{82}
- By 1995, bicycle policy will be a permanent component of transportation policies at all levels of government.
- By 1995, the public will be fully aware of the advantages and disadvantages of bicycling in comparison with other modes. In 1992, Dutch television broadcast five informative programs on bicycling. The government is also promoting the bicycle in

\textsuperscript{81}D.Y. Solomon, \textit{The Bicycle as a Mode of Transportation in Metropolitan Toronto}. Transportation Department, Planning Branch. Municipality of Metropolitan Toronto, (May, 1992), 8,12. To increase ridership, a comprehensive and continuous bicycle network must be in place, supported by educational and media campaigns to increase awareness, along with traffic restraint measures.

\textsuperscript{82}A.G. Welleman, "Why a bicycle policy in the Netherlands?," in \textit{Cycling in the City. Pedalling in the Polder} (The Netherlands, 1993), 14.
trade journals and other activities.\textsuperscript{83}

- The bicycle is an inexpensive transportation mode. Purchase and maintenance costs are small in relation to the automobile. A 1986 government campaign to promote bicycle use enlightened motorists on the financial benefits of bicycling. It was estimated that each motorist using a bicycle for trips within a 5 kilometre radius of home would save at least $400 (U.S.) per year in fuel costs.\textsuperscript{84} In addition, bicycle infrastructure is comparatively inexpensive.

<table>
<thead>
<tr>
<th>1 km of freeway</th>
<th>20 million guilders</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 km of highway</td>
<td>10 million guilders</td>
</tr>
<tr>
<td>1 km of bus lane</td>
<td>5 million guilders</td>
</tr>
<tr>
<td>1 km of quality bicycle path</td>
<td>1 million guilders\textsuperscript{85}</td>
</tr>
</tbody>
</table>

The Bicycle Master Plan also addresses obstacles to increased bicycle use.

- Safety is a serious concern. The risk of conflict with an automobile deters many potential bicycle users. In 1990, Dutch bicyclists were involved in 22\% (304) of all traffic fatalities and 24\% (3,277) of serious injuries. 84\% of bicyclists' killed and 67\% of those injured were involved in collisions with an automobile. Given this high accident rate, there is an urgent need to address safety concerns.

\textsuperscript{83}Bicycle Master Plan, 17,18,20,30. The Dutch government now presents an award to the Bicycle City of the Year.

\textsuperscript{84}Lowe, The Bicycle: Vehicle for a Small Planet, 20.

\textsuperscript{85}Centre for Research and Contract Standardization, "Quicker by Bicycle," 38.
Similarly, in 1991, 27 bicyclists were killed in Ontario and 3,797 reported injured, with many accidents going unreported.\textsuperscript{86} There is also a greater proportion of accidents involving adults. In the United States, the average age of bicyclists involved in fatal accidents increased from 17.7 years (1975) to 28.4 years (1991).\textsuperscript{87} This trend reflects the increasing number of adult bicyclists sharing the road with motorists. It also confirms that safety concerns are a major obstacle to increased bicycle use.\textsuperscript{88}

The Master Plan recommends the separation of automobile and bicycle traffic wherever possible to reduce accidents. Where this is not feasible, the situations where these modes converge should be simplified and automobile speeds reduced.\textsuperscript{89}

There is an ongoing debate in Canada over bicycle lanes. Some maintain that bicycle lanes increase safety by separating automobiles and bicycles. Others contend that bicycle lanes increase conflict, creating uncertainty between motorists and bicyclists at intersections where the two modes are not separated. The latter group believe that wider curb lanes


\textsuperscript{88}In a Harris Poll of adult bicyclists, half stated that they would commute to work or school, at least occasionally, if there were safe places to ride. ( \textit{Bicycle Federation of America, Pro Bike News} 14:5 (May,1994), 2.)

\textsuperscript{89}Bicycle Master Plan, 16./ Wellem, "Why a bicycle policy in the Netherlands?," 17.
would eliminate this problem while fostering the image of the bicycle as a legitimate road user. The solution might be a combination of the two, depending on the particular situation. Either is acceptable since bicycle users prefer direct routes to their destination. Ultimately, the guiding principle should be to "assume that every street is a cycling street."  

- Bicycle theft is rampant. Of the approximately 14 million bicycles, 800,000-900,000 are stolen each year. This is accompanied by a dismal recovery rate of 3%. Theft is a serious policy concern when it is considered that 37% of non-users cite theft as the major reason for not bicycling. Toronto has been designated the Bike Theft Capital of Canada. In 1992, 11,489 bicycles were reported stolen in Metropolitan Toronto. For the first eight months of 1993, the recovery rate was a mere 3.9%. Similar numbers, when adjusted for the level of bicycle use, are likely throughout Ontario. 

- To limit the effect of weather on bicycling, the national

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91Weijers, "Government policy for the reduction of bicycle theft," 167-8. In Amsterdam alone, 29% of all bicycles were stolen (1992).


93Bicycling, (August, 1992) as quoted in Metro by Cycle.


95Globe and Mail, (September 22, 1993), A20.
government is funding research on "climate proofing" bicycle facilities. Research is focusing on sheltered bicycle routes and better design and planning of facilities to account for wind patterns, sun and shade and natural buffers. Of course, Canadian weather conditions can be a more daunting consideration for potential bicycle users.

The Metropolitan Toronto survey found that, as expected, virtually all bicyclists ride between April and October, with maximum levels between May and September (98%) As Table 4 illustrates, bicycle use drops considerably during the winter months. Bicycle travel does not fall below 17.4%, however, indicating the presence of a number of year-round riders. It would appear that climatic factors, while impacting on bicycle use, are not an insurmountable obstacle. At the same time, it must be noted that this data represents existing bicyclists. As such, there is no indication what impact Ontario's climate has on potential bicyclists.

While inclement weather and severe temperatures are

Boudewijn Bach and Norman Pressman, "Cycle planning and the northern climate," in Cycling in the City, Pedalling in the Polder (The Netherlands, 1993), 143-54.

Metro By Cycle, Two Wheeling Into The Future: A Snapshot of Cycling in Metro Toronto, 1993. The survey encompasses the City of Toronto, Etobicoke, Scarborough, York, East York, North York and outside areas. It must be noted that 60% of respondents reside in the City of Toronto which has a higher level of bicycle use for transportation purposes.

These findings are congruent with the Toronto City Cycling Committee study which recorded slightly lower levels of utilitarian bicycling. Summer - 92%, Spring - 77%, Fall - 63%, Winter - 12%. (Riders, Reasons and Recommendations), 26.
obviously a disincentive; Michael Replogle, an American transportation planner, maintains that:

cultural attitudes and misconceptions about the feasibility and comfort of winter bicycle travel appear to account for more of the seasonal variation in bicycle use throughout the year in temperate climates than do actual weather conditions."\(^{99}\)

Another study concludes "that weather is a greater deterrent for fixed schedule journeys, such as the work commute, then for discretionary trips."\(^{100}\) Whereas weather may preclude bicycling to work or school on a day-to-day basis, there are indications that more flexible transportation needs can be met year-round. Weather, then, is more a daily impediment than any absolute deterrent.\(^{101}\) If pro-bicycle policies and facilities are in place, winter weather need not be a major deterrent.\(^{102}\)


\(^{100}\)United States Department of Transportation, Reasons Why Bicycling and Walking Are and Are Not Being Used More Extensively As Travel Modes, 10.

\(^{101}\)Concerning climate, Windsor's Bicycle Use Development Study states that "after trying it, many discover that the deterrents are predominantly psychological rather than practical." (City of Windsor, Bicycle Use Development Study. Victor Ford and Associates Inc., (1990), 49.)

\(^{102}\)Despite its northern location and sub-Arctic climate, Finland has the third highest level of bicycle use per capita in the world. Bicycle use in February is 60% of the annual mean. A well-developed bicycle infrastructure - 8,000 kilometres of "bicycle-friendly" roads along with 1,300 underpasses and 400 overpasses - has resulted in 12% of all vehicle trips being made by bicycle. Mikko Ojajarvi, "Cycling in a Northern Country," Transportation Research Record No. 1294. Transportation Research Board. (Washington, D.C., 1991), 47.
Rather than simply accommodating existing bicyclists, the Dutch government is actively striving to stimulate bicycle use. The Bicycle Master Plan promotes the positive features of bicycling, while pursuing solutions to the negative aspects. Along with providing substantial subsidies for bicycle facilities, the national government has funds available for research projects. Current research includes strategies to combat bicycle theft, efforts to include the bicycle in traffic modules, and pilot projects which test the utility of various bicycle facilities.
Bicycle Use by Month

Source: Metro By Cycle, Two Wheeling Into the Future: A Snapshot of Cycling in Metro Toronto.
CONCLUSION

The purpose of this chapter was twofold. An attempt was made to understand the political conditions that must be in place before decision-makers will fully support bicycle transportation, and the practical components of a successful bicycle policy were identified. The bicycle plays a substantial role in the Dutch transportation system, benefitting from a flat terrain, mild climate and high densities which reduce travelling time and distance. Equally important is the fact that bicycling is widely accepted as a valid means of transportation and virtually every citizen owns a bicycle. These positive factors, however, have proved insufficient to maintain high levels of bicycle use.

As policy does not operate in a vacuum, an attempt was also made to identify the broader political issues that shape bicycle policy. It is clear that the unacceptable level of automobile use is responsible for the Dutch government's support of the bicycle. It was not until the economic and environmental costs of automobile travel became politically unacceptable that the national government adopted a pro-active policy to stimulate bicycle use. Without this political rationale, it is unlikely that the national government would have introduced the Bicycle Master Plan, assuming a direct role in bicycle policy.

The Bicycle Master Plan is not a radical initiative. The Dutch are simply building upon a long-standing tradition
of bicycle transportation. On the other hand, measures to further restrict private automobile use are a concern. Though the Dutch are accustomed to initiatives which discourage automobile use, they are not prepared to eagerly embrace the SSTT measures. The coalition Lubbers government was compelled to resign in 1989 over proposals to eliminate tax deductions for automobile commuters and increase gasoline taxes.\textsuperscript{103} Attempts to manipulate mode choice by legislation is certain to encounter opposition.\textsuperscript{104}

In terms of bicycle policy itself, a number of essential components can be identified: 1) Bicycle policy must be integrated into the overall transportation policies and land use planning. Planning for each mode separately creates conditions that undermine the utility of bicycle travel. 2) A politically active bicycle community must exist that is capable of representing the interests of bicyclists and institutionalizing bicycle issues into the decision-making process. 3) Finally, there must be alternatives to automobile travel. Promoting the bicycle without concomitant measures to

\textsuperscript{103}Kroon, "Traffic and Environmental Policy," 113. The minority Liberals balked at requests to support these measures.

\textsuperscript{104}The Dutch are wary of efforts to regulate private behaviour as liberal policies on drug use and euthanasia illustrate. Nevertheless, there is a consensus that automobile use must be curbed. A recent survey of European Community countries found that 57\% of Europeans perceive automobile traffic to be either unbearable (25\%) or hardly bearable (34\%). The Dutch, then, appear poised to grudgingly consent to the SSTT. (Pierre Laconte and WM. Campbell Graeub, "Attitudes of Europeans Toward Urban Mobility," TR News 165 (March/April, 1993), 33-4.)
discourage automobile use is self-defeating. At the very least, there must be incentives for bicycle travel.

Having uncovered the political and practical factors necessary for an effective bicycle policy, this information will serve as a guideline to understanding why bicycle policy is emerging in Ontario and whether bicycle transportation is feasible.
CHAPTER III

As the policy model revealed, the political impetus for the Bicycle Master Plan and the Dutch national government's foray into bicycle policy is the unacceptable level of automobile use and the alarming trend towards increased automobile travel. While the bicycle has historically played a substantial role in the Netherlands and continues to do so today, the prevalence of automobile travel is undermining bicycle transportation. The economic and environmental costs of automobile use, then, has fostered the political will to address this problem and, in turn, has fuelled efforts to stimulate increased bicycle use.

In the absence of similar concerns in Ontario, it is unlikely that bicycle transportation will receive the necessary political support and funding. The policy model has shown that simply promoting bicycle travel is insufficient. Genuine concern with existing transportation arrangements must be evident, creating the possibility for change and serious consideration of transportation alternatives.

This chapter examines Ontario's auto-centred transportation system. Dutch experience underscores the importance of examining the policy environment, developing an understanding of the forces that shape policy. The primary objective of this section is to determine if there are sufficient concerns with the existing transportation arrangements which might impel decision-makers to support
bicycle transportation.

The chapter begins with a summary of the emergence and development of automobile travel in Ontario and its influence on transportation policies and urban form. This is followed by a detailed account of the environmental and social costs of automobile use. This section concludes with a discussion of recent automobile-related policies and initiatives.

OVERVIEW

It requires no special insight to acknowledge the enormous role the automobile plays in society. Its influence permeates all aspects of our daily lives, inviting the well-worn term 'car culture.'\textsuperscript{105} Still, it is useful to provide a brief summary of the automobile's ascendancy and influence on roads policy.

The automobile made its initial mark on Canadian society in the 1920's. Automobile registrations grew by over 10% each year, totalling over 1 million by the decade's close.\textsuperscript{106} Sales declined somewhat during the Depression and later stalled owing to wartime restrictions on the production of automobiles, and gasoline rationing. Following World War II,

\textsuperscript{105} In 1991, 83% of all Canadian households owned 1 or more automobiles. 39% of all households owned 2 or more automobiles. (Directions: The Final Report of the Royal Commission on National Passenger Transportation, Vol. 1, (1992), 216.)

however, the automobile underwent spectacular growth.\textsuperscript{107}

The demands of the growing ranks of motorists were well-represented and government was fully supportive of automobile expansion.\textsuperscript{108} The historian D.R. Owram writes that it was "the public choice of transportation modes, especially its overwhelming attachment to the car that has determined much of the policy."\textsuperscript{109} In fact, decision-makers were not concerned with any potential problems resulting from growth but only in meeting the increasing demand for roads.

This policy of accommodating the automobile went unchallenged until the 1970's. Following the Davis government's controversial decision to terminate construction of the Spadina Expressway in Toronto, the provincial government introduced an urban transportation policy to replace expressway expansion.\textsuperscript{110} Premier Davis stated that:

\textsuperscript{107}Post-war prosperity provided many Canadians with disposable income. Automobile sales also benefitted from the arrival of suburbs in the early 1950's.

\textsuperscript{108}Owram, "Icons and Albatrosses," 59. Owram states that "as the car became a part of Canadian culture the demand for roads grew. The translation of this demand into policy during the first generation of car ownership was extremely important. For by the late 1920's the whole complex set of lobby groups, policies and taxes that shaped roads in this country was in place."

\textsuperscript{109}Owram, "Icons and Albatrosses," 139.

\textsuperscript{110}The Davis government unilaterally terminated construction of the Spadina Expressway in June, 1971. This decision was based on political rather than technical considerations given the fact that provincial transportation planners supported the expressway. (Juri Pill, Planning and Politics: The Metro Toronto Transportation Plan Review, (MIT Press, 1979), 49.)

A similar incident occurred in Vancouver where citizens opposed a
...as a means of solving our urban transportation problems, expressways are not only too expensive for the traffic moved, but because of their accompanying intrusion, noise and air pollution, they have become unacceptable in residential areas. In addition, in urban areas they do not usually work efficiently since they tend to attract and encourage the use of automobiles to the point that they quickly become jammed over their capacities.\(^{111}\)

The provincial government announced a policy designed to put "people first." A 75% subsidy was made available to municipalities for the purchase of buses, streetcars, trolleys and related facilities. A similar subsidy was provided for studies on staggered or flexible work hours to reduce transportation demand during peak travel periods.\(^{112}\) By supporting public transit, the provincial government was working towards an integrated transportation system that would plan to build an expressway through the Chinatown area. Like Spadina, the proposal was shelved amidst a highly charged atmosphere. This focus on the limits of auto-centred expansion has set Canadian cities apart from those in the United States where expressways commonly run through the centre of the city.


The theory that building more roads only creates more traffic is not a new one. A study dating back to 1956 acknowledges this fact, stating that "while more vehicles can be accommodated there is little relief from congestion as the growth of private cars soon catches up with the additional capacity provided." (J.C. Lessard, "Transportation in Canada," in Royal Commission on Canada's Economic Prospects, (November, 1956), 117.)

\(^{112}\)Davis, An Urban Transportation Policy for Ontario, 16, 17, 21. The provincial government also proposed the development of an intermediate capacity transit system between the high capacity, but expensive, subway system and the low capacity bus system. This "new transit mode" would operate on tracks or guideways much like Vancouver's SkyTrain. This project, however, did not get off the ground.
reduce dependence upon the automobile and manage growth. The steady increase in automobile traffic, however, has overwhelmed these early initiatives and ensured that roads policy occupies a dominant position in transportation policies.

As the following tables illustrate, automobile use shows no indication of levelling off.

<table>
<thead>
<tr>
<th>TABLE 5</th>
</tr>
</thead>
</table>

**PRINCIPAL METHOD OF TRAVEL TO WORK (1991)**

<table>
<thead>
<tr>
<th>MODE</th>
<th>ONTARIO</th>
<th>CANADA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile (Driver)</td>
<td>75.2%</td>
<td>76.0%</td>
</tr>
<tr>
<td>Automobile (Passenger)</td>
<td>10.1%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>17.8%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Walking</td>
<td>8.8%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>2.6%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Other</td>
<td>.8%</td>
<td>.9%</td>
</tr>
</tbody>
</table>


Percentage of households where at least one member worked outside the home. The survey included each working member of the household during the second week of May, 1991.
**TABLE 6**

**PASSENGER VEHICLE REGISTRATIONS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Canada *to nearest thousand</th>
<th>Ontario</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>4,104,415</td>
<td>1,732,933</td>
</tr>
<tr>
<td>1980</td>
<td>10,256,000</td>
<td>3,708,694</td>
</tr>
<tr>
<td>1981</td>
<td>10,199,000</td>
<td>3,831,058</td>
</tr>
<tr>
<td>1982</td>
<td>10,530,000</td>
<td>3,842,743</td>
</tr>
<tr>
<td>1983</td>
<td>10,732,000</td>
<td>3,900,000</td>
</tr>
<tr>
<td>1984</td>
<td>10,781,000</td>
<td>3,904,706</td>
</tr>
<tr>
<td>1985</td>
<td>11,118,000</td>
<td>4,093,730</td>
</tr>
<tr>
<td>1986</td>
<td>11,586,000</td>
<td>4,244,200</td>
</tr>
<tr>
<td>1987</td>
<td>11,773,000</td>
<td>4,402,704</td>
</tr>
<tr>
<td>1988</td>
<td>12,086,000</td>
<td>4,577,803</td>
</tr>
<tr>
<td>1989</td>
<td>12,811,000</td>
<td>4,701,949</td>
</tr>
<tr>
<td>1990</td>
<td>12,622,000</td>
<td>4,756,855</td>
</tr>
<tr>
<td>1991</td>
<td>13,061,000</td>
<td>4,846,708</td>
</tr>
</tbody>
</table>


### TABLE 7

**TRAVEL PATTERNS IN ONTARIO**

(1990)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Millions of Vehicle-Km's</th>
<th>Millions of Passenger-Km's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking, Bicycling</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Automobile</td>
<td>75,590</td>
<td>140,066</td>
</tr>
<tr>
<td>Public Transit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-City Bus</td>
<td>152</td>
<td>3,502</td>
</tr>
<tr>
<td>Urban/GO Transit</td>
<td>457</td>
<td>9,135</td>
</tr>
<tr>
<td>Rail</td>
<td>12</td>
<td>1,810</td>
</tr>
<tr>
<td>Air</td>
<td>298</td>
<td>28,313</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>76,709</strong></td>
<td><strong>183,026</strong></td>
</tr>
</tbody>
</table>

### FUTURE TRAVEL PATTERNS IN ONTARIO

(If Current Trends Continue)

(2005)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Millions of Vehicle-Km's</th>
<th>Millions of Passenger-Km's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking, Bicycling</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Automobile</td>
<td>103,350</td>
<td>191,508</td>
</tr>
<tr>
<td>Public Transit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-City Bus</td>
<td>230</td>
<td>5,297</td>
</tr>
<tr>
<td>Urban/GO Transit</td>
<td>691</td>
<td>13,820</td>
</tr>
<tr>
<td>Rail</td>
<td>11</td>
<td>1,746</td>
</tr>
<tr>
<td>Air</td>
<td>539</td>
<td>51,202</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>105,071</strong></td>
<td><strong>263,823</strong></td>
</tr>
</tbody>
</table>

The automobile has shaped our cities. There is a causal link between transportation modes and city form. The tremendous growth in automobile ownership has resulted in a corresponding decline in public transit. Prior to suburbanization, urban centres were of a walking scale, marked by higher densities and mixed uses conducive to transit. The auto-centred system, in contrast, has encouraged sprawling, single-use, low density urban centres which tend to disperse trips, making it difficult for transit to service these areas and retain its economic viability. In addition, the radial-hub system that characterized earlier cities has given way to a more scattered travel pattern, with trips not just between suburb and city centre but suburb to suburb.

Public transit funding and ridership has steadily declined. In the period 1990-91, transit ridership across Canada declined by 5% - a loss of over 82 million revenue passengers. Province-wide, public transit ridership has declined 3-5% in recent years. Transit systems in the Greater Toronto Area alone endured a decline of 37 million riders while the total population and the number of automobile

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111E.P. Fowler, "Land Use in the Ecologically Sensible City," Alternatives 18:1 (1991), 28. Fowler states that "segregated and deconcentrated land use developed in a symbiotic relation with motorized vehicles." Other factors played a role in deconcentration. For example, C.E. Moore notes that the National Housing Act (1971) served to make new units in the suburbs more affordable while taking the emphasis off existing housing.

114Although streetcars had extended urban boundaries.

trips increased.\textsuperscript{116} While the provincial government is working to improve public transit efficiency; today, throughout most of Ontario, "transit is a marginal social service, providing mobility to those without access to automobiles in an auto-oriented environment."\textsuperscript{117}

\textsuperscript{116}Martin Rosen, Revitalizing Our Cities: New Directions In Urban Transit. Paper presented at the 1993 TAC Annual Conference. (Ottawa, 1993), D50. In 1986, there was 1.72 daily automobile trips per person. In 1991, this number had risen to 1.92. Since 1986, Metropolitan Toronto's population has increased 16%. (Globe and Mail, June 23, 1993, A14.)

\textsuperscript{117}Martin Rosen, Revitalizing Our Cities: New Directions In Urban Transit. Paper presented at the 1993 TAC Annual Conference. (Ottawa, 1993), D50. Since 1986, Metropolitan Toronto's population has increased 16%. Also in 1986 there was 1.72 daily automobile trips per person. By 1991, this number has risen to 1.92. (Globe and Mail, June 23, 1993, A14.)
ENVIRONMENTAL COSTS

The American historian James Flink estimates that in New York City at the turn of the century, the horse deposited on the streets daily 2.5 million pounds of manure and 60,000 gallons of urine.\(^ {118} \) It is understandable, then, that the automobile was embraced as a welcome environmental improvement. Unfortunately, unprecedented growth now implicates the automobile in a number of environmental concerns which confront decision-makers and citizens alike. While the magnitude of some of these concerns is uncertain, their existence is not.\(^ {119} \)

In addition to air pollution, the automobile plays a major role in the development of smog, the generation of greenhouse gases and global warming.\(^ {120} \) These issues are all well-documented. (Appendix I lists the prominent automobile emissions and their impact on the natural environment.)

The environmental impact of the automobile extends beyond the damage caused by emissions. Costs are also attached to

\(^ {118} \)James J. Flink, *The Car Culture*, (Massachusetts Institute of Technology, 1975), 34. Also, on average, 15,000 dead horses were removed from the streets each year.


\(^ {120} \)While no unequivocal scientific evidence exists supporting global warming, there is sufficient data to warrant its inclusion here. In 1990, the United Nations Intergovernmental Panel on Climate Change met to discuss global warming and reported that man-made greenhouse gases are rapidly accumulating in the atmosphere.
its manufacture, demand for infrastructure and disposal.

The natural resources and energy required to manufacture an automobile present a number of environmental consequences; the most important being the depletion of nonrenewable resources, particularly metals and energy. Moreover, the environmental stresses associated with the production of these resources, such as extraction, smelting and refining of metals, has a significant impact.\textsuperscript{121}

The infrastructure required to accommodate motor vehicles is linked to a number of environmental effects, including the "occupation" of productive land and the alteration of ecosystems. In the average urban centre, the primary use of land is for automobile infrastructure. Between 30–60% of urban land is dedicated to roads, highways, drive-ways, garages and parking lots.\textsuperscript{122} Between 1981–86, 55,200 hectares of rural land adjacent to 70 Canadian cities fell victim to urban sprawl. Of this, 59% was prime agricultural land.\textsuperscript{123}

Disposal of discarded vehicles and component parts also damages the environment. Approximately 500,000 vehicles are

\textsuperscript{121}Environment Canada, \textit{Environmental Implications of the Automobile}, State of the Environment Fact Sheet No. 93-1, 3.

\textsuperscript{122}Ontario Round Table on Environment and Economy, \textit{Challenge Paper}, 34.

\textsuperscript{123}Environment Canada, \textit{Environmental Implications of the Automobile}, 4.
disposed of in Ontario each year.\textsuperscript{124} Even when parts are salvaged as scrap metal or recycled, many non-metallic components are landfilled, further burdening an already limited resource. A number of automobile-related substances are toxic, posing a danger when disposed. In addition, 7-8 million scrap tires are produced each year in Ontario. 60\% of these tires are disposed of at landfill sites and 14\% are stockpiled. The latter are a potential fire hazard.\textsuperscript{125}

Run-off from road salt, particulate emissions and leaked motor oil can concentrate in ditches and storm sewers. Of the estimated 230 million litres of motor oil generated by Canadian vehicles in 1990, approximately 16\% - or 36 million litres - was disposed of in a fashion that invites environmental contamination.\textsuperscript{126} The extent of this damage is unknown.

This brief discussion of the environmental impact of


The Hagersville, Ontario tire fire of 1990 is a good example. An estimated 13 million tires were burned in a fire that proved difficult to extinguish, lasting 17 days. Water in the area is still contaminated. (\textit{Harrowsmith} 18:4 No.112 (December, 1993), 33.)

\textsuperscript{126}Pollution Probe, \textit{The Costs of the Car}, 28.

Robert Schaeffer estimates that in the United States alone, "do-it-yourself" mechanics deposit an amount of oil equivalent to that spilled by the Exxon-Valdez down drains and sewers every 2 1/2 weeks. (Robert Schaeffer, "Car Sick: Automobiles Ad Nauseam," \textit{Greenpeace}, (May/June, 1990), 15.)
the automobile simply revisits a well-documented concern. The automobile is also associated with a variety of social costs.

SOCIAL COSTS

In the Netherlands the bicycle is a rational alternative to the automobile. Given the high levels of taxation and initiatives to encumber private automobile use, transportation consumers have the option of using the bicycle infrastructure. In Ontario, however, the opposite is true. All manner of policies are designed to accommodate automobile travel. In turn, other transportation modes are neglected. As mentioned earlier, public transit is often woefully inadequate and bicycle users are left to their own devices, with no supporting infrastructure.

James Dunn, Jr. draws an analogy between the automobile and the 'tragedy of the commons,' exposing a flaw in existing transportation policy:

In medieval European villages small herds of cattle were owned by individuals, but the pasture where the cattle grazed were held in common by the whole community. In a situation where the cost of raising cattle was borne by the community, each individual has an incentive to increase the size of his herd beyond what he could have afforded if he had to bear the full cost of feeding all his cattle. As more and more individuals tried to maximize their own profits in this manner, the total number of cattle came to exceed the capacity of the pastures, and the precious resource held in
common was destroyed by overgrazing.\textsuperscript{127}

This situation is easily applied to the automobile. Once a motorist pays the individual costs of driving, the benefits of automobile use outweigh any additional costs. External costs are not taken into consideration. Incentives are designed in such a way that it is not rational, defined in economic terms, for an individual to opt for another mode of transport. What results is a "spiral of increasing reliance on the automobile and increasing degradation of the common resources or public goods."\textsuperscript{128}

Public goods, such as clean air, create a problem for the private market because they are difficult to regulate. If you cannot be charged or excluded from the benefits of a public good, a rational person is tempted to 'free ride.' This in itself is not a problem, the difficulty for society arises when an externality appears, bringing on market failure.

Unrestricted access to public goods eventually creates externalities, the most serious failure of the private market.\textsuperscript{129} An externality is defined as any cost or benefit which an individual imposes on others but does not have to

\textsuperscript{127} James A. Dunn, Jr., \textit{Miles To Go: European and American Transportation Policies}, (Massachusetts Institute of Technology, 1981), 134.

\textsuperscript{128} Dunn, \textit{Miles To Go}, 134.

take into account when making a decision.\textsuperscript{130} The market operates efficiently when all costs and benefits of producing a good are reflected in prices. In turn, an externality exists when all costs are not reflected in market prices.

As an example, automobiles are manufactured and sold in the private market but they also produce negative externalities.\textsuperscript{131} Society as a whole is affected, but the private market cannot force motorists to pay to relieve these costs. Owing to market failure and the pursuit of individual self-interest, the state must intervene to manage externalities and resulting social costs.

The social costs of automobile use are largely overlooked by decision-makers when developing policy, and by individuals when making travel decisions. If social costs are not accounted for when developing policy, decision-maker's inadvertently subsidize one mode of transportation at the expense of others. Ontario's Sectoral Task Force on Transportation states that although revenue from permits, fines and gasoline taxes exceed provincial expenditures on road construction and maintenance, the use of roads and

\begin{flushright}
\footnotesize
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\begin{flushright}
\footnotesize
\textsuperscript{131}Johnson, \textit{Public Choice: An Introduction to the New Political Economy}, 68. A consumer purchases an automobile for $10,000, paying for the resources it cost society to produce and distribute the automobile. But if a plant producing steel for the automobile dumps polluted water into a stream, which has an adverse effect on society, there is a social cost paid by neither the manufacturer nor consumer. The marginal social cost of producing the automobile, therefore, is greater than the price.
\end{flushright}
highways is generally underpriced when imputed social costs are considered. By ignoring social costs, the true cost of a particular mode is obscured, fostering inaccurate incentives.

The economic term employed to reflect social costs is subsidy. When estimating social costs, both direct and hidden subsidies are calculated. Direct subsidies appear in government budgets as amounts transferred to transportation consumers from the taxpayer. Hidden subsidies are less visible to the public, and impede the development of rational transportation policy.

When estimating the extent of hidden subsidies, a wide number of variables are considered. The more prominent include: polluted air, land and water; traffic noise; accidents and injuries; loss of land to parking; time lost to congestion; the impact of emissions on human health; automobile-related administration; policing and traffic court expenses; debt service; tax losses from paved land for automotive purposes; and road and street expenditures.

While existing studies lack the necessary precision and

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132 Ontario Round Table on Environment and Economy, *Sectoral Task Force Report - Transportation*, 3. Between 1983-87, spending on roads by all levels of government in Canada was $24.4 billion while revenues totalled $32.9 billion. (*Globe and Mail*, June 3, 1993, A18.)

uniformity to provide exact economic estimates for social costs, they do provide an indication of their extent, attaching an economic value to the imputed costs of automobile use. (Appendix 2 provides one estimate of Ontario's auto-related social costs. A number of American studies are also compiled to show the magnitude of social costs.)

- The MTO estimates that automobile collisions cost provincial taxpayers $4 billion per year, mostly due to income loss, property damage, and legal and health care costs. 134

- In the Greater Toronto Area alone, the annual shipping cost due to congestion is $2 billion - 30% of total commercial vehicle costs. By 2001, congestion costs could exceed $6.4 billion when goods movement costs, automobile passenger travel time costs, automobile operating costs and transit vehicle capital costs are considered. 135

- Motor vehicle collisions contribute significantly to societal costs. In 1991, 1,102 motorists were killed in Ontario - 1 death every 8 hours. There were 213,669 accidents

134 Ministry of Transportation, Annual Report, 1991/92, 18. In an op/ed piece (Globe and Mail, November 27, 1993), the former NDP Minister of Transportation provided a much higher figure. The Minister stated that collisions cost Ontario taxpayers an astounding $9 billion annually.

with 90,519 injured.\textsuperscript{136}

- The MTO estimates that motor vehicle accidents result in 50,000 potential life years lost and cost $1.9 billion per year. Approximately 50% of this cost is for vehicle damage, 30% for wage loss, 15% for health care and 5% for legal services.\textsuperscript{137}

- Pollution Probe estimates that the total cost of auto-related health care in Ontario (1987) was $80 million.\textsuperscript{138}

- Of the $1.18 billion spent by Ontario municipalities on policing in 1990, it is estimated that approximately $500 million went towards auto-related services. Approximately two-thirds of the Ontario Provincial Police Marine and Traffic Unit budget (1989) of $340 million, or $226 million, was allocated for auto-related services.\textsuperscript{139}

While there are substantial social costs attached to Ontario's auto-centred system, it is not rational for individual motorists to opt for transportation alternatives. The automobile is subsidized and social costs are borne in common, leaving little incentive to lessen reliance upon the automobile.


\textsuperscript{137}Ministry of Transportation, \textit{An Overview of Road User Safety in Ontario}, 6.

\textsuperscript{138}Pollution Probe, \textit{The Costs of the Car}, 33-4.

\textsuperscript{139}Pollution Probe, \textit{The Costs of the Car}, 44.
AUTOMOBILE-RELATED INITIATIVES

Any attempt to alter established practice must be tempered by political realities. The provincial government obtains a considerable share of its revenue from automobile-related taxation. In addition, the automotive industry is entrenched in Ontario's economic structure. The industry itself serves as a bellwether of economic prosperity; when doing well, other sectors of the economy are invigorated. While its influence is declining somewhat due to a shrinking work-force and its status as a traditional manufacturer, the automotive industry and those who depend upon it for their livelihood form a powerful constituency resistant to change.

The automotive industry is concentrated in Ontario, with over 90% of Canada's assembly and parts industry located in the province. This sector employs 110,000 people directly and accounts for 4% of the province's Gross Domestic Product. It also supports supplier industries such as steel, plastics and machine tools. Automobile exports totalled $37 billion in 1992, comprising almost half of the province's total merchandise exports. The three major automobile manufacturer's invested nearly $4 billion between 1992-95 to

\[140\text{Minister of Treasury and Economics, Ontario Finances, Quarterly Update. 1992-93. First Quarter. Gasoline taxes and vehicle registration fees brought in over $2.5 billion during 1992-93.}

\[141\text{Ministry of Treasury and Economics, Ontario Economic Outlook: Meeting the Challenges, (December, 1991), 38.} \]
modernize assembly plants and expand production capability. The provincial government is contributing $82.65 million towards worker training and infrastructure.\footnote{Minister of Finance, \textit{Ontario Economic Outlook}, (November, 1993), 17. $2.2 billion will be invested in Windsor.}

Decision-makers are understandably reluctant to tamper with the status quo given these economic and political realities. The revenue generated and the special interests that wield power make any such initiative politically risky. The Tax for Fuel Conservation is a good example. Originally designed to replace the gas guzzler tax, the Tax for Fuel Conservation is a graduated tax based on fuel efficiency.\footnote{A $100 credit is provided to consumers who purchase automobiles with a fuel economy rating of less than 6 litres per 100 kilometres. Other vehicles are taxed according to fuel consumption.}
The former NDP government was forced to compromise after meeting with representatives from the automotive industry and Canadian Auto Workers who felt the original measures "represented a political threat to jobs and investment."\footnote{Statement to the Legislature by Floyd Laughren, Treasurer of Ontario and Minister of Economics, \textit{Tax on Fuel Inefficient Vehicles}, (June 24, 1991), 1.}

As it stands, this initiative is simply a tax grab under the banner of environmentalism rather than any committed effort to reduce fuel consumption.\footnote{90\% of vehicles pay a flat rate of $75. Similarly, the provincial government levied a $5 tire tax between 1989-1993 on the purchase of motor vehicle tires. This tax generated $160 million yet only 10\% went toward tire-recycling projects. The remaining 90\% was placed in the government's general revenue
The former NDP government approved a user fee to finance the construction of Highway #407, north of Toronto.\textsuperscript{146} The toll will be used to offset construction costs. By implementing a user fee, it is anticipated that the provision of infrastructure will be managed without impinging on the province's general revenue. The province, then, is employing user fees only to the extent that it can assist in revenue gathering and relieve strained government coffers. While it was stated that the user fee will be discontinued once start-up costs are recouped, user fees are a useful instrument for developing a more efficient transportation policy.

User fees are a form of benefit-related taxation whereby consumers pay a fee for the services they receive.\textsuperscript{147} User fees can balance demand for a service with the full cost of providing that service. Harry Kitchen writes that "without a road-pricing policy that levies a charge each time a particular road is used, users have an incentive to demand more than if a price were imposed for each use."\textsuperscript{148} As mentioned, when infrastructure users make travel decisions,

\textsuperscript{146}Globe and Mail, (April 10, 1994), A5. A private consortium will build and operate the highway but a crown corporation - Ontario Transportation Capital Corporation - will finance the $1 billion project.

\textsuperscript{147}Richard H. Bird, Charging for Public Services: A New Look at an Old Idea, 1.

they ignore their contribution to the erosion of public goods.\textsuperscript{149} A comprehensive system of user fees where transportation consumers are charged for marginal social costs - ranging from maintenance costs to pollution - would represent the allocatively efficient level of service.\textsuperscript{150}

The user fee principle can include an assortment of costs when estimating the economic value of a transportation mode. In 1988, Sweden incorporated comprehensive user fees into its transportation policies. Motorists are now charged for external social costs, including air and noise pollution, congestion, accidents and road maintenance. These costs were based on the social marginal cost of using the automobile infrastructure.\textsuperscript{151} Closer to home, the Royal Commission on National Transportation has recommended:

\begin{quote}
each traveller pay the full cost of his or her travel, and travellers in total, pay the full cost of the passenger transportation system including the costs related to protecting the environment, safety and accidents.\textsuperscript{152}
\end{quote}

User fees, while effective, would be difficult to

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\textsuperscript{150}Kitchen, "Transportation," 118.
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\textsuperscript{152}Directions. The Final Report of the Royal Commission on National Passenger Transportation, 1992, Vol.1, 67. Critics at the time dismissed the findings of the Commission as simply neo-conservative rhetoric reflecting the ideology of the ruling Conservatives. It appears, however, that the Liberal government is taking the recommendations seriously, witness the recent decision to privatize Via Rail.
\end{flushleft}
implement for road users and would invite significant opposition.\textsuperscript{153} To rein in escalating automobile travel and manipulate mode choice, taxation must be used as a coercive policy instrument rather than solely a revenue generating device.

The Ontario Fair Tax Commission was established by the NDP government to make recommendations for reform of the province's tax system. In its final report, the commission made it clear that auto-related environmental taxes cannot merely serve as a mechanism to collect revenue but instead should be earmarked to modify behaviour and encourage environmentally sustainable practices.\textsuperscript{154} To this end, a number of promising recommendations have been proposed.

The Tax for Fuel Conservation's tax/credit scheme should be increased and the range of included vehicle's expanded. The classification of fuel-inefficient vehicles at present is considered too narrow and the tax insufficient to influence consumer choice.\textsuperscript{155} The commission recommends that revenue

\textsuperscript{153}Among its established recommendations, the CAA states that "Any form of motor vehicle taxation designed to restrict the use of private motor vehicles or to supplement general revenues of any level of government is opposed." (Canadian Automobile Association, \textit{Statement of Policy 1993-94}, 8.)


\textsuperscript{155}Ontario Fair Tax Commission, \textit{Fair Taxation in a Changing World}, (University of Toronto Press,1993), 570. / \textit{Working Group Report}, 7. The commission "proposes a combination of gradually expanded credits and taxes over a 3 year period to increase the
collected be earmarked for "green initiatives." The majority of the tax-generated funds should go towards the purchase and disposal of older, less fuel-efficient vehicles. The commission also recommends that revenue be used to develop bicycle infrastructure, including parking facilities and bicycle lanes and paths. The commission noted that "provision of bicycle infrastructure would begin to elevate bicycles to a serious transportation alternative..." 

These recommendations are an excellent example of using policy instruments to influence travel behaviour. Rather than the public viewing automobile taxation as a cynical tax grab, the revenue generated would be expressly dedicated to environmental programs. While the provincial government has yet to respond, positive support would signal their commitment to addressing these concerns and their intention to consider alternative transportation arrangements to help reduce dependence upon the private automobile.

There are also several recent documents that address land use and development issues.

The Ministry of Municipal Affairs recommends "existing development be intensified and new development result in compact, mixed use communities so as to provide increased incentive to purchase more fuel efficient vehicles."

156 Working Group Report, 8.

157 Working Group Report, 8. Bicycle infrastructure should also be used to promote tourism in northern Ontario, taking advantage of the Rails to Trails program.
opportunities for people to cycle and walk to their destination.\textsuperscript{159} A guideline was also released which outlines land use measures necessary to support public transit. A constant theme throughout this report is the importance of "intensive, mixed-use urban areas" to make transit viable and "encourage walking and cycling."\textsuperscript{159}

More encouraging is the final report of the Commission on Planning and Development Reform in Ontario (Sewell Report). The Sewell Report calls upon the province to adopt a clear statement of purpose and establish provincial planning guidelines for empowered municipalities to follow.\textsuperscript{160} With the evidence presented, it is likely that any provincial guideline would include support of compact land use. In fact, the Sewell Report recommends that intensification and mixed use be encouraged.\textsuperscript{161}


\textsuperscript{159} Transit-Supportive Land Use Planning Guidelines, 3. The guideline goes on to state that "bicycle riders should be provided with sheltered and secure bicycle storage facilities" at transit stations and, where feasible, bicycle routes should be designed to provide direct access to transit routes, stops and stations.


\textsuperscript{161} \textit{New Planning for Ontario}, 4, 31. In addition, the NDP government passed legislation allowing residential homes to install apartments. Bill 120 will increase the amount of affordable housing in the province but might also serve to increase density. Many municipalities oppose this legislation, however, believing it will create problems and lower the property value of residential homes.
The Transportation Association of Canada, through its Urban Transportation Council, supports this policy direction. Among its list of thirteen principles for future planning decisions are measures to reduce automobile use; plan for increased densities and mixed land use and "increase opportunities for cycling as an optional mode of travel." If these measures are adopted, higher densities would be created and many trip distances shortened, thereby reducing dependence upon the automobile and making the bicycle a more practical transportation alternative.

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163 Implementation of these planning reforms will be a difficult task. For example, Toronto's "Main Streets" housing initiative was "designed to promote intensified land use and foster lifestyles based on public transit as opposed to private cars." The intention was to redevelop low-rise shops into four and five-storey buildings but the plan was shelved because it did not accommodate automobiles and ratepayers were concerned that parking would spill into their neighbourhood. (Globe and Mail, March 25, 1993, A1.)
CONCLUSION

In this section, Ontario's auto-centred transportation system was examined. Given the complexity of this undertaking, the focus was narrowed to a general discussion of roads policy and the impact of the automobile, and a more detailed study of environmental and social costs. It was understood that without serious problems, the political will to support bicycle transportation would not emerge. There are in fact substantial costs attached to the province's reliance upon the automobile and an identified need exists to address this concern.

Formidable barriers to change include the automobile sector's economic and political clout, the substantial revenue generated from auto-related taxation and the attachment citizens hold for the automobile - all operating within a political system that has no mechanism to implement short-term pain for long-term gain without political repercussions.164 Nonetheless, Ontario must develop a sustainable transportation system.

At present, there are no explicit restrictions on automobile travel and what measures do exist, are designed solely to raise revenue. The Ontario Fair Tax Commission

164 As Public Choice theorist David Johnson states, "there is no reason to assume that individuals who apparently prefer present consumption to future consumption in the private market will necessarily prefer future consumption to present consumption when making decisions in the political market." (Johnson, Public Choice: An Introduction to the New Political Economy, 322.)
acknowledges the importance of having motorists pay for the costs of automobile travel and infrastructure. At the same time, there is an awareness of the need to balance taxation with economic competitiveness. The commission proposes a mix of policy instruments to rein in automobile use.

Of particular importance here is the recommendation to channel revenue from the Tax for Fuel Conservation to the provision of bicycle infrastructure. This financial resource would provide an excellent foundation for bicycle transportation.
CHAPTER IV

Despite widespread support for bicycle transportation, the policy model showed that Dutch bicyclists require representation to ensure their interests are included in the decision-making process. A vigilant presence is also required to safeguard accomplishments and pressure for further gains. Effective representation therefore is crucial in Ontario to pressure for legitimacy and favourable policies. In the Netherlands, the Dutch Cyclists Union is politically active, operating at both the national and local level to promote the bicycle as a transportation mode and, after successful grassroots activity, the DCU now enjoys a close working relationship with all levels of government and the private sector on relevant issues.

This chapter examines the political activity of bicycle groups in Canada. A bicycle group is defined here as any organized group which engages in political activity to promote the bicycle as a transportation mode. With this in mind, a distinction must be made between bicycle groups and bicycle clubs. The latter focus on recreational and sporting aspects of bicycling and, for the most part, are apolitical. In contrast, bicycle groups display a definite political bent, pressuring for policies that reflect the bicycle's role as a transportation mode.\(^{165}\)

\(^{165}\)A number of factors can be identified which motivate bicyclists to coalesce into a group. They will organize when
The purpose of this chapter is to identify and measure the level of bicycle group activity in Canada\textsuperscript{166} and then assess its effectiveness at advancing bicycle issues. This investigation will indicate the ability of bicycle group's to influence the policy agenda, furnishing insight into the future success of bicycle groups and, by extension, bicycle transportation.

OVERVIEW

As the popularity of bicycling took hold in the 1970's, a policy response was required to address growing bicycle use and the accompanying increase in accidents. Decision-makers - at both the provincial and municipal level - introduced policies which discouraged bicycle transportation. Instead of receptive policies designed to accommodate the growing number of bicyclists and encourage this trend, policy focussed almost exclusively on safety, and the potential conflict between automobiles and bicycles. This policy position motivated bicyclists to organize to advance their interests.

These relatively few groups were largely ineffective at first and it was not until the 1980's that bicycle groups began to have a measurable impact on the policy process. As confronted with a perceived threat to their interests or policies that appear to impede the growth of bicycling as a transportation mode. This threat usually entails safety concerns or exclusion from segments of the transportation system.

\textsuperscript{166}To ensure a thorough study of bicycle group activity, a national sampling is presented.
environmental issues pushed their way onto the policy agenda, modest funds became available at the municipal level to establish committees to advise city council on bicycle-related issues. Moreover, burgeoning environmental groups appeared, denouncing the detrimental results of automobile overuse and calling for a greater role for transportation alternatives such as public transit and the environmentally benign bicycle. Bicycle advocates benefited from this focus on bicycle use and have forged a cooperative relationship with environmental groups.

Before discussing bicycle groups in detail, a theoretical framework is required to classify these groups and their activity.
THEORETICAL FRAMEWORK

There is a connection between a group's organizational development and its ability to influence the policy process. In turn, a group's political behaviour reflects its organizational development and its political effectiveness. As this chapter seeks to not only identify but examine the behaviour and effectiveness of bicycle groups, interest group theory is applied. The work of Paul Pross will assist in defining terms. William Coleman and Grace Skogstad's Policy Communities and Public Policy in Canada is used in a general way to provide a broader context within which bicycle groups operate. Bicycle groups display different characteristics so it is appropriate to first discuss interest group types.

Pross defines interest groups as "organizations whose members act together to influence public policy in order to promote their common interest." Interest groups are classified as either issue-oriented, fledgeling, mature or institutionalized. Each type is determined according to a group's objectives, organizational features, and level of communication with government. Emphasis is placed on issue-oriented and institutionalized interest groups.\(^{167}\)

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\(^{168}\) Pross, Group Politics, 116. Fledgeling groups are just above the issue-oriented stage and mature groups are similar to institutionalized groups but lack the same level of organizational capacity and have an insufficient grasp of the relationship that exists between institutionalized groups and government.
Issue-Oriented - This type of interest group displays four primary characteristics: 1) Organizational continuity and cohesion are weak. 2) Knowledge of the workings of government and the political process is limited. 3) Membership is fluid. 4) This type of group is unable to establish a guiding principle owing to a preoccupation with achieving a particular objective, which affects their relationship with government, the public and other groups.\(^{169}\)

Institutionalized - Institutionalized groups possess an opposite set of characteristics. 1) They exhibit organizational continuity and cohesion. 2) Possess political knowledge which provides access to the appropriate government departments and allows for easy communication with these agencies. 3) Stable membership. 4) Objectives are clear and concrete. 5) An organizational "imperative" which serves as the group's foundation takes precedence over any one particular objective.\(^{170}\) Institutionalized groups, then, are well-structured and permanent.

Interest groups operate within a policy community. A policy community is a theoretical concept used to facilitate an understanding of the relationship between state and societal actors. The policy community includes all "actors or potential actors with a direct or indirect interest in a policy area" who, with varying degrees of influence, shape

\(^{169}\)Pross, *Group Politics*, 117.

policy outcomes.\textsuperscript{171} A policy community, in turn, can be divided into two sections: sub-government and attentive public.

The sub-government normally consists of the political executive, state agencies including the lead department in a policy area, and selected societal organizations, who all converge to make policy for a given sector.\textsuperscript{172} The attentive public monitors and attempts to influence policy, but does not participate in policy-making on a regular basis. Its membership is not as permanent as that of the sub-government, with interested actors attempting to influence policy from outside the decision-making circle.\textsuperscript{173}

The key structural component for societal actors is organizational development.\textsuperscript{174} Variations in organizational development determine a group's ability to influence policy outcomes. In their relations with the state, societal actors adopt either a policy advocacy or a policy participation role.

\textsuperscript{171}William D. Coleman and Grace Skogstad, \textit{Policy Communities and Public Policy in Canada: A Structural Approach}, (Copp Clark Pitman Ltd., 1990), 25. Given the confines of this paper, it is not possible to examine all actors in the policy community. The concept of a policy community is valued here as an organizational framework rather than a medium to analyze the interaction of policy actors at the sectoral level.

\textsuperscript{172}Coleman and Skogstad, \textit{Policy Communities}, 25,312.

\textsuperscript{173}Coleman and Skogstad, \textit{Policy Communities}, 26./ Pross, \textit{Group Politics}, 149.

\textsuperscript{174}Coleman and Skogstad, \textit{Policy Communities}, 15,16,313. For state actors, the key indicators are state autonomy and state capacity.
As advocates, groups attempt to influence policy outside the decision-making circle. Successful advocacy depends upon the group's ability to acquire a knowledge of the policy-making process, "generate" information about specific policies, mobilize support for policy proposals, and maintain a cohesive membership. As a policy participant, groups must possess the aforementioned traits, along with formalizing its internal structure, thereby fostering an identity as an organization.

Depending upon their level of organizational development, then, societal actors are equipped to assume different roles in a policy community, interacting with the state either as policy advocates or participants. Understandably, higher levels of organizational development increase the chances of a societal group achieving its objectives.

What issue-oriented groups lack in organizational capacity, they compensate for in flexibility. These groups can be excellent "vehicles" for creating immediate public response to a particular issue. As they are not included in the decision-making process, they are not overly concerned with damaging their relationship with government. As issue-

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175 Coleman and Skogstad, *Policy Communities*, 20.
176 Coleman and Skogstad, *Policy Communities*, 21.
177 Coleman and Skogstad, *Policy Communities*, 320.
178 Pross, *Group Politics*, 118.
oriented groups do not have access to the policy community and possess a limited knowledge of its workings, an appeal to public opinion through the media is the preferred or only option available to influence policy.

Public demonstrations are a risky political instrument for they tend to take the form of an ultimatum, making negotiation difficult. Groups which adopt this strategy, for the most part, are likely to be ignored, discredited or appeased with symbolic action.\textsuperscript{179} Having said this, issue-oriented groups might have little choice but to pursue this strategy after exhausting all other available channels to influence policy. Indeed, issue-oriented groups might not possess the resources or knowledge to influence governmental decisions by any other means.

Institutionalized groups must be aware of how best to "plug into" the policy-making system. An established position within the policy community is crucial, allowing institutionalized groups to target "access" points and foster a close relationship with other institutionalized actors in the policy community. Once established, a group obtains legitimacy as the representative of its particular interest or constituency.

The pursuit of organizational development through state

support has its drawbacks. While groups are provided with resources to participate in the policy process, they become wary of alienating the state. Groups feel constrained when their objectives are at odds with the policy direction of the state. If they go too far in challenging the state, they risk losing financial support and, consequently, their capacity to act.\textsuperscript{180} By backing off from objectives established by the membership, the group will be confronted with factionalism and eventual disintegration.

The opportunities for state-sponsored groups to initiate policy objectives appear to be limited. State sponsorship can act as a means of controlling dissent as much as an opportunity for 'disadvantaged' groups to obtain access to the democratic process.\textsuperscript{181}

\textsuperscript{180}Coleman and Skogstad, \textit{Policy Communities}, 9.

\textsuperscript{181}Coleman and Skogstad, \textit{Policy Communities}, 9.
BICYCLE POLICY COMMUNITY

The starting point for any discussion of bicycle groups is the Canadian Cycling Association (CCA) and its provincial counterpart, the Ontario Cycling Association (OCA). Both have a similar mandate, being "committed to encouraging and developing safe and pleasant cycling opportunities in Canada."¹⁸² The CCA sponsors a number of activities to encourage bicycle use. One example is the GET CYCLING challenge, supplying promotional material and prizes to encourage bicycle use during Canada's FitWeek.

These associations are primarily involved with the sporting and recreational aspect of bicycling but do possess a Recreation and Transportation branch, with a mandate to support the bicycle as a transportation mode.¹⁸³ Neither association has made much progress in this area. One explanation for this might lie with ties to the state. The OCA, for example, obtains the majority of its funding from membership and license fees but it also receives grants from the Ministry of Tourism and Recreation.¹⁸⁴ This connection with the state might restrict their capacity to lobby the government for pro-bicycle policies. Of course, another, and perhaps more relevant factor, is that the activity of these

¹⁸² Correspondence with the Canadian Cycling Association.
¹⁸³ Correspondence with the Canadian Cycling Association.
associations largely reflects the interests of its membership, precluding serious attention to transportation and advocacy issues.

While it is important to mention these associations, they presently do not conform to this paper's definition of bicycle groups. The apparatus is in place, however, in the form of the Recreation and Transportation branch to pressure for pro-bicycle policies. Until such a time, bicyclists will continue to organize on their own.

**ISSUE-ORIENTED GROUPS**

Grassroots bicycle groups are classified as issue-oriented groups. They have minimal organizational development, limited knowledge of the political process, fluid membership, and a preoccupation with the resolution of one primary issue, often at the expense of developing a set of principles upon which they can establish a more permanent structure. They also belong to the attentive public. As a result, they are limited in their options to influence policy decisions. Denied access to the consultative process enjoyed by the sub-government, they are forced to act from outside the established political system, resorting to public demonstrations designed to politicize an issue by attracting media attention, and the sympathy of the wider public.

Grassroots or issue-oriented bicycle groups can be found in most Canadian cities. A brief sketch of their activities
will reveal their tactics as members of the attentive public, while illustrating some common themes operating amongst all these groups.

In Vancouver, The Bicycle People, a group of pro-bicycle, anti-automobile activists, stage periodic demonstrations to draw attention to their cause. A popular ploy is to bicycle en masse in rush-hour traffic to protest the city's reliance upon the automobile. This activity is usually complemented with bombastic rhetoric - "Mission: To convince auto-worshipping, smog-sucking, fuel-hogging vehicle drivers to be nice to bikes."\(^{185}\) The Bicycle People have no official membership, coalescing only to stage demonstrations which attract media attention. There are indications, however, that their organizational development is becoming more institutionalized.\(^{186}\)

In Winnipeg, a protest ride was held in response to an alarming rise in automobile-bicycle collisions, which resulted in several deaths. Approximately 250 bicyclists pedalled from the provincial legislature to city hall, demanding bicycle routes be incorporated into the city's road network and an education program on road safety for both bicyclists and

\(^{185}\) *Vancouver Sun*, (May 5, 1992), A3.

\(^{186}\) This group now has a "bureaucratic front" - Better Environmentally Sound Transportation and a newsletter, *The Spoke N° Word*. 
motorists.\textsuperscript{187} This event received media coverage and the attention of two city councilors.\textsuperscript{188}

A prominent group in the Ottawa area is Citizens for Safe Cycling (CfSC). Very active locally, CfSC prepared a survey in the late 1980's which was presented to all municipal electoral candidates to assess their knowledge and attitudes towards bicycling. The results were published in community newspapers prior to the election, giving bicyclists and the general public an indication of where candidates stood on bicycle issues. Following the election, this information was used to lobby pro-bicycle candidates to create an advisory committee.\textsuperscript{189} The Ottawa Cycling Advisory Group was established soon after.

CfSC has also operated at the provincial level. This group strenuously opposed mandatory helmet legislation in Ontario, organizing petitions, write-in campaigns and testifying, along with other bicycle groups, before the Standing Committee on Resources Development. While vigilant in defending the interests of bicyclists, CfSC's lack of an institutionalized structure denies them access to decision-makers, forcing them to resort to the tactics of an issue-

\textsuperscript{187}Winnipeg Free Press, (July 30, 1992), B15.

\textsuperscript{188}Winnipeg's Works and Operations committee chairman urged the rally to challenge municipal candidates to commit money to the development of bicycle routes.

\textsuperscript{189}Daphne A. Hope, "Cycling Advisory Committees - The Ottawa-Carleton Region," in The Bicycle: Global Perspectives, 1992, 449.
oriented group.

The core elements of CfSC spearheaded the creation of a provincial bicycle advocacy group, the Ontario Coalition for Better Cycling (OCBC), with representatives throughout Ontario. The OCBC has four stated objectives: 1) promote bicycling as a healthy and environmentally friendly mode of transportation and recreation. 2) increased emphasis on accident prevention. 3) increased funding, calling for 1% of Ontario's $2.8 billion transportation budget to be allocated for bicycle purposes. 4) postponement of helmet legislation. OCBC is loosely structured and, to date, has not been successful. OCBC's position in the attentive public was confirmed when a request for an interview with the Minister of Transportation was denied.

Also from Ottawa, the grassroots group Auto-Free Ottawa recently staged a "die-in" to protest the expansion of roadways in the Ottawa area. By disrupting traffic, the group's explicit goal was to attract media attention, which they seized to call upon the provincial government to divert monies it invests in automobile infrastructure into bicycle

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191 OCBC was formed primarily to fight mandatory helmet legislation but they were also dissatisfied with the OCA's efforts on behalf of bicycle users.

192 Communication from the Ontario Coalition for Better Cycling, (June 12, 1993).
facilities.\textsuperscript{193}

Toronto is home to a number of bicycle groups. One currently active issue-oriented group is the Spirit of Spadina Coalition, a group of activists protesting to have the city include bicycle lanes in its redesign of Spadina Avenue. Along with a letter-writing campaign and petitions, this group also staged a "die-in," attracting media attention.\textsuperscript{194} There are other Toronto bicycle groups possessing varying degrees of organizational development, most notably, Transportation Options, Metro By Cycle, Bikes not Cars, Women on Wheels and Cycle Watch.

Long established in Montreal, Le Monde a Bicyclette has made considerable progress in transforming Montreal into a more "bicycle-friendly" city. Founded in 1975, Le Monde a Bicyclette uses original and innovative antics, known as "cyclodramas," to promote bicycle-related causes. Cyclodramas - Denied access to the five bridges linking Montreal with the south shore, Le Monde a Bicyclette waged a 14 year battle for a bicycle-pedestrian bridge.\textsuperscript{195} To dramatize their plight, 'Bicycle' Bob Silverman, a co-founder of the group, donned the garb of Moses, beseeching God to part

\textsuperscript{193}The Ottawa Citizen, (October 18,1992), A12.

\textsuperscript{194}Another demonstration took place last spring after a bicyclists' death. 50 bicyclists demonstrated at the accident scene, demanding bicycle lanes and improved safety conditions. (Toronto Star, (April 15,1993), A7.)

\textsuperscript{195}Montreal Gazette, (June 20,1990), A5.
the waters. Other members of the group attempted to drain the river by bucket. These antics eventually succeeded with a bridge being constructed, which now services 350,000 people annually.  

Not to have his convictions questioned, 'Bicycle Bob' spent three days in jail for participating in the late-night painting of bicycle lanes on a downtown street. This stunt, however, achieved results. Bicyclists immediately began to use the illegal lanes, exposing an unfulfilled need. The city soon after started construction of an "official," 12 kilometre, $2.5 million bicycle route.

Group members have also held "die-ins," sprawling themselves across the roadway in rush-hour traffic - a risky tactic in Montreal - covered in fake blood to protest the "auto-cracy." Le Monde a Bicyclette has also attached wooden frames to their bicycles with the dimensions of an automobile to dramatize the amount of space required by an automobile compared to a bicycle. To protest the Montreal

199 Harrowsmith, 22. Le Monde a Bicyclette also indulges in anti-automobile rhetoric. One publication is entitled Screaming Metal: The Dark History of the Automobile.
subway (Metro) policy which banned bicycles from its transit service, group members carried toboggans, baby carriages, ladders, ironing boards, and a life-sized stuffed hippopotamus aboard the Metro, drawing attention to the questionable logic of its bicycle restriction. Soon after, bicycles were allowed access during off-peak hours and weekends. 201

Le Monde a Bicyclette's innovative techniques, always with a reporter in tow, have proved quite successful. This group has influenced policy outside of the decision-making process. Of course, their efforts would not be as successful if they did not enjoy considerable support from the general public. In a city that manages to attract over 40,000 people to participate in a bicycle ride, it can be safely assumed that there is a latent demand for bicycle facilities. A need that Le Monde a Bicyclette recognizes, and taps into.

These examples are selected from across Canada and do not reflect the full extent of grassroots bicycle activity. The purpose was only to reveal the similar traits of these issue-oriented groups and their methods of influencing policy.

Denied access to the decision-making process, issue-oriented bicycle groups view public demonstrations as the most effective political weapon to draw attention to their concerns. By politicizing issues, they force decision-makers

- who prefer low-key consultation and negotiation amongst themselves - to act, be it symbolic or substantial. Issue-oriented groups must exercise caution when employing confrontational tactics. If too radical in their approach, they will alienate people, rather than garnering support from the wider public, which is essential for actors in the attentive public.

Are issue-oriented bicycle groups effective? The groups discussed have a mixed record in achieving their stated objectives, but they are all effective in raising the awareness of bicycle issues. Tangible achievements, however, hinge upon the perceived public support for these groups and their objective. For example, bicyclists in the Halifax-Dartmouth area have failed to gain access to the two bridges linking their communities,²⁰² but cities with a more established bicycle community have achieved similar objectives. If decision-makers believe that the concerns of an issue-oriented group are shared by a significant proportion of the community, they will act, when pressured. If not, these groups will likely receive no response whatsoever.

INSTITUTIONALIZED GROUPS

As bicycle use continues to rise, bicycle advisory committees (BAC) are emerging in cities across Canada.203 A BAC consists of volunteer citizens appointed by city council, along with support staff from relevant city departments, advising council and other municipal agencies on bicycle-related matters, while promoting the bicycle for both recreation and transportation.204

Bicycle advisory committees are institutionalized interest groups, claiming a position within the sub-government. They possess sufficient organizational development, with members serving on various sub-committees. In addition, most committees publish some form of newsletter, which helps shape an identity, while cultivating a constituency. BAC's also have a stable membership which is appointed for a set term. As part of the sub-government, they are viewed as the legitimate representative of the bicycle community. Moreover, as an institutionalized group they possess a clearly defined mandate, and are capable of providing information to other members of the sub-government. BAC's are in a position to foster politically valuable relationships, while developing their knowledge of the

203 6% of Ontario municipalities presently have a bicycle advisory committee. (Bicycle Policy: Review and Update, 8.)

204 The composition of a BAC varies somewhat from city to city. Some BAC's require a city councillor sit on the committee and others require representatives with specific backgrounds which are deemed useful to the work of the committee.
political system and its access points.

In contrast to the unconventional approach characteristic of issue-oriented groups, institutionalized groups adopt a formal, restrained approach. As members of the sub-government, they become accustomed to a bureaucratic approach to policy-making, often abandoning confrontation in favour of a conciliatory approach to policy-making. A more important reason for restraint is that advisory committees are funded and appointed by the state. Owing to this reliance upon the state, bicycle advisory committees must steer a careful course, ensuring they do not unduly threaten the existing arrangement in the policy community. Members must be kept in check to avoid alienating city councilors and administrators, bureaucrats in the relevant government departments, and the public at large, to whom they are ultimately accountable. Given these constraints, advisory committees must win over supporters in the sub-government, making the policy community more hospitable for bicycle policy. In short, they must work from inside.

To provide a detailed examination of a BAC and its activities, the Toronto City Cycling Committee (TCCC) is profiled.

**TORONTO CITY CYCLING COMMITTEE**

**Origin** - Established in 1975, the TCCC formed in response to the Strok Report (1974), which stated that bicycles were incompatible with automobiles and would not be a future
transportation mode. Therefore, bicycle access to arterial roads should be restricted. Spurred into action by a perceived threat, the TCCC has grown in influence in conjunction with the growing ranks of citizens using the bicycle for transportation.

Organization - The TCCC has 3 full-time staff members: 1) Bicycle Planner - The role of the Bicycle Planner is to work towards incorporating the bicycle into the transportation network, making the city more accessible and safe for bicyclists. 2) Bicycle Education and Safety Coordinator - This position organizes numerous safety programs. A popular course is CANBIKE, an on-road education course which teaches traffic law, bicycle handling skills and decision-making in complex traffic situations. 3) Commuter Cycling Programme Coordinator - The primary role is to promote the bicycle as a commuter vehicle. Along with organizing the annual Bike to Work Week campaign, the Commuter Cycling Coordinator oversees Bike User Groups: groups of employees who commute together by bicycle and lobby building managers for bicycle facilities.

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206In 1984, the TCCC succeeded in having the recommendations of the Strok Report shelved. (Wallace, "The Evolution of the TCCC," 517)

207Toronto City Cycling Committee, An Overview of Current 1991-1992 Projects. / The success of both the BTWW campaigns and the BUG's has received attention from the Netherlands who have requested information on both programs. (Toronto City Cycling Committee, Cyclometer No. 43 (April,1994), 3.)
Structure - The 17 members of the full committee are appointed by city council to represent different areas of the city. The TCCC has 2 co-chairs, with representatives from applicable city departments and city council attending meetings. In addition to the full committee there are 3 sub-committees - Bike Plan Work Group, Bicycle Commuter Program, Education and Enforcement - with over 40 members.\textsuperscript{208} The TCCC's annual budget for 1992 was $150,000. This sum, however, has fallen due to budget cuts of 10-15% in recent years.\textsuperscript{209}

Achievements - An early success was an agreement with the Public Works Department to replace the city's sewer grates with a more 'bicycle-friendly' model as roads are resurfaced or constructed.\textsuperscript{210} A 'Cycling Skills' booklet was published, and later reprinted and distributed by Ontario's Ministry of Transportation.\textsuperscript{211} Post-and-Ring bicycle stands were developed and have become quite popular, with demand exceeding supply. In 1991, this program was transferred to the Public Works Department which installs approximately 250 stands annually. The TCCC also spearheaded the 'Don't Be A Road Warrior' ad

\textsuperscript{208}Wallace, "The Evolution of the TCCC," 519. Much of the policy and program development takes place at the sub-committee level.

\textsuperscript{209}Toronto City Cycling Committee, Cyclometer No. 49. (April, 1995).

\textsuperscript{210}Wallace, "The Evolution of the TCCC," 517.

\textsuperscript{211}Wallace, "The Evolution of the TCCC," 518.
campaign, which addressed the negative image caused by irresponsible bicyclists and their disregard for traffic laws. The TCCC realized that until bicyclists became law-abiding road users, they would not be accorded legitimacy. Taking the form of a television commercial, Toronto City Council approved a $270,000 budget to produce the commercial and purchase air time.\textsuperscript{212}

In 1989, the TCCC began publication of a monthly newsletter. With a mailing list of over 5,000 and placement on an electronic bulletin board, the Cyclometer enables the TCCC to maintain a connection with the bicycle community, keeping bicyclists abreast of bicycle-related issues and concerns.\textsuperscript{213}

In addition, the TCCC enjoys regular consultation with the MTO, having access to elected officials and bureaucrats. This connection has been strengthened by the sharing of resources.\textsuperscript{214}

The TCCC, with its high level of organization and funding, is the model for bicycle advisory committees in Canada, although every BAC has the same basic structure in place. Both Ottawa and Vancouver have planners working in

\textsuperscript{212}Wallace, "The Evolution of the TCCC," 518.

\textsuperscript{213}Wallace, "The Evolution of the TCCC," 519.

\textsuperscript{214}The TCCC has given the MTO permission to reprint its 'Share the Road' pamphlet and also provided its Back to Work Week promotional poster for provincial distribution. In addition, the TCCC also met with provincial officials on a number of occasions to discuss mandatory helmet legislation, a privilege denied other bicycle groups.
conjunction with advisory committees, and Montreal, Calgary, and Edmonton have a departmental representative overseeing bicycle issues. In smaller cities, BAC's are without full-time professional support but still manage to advance bicycle-related issues.\footnote{The City of Kingston Bicycling Advisory Committee has succeeded in receiving $15,000 annually from the city's Parking Meter Reserve Fund to encourage bicycle use. In approving the request, City Council acknowledged that the Parking Fund, which should be used for all parking needs, had traditionally only met the demands of the automobile. It is believed that encouraging bicycle use through bicycle parking facilities will have benefits for the entire city.}
CONCLUSION

Aware of the importance of institutionalizing the bicycle into the decision-making process, this chapter examined bicycle groups in Canada. A theoretical framework was used which classified bicycle groups as interest groups and stressed organizational development as an indicator of effectiveness. The purpose was to measure the level of political activity and their success at influencing the policy process.

An institutionalized group is essential to ensure bicyclists are adequately represented. Situated within the sub-government, BAC's are able to establish contacts with other policy actors and instil an awareness of bicycle issues. BAC's are necessary to ensure input into the myriad plans and policies municipalities deal with on a regular basis. In addition, a permanent organizational structure is crucial for bicyclists as it imparts legitimacy. The importance of incorporating bicycle issues into the decision-making process should not be underestimated.

The success of a BAC ultimately depends on the particular city, the role of other actors in the policy community, the level of support for bicycling in the community generally, and the ability and enthusiasm of the BAC itself. The very presence of institutionalized BAC's, however, provides the necessary political apparatus to represent bicyclists' interests.
By examining both issue-oriented and institutionalized groups, it is clear that political behaviour is directly related to organizational development. Grassroots groups, defined as issue-oriented groups, have a tenuous organizational structure which relegates them to the realm of the attentive public. Forced to adopt more drastic tactics to be heard, grassroots groups attempt to politicize issues, hoping to pressure decision-makers into a response. These groups tend to focus on one issue, often at the expense of developing a broader policy agenda. While their lack of organizational development is considered a liability, the lack of constraints and their flexibility are definite assets, provided they have public support.

The behaviour of BAC's is clearly determined by their institutional status. While in a position to monitor and influence the policy process, they are also bound to certain standards of political behaviour. In addition, their dependence upon the state ensures they behave in a formal fashion. Even with these limitations, advisory committees are in a good position to tactfully influence policy.

Issue-oriented groups can complement the work of institutionalized groups. Owing to the constraints placed upon BAC's, there are few available options left if they fail to achieve their objectives through the accepted political channels. By cooperating with issue-oriented groups, who can openly criticize the government without fear of reprisal,
BAC's can achieve results that they, working alone, might fail to obtain.\textsuperscript{216}

\textsuperscript{216}A local example illustrates this point. Windsor's Riverfront Plan originally included a continuous bicycle/recreation pathway but was omitted in the final draft prepared for City Council. The Windsor Bicycling Committee (WBC) attempted to have this path reinstated into the Plan by formal means, but failed. The WBC then established a 'dummy' grassroots group - Windsor Bicycle Activists Group (WindBAG) - to demonstrate. When the Riverfront Plan was presented to City Council, roughly 20 members of this grassroots group pedalled to city hall and were in attendance for the WBC's formal presentation to council. WindBAG's activity received media coverage. In the end, City Council voted to reinstate the pathway.
CHAPTER V

The Dutch example confirmed the importance of an integrated, comprehensive bicycle policy to increase the level of bicycle use. It is insufficient to simply "accept" bicycle transportation. Without comprehensive policies, and despite a long-standing tradition of bicycle transportation, the Dutch witnessed a steady decline in bicycle use as the automobile became accessible and increasingly popular. Without an explicit and overall plan of action, any effort to promote bicycling will be ineffective.

This chapter charts the development of a bicycle policy in Ontario, culminating with the provincial government's most recent review. Using the policy model as a guide, an effort is made to determine the ability of present policy to increase the level of bicycle use.

OVERVIEW

In the 1970's, bicycle sales increased dramatically. This "bicycle boom" brought a corresponding increase in bicycle accidents and conflict with automobiles. The latter was largely a result of the fact that transportation planning and urban transportation systems are not designed to accommodate the bicycle. This safety concern motivated the provincial and municipal governments to formulate a position on bicycling.

Ontario's provincial government developed its first
bicycle policy in 1974. The impetus was safety rather than any attempt to measure the bicycle’s potential as a means of transportation. The bicycle was designated a form of recreation, with its viability as a transportation mode "severely limited" by climatic factors and low "potential usage" of bicycle facilities.\textsuperscript{217} For these reasons, bicycle facilities were not eligible for provincial funding. The ministry did agree to support safety and educational programs.

Municipalities adopted a similar approach, choosing not to explore measures to integrate the bicycle into the existing transportation system. Instead, decision-makers sought ways to contain bicycle travel. One appropriate example will clarify municipal policy during this period.

The \textbf{Bikeway System within Metropolitan Toronto} (1974) or Strok Report was commissioned to assess the viability of a bikeway system which would be constructed to provide enhanced safety, convenience and accessibility for bicycle users.\textsuperscript{218} After surveying Toronto area residents, it was found that 75% of all bicycle trips were under one mile in distance, and given the short duration of these trips, it was determined that bicyclists would not use the proposed bikeway system. The remaining 25% of trips were deemed to be of a sufficient


\textsuperscript{218}Municipality of Metropolitan Toronto, \textit{Bikeway System within Metropolitan Toronto}. W. Strok and Associates Ltd, (April, 1974), 2.
distance to warrant the project.\textsuperscript{219} It was concluded that the number of potential users - 25\% - did not justify construction of the bikeway system, given its expense.\textsuperscript{220}

The Strok Report went on to state that "the recent boom in bicycle sales has been in part responsible for an opinion shared by a considerable proportion of the public that bicycles will become a significant transportation mode." The report's authors did not agree as they did not expect the bicycle to become a significant component of the transportation system, nor would it be used as a commuter vehicle. Telephone interviews confirmed a substantial ownership of bicycles but did not confirm extensive bicycle use.\textsuperscript{221} Safety concerns and weather are major deterrents to increased bicycle use. To be practical, the report stated, a transportation mode must be operational most of the year. It was estimated that bicycle travel was feasible 169-228 days per year and therefore "impossible" for the bicycle to become a significant transportation mode.\textsuperscript{222} Regarding safety, the relative merit of allowing either joint use of roadways by automobiles and bicycles or the shared use of sidewalks by pedestrians and bicycles was weighed. The Strok Report

\textsuperscript{219}\textit{Bikeway System within Metropolitan Toronto}, 4.

\textsuperscript{220}\textit{Bikeway System within Metropolitan Toronto}, 4. The bikeway system was expected to cost $19.7 million with lighting and landscaping and $7.2 million without.

\textsuperscript{221}\textit{Bikeway System within Metropolitan Toronto}, 4, 6, 11.

\textsuperscript{222}\textit{Bikeway System within Metropolitan Toronto}, 12.
concluded that bicycles are "incompatible" with automobile travel. Consequently, the two modes should be separated to reduce injuries and fatalities. Access to arterial roads should be restricted and enabling legislation introduced by the provincial government to allow bicyclists to use the sidewalk.\textsuperscript{223}

A document of its time, the Strok Report reflected the priority attached to the free movement of automobiles. In assessing the viability of the proposed Bikeway System, its potential to alleviate safety concerns was overlooked as was the ability of infrastructure to attract new riders. The conclusion that 75% of total bicycle trips were under one mile in distance and would therefore not use the proposed Bikeway System is speculative, at best. The author's decision to define a transportation mode as a year-round vehicle ignores the bicycle's potential as a transportation alternative, one that complements established travel modes.

As the Strok Report makes clear, municipalities during this period focussed on safety. Policies were developed in response to the increasing conflict between automobiles and bicycles. In this context, the bicycle's potential as a transportation mode was not seriously studied.\textsuperscript{224} There are

\textsuperscript{223}\textit{Bikeway System within Metropolitan Toronto}, 17,73. Most municipalities now have a bylaw which imposes a fine of $53.75 for riding a bicycle on the sidewalk.

\textsuperscript{224}The City of Windsor's \textit{Bikeway Report} (1976) also borrows from the Strok Report, stating that 75% of all bicycle trips are under one mile in distance. (City of Windsor. Department of Public
striking similarities between provincial policy and the Strok Report. It is very likely that the province borrowed extensively from these findings, using the same conclusions to justify its position.

In 1977, the MTO reviewed its policy following municipal requests for changes to bicycle legislation and funding. The ministry did not alter its policy, however, citing both a lack of "public demand" and insufficient pressure from municipalities and interest groups.\textsuperscript{225} At this time, legislative responsibility for the bicycle was clarified. The main legislative responsibility for bicyclists, bicycles and bicycle facilities is held by the province but certain powers were delegated to the municipalities through the Municipal Act and the Public Transportation and Highway Improvement Act. As a result, municipalities now have primary responsibility for the planning, maintenance and construction of bicycle facilities.

Bicycle policy was again reviewed in 1981. The review was in response to a petition from the Association of Municipalities of Ontario (AMO) requesting a provincial subsidy for the implementation of bicycle facilities, and the energy concerns of the period which prompted efforts to reduce

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\item Review of the Ministry's Policy, 1977. 11-13.
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fuel consumption.\textsuperscript{226} In its report, the MTO reaffirmed its position, classifying the bicycle as a recreational vehicle. In justifying its decision, it was decided that bicycles would not receive funding as a "viable mode of urban transportation" in part because a study of existing municipal bicycle facilities showed that they did not solve "any urban transportation problems to any significant degree," and the urban transportation system has not "benefitted substantially from them."\textsuperscript{227} When all factors are weighed, the level of bicycle commuting is "virtually zero." Indeed, the "bicycle may be a net energy waster if it is allowed to conflict with automobile traffic."\textsuperscript{228} If bicycles are given part of the roadway, it is implied, congestion will increase. At the same time, the review found that 60% of urban commuters are within bicycling distance (10km) of their workplace.\textsuperscript{229} In addition, the MTO stated that bicycle use had "peaked," weather conditions make bicycle travel impractical approximately 75% of the time in Ontario, and the high energy costs of the


\textsuperscript{227}Ministry of Transportation and Communications, Bicycle Policy Review – An Update, 28, 39.

\textsuperscript{228}Ministry of Transportation and Communications, Bicycle Policy Review – An Update, 15, 28.

\textsuperscript{229}Ministry of Transportation and Communications, Bicycle Policy Review – An Update, i.
period would not motivate people to switch modes. These conclusions were based on the estimated impact of specific variables, such as weather and distance, on projected bicycle trips. There was no attempt to establish actual trip characteristics.

In 1992, the MTO released its latest and most comprehensive review of bicycle policy. In a sharp departure from its traditional position, the primary recommendation of the review was: Acceptance of the bicycle as an alternative mode of transportation.\textsuperscript{231}

**BICYCLE POLICY: REVIEW AND UPDATE**

The Liberals originally approved the policy review but with their defeat in 1990, the review awaited the approval of the newly installed NDP government. The MTO decided to review its bicycle policy owing to "environmental concerns, indications of increased usage, safety and public interest."\textsuperscript{232} The ministry was also aware that it was ten years since its last review and suspected their existing policy might no longer reflect transportation realities.\textsuperscript{233}

While there was no indication of direct political

\begin{footnotes}
\item[230]\textit{Bicycle Policy: Review and Update}, 1.
\item[231]\textit{Bicycle Policy: Review and Update}, 62.
\item[232]\textit{Bicycle Policy: Review and Update}, 1.
\item[233]Interview with David Hunt - Senior Planner in Ontario's Municipal Transportation Policy Planning Branch and Project Coordinator for the \textit{Bicycle Policy: Review and Update}. October 28, 1993.
\end{footnotes}
pressure, the ministry did receive a number of letters from private citizens requesting a review.\textsuperscript{234} Upon announcement of the government's intention, however, the MTO received a very favourable response.\textsuperscript{235}

Opposition to the review centred on financial cost. The MTO paid a consulting firm $150,000 to conduct the review and spent $34,000 to place advertisements in a number of Ontario newspapers announcing the review process.\textsuperscript{236} In the provincial legislature, both the interim Liberal leader and the Liberal transportation critic denounced the expense, arguing that there were other, less expensive, methods of measuring provincial support for the bicycle.\textsuperscript{237}

The review process was comprehensive with considerable consultation and input from the general public, relevant interest groups and other concerned agencies. Surveys were sent out to 232 Ontario municipalities and numerous public meetings were held throughout the province. The data

\textsuperscript{234}Interview with David Hunt. The ministry received 32 letters requesting a policy review.

\textsuperscript{235}Bicycle Policy: Review and Update, Insert. The ministry received 623 telephone calls and correspondence responding to the announcement of a policy review. Of these, 10 expressed disapproval with the decision.

\textsuperscript{236}Toronto Star, (April 13, 1991), A1. The consulting firm Marshall Macklin Monaghan Ltd. summarized its findings and offered its recommendations in the final report.

\textsuperscript{237}Toronto Star, (April 13, 1991), A1. At the same time, the opposition Liberals expressed no political reservations concerning the bicycle. In fact, their comments touched upon the positive attributes of bicycling.
accumulated from this process was condensed into nineteen issue papers.

Upon completion of the research and governmental review of the recommendations, the MTO announced that it would:

formally recognize the bicycle as a means of transportation and will facilitate support for cycling as a safe, environmentally friendly mode of transportation, thereby contributing to a wider choice of mobility. The focus of this policy will be on urban areas and selected tourist corridors, however consideration of cyclists' needs will be extended to all transportation activities and initiatives.\textsuperscript{339}

Rather than substantive policy measures and explicit objectives, the government selected a "Pro-active Incremental" approach which will "encourage" or "promote" bicycle use.\textsuperscript{339}

In addition to its primary recommendation - acceptance of the bicycle as an alternative mode of transportation - a number of secondary and supporting recommendations were presented.

Promotion - The provincial government will take a "leadership role," working in conjunction with municipalities, the private sector and interest groups to support and encourage bicycle use.\textsuperscript{340} A promotional poster was distributed to all municipalities with a population over 5,000 to promote Bike to Work Week. Information sheets are also available including \textbf{The Benefits of Cycling} and \textbf{Bicycle Commuting}.  

\textsuperscript{339}\textit{Ministry Directive A-1, ADM, Policy and Planning Branch.}

\textsuperscript{339}\textit{Bicycle Policy: Review and Update, 59.}

\textsuperscript{340}\textit{Bicycle Policy: Review and Update, 62.}
Integration - The revised policy was distributed throughout the MTO to ensure all departments are made aware of its provisions and integrate the bicycle into the planning process. Specifically, it is recommended that the bicycle be considered in all land use decisions and transportation-related activities.\textsuperscript{241} The revised policy also supports provincial demonstration projects and the integration of bicycles and public transit.

The MTO has arranged to allow bicycles aboard GO trains during off-peak hours and is conducting a similar review for GO buses. There is also a cost-sharing arrangement for the installation of bicycle parking facilities at several transit stations.\textsuperscript{242} In addition, the ministry is in the process of developing a provincial design guideline for bicycle planning and facilities.

Coordination - A Municipal Bicycle Directory was developed to establish contacts among bicycle representatives throughout the province, providing a means for the exchange of information.

Safety - Safety initiatives include, among others, a CBC television series on bicycling; a transit advertising campaign emphasizing the need to share the road, and the insertion of six additional references to the bicycle into the driver's

\textsuperscript{241}Interview/Bicycle Policy: Review and Update, 62.

\textsuperscript{242}Interview with David Hunt.
handbook. While safety was always a priority, the recent decision to make bicycle helmets mandatory gives this ongoing concern renewed emphasis.

Starting as a private member's bill, this legislation was initially designed to legislate helmet use for all bicycle users. The legislation was vigorously supported by the medical community as a means to reduce head injuries and the resulting cost to the health care system. There is no disputing the benefits of helmet use; however, many bicycle advocates argued that a mandatory helmet law would discourage potential bicyclists not prepared to deal with the expense or inconvenience. Critics contend that a more effective method of addressing safety concerns is through education and the provision of bicycle facilities which address the cause of bicycle accidents rather than the symptoms. At the last hour, the Conservative government passed an amended bill, with mandatory helmet use applying only to those citizens 18 years of age and under.

Funding - Bicycle facilities are now eligible for funding within all existing programs at current cost-sharing arrangements. Along with continued financial support for

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244 Several preliminary studies from Australia, where bicycle helmets are mandatory, support this argument. The studies found that while injuries were reduced so too was the number of bicycle users.
safety programs, the MTO will now fund wider curb lanes, widened or paved highway shoulders, bicycle lanes, bicycle paths, secure bicycle parking and educational/promotional material.\textsuperscript{246}

To receive funding, local governments must possess a bicycle study and have a plan in place that "demonstrates bicycle needs, network connectivity and a prioritized approach towards implementation."\textsuperscript{247} Bicycle facilities must also be located within or adjacent to transit systems and roadways.\textsuperscript{248} Previously, the annual budget for all bicycle-related activity was estimated at roughly $200,000 per year.\textsuperscript{249} The MTO has increased this amount to $3.5 million which covers all bicycle projects, including internal MTO activity.\textsuperscript{250}

\textsuperscript{245} Interview with David Hunt. There is a debate concerning how best to fund bicycle projects. Anti-automobile groups are satisfied with the new arrangements whereby bicycle funding is part of the overall financial arrangements for transportation, believing this will eventually force municipalities to reduce their road budget. There is also discussion of creating a separate account for bicycle facilities, an idea which is obviously supported by municipalities.

\textsuperscript{246} Bicycle Policy: Review and Update, 64, A9.23. The MTO calculates that a 1.5 metre paved shoulder added on to 10 kilometres of road construction would cost $488,000 or 4.9\% of the total road cost.

\textsuperscript{247} Bicycle Policy: Review and Update, 64. Interim funding is available for bicycle studies.

\textsuperscript{248} This reflects the bicycle's designation as a transportation mode. Off-road facilities will receive funds only when it is demonstrated that the majority of trips are for "utilitarian" purposes.

\textsuperscript{249} Bicycle Policy: Review and Update, 2.

\textsuperscript{250} Interview with David Hunt.
CONCLUSION

With its inception, the motivation driving Ontario's bicycle policy was safety, with no serious analysis given to the bicycle's potential as a transportation mode. Whereas provincial reviews stated that the "bicycle boom" of the 1970's had peaked; in fact, bicycling has steadily grown in popularity.

The Bicycle Policy: Review and Update is more a guiding document than an outline for action. David Hunt, the province's policy coordinator states that "this policy review process represents the first step in a long term strategy and building process which will help determine the ultimate prospects for cycling in Ontario."\textsuperscript{251} Acceptance of the bicycle as an alternative mode of transportation is a necessary first step in developing a successful bicycle policy. For whatever its shortcomings,\textsuperscript{252} Ontario's revised policy has initiated the slow process of institutionalizing the bicycle into transportation planning.

\textsuperscript{251} David Hunt, Ministry of Transportation, Revised Bicycle Policy, Paper presented for the 1993 TAC Annual Conference, (Ottawa, 1993), B44.

\textsuperscript{252} While the revised policy was generally welcomed, some were troubled by the ambiguity of the primary recommendation and the lack of clear objectives. Avery Burdett, Chairperson of the Nepean Cycling Advisory Committee, argues that "acceptance" of the bicycle "exemplifies the continuing reluctance of successive provincial governments to seize the opportunity that the bicycle presents as a solution to environmental, health and social problems caused by the continuing dependence on the private automobile." (Toronto Star, (April 30, 1993), A23.)
CHAPTER VI

SUMMARY OF FINDINGS

This thesis reviewed Ontario's bicycle policy as a component in transportation policy. The purpose was to discover the political and practical conditions necessary to increase bicycle use in urban areas. While previously classified as a recreational vehicle only, Ontario's Bicycle Policy: Review and Update (1992) recommended "acceptance" of the bicycle as an alternative means of transportation. This thesis examined why the provincial government developed a bicycle transportation policy and what conditions are required to increase bicycle use.

The bicycle is used for recreation, health and fitness and transportation. While amounting to a small percentage of overall trips, pro-bicycle initiatives at the municipal level have assisted in legitimizing the bicycle as an urban vehicle. Requests for bicycle facilities, such as bicycle lanes and bicycle parking, are now regularly considered when municipal government's undertake new development or alternations to the existing infrastructure. Bicycle Advisory Committee's have been instrumental in achieving this level of institutionalized representation within municipal sub-government. The popularity of bicycling and the emergence of bicycle interest groups played a substantial role in the provincial government's decision to develop a bicycle transportation policy.

The growing dissatisfaction with automobile use has
created a policy environment conducive to change. All levels of government acknowledge the substantial environmental and social costs caused by the reliance upon the private automobile. As automobile use continues to increase, these problems will only worsen. Air and noise pollution, traffic casualties, the burning of fossil fuels and numerous related problems confirm that the present auto-centred system is not sustainable. Cities must also contend with growing traffic congestion, parking problems and limited capacity to add infrastructure. Faced with these problems, decision-makers are aware that there are presently no practical alternatives to the automobile. Transit, for the most part, is underfunded and inadequate. There is a realization that new approaches to the provision of transportation services are required.

These factors explain why the provincial government introduced a bicycle transportation policy. However, the Bicycle Policy: Review and Update is only a foray into bicycle transportation. Its value is in its recognition of the bicycle as a transportation mode. There is no indication of how to bring about increased bicycle use. Is bicycle transportation feasible? The Netherlands was used as a policy model to discover the necessary conditions for bicycle transportation to be viable.

As the Netherlands has the highest level of bicycle transportation of any western industrialized nation, the Dutch experience offers valuable insights into the necessary
conditions to increase bicycle use. The Dutch possess favourable conditions for bicycling and a culture that regards the bicycle as a legitimate means of transport. However, the percentage of bicycle trips has steadily declined since 1960 in conjunction with rapidly increasing automobile travel. With alarming forecasts of increased levels of automobile use, the Dutch national government was forced to intervene and implement a wide-ranging policy designed to limit projected automobile growth, while adopting pro-active measures to promote public transit and the bicycle. In studying Dutch bicycle transportation policy, three key conditions were identified: 1) Decision-makers must display the political will to enact anti-automobile policies. 2) An integrated and pro-active policy must be implemented. 3) There must be an effective bicycle community capable of representing the needs of bicyclists.

In the Dutch example, the environmental and economic repercussions of increased automobile use is politically unacceptable. Therefore, the political will was present to introduce further restrictions. There must be a serious concern with existing transportation arrangements before government's will muster the necessary will to introduce a redirection in policy.

Several measures are in place to restrict or inconvenience motorists. In several cities, automobiles are not allowed access into designated areas, and ring roads are used to
inconvenience motorists. User fees are to be implemented to recoup some of the costs of driving while further inconveniencing motorists. Taxation also is used as a coercive policy instrument. Gasoline and sales tax are set artificially high, increasing the expense of automobile ownership and use.

To replace automobile trips, viable alternatives must be available. Public transit and bicycles require the same conditions to be viable. These modes benefit from reasonably short distances between trip destinations brought about by an urban form marked by high densities and mixed-use zoning. In congested areas, preferential access and transportation corridors reserved exclusively for their use during peak travel times are important. The Dutch government has complemented its transportation policies with planning reforms and has established "short cuts," direct routes and preferred access for bicycle users.

Turning to Ontario, there is no evidence that the necessary political will exists to institute change. While the environmental and social costs are not as extensive as the problems faced in the Netherlands, Ontario is much more reliant on the automobile and automobile use continues to increase. Congestion, air and noise pollution and parking problems are a daily occurrence in many cities. Policy remains myopic. When problems emerge, the issue is generally resolved by providing more parking or widening a roadway. The provincial government, however, must contend with a number of
political variables resistant to change.

The automotive industry has a strong base in Ontario and the economic and political resources to lobby government. In current negotiations with the federal government, they are in a good position to obtain voluntary self-regulation of the industry. At the provincial level, a tax measure for fuel-inefficient vehicles was diluted and a compromise reached after intervention by the automobile lobby. While this is part of the democratic process, it is clear that Dutch-style reforms will face strong opposition.

The provincial government has limited credibility in this area. Auto-generated tax revenue from the former tire tax and gas guzzler tax was placed in the general revenue fund rather than being used to improve the transportation system. As well, citizens value automobile ownership. At present, neither politicians nor the public is likely to support long-term measures at the expense of short-term satisfaction. As the Public Choice model stressed, decision-makers pursue policies designed to garner public approval and citizens support policies that satisfy self-interest. Automobile travel is subsidized. Motorists do not pay the full costs of automobile use. In addition, there are often no practical transportation alternatives. In economic terms, then, it is only rational for citizens to favour the automobile. Still, as smog warnings become routine during the summer months and traffic congestion worsens, public demands for change may
stiffen the resolve of decision-makers.

With the present provincial government's singular focus on deficit reduction, user fees will likely be introduced. In this area, the Conservatives appear to have the necessary resolve. Any revenue, however, would likely go towards the provincial debt. If the recommendations of Ontario's Fair Tax Commission were adopted, revenue generated through user fees would be earmarked for "green" initiatives, including bicycle infrastructure.

Transfer payments to municipalities are being reduced. This will continue the erosion of public transit. As municipal governments scramble to maintain services without increasing property taxes, pressure will mount to cut the subsidy to transit which is already contending with declining ridership and revenue. Moreover, the next three years will bring a steady cut to transit funding. These initiatives will increase automobile use while further reducing the level of service provided by public transit.

In addition, the former NDP government's short-lived Planning Act is set to be shelved. One component of the Act, embodied in the Sewell Report, was a provincial standard limiting urban sprawl. This would have fostered higher density development and mixed-use zoning. By dismantling the Planning Act, the Conservative government hopes to encourage

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development and reduce provincial authority over the planning process.\textsuperscript{254} Single-use zoning and random urbanization will continue unchecked and trip distances will remain an obstacle for transportation alternatives.

At present, the provincial government does not have the political will to introduce measures to curtail automobile use. Any such action would face strong opposition. Since contemporary public policy is dominated by the bottom-line, decision-makers will grow wary of expensive cost outlays for automobile infrastructure. At this time, the provincial government might implement user fees to recoup the unpaid costs of automobile use, and take a closer look at direct and hidden subsidies.

The second condition necessary for increased bicycle use is a pro-active policy. Research has shown that integrated and pro-active policies can play an important role in the selection of mode choice. Policy can promote bicycling and can diminish the impact of barriers to bicycle use. Explicit objectives must be articulated. Token statements of encouragement are insufficient. Policy must provide for facilities such as bicycle lanes and parking, and introduce incentives such as preferred access and direct routes. Moreover, bicycle policy must be integrated into overall policies.

\textsuperscript{254}\textit{Globe and Mail}, (September 26,1995), A12.
Traditionally, policy reviews were motivated by safety concerns. Consequently, the potential for bicycle transportation was never rigorously studied, only methods to reduce conflict between automobiles and bicycles. These policy reviews were correct in estimates of existing bicycle use but ignored the potential for policy to create demand. The *Bicycle Policy: Review and Update* is important in that it confirms a new direction for bicycle policy but it is missing the stated objectives found in the Dutch *Bicycle Master Plan*. Ontario's bicycle transportation policy simply catches up with transportation realities. In contrast to the policy model, Ontario's present policy is rather modest and lacks the required measures to stimulate bicycle use.

The revised policy presents a positive treatment of the bicycle and acknowledges its utility as an urban vehicle. Yet, the decision to adopt an incremental approach belies any claim to pro-active policy making. The document contains vague wording like "accept," "consider" and "encourage." This reluctance can, in part, be explained by the absence of any practical experience with bicycle transportation. Nevertheless, this approach stands in stark contrast to the Dutch *Bicycle Master Plan* with its explicit strategy and concrete objectives to support and stimulate bicycle use.

The MTO states that it will be responsive to public demand. As Dutch experience reveals, the emphasis must be on creating demand, not simply responding to demands of existing
bicyclists. In a country where the bicycle is widely accepted as a legitimate transportation mode, the Dutch continue to actively promote the benefits of bicycle travel. It is imperative that Ontario promote the benefits of bicycling if they expect to realize increased bicycle travel.

More attention should be given to the inter-modal link between bicycles and public transit. As prohibitive distances are a deterrent to both, bicycles and public transportation can make a formidable combination. Bicycle-transit integration can increase the travel range of bicyclists and help overcome physical obstacles such as highways, bridges and tunnels. Again, the Netherlands' supports this connection by developing direct bicycle routes to transit stations, preferred access and ample secure bicycle storage. While bicycles are now allowed aboard GO trains, they are not allowed during "rush hour" when many bicycle trips take place. There is also a severe shortage of secure parking, with many reluctant to leave their bicycles for any length of time. Several American cities have developed successful bicycle-bus programs which provide storage space for bicycles. These programs have proved effective and increased transit ridership.

The MTO also stressed that implementation is dependent upon available resources. While all policy activity is constrained by the fiscal realities which preoccupy contemporary politics, the question is one of priorities.
When compared with the financial, environmental and social costs of automobile travel, the bicycle is an inexpensive and feasible alternative. Bicycle funding, while an improvement over the previous sum, is only one-tenth of 1% of Ontario's total transportation budget.255

The final condition for increased bicycle use is effective interest group representation. In the Netherlands, bicycle groups have developed an expertise and enjoy access to the decision-making process, interacting with all levels of government. In addition, they are vigilant in safeguarding existing accomplishments and pressure for improvements.

A theoretical framework was used to assess the ability of bicycle groups to influence policy. Interest group analysis showed that organizational development determined a group's capacity to influence policy outcomes. Canadian cities possess both Issue-Oriented and Institutionalized groups. Issue-Oriented or grassroots groups have a fluid membership, limited organizational development and generally coalesce to fight against one particular issue. Denied access to the decision-making process, their primary tactic is to politicize an issue, vying for media attention. The success rate of grassroots groups is varied, often depending upon the level of support received from the general public. Institutionalized groups or Bicycle Advisory Committees are composed of volunteer citizens and have a solid organizational

development. The municipal government provides funding and support staff. Institutionalization is essential to instil awareness of bicycle issues within the policy community and provides the necessary political apparatus for legitimacy.

In Canada, bicycle groups do not occupy an established position. While there is concrete evidence that bicycle groups are becoming institutionalized, the low priority given bicycle transportation ensures an ongoing role for grassroots bicycle groups. The high level of issue-oriented activity indicates that bicycle issues are not an accepted component of the decision-making process. Demonstrations, "die-ins," mass rides and petitions are evidence that bicyclists' demands are not being adequately addressed. On the other hand, the emergence of BAC's indicates that bicycle transportation is beginning the slow process of institutionalization.

While few BAC's rival the organizational development of the Toronto City Cycling Committee, the significance of BAC's should not be overlooked. The very fact that BAC's are being developed reveals a willingness to support such committees by both decision-makers and citizens. BAC's are a minor actor in the sub-government but the structure is in place for them to fulfil many of the requirements for institutionalization. With the bicycle's acceptance as a transportation mode, BAC's are in an excellent position to promote the bicycle's utility and assist decision-makers in the uncertain process of incorporating the bicycle into the transportation system.
This thesis had several objectives. The first was to understand why Ontario's provincial government formulated a bicycle transportation policy and whether such a policy was warranted. The second was to determine if bicycle transportation was feasible by uncovering the necessary conditions for increased bicycle use.

As was shown, the primary factors responsible for the bicycle transportation policy are the growing interest in bicycle transportation at the municipal level and an awareness that efforts must be taken to reduce dependence upon the automobile. The extent of automobile problems justifies a bicycle transportation policy. Clearly, Ontario's auto-centred transportation system is not sustainable.

While alternative fuels, "smart cars" and other technological advancements will alleviate some of these problems, the magnitude of environmental and social costs demands a reassessment of transportation priorities. There is no technological fix. What is required is a sustainable transportation system. As Michael Replogle, an American transportation planner, states:

...just as an ecological system is healthiest when it displays great diversity and differentiation, so too is a transportation system most healthy and robust when diverse modal options are available to those moving people and goods. A transportation system dependent on only one or two modes of transport is far more susceptible to disruption and system failure.256

There is a need for practical transportation alternatives. Given the impact of the automobile on our urban centres, it is uncertain whether widespread bicycle use is feasible. As North America has no practical experience with bicycle transportation, the Netherlands was studied to discover the necessary conditions for increased bicycle use.

The three key variables are: 1) There must be serious concerns with automobile use and the political will to address these concerns. 2) An integrated and pro-active bicycle policy. 3) Effective interest group representation. Policy alone is insufficient. If decision-makers do not display the political will and bicycle users are not politically active, bicycle transportation will not evolve. Ontario has cleared the first hurdle by recognizing the bicycle as a transportation mode. As well, bicycle groups are in place to pressure for further changes. The bicycle can be a valuable component of a multi-modal transportation system. Unlike the Netherlands, however, Ontario has not yet agreed that the existing transportation arrangements are politically unacceptable. With the continued dominance of roads policy and the unfettered support for the automobile, public opinion will eventually compel the government to reassess transportation priorities. It is uncertain at what cost.
<table>
<thead>
<tr>
<th><strong>APPENDIX 1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carbon Dioxide (CO2)</strong></td>
</tr>
<tr>
<td>CO₂ is the single most important contributor to global warming. The amount of CO₂ emitted is directly proportional to the amount of carbon in the fuel itself, and the amount which is subsequently burned. There is no existing 'end-of-pipe' technology that can reduce CO₂ emissions. The only remedy is a reduction in automobile use. CO₂ emissions have decreased on a per-vehicle basis as fuel-efficiency improves, yet between 1987–90, total CO₂ emissions increased, rising from 48 million(M) to 49.4M tonnes. This level accounted for 11% of total CO₂ emissions in Canada in 1990. In Metro Toronto, auto fuel contributes 10M tonnes of CO₂ to the atmosphere annually and this is projected to increase by 25% over the next 15 years.</td>
</tr>
<tr>
<td><strong>Carbon Monoxide (CO)</strong></td>
</tr>
<tr>
<td>Produced as a result of incomplete combustion, CO is an air pollutant by itself and contributes to smog and methane build-up in the atmosphere. CO from transportation sources account for 65.6% of total CO emissions in Ontario. In health terms, CO reduces the ability of the blood to carry oxygen.</td>
</tr>
<tr>
<td><strong>Chlorofluoro-carbons (CFC's)</strong></td>
</tr>
<tr>
<td>CFC's are the most potent greenhouse gas and also play a major role in the destruction of the upper ozone layer. CFC 12 is found in auto air conditioners and is released into the atmosphere over an automobile's lifetime. In 1991, motor vehicle's accounted for 23% of Canada's total CFC consumption.</td>
</tr>
<tr>
<td><strong>Methane (CH₄)</strong></td>
</tr>
<tr>
<td>Although automobiles emit very small amounts of CH₄, heat is trapped 25 times more effectively than CO₂.</td>
</tr>
<tr>
<td><strong>Nitrous Oxide (N₂O)</strong></td>
</tr>
<tr>
<td>While automobile's are a relatively minor contributor of N₂O emissions, this gas is 250X more efficient then CO₂ at trapping the earth's heat.</td>
</tr>
</tbody>
</table>
### Ozone (O3)
O3 is formed by a complex chemical reaction between NOx and volatile organic compounds (VOC's) in the presence of sunlight. O3 is an extremely powerful greenhouse gas, approximately 2,000X more effective than CO2 in retaining the earth's heat. In addition, O3 is responsible for 90% of photochemical smog, making it the most serious of the urban air pollutants. While the maximum acceptable air quality objective for ozone is 82 parts per billion over a 1-hour period, ozone levels often reach 110-160ppb in the summer months between Windsor and Toronto, with maximum levels approaching 190ppb. Exposure to O3 is associated with changes in lung function, decreased immune function, and possibly the development of chronic lung disease.

### VOC's
Volatile organic compounds are unburned or partially burned fuel from an auto's exhaust. Some VOC's, like benzene, are carcinogenic. VOC's primarily cause environmental damage by reacting with NOx to form ozone.

### Nitrogen Oxides (NOx)
NOx is composed of nitrogen dioxide and nitric oxide. NOx is an important contributor to air pollution, a chemical precursor to ozone, and also has a role in the formation of acid rain. NOx emissions from transportation sources account for 43.6% of total emissions in Ontario. NOx is a lung irritant at high concentrations and can affect the immune system, especially that of children and the elderly.


Environment Canada, Environmental Implications of the Automobile. State of the Environment Fact Sheet No. 93-1.


## APPENDIX 2

**ESTIMATED SOCIAL COSTS OF THE AUTOMOBILE**

<table>
<thead>
<tr>
<th>Source</th>
<th>$Billion/Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>An Assessment of Municipal Costs of Automobile Use, (1985)</td>
<td>60</td>
</tr>
<tr>
<td>[The author states that conservative estimates were used for all categories and the study excluded highway crashes, congestion and greenhouse costs.]</td>
<td></td>
</tr>
<tr>
<td>This study is also cited by:</td>
<td></td>
</tr>
<tr>
<td>Worldwatch.</td>
<td></td>
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<tr>
<td>California Department of Transportation.</td>
<td></td>
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<tr>
<td>Sierra Club.</td>
<td></td>
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<tr>
<td>U.S. National Bicycling/Walking Study.</td>
<td></td>
</tr>
<tr>
<td>Making Transportation A National Priority, (1991)</td>
<td>860</td>
</tr>
<tr>
<td>[The most inclusive estimate, including greenhouse costs.]</td>
<td></td>
</tr>
</tbody>
</table>


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