Agenda Item # Page #

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/B. Turcotte

TO:	**CHAIR AND MEMBERS – ENVIRONMENT AND TRANSPORTATION COMMITTEE**
FROM:	**R. PANZER** **GENERAL MANAGER OF PLANNING AND DEVELOPMENT** **And** **P. STEBLIN** **GENERAL MANAGER OF ENVIRONMENTAL SERVICES AND CITY ENGINEER**
SUBJECT:	**BICYCLE MASTER PLAN** **"A BICYCLE INFRASTRUCTURE GUIDELINE FOR LONDON"** **Meeting on March 21st, 2005,**

RECOMMENDATION

That, on the recommendation of the General Manager of Planning and Development and the General Manager and City Engineer, the following report proposing amendments to the Official Plan, Z.-1 Zoning By-law and Site Plan Control By-law to implement the Bicycle Master Plan, bicycle parking requirements, and site plan design standards **BE CIRCULATED** to the Bicycle Advisory Committee, the Transportation Advisory Committee, the London Development Institute, the Urban League and other interested members of the public for review and comment; it being noted that following such circulation, a joint public participation meeting to review the Bicycle Master Plan Guideline Document and associated amendments to the City's Official Plan, Z.-1 Zoning By-law, and Site Plan Control By-law will be scheduled with the Planning and the Environment and Transportation Committees.

RATIONALE

1. The proposed Official Plan Amendment to adopt the Bicycle Master Plan as a Guideline Document is consistent with Section 19.2.2. of the Official Plan which states that Council may adopt guideline documents to provide for detailed direction for the implementation of Official Plan policies;

2. The proposed guideline document is consistent with Section 18.2.13.i) of the Official Plan which states that Council shall prepare and implement a bicycle master plan for the development of a bicycle route system addressing such matters as location, design, signage, priority linkages or extensions, education and encouragement;

3. The proposed guideline document is consistent with Section 18.2.13.ii) of the Official Plan which states that consideration shall be given to the provision of bicycle routes in the preparation and review of development applications where such facilities will contribute to the development of linkages or extensions to existing routes;

4. The proposed guideline document is consistent with Section 18.2.13. iii) of the Official Plan which calls for development of a properly designed and maintained, safe and convenient on and off-road bicycle network that integrates bicycles with the road system and does not adversely impact significant environmental features or functions in river valleys and parklands;

5. The proposed amendment to the Z.-1 Zoning By-law is consistent with Sections 18.2.12.vii) and 18.2.13.v) and vi) of the Official Plan which state that bicycle parking standards shall be prepared and implemented to ensure that the parking needs of cyclists are met; and,

6. The amendment to the Site Plan Control By-law is proposed in conjunction with the associated Z.-1 Zoning Amendments to introduce regulations requiring the provision of bicycle parking facilities.

/B. Turcotte

EXECUTIVE SUMMARY

The Issue:

- *The **Transportation policies of the Official Plan underscore Council's commitment** to the development of a balanced, safe and efficient transportation system that integrates all modes of travel and minimizes the conflicts among these modes.*

- *To promote increased bicycling, and with a mind to achieving the modal split targets of the 2004 Transportation Master Plan, Section 18.2.13 of the Official Plan states that **Council shall prepare and implement a master plan for the development of a bicycle route system** which would address such matters as location, priority linkages and extensions, and signage.*

- *The Official Plan anticipates that portions of this system will be located within the open space network such that the safety and enjoyment of its users will be enhanced. The Official Plan also contemplates an on-road component to the network providing linkages to major activity centres and employment nodes.*

- *The planning and development of the City's on and off-road bicycle system currently rests with the Transportation Division of the Environmental Services Department and the Parks Planning and Design Section of the Planning Department.*

- *The Transportation Division is responsible for the development of bicycle facilities within the transportation corridor right-of-ways. Facility development is currently based on an infrastructure schedule that was developed by the Transportation Division in the late 1980's. While having no official status (the schedule was never formally adopted by Council), the schedule depicts both "existing" and "proposed" on-road facilities and is given consideration in the review of City initiated capital road projects.*

- *The Parks Planning and Design Section has prepared a similar schedule depicting "existing" and "proposed" off-road bicycle facilities within the City's river valley and open space network. While having no official status, the schedule is referenced in the review of area plans and plans of subdivision with a mind to facilitating the development of additional linkages and connections to the existing City-wide off-road multi-use pathway system.*

- *While both the on and off-road components of the bicycle system are essential to the development of a functional network**, the lack thus far of a Council endorsed, long term planning approach to facility development has led, in certain instances, to poor coordination** in the efforts of various City Departments and examples of facilities that are neither connected nor utilized**. Lacking a long-term vision, the exercise of securing lands for the extension of existing routes has also been onerous and subject to criticism**.*

- ***The adoption of a Bicycle Master Plan will serve to coordinate and focus the efforts and resources of the Planning and the Environmental Services Departments in the development and realization of a comprehensive long-term bicycle vision.***

The Proposed Bicycle Master Plan:

- ***Working with the City's Bicycle Advisory Committee, staff from the Planning, Environmental Programs, and the Transportation Divisions have completed a draft Master Plan for the future development of bicycle infrastructure in the City of London.***

- *In respect to a long-term vision for cycling, **the Master Plan calls for the development of an on and off-road** system that: promotes and encourages cycling; is visible, safe and convenient; provides linkages and connections to activity nodes and employment centres; facilitates effective commuting opportunities by recognizing the unique operational and design needs of the user; and, provides for enjoyable experiences for*

the recreational rider.

- *Noting the financial implications to the municipality of the current policy regime (which calls for the provision of bicycle facilities in all construction projects involving arterial and primary collector roads), and the fact that strict adherence to this practice has failed to encourage or promote increased levels of cycling,* ***the Master Plan advances a series of first principles and route selection criteria*** *to provide a new qualitative framework for evaluating routes and determining the most appropriate type of bicycle facility. The first principles have been used to rationalize the existing policy regime and strategically guide facility design with a mind to maximizing safety, connectivity and utilization.*

- ***The Bicycle Master Plan advances several key actions steps to form the basis of future municipal efforts to realize the stated cycling vision including****: the adoption of the Master Plan and associated facility supportive standards; the adoption of a modified "tool kit" for facility development that would include delineated on-road bicycle lanes, shared and signed on-road bicycle routes, and multi-use pathways; the development of a distinct and hierarchal commuter and recreational network; the development of educational and promotional programming; the development of facility supportive amenities; and, long and short-term implementation strategies to promote and encourage cycling.*

- ***The adoption of the Bicycle Master Plan as a Guideline Document to the City's Official Plan is the most important priority to realize the stated cycling vision****. In the absence of a Council endorsed network strategy, opportunities to realize the stated cycling vision will be lost.*

- *London's existing bicycle infrastructure consists of in-boulevard pathways, signed on-road routes, and the Thames Valley Parkway multi-use pathway system. While endorsing the continued development of multi-use pathways and shared on-road facilities****, the Master Plan recommends that the current City practice of constructing in-boulevard bicycle paths along primary and arterial roadways be replaced with delineated on-road bicycle lanes along specifically identified roadways****. This recommendation is made in light of the Master Plan's stated vision, the operational and risk management issues associated with in-boulevard facilities, and prevailing trends and attitudes in Canada towards the provision of on-road facilities.*

- *London's existing bicycle infrastructure does not differentiate between the distinct operational and design needs of the commuter and recreational cyclist. In attempting to be all things to all people, the existing system has fallen short of promoting and encouraging cycling as an alternative mode of transportation****. London's new bicycle network therefore will consist of two distinct and readily identifiable systems – a commuter route system and a recreational route system.***

- *Functioning as a high speed, destination oriented facility****; the Commuter Network will cater to cyclists with a high level of experience and skill. The Recreational Network, on the other hand, will serve to provide inter and intra neighbourhood connections to a variety of recreational amenities including the Thames Valley Parkway, neighbourhood and district parks, natural areas and community facilities for cyclists with a low to moderate level of skill and experience.***

- ***A Primary Commuter Network will function as the spine of London's commuting network*** *providing direct connections on high order roads between major origins and destinations across the City****. The Commuter Network is intended to ultimately be composed of delineated on-road bicycle lanes within a widened curb lane. However, given existing infrastructure and funding realities, it is recognized that this is a long-term goal. In the interim, the Commuter Network may include signed on-road routes or in-boulevard pathways until a delineated on-road bicycle lane can be developed to serve the same connectivity function.*** *This will occur as roads are rebuilt and/or widened.*

- ***A Secondary Commuter Network is also proposed****. The Secondary Commuter Network will serve the purpose of directing and linking neighbourhood connections to the larger Primary Commuter Network. In this regard, the Secondary Commuter Network is*

intended to be composed of signed on-road routes.

- ***The Primary Recreational Network is intended to ultimately be composed of an off-road, continuous multi-use pathway system contiguous with Thames Valley Corridor.*** *At the present time however there are several "gaps" in the existing system. In the interim, the Primary Recreational Network may be required to make use of signed on-road routes where no public parkland route is presently available or feasible.*

- ***A Secondary Recreational Network is also proposed****. The Secondary Recreational Network will serve the purpose of providing connections to the Thames Valley Parkway and more local, neighbourhood level amenities. The Network will consist of a series of signed on-road routes that are primarily located along lower order thoroughfares.*

- *Consistent standards shall be used in the design of both the commuter and recreational networks with a mind* ***to promote the system and enhance the safety of the user****. The Master Plan advances a series of facility design guidelines that are based on accepted standards and best practices advocated by a number of professional associations and governmental agencies. The Plan notes that these standards may not be immediately implemented given existing infrastructure, physical constraints and funding realities.*

- *The Bicycle Master Plan primarily focuses on a strategic approach to facility development. Infrastructure alone however is not sufficient to promote and encourage safe and viable cycling in London. Acknowledging this,* ***the Master Plan identifies the key role City staff and other community partners are to play in developing promotional and educational initiatives (including the SHIFT Program) in support of the Plan's short-term implementation.***

- *The Bicycle Master Plan advances a blueprint for the long-term development of a commuting and recreational cycling network.* ***In the short term, implementation strategies are proposed to direct the development of as much bicycle infrastructure as physically and financially possible.*** *The goal with the short term strategies is to promote cycling opportunities early in the planning period by maximizing routes, linkages and connections* ***including signage, stripping and temporary routes.***

- *The Draft Bicycle Master Plan was endorsed by the Bicycle Advisory Committee on December 12th, 2003. Considerable work has been completed since that time to address issues raised by internal administration. The Plan should now be circulated for broader review and public comment.*

Bicycle Parking Requirements and Site Plan Design Standards:

- *Every cycling trip has two basic components: the route used by the cyclist and the end-of-trip facilities available at the destination.* ***When the end-of-trip facilities do not meet the needs of the user, the user will seek other means of transportation.***

- *Section 18.2.13 of the Official Plan states that* ***Council shall require, as a condition of approval of development or redevelopment, the provision of adequate, sheltered and secure parking facilities.***

- *At its meeting held* ***on December 8th, 2003, the Planning Committee received a communication from the Transportation Plan Implementation Committee requesting the Planning Committee to further investigate bicycle parking as it relates to the Z.-1 Zoning By-law.*** *The Planning Committee referred the communication to the Acting General Manager of Planning and Development for inclusion in the City's new Bicycle Master Plan.*

- ***Parking requirements and site plan control standards have been prepared in response the Committee's request and should be circulated for public review and comment.*** *These parking standards:*

    1. *specify a threshold number of vehicular parking spaces after which the provisions requiring bicycle parking would be mandated in a development scenario;*

2. *include specific exemptions for certain land uses that would not typically attract the cyclist; and,*

3. *establish a separate bicycle parking rate for residential and non-residential development.*

REPORT FORMAT

For reasons of clarity, the following report has been broken down into two specific components. Part 1 of this report will provide a brief overview and analysis of the issues associated with the adoption of the proposed Bicycle Master Plan. Part 2 will serve to introduce a series of proposed bicycle parking standards for possible inclusion in the City's Z.-1 Zoning By-law and Site Plan Control By-law. The report will conclude with a series of recommended next steps.

The proposed Bicycle Master Plan and implementing Official Plan amendment have been included as Appendix 1 and 1a) to this report. The proposed Z.-1 Zoning By-law amendment and Site Plan Control By-law amendments have been attached as Appendix 2 and 2a).

PART 1 – MASTER PLAN ISSUES AND ANALYSIS

What is London's long-term Cycling Vision?

Unlike many municipalities in Ontario, the City of London has made a significant investment in the development of facilities for both the commuter and recreational cyclist. The Thames Valley Parkway, for example, provides cross-city recreational opportunities for cyclists. In-boulevard pathways (i.e. Wonderland Road North) have also been developed under the auspices of a Council policy requiring the provision of bicycle facilities in all construction projects involving primary collector and arterial roads.

Notwithstanding these efforts, surveys conducted in 1993 as part of the Transportation Plan Review concluded that "…greater cycling activity in London has been hampered primarily by issues pertaining to safety and convenience." Respondents of the day noted the bicycle/auto interface, road maintenance, and the construction of incomplete routes as the primary reasons for their hesitancy to consider the bicycle as a viable transportation mode.

Results from the 2003 public attitude survey for the Transportation Master Plan would appear to echo those concerns previously expressed in the 1993 survey, with 30% of respondents indicating that they would cycle to work if the City provided more separated bicycle lanes and better route connections. A similar percentage of respondents indicated that they would shift to cycling if their employer provided end-of-trip amenities such as bicycle racks and showers.

To promote and encourage the bicycle as a viable transportation alternative, the Master Plan has specifically focused on issues of safety, convenience and connectivity in the development of a comprehensive on and off-road network vision (see Appendix 1, Section 3).

What are the benefits in adopting a series of First Principles?

First principles to guide the implementation of the Master Plan are absolutely necessary. First principles provide the qualitative framework for evaluating routes and determining the most appropriate facility type. Lacking a set of defined first principles, the development of London's bicycle network has defaulted in the past to the broad policy framework of the Official Plan that, in practice, has served neither the cyclist nor the municipality.

Current Official Plan policy, Policy 18.2.13.iii)(a) for example, requires the provision of bicycle related infrastructure in all construction projects involving primary collector and arterial roadways. Strict adherence to this policy has failed, however, to encourage or promote increased levels of cycling – not every arterial, given operating speeds, bus routes, available land, and surrounding land uses, may be appropriate for a bicycle facility. Lacking a "qualitative filter", the merits of the current policy regime is further questionable given the financial

implications to the municipality. The proposed Master Plan addresses both the utilization and costing issues identified above. The Plan serves to advance a series of first principles (see Appendix 1, Section 4) and route selection criteria (see Appendix 1, Section 5) that shall be used to rationalize the existing network (i.e. every arterial and collector roadway) and strategically guide facility design with a mind to maximizing safety, connectivity, and utilization.

What is the defined Cycling Strategy?

The Bicycle Master Plan has focused on seven key action steps to form the basis for future municipal efforts to realize the stated cycling vision. These strategies (further detailed in Sections 5, 6, 7 and 8 of Appendix 1 – The Bicycle Master Plan) would include:

1. The adoption of the Master Plan and associated facility supportive standards:

The most important priority is the implementation of the Plan. In the absence of a comprehensive Council endorsed network strategy, opportunities to realize the stated cycling vision will be lost. The Master Plan should be adopted as a Guideline Document to the Official Plan and serve to provide for the detailed implementation of Official Plan policy. Amendments to the City's Z.-1 Zoning By-law and Site Plan Control By-law would also be required to address the development of facility supportive amenities.

2. The adoption of a modified "tool kit" for facility development:

The City of London has historically provided for bicycle travel through the development of a series of on and off-road facilities. While endorsing the continued development of multi-use and shared on-road signed facilities, the Master Plan recommends that the current City practice of constructing in-boulevard paths along all primary collector and arterial roads be replaced with on-road bicycle lanes along specifically identified arterials. This recommendation is advanced in light of the Master Plan's stated vision, the operational and risk management issues associated with in-boulevard facilities (as reported by the Ministry of Transportation, the Transportation Association of Canada, the American Association of State Highway and Transportation Officials, the Canadian Institute of Planners, the American Planning Association, et. al.) and the prevailing trends and attitudes in Canada towards the provision of on-road facilities. The recommended switch to a new design standard will occur over time as discussed in Section 8 (Implementation) of the Plan.

London's recommended long-term bicycle network will therefore consist of three types of facilities including: signed on-road bicycle lanes; signed on-road bicycle routes; and, multi-use pathways. Bicycle facility standards are advanced in Section 6 of the Master Plan and may be summarized as follows:

Table 1 – Bicycle Facility Standards

Facility Type	Facility Definition	Design Characteristics	Facility Designation & Intended User
On-Road Bicycle Lane	A portion of the roadway within the right-hand lane that has been designated for the preferential or exclusive use of bicyclists.	• High traffic roads • 1.5 metres bike lane • signage • lane striping • intersection treatments	• Primary Commuter Network • commuters with a moderate to high level of skill and expertise
Shared/signed On-Road Bicycle Route	A shared on road facility that has been identified by signs only.	• Low traffic roads • 4.3 metre curb lane • signage	• Primary Commuter Network • Secondary Commuter Network • Primary Recreational Network • Secondary Recreational Network • Cyclists with a low to high level of skill and expertise
Multi-Use Pathways (Thames Valley Parkway)	A separate and distinct multi-use facility designed for a variety of users	• Separate paved pathway • No automobiles allowed • 3 to 6 metres in width • signed • centre line path striping	• Primary Recreational Network • Cyclists with a low to high level of skill and expertise

The implementation of standards in a consistent fashion serves not only to promote the system but enhance the safety of the user. While the generalized standards recommended by way of

the Bicycle Master Plan are based on best practices advocated by a number of professional associations, it is recommended that the City develop a specific design guideline to assist in the implementation of on-road bicycle lanes. The design guideline would have specific consideration for established engineering practices (particularly intersection treatments) to minimize any liability risk to the municipality.

3. The development of a distinct commuter and recreational network:

A successful bicycle facility should provide for a comfortable environment for the anticipated user (and level of vehicular road traffic). It is important therefore to identify the target group for whom the facility is being designed. From a planning perspective, cyclists can generally be grouped according to cycling purpose, age and skill level. Presently, London's bicycle infrastructure does not differentiate between the nature of the trip nor the experience level of the cyclist. In attempting to be all things to all people, the network has come under criticism for its failure to recognize the behavioural characteristics of the specific user.

London's cycling strategy is based on the defining vision of a visible, safe and functional network that both promotes and encourages cycling. Mindful of this vision, London's cycling strategy has been developed to provide for both the recreational and commuter cyclist recognizing the distinct operational and design needs of the specific user. London's new bicycle network will therefore consist of two distinct and readily identifiable systems – a commuter route system and a recreational route system. The specifics of each system have been detailed in Sections 5.2.1 through 5.2.4 of Appendix 1.

4. The development of a distinct network hierarchy of primary and secondary routes;

Both the commuter and recreational networks will consist of primary and secondary route systems (Appendix 1, Schedule 1).

Serving as the major arteries of the system, Primary Commuter Routes will provide direct connections between major origins and destinations. It is intended that the Primary Commuter Route Network be composed of on-road bicycle lanes on specified high order roads. The Secondary Commuter System will serve the purpose of collecting and directing the commuter to the Primary Network. It is intended that the Secondary Commuter Network be composed of signed on-road bicycle routes on collector and local roadways. A detailed explanation of the Primary and Secondary Commuter Route Systems is provided in Section 5.2.1 and 5.2.2 the Master Plan (Appendix 1).

The Primary Recreational Network will be the Thames Valley Parkway. The Secondary Recreational Network will serve to provide for neighbourhood connections to the Primary Recreational Network. The Secondary Recreational Network will also serve to provide safe and convenient inter and intra neighbourhood connections to other recreational amenities and opportunities including neighbourhood parks, district parks, natural areas and community facilities. It is intended that the Secondary Recreational Route Network be composed of a series of signed on-road bicycle routes and paved off-road facilities that may bisect parks and/or open space. A detailed explanation of the Primary and Secondary Recreational Route Systems is provided in Section 5.2.3 and 5.2.4 of the Master Plan (Appendix 1).

5. The development of implementation strategies and recognized facility standards:

Section 7 of the Bicycle Master Plan (Appendix 1) serves to advance a series of implementation mechanisms. The three basic components of London's long-term on and off-road bicycle system shall be implemented as follows:

- Shared/signed on-road bicycle routes (Secondary Commuter and Secondary Recreational Route Systems): the Transportation Division of the Environmental and Engineering Services Department annually identifies on-road bicycle routes for signage. Council should build upon this successful initiative focussing resources as directed by the Master Plan;

- On-road bicycle lanes (Primary Commuter Route System): in those instances where existing

pavement width would preclude the immediate development of the on-road facility, the provision of exclusive bicycle lanes should be implemented in association with ongoing roadway improvement projects. Where sufficient pavement width exists, the delineation of the exclusive bicycle lane could be undertaken in conjunction with an annual lane marking program;

- Multi-Use pathways (Primary Recreation Network): Through the development review process and ongoing Thames Valley Parkway and associated open space capital programs, the Parks Planning and Design Section of the Planning Department will construct further multi-use facilities as directed by the Master Plan.

The Master Plan makes special note of the long-term focus of the City's new cycling initiative, recognizing that portions of the system may temporarily include existing or previously planned infrastructure (i.e. in-boulevard bicycle paths and/or signed on-road bicycle routes) pending the development of the preferred facility standard. Recommended standards will be integrated into the commuter and recreational network as new roadways (or pathways) are built, existing roadways (or pathways) are resurfaced/reconstructed and/or restriped, and lands are acquired.

To maximize the opportunities for bicycle commuting at the earliest opportunity, it is recommended that a functional grid of signed routes be identified. This will include existing routes and safe interim connections for continuity. Such an approach will support bicycles as an alternate mode of transportation early in the Plan development schedule while being conscious of present financial and technical constraints. Alternative approaches to be considered in this short term plan include: routes based on road availability; routes based on road vehicular traffic criteria and/or safe continuity with existing bicycle lanes; and, integration with traffic calming projects. Hurdles to overcome in the short-term would include: the changes to or loss of on-street parking lanes; low funding levels; and, connection of major destinations.

6. The development of educational and promotional programming:

Infrastructure alone is not sufficient to promote and encourage safe and viable cycling in London. Programming is equally important. Sections 7 and 8 of the attached Bicycle Master Plan acknowledge the key roles that must be fulfilled by members of the City's Environmental Programs & Customer Relations Division (e.g., the Transportation Demand Management Coordinator), the Parks Planning and Design Section of the Planning Division, the Transportation Advisory Committee (TAC) and other community partners to develop promotional and educational initiatives in support of the implementation of the Bicycle Master Plan.

In 2004 Municipal Council approved the *SHIFT* (Solutions to Help Individuals Find Transportation) Alternatives Program in an effort to provide a clearer understanding to Londoners on their vital role in modifying behaviours with respect to transportation choices. The *SHIFT* Alternatives Program is closely tied to other long-term strategies, such as the Transportation Master Plan, the Bicycle Master Plan, and the Official Plan. *SHIFT* is also closely tied to several areas of community and City operations including transit (the London Transit Commission), healthy living (the London and Middlesex Health Unit) and community-led initiatives (the Bike Festival – promoted by the Thames Region Ecological Association, and the Bike Rings and Racks Program – by the Urban League). As the overall *SHIFT* framework evolves through public consultation and feedback, additional elements will be more closely aligned and integrated under the updated framework.

7. The development of facility supportive amenities:

Every cycling trip has two basic components: the route used by the cyclist, and the end-of-trip facilities available at the destination. End-of-trip facilities may include bicycle parking, showers and change rooms for commuters. When the end-of-trip facilities do not meet the needs of the user, the user will seek other means of transportation. There is, however, no zoning by-law requirement for new developments to provide for end-of-trip amenities.

To enhance and promote the use of the bicycle, the Master Plan calls for the provision of safe

and secure parking facilities at all major centres and activity nodes. This call will necessitate amendments to the City's Z.-1 Zoning By-law and Site Plan Control By-law. Recommended parking and design standards are further discussed in Part 2 to this report.

PART 2 – BICYCLE PARKING STANDARDS

What does Official Plan Policy say in regards to the Provision of Bicycle Parking?

Policy 18.2.13 (v) and (vi) of the Official Plan states that:

> *(v) Council shall require as a condition of approval of development or redevelopment, the provision of adequate, sheltered and secure parking facilities for bicycles at major activity nodes and employment centres. Council shall also encourage facilities such as change rooms and showers in places of employment to enhance the use of the bicycle for work-based travel. Bicycle parking standards shall be prepared and implemented to ensure that the parking needs of cyclists are met.*
>
> *(vi) Council shall provide accessible and sufficient bicycle parking areas at all municipally owned and operated facilities in order to promote the use of the bicycle as an alternative to motor vehicles.*

What is the legislative authority to require the provision of bicycle parking facilities?

Amendments to the City of London Z.-1 Zoning By-law are required to introduce bicycle parking regulations specifying the required number of parking spaces. The City's Site Plan Control By-law is enacted pursuant to Section 41 of the Planning Act. Section 41(7) (a)(3) of the Act provides that a municipality may require the owner of the land (as a condition of approval of site plan) to provide:

> *"Off-street vehicular loading and parking facilities, either covered or uncovered, access driveways, including driveways for emergency vehicles, and the surfacing of such areas or driveways".*

On the advice of the City's Legal Department, this authority includes requirements that may be imposed respecting the location, size and sheltering requirements for bicycle parking facilities.

What do other jurisdictions require by way of bicycle parking standards?

Planning staff have reviewed the bicycle parking requirements of a number of Canadian and American municipalities. The results of this survey have been summarized in Tables 2 and 3. These municipalities have been chosen to illustrate the different methods that are used to address parking standards for bicycles. In preparing the Tables, the following considerations have been made:

- To facilitate comparison, all figures have been expressed as "x" spaces/1000 sq. m. of floor area or "x" % of required car parking spaces.
- Total parking spaces include an average of covered and outdoor spaces.
- Where a range in requirements or types of land use has been varied, the average appears in the chart. Comparison is limited to typical land uses only since applications to type of land use vary between municipalities.

/B. Turcotte

Table 2*

Municipality	Multiple Residential	Office	Commercial	Recreation	Industrial
Guelph ON	1/du	4%	5%	10%	4%
Ottawa ON	1.125/du	1.5/1000	1.5/1000	4.3/1000	0.8/1000
Vancouver BC	1/du	1.3/1000	1.3/1000	2/1000	1/1000
Saanich BC	1/du	4/1000	4/1000	10/1000	1/1000

Table 3*

Municipality	Multiple Residential	Office	Commercial	Recreation	Industrial
Portland OR	10%	5%	5%	5%	2.5%
Watertown MA	6%	6%	6%	6%	6%
Madison WI	1/du	10%	10%	10%	10%
Boulder CA	10%	10%	10%	10%	10%
Eugene OR	0.5/du	10%	10%	10%	10%
Seattle WA	5%	5%	5%	5%	5%
Blacksburg VA	0.25/du	5 minimum	10/1000	5 minimum	5 minimum

Should bicycle parking requirements be applied to all new development?

No, consideration should be had for both the intensity and the nature of the development being contemplated. The Official Plan states that Council shall require the provision of bicycle parking facilities at all major activity centres and employment nodes. The use of the word “major” implies the preclusion of less intense land uses in the consideration of bicycle parking facilities.

To define intensity for the purpose of providing exemptions, staff would recommend the use of the City’s vehicular parking requirements detailed in Section 4.19 of the Z.-1 Zoning By-law. Section 4.19 provides for the calculation of vehicular parking requirements by specific land use. The more “intense” the land use, the greater the number of vehicular parking spaces required.

The Zoning By-law should specify a threshold number of vehicular parking spaces after which the provisions requiring bicycle parking would be mandated. Bicycle parking spaces would be required in addition to the required number of vehicular parking spaces. In determining an appropriate threshold, consideration should be had for the small business that may be unnecessarily encumbered by additional regulation.

Recommendation #1

The Zoning By-law should preclude the consideration of bicycle parking spaces for land uses that would require 9 or fewer vehicular parking spaces. Uses requiring 10 or more vehicular parking spaces would be required to provide for bicycle parking as mandated in the Zoning By-law.

The Zoning By-law should also have consideration for the use being contemplated. Certain land uses, given their size, the nature of services or products offered, clientele, or hours of operation, for example, may not lend themselves to bicycle traffic, and it would be inappropriate to require the provision of bicycle parking spaces. The Zoning By-law should, by way of specific

exemption, preclude the consideration of bicycle parking facilities for such uses.

Recommendation #2

The Zoning By-law should include specific exemptions for certain land uses that would not typically attract the cyclist.

How should the number of required bicycle parking spaces be determined?

Municipalities tend to regulate the number of bicycle parking spaces as a percentage of the total number of car parking spaces required or based on the total gross leasable floor area of the contemplated use.

In-as-much as the linkage between parking and the size of the anticipated facility is already set through the by-law for automobiles, it would be best to build on this established requirement by using a percentage method. The adoption of a bicycle parking standard based on a percentage of the total vehicular parking requirement would also ease interpretation of the Zoning by-law.

Recommendation #3

Bicycle parking standards should be based on a percentage of the total vehicular parking requirement for the anticipated use.

What is a reasonable parking percentage?

To address this issue, various municipal standards from across Canada and the United States have been reviewed. Percentage requirements generally range in the order from 4 to 10% with a number of municipalities choosing to adopt a uniform standard for all office, commercial, recreational, institutional and industrial land uses. Table 5 provides a comparison of the percentage options vis-à-vis in a non-residential land use required vehicular parking scenario.

Table 5

Required # of Vehicular Parking Spaces	Required Number of Bicycle Parking Spaces*						
	4%	5%	6%	7%	8%	9%	10%
10	0.4	0.5	0.6	0.7	0.8	0.9	1
15	0.6	0.75	0.9	1.05	1.2	1.35	1.5
20	0.8	1	1.2	1.4	1.6	1.8	2
30	1.2	1.5	1.8	2.1	2.4	2.7	3
40	1.6	2	2.4	2.8	3.2	3.6	4
50	2	2.5	3	3.5	4	4.5	5
75	3	3.75	4.5	5.25	6	6.75	7.5
100	4	5	6	7	8	9	10
150	6	7.5	9	10.5	12	13.5	15
200	8	10	12	14	16	18	20

* Bicycle parking spaces would be subject to rounding.

In evaluating a percentage requirement for local implementation, consideration should be had for:

- the associated cost implications for the impacted business (i.e. the cost of infrastructure) ;

- the associated site implications (is a site large enough to accommodate the required vehicular and bicycle parking; outdoor storage, signage, etc.); and,

- the City's stated goal of promoting and encouraging cycling.

Planning staff would recommend the adoption of a 7% factor. The 7% standard, while lower than others adopted in Canada and the United States, would meet the intent of the Official Plan to encourage and promote cycling. The 7% standard would also provide for the development of sufficient on-site facilities without further constraining other design considerations such as on-site vehicular parking, outdoor storage, signage, etc.

Recommendation #4

Bicycle parking should be calculated at a rate of 7% of the required number of automobile parking spaces for all office, commercial, recreational, institutional and industrial land uses.

How should bicycle parking requirements be calculated for apartment buildings?

Bicycle parking facilities for specific types of medium and high density residential development are typically mandated. Rates can be based on a space per unit ratio and can range from a low of 0.25 spaces per unit to a high of 1.25 spaces per unit. Canadian municipalities tend to require one bicycle parking space for every unit in a multi-unit apartment building.

The City's Z.-1 Zoning By-law defines an apartment building to mean a building that is divided horizontally and/or vertically into five or more separate dwelling units but does not include a converted dwelling or townhouse dwelling.

Recommendation #5

Planning staff recommend the adoption of a regulation that would require the provision of 1 bicycle parking space for every unit in an apartment building containing 5 or more residential units. The By-law should also include exemptions for specific types of multi-family development that, given tenancy or other considerations, would not be expected to generate significant bicycle use.

Should the Zoning By-law contain minimum and maximum standards for non-residential land uses?

Under the proposed Zoning By-law amendment, non-residential land uses requiring more than 10 vehicular parking spaces would be required to provide for bicycle parking. The required number of bicycle parking spaces in a non-residential scenario, as proposed, would be equivalent to 7% of the required vehicular parking spaces. Should the by-law, however, contain "enticements" to provide for additional bicycle parking above and beyond the mandated standard?

The City of Windsor has recently adopted a standard that provides for a reduction in the required number motor vehicle parking spaces in conjunction with the development of additional bicycle facilities beyond the by-laws mandated minimum standard. In the case of Windsor, the number of required motor vehicle parking spaces is reduced at a ratio of one vehicular parking space for each four additional bicycle parking spaces provided. To prevent abuse, the By-law further stipulates that the reduction in motor vehicle parking spaces shall not exceed 15% of the required motor vehicle parking spaces.
In an effort to both promote and encourage cycling, the Zoning By-law should include provisions that would allow for the development of additional bicycle parking facilities above and beyond

the proposed 7% standard proposed for non-residential development.

Recommendation #6

In a non-residential land use scenario, the Zoning By-law should include a provision that would allow for a reduction in the required number of automobile parking spaces where such a reduction would facilitate the establishment of additional bicycle parking facilities. The Zoning By-law should stipulate, however, that in no case shall the reduction exceed 10% of the required number of motor vehicle parking spaces.

What type of bicycle parking spaces should be provided?

A number of the municipalities' surveyed differentiated between long and short term parking. Long term bicycle parking refers to a facility designed to safely store bicycles for several hours or days at a time. These facilities are protected from the weather and may include lockers, storage rooms, or covered and fenced areas with restricted access. For reasons of user convenience, balconies are generally not considered a long-term parking facility. Typical land uses requiring long term parking include multi-unit apartment buildings and intense employment nodes.

Short term bicycle parking refers to accessible and conveniently located bicycle racks. These facilities are usually visible to passer-bys to discourage theft and vandalism. Typical land uses requiring short term parking include commercial and recreational land uses. Some municipalities specify the percentage of bicycle parking that should be long-term vs. short-term as shown on Table 6:

Table 6

Municipality	Land Use	Short	Long
Saanich BC	Apartments	0	100%
	Office, Retail Commercial, Restaurants	50%	50%
	Industrial	20%	80%
	Library, Museum, Recreation, Community Uses	80%	20%
Santa Cruz CA	Apartments	0%	100%
	Office, Industrial	40%	60%
	Retail Commercial	80%	20%
	Recreation	90%	10%
	Park & Ride/Transit	20%	80%
Vancouver BC	Apartments	0%	100%
	Community Centres, Library, Gallery, Museum, Fitness Centre	67%	33%
	Office	30%	70%
	Retail Commercial	82%	18%
	Industry	0%	100%

In those instances where a municipality has chosen to differentiate between long and short-term bicycle parking, long-term parking requirements for apartment buildings, office and industrial land uses can range from 50 to 100%. Retail, institutional and recreational land uses would require 10 to 30% long-term bicycle parking. It is recommended that the "type" of bicycle parking facility (long-term vs. short term) be dealt with through the site plan review process. The Zoning process, on the other hand, will ensure that the required number of bicycle spaces are provided.

/B. Turcotte

Recommendation #7

For reasons of climate, long-term bicycle parking should be required for all residential apartment buildings. The provision of long-term bicycle parking facilities should also be encouraged at the site plan review stage for major office and industrial developments to accommodate employees.

How should bicycle parking requirements be calculated for the Downtown and the City's defined Business District Commercial areas?

In the Downtown Area and street-oriented Business District Commercial Areas where space is limited and building lot coverage high, the City should consider providing adequate bicycle parking in municipally owned lots and on street boulevards. Conversion or adaptive re-use of existing buildings should not trigger the requirement for providing additional on-site parking spaces. Major redevelopment involving property consolidation and new construction should, however, be required to provide for bicycle parking facilities at the mandated rate.

Recommendation #8

It is recommended that the City of London provide adequate bicycle parking facilities in municipally owned lots and on street boulevards for land uses in the defined Downtown Area and Business District Commercial Areas.

How should bicycle parking requirements be calculated for municipally owned and operated facilities?

Some recreational and institutional land uses tend to have a higher frequency of people arriving by bicycle than other uses. Municipally owned and operated facilities should provide more than the minimum required bicycle parking spaces where bicycle activity is expected to be high. This can be implemented as a Council policy and does not necessarily require an amendment to the Zoning By-law or Site Plan Control By-law.

Recommendation #9

In instances of demonstrated need, Council adopt a policy that would provide for the installation of sufficient bicycle parking facilities at municipally owned and operated facilities.

Does the municipality have the legislative authority to require change rooms and shower facilities for employees at major activity centres and employment nodes?

No. Neither the Ontario Building Code, the Planning Act nor the Municipal Act confers such statutory powers to the municipality. To increase the number of shower and change facilities for cyclists, however, the municipality, through the City's Transportation Demand Manager, should work with private businesses to promote bicycle commuting and investigate bonus provisions for inclusion in the Z.-1 Zoning By-law that would encourage developers to provide showers and change space.

/B. Turcotte

Recommendation #10

Planning staff recommend that further study be conducted into the feasibility of including bonus provisions in the City's Z.-1 Zoning By-law to provide for shower and change room facilities at major activity centres and employment nodes.

PART 4 – NEXT STEPS

In support of the Master Plan, associated amendments to the City's Z.-1 Zoning By-law and Site Plan Control By-law have also been prepared. Staff would now recommend that the report proposing amendments to the City's Official Plan, Z.-1 Zoning By-law and Site Plan Control By-law be circulated for public review and comment. In addition to the general circulation, staff would seek input from:

- the Bicycle Advisory Committee
- the Transportation Advisory Committee
- the London Development Institute;
- the Urban League;
- the London and Area Planning Consultants;
- the Public and Separate School Boards, the University of Western Ontario, Fanshawe College, private educational schools;
- the London Transit Commission; and,
- the EEPAC.

Following the public consultation process, the Acting General Manager of Planning and Development will schedule a Public Participation meeting before the Planning Committee and the Environment and Transportation Committee to consider the Master Plan, the associated Official Plan Zoning and Site Plan Control By-law amendments, and the costing considerations.

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