

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 7, 2016
FROM:	JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER and JOHN M. FLEMING, MCIP, RPP MANAGING DIRECTOR, PLANNING & CITY PLANNER and WILLIAM C. COXHEAD MANAGING DIRECTOR, PARKS AND RECREATION
SUBJECT:	LONDON ON BIKES CYCLING MASTER PLAN

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the Managing Director, Planning & City Planner and the Managing Director, Parks and Recreation, the following actions **BE TAKEN** with respect to the London ON Bikes Cycling Master Plan:

- a) the Master Plan Report **BE ACCEPTED**;
- b) a Notice of Completion **BE FILED** with the Municipal Clerk; and,
- c) the Master Plan Report **BE PLACED** on public record for a 30-day review period.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan
- Civic Works Committee – November 11, 2013 – Bicycles on Sidewalks
- Civic Works Committee – September 10, 2012 – Bicycles on Sidewalks
- January 6, 2015 – Civic Works Committee – London Cycling Master Plan Study Appointment of Consulting Engineer
- June 2, 2015 – Civic Works Committee – London ON Bikes Cycling Master Plan Status Report
- February 2, 2016 – Civic Works Committee – London ON Bikes Cycling Master Plan Status Report
- June 8, 2016 – Civic Works Committee – London ON Bikes Draft Cycling Master Plan

2015 - 19 STRATEGIC PLAN

London ON Bikes supports the objectives identified in the Strategic Plan. London ON Bikes contributes to Building a Sustainable City – Convenient and Connected Mobility Choices, by implementing and enhancing safe mobility choices for cyclists. London ON Bikes also plays a role in Strengthening Our Community – Amazing Art, Culture and Recreational Experiences with an investment in parks.

DISCUSSION

Purpose

Following the Civic Works Committee report on June 8, 2016 that provides a detailed synopsis of the London ON Bikes Cycling Master Plan, this reports summarizes the Cycling Advisory Committee review of the draft report. Comments received by London Cycle Link are also included.



Cycling Advisory Committee Comments

On June 14, 2016, Council resolved that the draft London ON Bikes Cycling Master Plan Report BE REFERRED to the Cycling Advisory Committee for final review and comment.

The Cycling Advisory Committee subsequently considered the draft report at its Subcommittee meeting on July 13 and the monthly committee meeting on July 20, 2016. City and consulting staff were present to discuss the topics raised by the committee. The committee formalized the comments in the document attached in Appendix A.

The committee's discussion and comments emphasized the importance of many issues considered during the London ON Bikes process and also provided additional considerations to be considered prior to finalizing the report and during implementation phases.

The committee's themes and recommendations were multi-faceted and encompassed:

- education to improve knowledge, attitudes and behaviours;
- the importance of summer and winter maintenance including pavement markings;
- measurement to monitor progress and reported annually;
- consideration of abandoned corridors for new cycling routes;
- increased engagement, in particular using high profile public events;
- destinations should consider Western University, Fanshawe College and the hospitals; and,
- consideration of a policing budget item to respond to bicycle theft.

The master plan report has benefitted from the Cycling Advisory Committee comments via revisions to the report. These include:

- the addition of a new policy consideration related to cycling facilities in established neighbourhoods and intensification areas in conjunction with London Plan policies;

- The addition of two additional strategic actions involving:
 - o Organizing high profile celebratory events related to cycling successes in London such as facility launch events and road closures for rides;
 - o coordination with other transportation modes, particularly transit through route selection, rapid transit coordination and LTC measures;
- network phasing modifications; and,
- text updates to highlight identified issues such as partnership opportunities and CAN-BIKE descriptions.

The committee also made a comment that the Cycling Advisory Committee continues to exist to assist with the implementation of the plan.

London Cycle Link Comments

Recent comments were also received from the London Cycling Link Board of Directors. London Cycle Link was an important stakeholder and consulted throughout the London ON Bikes process. The recent comments and the City response are attached in Appendix B. Key comments in the London Cycle Link submission were:

- The 15-year plan should be implemented in 5 years;
- More cycling facilities should be located in the downtown;
- A desire for improved intersections and parking facilities; and,
- More firm recommendations and dedicated budget allocation to strategic actions such as education, signage, bike share, CAN Bike, etc.

While the London Cycle Link submission is very detailed with many identified issues, the primary issues amount to a request for larger cycling budgets and increased allocation of the right-of-way to cycling facilities. The current plan respects Council's approved four-year budget with an incremental increase to seize opportunities provided by unanticipated budget increases and the potential for external funding sources. If increased funding becomes available, the plan will be implemented at a quicker pace. The second primary issue is the allocation of right-of-way space. The process undertook an analysis of each proposed route and considered trade-offs with respect to property constraints, the built form, sidewalks, boulevard trees, vehicular traffic and utilities. The plan is guided by the latest design guidance and recommends the additional space required for separated facilities on many streets with higher speeds and volumes where appropriate and feasible.

Where possible the Master Plan has been modified in response to the comments. However several components are beyond the scope of a master plan and will be considered in future study and/or design phases. It is also worth noting that the plan will not constrain future actions; implementation is scalable depending on funding levels. Strategic actions, programs and projects can also be refined based on future needs and directions.

Master Plan Report

The Cycling Master Plan report has been revised based on recent consultation. The Executive Summary is attached as Appendix C. The complete Cycling Master Plan is available on www.LondONBikes.ca. Subject to Council approval, notification will be made placing the report on the public record for the final public review period that concludes the environmental assessment process. Comments received during the review period will be reviewed and considered during the implementation of the plan. There is no formal Part 2 Order process associated with the master plan process since

individual projects with potential significant impacts will be subject to project specific environmental assessments.

CONCLUSION

The London ON Bikes Cycling Master Plan process has been thorough and is now complete. London ON Bikes will guide future efforts on infrastructure, programs and policies to make London a more bicycle-friendly city.

A detailed summary of the report was provided in the previous Civic Works Committee report. The report has been reviewed by the Cycling Advisory Committee. The Committee’s comments were discussed and addressed and the report subsequently finalized. The report is now ready for the final advertised public review period that will complete the Environmental Assessment Master Plan process.

Comments received during the final public review period will be reviewed and considered with respect to future implementation.

Acknowledgements

This report was authored by Doug MacRae, Transportation Planning & Design with input from Jay Stanford, Director of Environment, Fleet and Solid Waste and Jeff Bruin and Andrew Macpherson of Environmental and Parks Planning.

SUBMITTED BY:	RECOMMENDED BY:
EDWARD SOLDO, P.ENG. DIRECTOR ROADS & TRANSPORTATION	WILLIAM C. COXHEAD MANAGING DIRECTOR PARKS AND RECREATION
RECOMMENDED BY:	RECOMMENDED BY:
JOHN M. FLEMING, MCIP, RPP MANAGING DIRECTOR PLANNING AND CITY PLANNER	JOHN BRAAM, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER

Appendix A: Cycling Advisory Committee Draft London ON Bikes Cycling Master Plan Comments

Appendix B: London Cycle Link Comments and City of London Response

Appendix C: London ON Bikes Cycling Master Plan Executive Summary

cc: Cycling Advisory Committee
 Doug MacRae, Manager, Transportation Planning and Design
 Jay Stanford, Director, Environment, Fleet and Solid Waste
 Andrew Macpherson, Manager, Environmental and Parks Planning

Appendix A

Cycling Advisory Committee

Draft London ON Bikes Cycling Master Plan Comments

<https://londonbikes.ca/>

General Observations

The plan advances the use of policies; regulations and standards as they apply to cycling
The plan add ideas and directions around programming for cycling
The plan provides a sound basis for extending cycling along with supporting technical documentation.

Discussion Themes & Potential Recommendations

The following table highlights some key elements the CAC would like to recommend/amend to the final Cycling Master Plan.

Theme	Recommendation	Rationale
Education	That there be a new Action added – #12 ‘Public Engagement’ & that sufficient funding is allocated.	Improve knowledge, attitudes, behaviours, health & safety. Many drivers & cyclists are not clear on the rules of the road (HTA) or understand how to share the road / use bicycle facilities. Dedicated funds are required to conduct a comprehensive interactive approach that includes not only a cycling specific website but other measures to reach both cyclists & drivers, i.e. sustainable leadership for the Bicycle Festival, lay person version of CMP, how to prevent bike theft education, partnerships.
Maintenance	That high traffic (auto & cyclist) streets be identified & receive prioritized maintenance.	Safety. High auto & cyclist traffic requires greater maintenance of bicycle facilities, i.e. pavement markings, etc. to be visible to both drivers & cyclists; adequate road sweeping/plowing of cycle lanes & tracks; railway crossings
Measurement	That monitoring measures be determined & reported annually.	Measure progress, accountability, public engagement .

Cycling Facilities	That abandoned corridors (hydro, railways) be included as cycling facility locations in the short & medium term.	Abandoned corridors are good transportation systems & easier to implement than other types of infrastructure. Currently not identified in short or medium term actions rather are identified as long term action.
Engagement	High profile event	Encourage public awareness and participation of cycling in the city via recommend annual sponsored event ie "public streets are temporarily closed" (cycling on the DVP in Toronto or the Clear Air Day celebrated in Bogota and Paris)
Destinations	That the major cycling destinations include the Western University, Fanshawe College and the local hospitals.	Access & safety since these locations have high student / employee volumes including those who currently cycle or would like to cycle. Include these locations as part of the major loop routes key destinations.
Implementation	That the CAC continues to exist.	The CAC provides valuable insight & direction that serves to support implementation of CMP & address cycling issues in general.
Enforcement	That there be policing to reduce bike theft supported in the police budget.	Bike theft is an increasing issue that should be adequately addressed in order to protect cyclists' property & support an environment that is conducive to greater numbers of individuals choosing to cycle.

Cycling Master Plan Discussion Notes from July 13 CAC subgroup meeting¶

Pg	Item#	CMP	Discussion
¶ Policies & Programs (Sections 2 & 3)			
44		CanBike	Text changes → Diane to email to Doug / Claire
36	Section 2	New developments	Relook intensification section or how CMP will address it could vary for cycling depending on the development.
	General	Major employment destinations	Eg. TLP & TMP → 2 hospitals, university & college could be major destination locations (note this across the board)
31		Complete streets	TLP adopted by council & includes complete streets, add TLP has policy r/t bikes
	Section 2		Integration between recreation & transportation → what actions / directions to bridge the gap (transportation = road cycling cf Parks & Recreation = parks); now all 1 network therefore acknowledge this in CMP. Can't change maintenance due to different laws that apply therefore coordinate.
18	Sec 1		Make things transparent / seamless to end user. Encourage the continued coordination, alignment, process with Sec 4 Implementation.
21		Vision	Box top right is from TLP. Shift 1 st sentence to objectives to shorten the vision statement.
43-44		Bike share	Have a made-in-London solution , eg. Western' Purple bikes / Green Bike / Uber Bike. Acknowledge what already exists... needs further investigation, eg. Hamilton's bike share is a made-in-Hamilton approach. Workplaces could be involved & bike share could be customized.
33		E-bikes	Considerations: city staff use e-bikes + rapid transit → lead by example.

45	Section 3	Action 6	Ensure there are sufficient funds for a comprehensive interactive education approach that includes the cycling specific website to reach both cyclists & drivers re types of bike facilities & how to properly use them, etc. Use tactical urbanism to raise awareness. Consider an additional Action under in Section 3 "Growing the Culture" & add this to the Implementation chart on pg. 62. Includes celebration of new facilities, eg bike corral launches. Tie education of how to use new facilities with their introduction, like Hamilton. Have a web-based reporting system to notify public when new facilities are added, eg. Calgary: http://www.calgary.ca/Transportation/TP/Pages/Cycling/The-Bicycle-Program-Yearbook.aspx?redirect=/bikeyearbook... ; Edmonton: http://edmontonbikes.ca/
60		Partnerships	Eg. Bike Festival — need for sustainable leadership. Media events have been organized in the past. Multiple strategies to engage public. Add a 12th Action — Public Engagement. See pg 62 diagram of public engagement process
		Policies, guidelines, Awareness & Maintenance of facilities	Bike lanes having 'cats eyes' — downtown major bike lanes be painted green (cars drift — not enough room for cyclist) Adelaide & Queens — bike lane faded = safety concern. High auto & cyclist traffic requires greater maintenance. Add to CMP — strategic areas. Don't be too specific to allow for latitude in application of policy. Add this treatment to bike lanes going forward.
62		Public Engagement	Focus on reducing chaos & improve linkages, eg. Cyclists on sidewalks. Make this an Action to integration of cycling with all modes of transportation (eg. Greyhound, airport, train station, Park&Ride). Considered in mapping. Include educational program as part of the consequences for violations by drivers / cyclists. Work with police, CanBike, media.
44			Make cycling courses available, accessible.
48		Action 9 Performance Measures	Consider it being an annual report, eg. Edmonton, Calgary examples

?			Low number of, eg. 177 on Ridout (<i>didn't capture all of the dialogue</i>)
		General comments re overall impact	<p>CMP—OK (slow & steady) but need an inspirational project. Projects are in the works, i.e. Queens Ave 2way cycle track & TVP North Branch connection. These are incremental with key facilities to be developed. Could possibly be highlighted in the CMP more...¶</p> <p>Q: How to make CMP more outstanding? A: There will be a lay persons document to be developed that is high impact, attractive, user-friendly with pictures, etc.¶</p> <p>¶ Could be opportunities to collaborate with Planning Dept & possible community engagement strategies for The London Plan.¶</p>
51		Recommendations	Priorities opinion—esp 13, 16, 18, 19
42		Touring loops	Create signature event(s), eg. Cambridge 'Tour the Grand', MEC rides, Bicycle Festival, link with 'Open Doors London', to highlight cycling. Maps to promote routes.
3	1.1.2	Master Plans & Municipal Class EAs	Review the language that explains that the CMP is a Municipal Class Environmental Assessment (MCEA). It is not a matter of IF it will happen rather how & when it will happen. See Executive Summary (p3, Ex.2 The Plan)
46		Action 7	Add to the list of amenities in the 1st paragraph , i.e. fountains, food, washrooms, spray pads. Have hubs with several amenities in different locations.
47		Technical Appendices Appendix G	Bike parking noted at EAs only— include parking locations at other locations as well. See list in the Technical Appendices, Appendix G, 4.7-4.11

50		Action 11: Enforcement	<p>Enforcement details seem light in the CMP. Increasing rates of theft in London. How can enforcement be enhanced? Eg education re-serial #'s on all bikes & other measures (GPS tracking being developed further). Issue for all types of cyclists including newcomers, kids, etc.</p> <p>Bike registration program? Not viable to execute / maintain. Better to do self-registration by taking a picture of the bikes serial#. Create a list of what to take note of.</p> <p>5-E's intent to enhance Enforcement (Section 3) & police to be a part of this. CAC could recommend that this be supported with budget dollars. Need to provide evidence (p52 Recommendation #19 to enhance police support). Have police identify solutions to the issue of bike theft. Include a dollar amount?</p>
54		Network objectives	Major loops -- Add UWO, Fanshawe, hospitals
57-60	4.2.2	Roles & responsibilities Table 6 & 7	Collaboration important but maintaining specific roles / responsibilities also important. Parks & Rec -- already at the table.
57		General	Consider substituting the word 'transportation' for 'bike use' to reinforce the idea that cycling is a viable form of transportation. The London Plan draft uses the word 'mobility' for 'transportation' because of its inclusiveness.
61	4.2.3	Decision Making Process	Keep 2005 & 2007 Bicycle MP. The current CMP is replacing these. Pages 61-62 shows the process using 2005 as base & building on it. This acknowledges the work done in 2005 & 2007.
65	4.3	Operations & Maintenance	'Minimum Maintenance Standards' is the title of a document & part of Municipal Act that governs road operations.

66	4.3.1	Operations & Maintenance -What is Expected	Maintenance -- street sweeping, eg. Wonderland Rd not swept. Presents danger for cyclists. Looking to put dollar values to these types of issues.
		General	Include a Glossary... For acronyms have the e-version provide the full word when the mouse is over it.
Infrastructure (all Sections)			
	Maps		Missing bike facilities due to Rapid Transit: Dundas (east of Egerton) -- east side of city conflicts with train tracks.
			Abandoned corridors (hydro, railways) are good transportation systems not identified in medium or short term actions (identified as long term action), easier to implement than other types of infrastructure. Also, railway tracks could have cycle trail run beside these, eg. Quebec, France. CP not open to this idea due to safety. Hyde Park Rd route -- TBD 10 to 15 yrs out.
			Between Bathurst & CN tracks Thames R to Adelaide (BMO Centre) -- Rectory. Enhance entire corridor connecting SoHo & downtown. <i>(missing details here)</i>
			Data used to determine types of cycling facilities -- MV/cyclist volumes, speeds. Collision data is available -- hot spots were considered. MLHU / London Middlesex Road Safety Committee has 2008-2013 data on 779 MVC cyclist collisions done by Human Environments Analysis Laboratory (HEAL) indicating locations of most collisions.

			<p>Missing links: 1) Richmond—Adelaide—Fanshawe Park (TVP to be extended to Fanshawe Prk); 2) S.Br.of Thames to Dorchester: TVP¶ comes around ESA to Hamilton Rd, Medowlilly ESA... 3) N-side of Thames R (E Park Golf course)—add a dashed line on N-side? Not¶ likely (land owner) cf south of river more likely unless there are environmental reasons.¶</p>
			<p>In-blvd facilities current & new: Crossrides (pavement markings & signage) would allow cyclists to travel through intersection without stopping (as required by the HTA if there are no Crossrides present). This is one of the favoured designs (see Technical Appendix G, Design Guidelines, 4.4 as per Book 18) for treatment at crossings & transition points. Requires education. Need to consider the type of design for all transition areas.¶</p>
			<p>Emphasize that CAC needs to continue to exist in order to support implementation of CMP.¶</p>

Appendix B London Cycle Link Comments and City of London Response



info@londoncyclelink.ca

ATTN: London City Council; London City Staff; MMM Group

RE: City of London Cycling Master Plan Draft Report, June 2016

Date: August 2, 2016

London Cycle Link Responds to Draft CMP Report

Preamble

First, we would like to thank the city of London for its attention to, interest in, and initiatives towards developing cycling in the city of London. We would also like to thank, and commend, MMM Group for its detail and exhaustive research and its fulsome draft report. Our comments below are based on version 3 of the report published on Londonbikes.ca and dated June 2016. They are the result of careful study by London Cycle Link's Board of Directors, our own research conducted over the past four years, and our experiences as daily cyclists in the city of London. As such, we offer the "cyclist's" view of the proposed CMP.

Summary

Overall, while there are some positives and undoubted gains here for the city of London and its cyclists, we find overall this plan lacks ambition and fails to outline the change London needs in order to become amongst the best cycling cities in Canada. Furthermore, the implementation period is too long. With this plan, we worry London will fail to achieve a 5% cycling mode share and will only fall further behind other cities in our region that already have a head start on building cycling infrastructure and culture. Although the draft plan allows for a significant increase in the overall kilometres of cycling infrastructure, it lacks the important connections and "best practices" that have proven in other cities to be necessary in order to significantly increase the absolute numbers of people who choose to ride regularly. Too many of the recommended kilometres remain as inadequate sharrow routes or painted-line lanes. While we acknowledge that these infrastructure types can be appropriate in certain circumstances, we also know that in order to grow the number of cyclists we need the best infrastructure, infrastructure that is both safe and provides a *perception* of safety. Only then will the 60% of Londoners who express interest in cycling more, take the next step to do so.

Indeed, kilometres seem to provide the primary metric used by MMM to gauge the impact of the plan. Other priorities, for example improved intersection design,

significant monitoring of before and after effects of new infrastructure, strategic actions to grow cycling culture and safety, and the flexibility and review capabilities to accommodate significant changes to our city over the next 15 years (for example from rapid transit, road works, population shifts, new developments) are virtually non-existent or only recommended subject to budgets. Our priority at London Cycle Link has always been to create and maintain as many new cyclists as possible. This is the sole metric we use to measure success. We believe that the draft plan as written does not do enough to realize a significant increase in the number of citizens choosing to cycle as their preferred mode of transportation. We regard this plan as a good maintenance plan. It will provide increased levels of service to those of us who already cycle regularly (although many will be disappointed with its details), but will do little to increase mode share because it does not do enough to make cycling safer and more convenient than other available modes of transportation, most notably motor vehicles, which as we note below, the plan seems to continue to take as its benchmark.

Context

In January and February of this year, London Cycle Link engaged with the city of London's multi-year budget process. At that time, we urged council to undertake over the next four years five cycling infrastructure projects that we believe can form the basis of a comprehensive, citywide network. These projects were:

1. Completing the TVP between Huron and Adelaide
2. An east-west cycle track between downtown and Old East Village (preferably on King St.)
3. A north-south separated lane through downtown (preferably Colborne from Horton to Oxford)
4. Monitored, safe parking areas downtown
5. Cheapside Bike Lane in-filled from St. George to Clarke Rd (to connect Fanshawe to downtown and UWO).

We estimated these projects would cost a total of \$1.5 million above the existing cycling budget (\$783,000/year) and budgets already allocated for the TVP completion project. The draft cycling plan does most of these things, but over a much longer period of time, with mid-term projections of 10 years for the key projects featured most often in the report. Moreover, it moves the recommended cycle track from King St. to Queens Ave, and only from the forks to Colborne St. rather than stretching into the heart of the Old East Village. In the draft report, this cycle track would seem to represent more of a token effort that lends the appearance of dedicated cycling infrastructure than actually providing a useful route even to existing cycle commuters. So, although the draft report fulfills our current five priorities it does so in a more limited manner and over a much longer period of time.

The majority of the draft plan, then, concerns the construction of buffered lanes in the outer regions of the city while asking cyclists to wait 10 to 15 years for even moderate improvements to what we have now. London Cycle Link certainly supports the construction of cycling infrastructure beyond the downtown, but believes that many of the recommendations will aid recreational riders over commuters and therefore do little to

aid the city in reaching its stated goal of 5% mode share. We continue to believe, as we did in January and February, that an integrated, citywide network must begin with robust and significant infrastructure in those parts of the city where people bike most for transportation. As with the rapid transit corridors identified in the recent Shift initiative, these are areas where people work, go for entertainment, and live—downtown, the parks and TVP, and the inner neighbourhoods like OEV, Old South, Old North, Riverside, and Soho. Constructing a commuter network requires starting here first, and building more than token lanes of the type proposed for Queens Ave (with little seeming justification for stopping at Colborne).

The Draft Plan

The Good

- Richmond separated facility from Masonville to TVP
- Colborne Separated/ Designated facilities between Oxford and Nelson
- Lots of good east-west separated facilities in south end
- Improving facility consistency, ex. Wonderland Road
- Good routes out of the city for recreation and tourism

Major Gaps and Poor Connectivity

- Queens St. Cycle Track to Colborne only. Needs to connect OEV to DT. At least needs a buffered bike lane that extends from Colborne to Quebec.
- From Downtown to South End – Ridout bike lane is the only N-S route and it doesn't go into downtown and the bridge over the Thames remains a dangerous bottleneck requiring cyclists to merge with traffic. Needs to go all the way up to King St. and preferably to the cycle track on Queens.
- North-South facility through the core – Colborne lane is not centrally-located enough. Clarence? Richmond? Wellington? Talbot?
- King St. stays as is without even fixing the gap at Western fair or linking to the Quebec St. bike lane.
- No provisions whatsoever made for intersections even though these are where most accidents occur.
- No secure downtown parking facility. Bike lockers are not a proper solution at scale
- Hamilton Rd lacks any kind of cycling infrastructure despite being a major community hub destined for development in the London Plan

Assumptions and Methodology Issues

- The draft plan regards the TVP as a recreational *and* commuter route, representing a significant change in existing parks policy. Will this change in policy result in changes “on the ground,” for example preserving Blackfriars Bridge as a cycle and pedestrian route and twinning high-traffic areas such as Gibbons and Springbank parks?
- Factors for selecting appropriate bike routes remain motor vehicle oriented. The draft plan cites traffic volume and speed as *the* key considerations. In other words, the status quo for cars is taken as the baseline rather than the overall needs of all users of the road (p. 25). The plan does not acknowledge the impact that good

cycling infrastructure can have on reducing both traffic and speed and, as a result, creating more people-friendly neighbourhoods and streets suitable to riding. An example of this is Hamilton Rd, where current traffic conditions make the installation of bike lanes difficult, but installing bike lanes would significantly alter (for the better, we believe) both traffic patterns and this community hub. This methodology seems to conflict with the complete-streets approach outlined on page 31 to the detriment of cycling.

- The draft plan prefers to install cycling infrastructure on streets with no current on-street parking, again prioritizing the interests of motorists over those of cyclists (even though this is a cycling plan!). A refusal to consider removing on-street parking or converting existing motor vehicle travel lanes to accommodate cycling lanes would severely limit the scope and implementation possibilities of this plan even on recommended routes
- The draft plan includes no way to account for ongoing or planned civic works or to change the plan over time. The previous (2005) CMP reified cycle planning by providing a blueprint that city engineers followed seemingly without question. The result is the disjointed agglomeration of cycle routes we have now and frequently inappropriate infrastructure types for given routes. This plan threatens to do the same for the next 15 years. The plan needs more flexibility.
- E-bike recommendations remain weak in this plan, especially given the expected rise in various forms of e-bikes (bikes and scooters) and their increasing use of existing cycling infrastructure. This is a challenge we need to deal with now.
- Strategic actions to grow cycling culture are recommended only for review each year, and implementation depending on budget (p. 40). The lack of clear support for planning, funding, and implementation in this area constitutes, in our view, one of the greatest weaknesses of the draft plan. Education, signage, bike share program, CANbike, website promotions, destinations, parking, road crossings on paths, enforcement—these are all essential elements to building a successful cycling city and without them infrastructure improvements are unlikely to realize their full potential.

Conclusion and Recommendations

Again, London Cycle Link expresses its appreciation to the city and to MMM for undertaking the development of this plan and for all the work that went into creating it. We are saddened that we have to express our disappointment with it as we had such high hopes. While there are certainly positives here, overall the plan lacks the ambition we would like to see and misses out on a key opportunity to create the high-quality, state-of-the-art cycling network that would truly transform London and realize the cycling mode share we all desire. Perhaps the greatest impact of the plan as drafted would seem to go to outlying areas of the city, which will receive in some cases significant upgrades in service given current low standards. Recreational cyclists and tourists will certainly appreciate easier and safer routes to the countryside, and we commend the plan for these initiatives. In the Downtown core and connected neighbourhoods, Wortley, Old East Village, Old North, Soho, Riverside, UWO and Fanshawe, however, the story is different. Perhaps the best we can say is that the draft plan, if built according to the recommended schedule, would likely result in the maintenance of roughly current levels

of services for a roughly current percentage of cycling mode share (between 1 and 2 per cent of commuters). Overall, however, we have grave reservations that the plan can possibly result in growing the percentage of cyclists to levels anticipated in the plan and by the city, and if it did, we worry that the recommended infrastructure developments included in the plan would be unable to accommodate a 5% mode share.

Downtown and connecting neighbourhoods will remain under-serviced after 15 years, even though these are the places people bike for work and for school and for city amenities, and where building more and better cycling infrastructure would have the most significant impact on the most people. We see little change or advancement in this plan beyond the conversion of some existing infrastructure into other types (the token cycle track on Queens Ave being the prime example). Moreover, the plan lacks teeth. Even the authors seem to anticipate that after the three-phase recommended build out and fifteen years the full plan may never be implemented (p. 55). Although the authors studied the implementation of a cycling culture, education, and all-important safe parking in some significant detail, the report offers little more than recommendation without a real plan for enforcement, realization, budget, or measurement.

If our goal is to grow the number of cyclists in our city, our methods must go beyond just building bike lanes. We must build *good* bike lanes that people want to use because they are safe and convenient. We must engage in good intersection design, and construct roads and intersections for all users. Unfortunately, this plan continues to take motor vehicles and their needs as a benchmark, rather than the needs of the community. Cyclists oddly, seem to remain the outliers even in a plan purportedly designed for us. We are to be considered only when it is expedient to do so, rather than as fundamental users of the roads with rights to the best, safest infrastructure possible. We need to follow the same standards as rapid transit, designing the best infrastructure around where most people want to go. If this were a five-year plan it would be great, but over 15 years it will only leave London even further behind. Consequently, for the reasons outlined above the board of directors of London Cycle Link recommends significant review of and changes to the draft plan. These changes may include but are by no means limited to:

- Provisions for accommodating commuter cyclists on the TVP
- Extending the Queens Ave cycle track into OEV
- Major North-South Route through the core
- More robust and concrete recommendations and budgets for cycling culture, parking, and enforcement
- Changed methodology that considers all the advantages—transportation, community building, economic, health, social, and the ability to change a city for the better-- that cycling offers to people and communities, rather than continue to maintain current traffic and speed levels as priorities
- Preserve Blackfriars Bridge as a pedestrian and cycling route
- A clearer plan for bike parking with appropriate safe facilities
- A flexibility clause that would allow changes to the plan in accordance with changing civic circumstances over the life of the plan
- Clearer recommendations for e-bikes

- Clear recommendation and design requirements for intersections, and provisions for implementation at specifically identified points of cyclist/pedestrian/motor vehicle interaction
- Cycling provisions for Hamilton Rd

London Cycle Link looks forward to continuing to work with the city of London to develop cycling by providing the input and point-of-view of cyclists.

Signed,

LCL Board of Directors

Susan Anthony

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August 24, 2016

London Cycle Link
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Re: London ON Bikes Draft Cycling Master Plan

Dear London Cycle Link Board of Directors,

The City of London Cycling Master Plan Project Team would like to thank you for the time and effort that was taken to review and comment on the draft London ON Bikes Cycling Master Plan report. The project team has reviewed the comments, questions and considerations in your letter dated August 2, 2016 and noted a number of key themes in the comments which are addressed below.

Infrastructure Recommendations

Many of the comments related to infrastructure design and implementation are consistent with comments that have been submitted by London Cycle Link over the course of the project.

Where possible, the project team has tried to accommodate these changes or alter the network to address them while balancing the many competing desires for right-of-way space

including pedestrians, trees, vehicles and on-street parking. It is important to note that some of the specific linkages requested such as Wellington Road and King Street are identified as Shift Rapid Transit connections. As we have noted throughout the report, though the report does not specifically identify cycling facilities along these connections, as part of the Shift design

process all potential users including cyclists, pedestrians and motorists will be considered and accommodated to the extent possible, recognizing the opportunities and challenges unique to different locations.

As a 'built-in' component of London ON Bikes, City Staff will review priorities and new opportunities to accommodate cycling on a continual basis even on roads that are not specifically identified in the network recommended in the report. Through future planning projects, such as road widening, redesign, streetscaping projects, etc. there may be opportunities for additional cycling linkages to be identified that complement the proposed cycling network in London ON Bikes. Recent examples of continuous improvement processes include the recent addition of flexible bollards on the Field Marshall Wolseley Bridge (Quebec Street), installation of a painted buffer made possible by a road diet along Adelaide Street South and wayfinding signage on the Thames Valley Parkway.

With regard to the timing for implementation of routes in London ON Bikes, we appreciate that there is a desire for key components of the network to be implemented as quickly as possible.

The phasing and costing identified within the report is reflective of current capital plans and budgets, available funding and strategic planning. That said the plan implementation can be accelerated should more budget become available and/or as direction is provided by Council. London ON Bikes is designed to be flexible to accommodate network and phasing changes to reflect input from staff, Council, stakeholders and the public. City staff are also keeping a watchful eye on Provincial and Federal funding programs that focus on cycling infrastructure and related amenities.

Strategic Actions

The actions and strategies identified in Section 3.0 of London ON Bikes were developed through community engagement and a review of other jurisdictions. Some of these are already underway. Detailed workplans (e.g., where additional feasibility studies are required such as a Bike Share Program) and/or changes to implementation plans (e.g., identifying & enhancing local cycling destinations) will occur as part of the annual cycling program.

The strategic actions are funded through the annual budget approved by Council for the Environmental Programs Division. The budget of \$150,000 in 2016 and \$300,000 annually in the years following, as described in Section 4.4.2 of the report will support the continued implementation of select actions as well as the initiation of new recommended actions. The London ON Bikes report will be revised to include a clear text reference linking the actions described in Section 3.0 with the funding in Section 4.4.2. Similar to the infrastructure implementation, the City will continue to investigate opportunities for external funding to supplement Council approved funds.

We will ensure that wording in the final report is reflective of the action taken or being taken to ensure there is no confusion.

Policy Considerations

The policy considerations noted in Section 2.0 of London ON Bikes are meant to be used as information by the City of London as future updates to municipal policy are made. The scope and content of London ON bikes was not intended to provide specific policy wording or directives, rather to be a resource for consideration as individual policies are updated in the future.

In response to London Cycle Link's comments regarding the strength of the policy considerations, the next iteration of the London ON Bikes report will be revised to include a strategic action for the City to update policies, as they come up for review, to be consistent with Provincial policy and to reflect emerging policy trends/directions which support cycling. This will enable policy updates to be responsive to new trends at the time each policy is updated, given that planning and best practices for cycling continues to evolve rapidly|

Methodology

It is important to note and understand the level of detail that is expected of a master plan. A master plan completed consistent with the Municipal Class Environmental Assessment (MCEA) process is meant to provide high-level direction on the cycling route alignment and facility design alternatives. More detailed analysis related to each of the proposed routes and a confirmation of the appropriate facility type and design details will be undertaken as each network route advances from the planning to the preliminary and detailed design stages.

The recommended network is meant to be used as a blueprint / guide which will be further investigated by the City based on context specific considerations acknowledging that with time conditions will change. The methodology used in developing the network is meant to fulfill the MCEA requirements, provide sufficient direction to inform future decision making, while also allowing sufficient flexibility to adapt to future changes in direction and opportunities.

It is also important to note that there has been a fundamental shift in the role of cycling in the transportation system since the last master plan was created over ten years ago. Additional foundation documents such as the 2030 Transportation Master Plan and the recently approved The London Plan clearly emphasize the future direction for London.

Conclusion

We hope that these responses provide London Cycle Link with additional context related to London ON Bikes and an understanding of the rationale behind the recommendations and the nature of the new Cycling Master Plan. Over the course of the development of London ON Bikes, City staff and consultant team have endeavored to work with London Cycle Link and involve your members at key project milestones. As the Plan is implemented, we look forward to working with you to continue the positive dialogue and collaboration that has been established through this project and other cycling initiatives.

Thank you for your continued efforts to encourage cycling in London.

Sincerely,



Doug MacRae, P.Eng
Division Manager
Transportation Planning & Design
City of London

c: Edward Soldo, Director, Roads & Transportation
Jay Stanford, Director, Environment, Fleet & Solid Waste
Andrew Macpherson, Manager - Environmental & Parks Planning
Dave McLaughlin, WSP MMM

Appendix C
London ON Bikes Cycling Master Plan
Executive Summary



City of London
Cycling Master Plan
Draft Executive Summary | August 2016





EXECUTIVE SUMMARY

London ON Bikes– London’s new cycling master plan – has been developed to respond to the need for an improved vision, infrastructure, programs, policies and actions. The plan is informed by best practices, lessons learned, current design guidelines and legislation and reflects the priorities and principles of city staff, stakeholders and residents who contributed to its development. London ON Bikes provides a blueprint for the future of the City’s cycling network, including key pathways, supportive programming as well as outlines a recommended investment and implementation strategy to 2031. In 2005, the City’s first cycling master plan was developed. In 2007, an implementation strategy was developed to continue the momentum and success. Almost 10 years has passed. Great progress has been made in improving cycling and pathway infrastructure, policies and programs in London since 2005, culminating in a bronze Bicycle Friendly Community award in 2009. The following is a summary of the key content found within the London ON Bikes Cycling Master Plan report.

EX.1 The Purpose

London ON Bikes is founded on three key principles – the **opportunity statement** (consistent with the Municipal Class Environmental Assessment requirements), the **vision** and supporting **objectives**. Each principle was shaped by input received from residents, stakeholders and interest groups through a comprehensive consultation and engagement program. They shaped the actions and recommendations and provide a common basis for future planning, design and development.

OPPORTUNITY

A comprehensive City-wide cycling network was developed that accommodates both commuter and recreational cyclists. The network was prioritized and identifies initial as well as long-term initiatives to facilitate implementation. The network is supported by policies, initiatives and strategies to guide coordination, facilitation, encouragement and education.

VISION

The culture of cycling within London is encouraged and achieved throughout the City by providing infrastructure which is considered comfortable, safe and convenient. The cycling routes and facilities provide connections to all mobility choices for all Londoners. Cycling is part of the City’s vision to grow as an age-friendly, sustainable City.



OBJECTIVES



Connectivity

Build on the existing system and identify improvements on and off-road.



Consistency

Provide consistent design guidance that builds on best practices.



Comfort

Provide facilities that are considered comfortable for various cyclists.



Maintenance

Recommend appropriate practices and level of service.



Prioritization

Prioritize network improvements for strategic implementation.



Promotion

Increase awareness and interest in cycling city-wide.



E
X

EX.2 The Plan

The plan was developed using a four phase process. The approach is consistent with a Municipal Class Environmental Assessment (MCEA) Master Plan Approach #1. The approach requires that Phases 1 and 2 of the MCEA process be met – including two rounds of public / stakeholder consultation.

City of London residents expect to be involved in the planning process. They expect to be consulted and look for opportunities to provide their input. The consultation / engagement program used to inform the development of London ON Bikes was no different. The process used to develop London ON Bikes was informed by ongoing consultation and engagement through:

- **Formal Outreach:** in-person engagement with members of the public through public events and information centres and with stakeholders through meetings and workshops.
- **Informal Outreach:** Education on project objectives and promotion of opportunities for involvement such as project newsletters and promotional materials e.g. posters.
- **Online Engagement:** consultation activities hosted online – on the project website – which are interactive and reflect the questions asked through formal engagement.





London ON Bikes is made up of four key elements:

1. **The Proposed Network:** an interconnected system of on and off-road cycling facilities that provide cyclists of all ages and abilities with a range of routes and facility types to choose from.
2. **Policy Considerations:** A set of policy considerations and recommendations which are intended to be used as a guide as municipal policies are updated.
3. **Strategic Actions:** Proposed actions and strategies that support the Five E's of a bicycle friendly community including engineering, education, encouragement, enforcement and evaluation.
4. **An Implementation Strategy:** A proposed approach to guide the short, medium and long-term implementation of the cycling network and supportive policies and programs.

The implementation of all of these elements of this cohesive plan is needed in order for the long-term city-wide cycling vision and objectives to be realized. The following sections provide highlights from each of the core elements of the plan.

EX.3 The Network

The London ON Bikes network was developed using an iterative process which:

- Builds upon existing conditions and previously proposed routes / facility types (2005 Cycling Master Plan);
- Identifies route alternatives and a set of evaluation criteria which are used to evaluate the alternatives;
- Integrates public / stakeholder input; and
- Identifies proposed facility types using a process based on Ontario Traffic Manual Book 18 and other on and off-road facility design guidelines.

London's existing cycling network – made up of 330 kilometres of on and off-road cycling facilities – was the basis from which future routes were selected and recommended. London has a well-developed system made up of **in-boulevard pathways**, **the Thames Valley Parkway**, **pathways through parks**, **signed bicycle routes** (including sharrows) and **bike lanes**. These existing routes and facilities were investigated along with new links and alternatives.



When developing a connected and continuous system of cycling facilities it is important to compare and assess the route alternatives to a set of common criteria. Route selection criteria were identified early in the process and were reviewed and confirmed through the first round of consultation. The revised criteria built upon criteria identified in the 2005 Cycling Master Plan as well as other design guidelines. The criteria include **access and potential uses, connectivity and directness, environmental protection, attractiveness and aesthetics, safety and comfort, cost, consideration of future use, tourism and environmental sustainability**. More details about each of the criteria and the considerations which informed the alternatives assessment are found in **Technical Appendix E**. Using the existing conditions and route selection criteria as a base, a set of route alternatives were identified and investigated. The routes included:

- **Spine Routes:** north-south and east-west routes that link key destinations.
- **Local Neighbourhood Routes:** Routes on local neighbourhood roadways and through neighbourhood parks to connect to the spine routes.
- **Touring Routes:** links that provide access to rural areas of the city and surrounding municipalities.

The investigation included a comprehensive desk-top exercise and field work which was documented using GPS waypoints and photographs. The information gathered through this investigation combined with background data and information was assessed and used to select preferred routes. Key information that influenced the selection of preferred routes included:

- Existing Roadway Width;
- Traffic Volume & Speed;
- On-Street Parking;
- Scheduled capital projects for both the road and pathway network;
- Public / Stakeholder input; and
- On-going Planning Projects.

Once the routes were selected and reviewed with the public, a process to identify and select cycling facilities within and outside of the road right-of-way was developed. This process is based on the approach in Ontario Traffic Manual Book 18: Cycling Facilities as well as other best practices related to pathway route selection and design.



The process is made up of three steps for facilities found within and outside of the road right-of-way. The steps are similar but reflect the key differences related to each. **Figure 1** illustrates the process used to select cycling facilities.



Figure 1 – Facility Selection Process for London ON Bikes

The preferred route network and facility types are illustrated on **Maps EX1** and **EX2**. A summary of the total existing and proposed cycling network by facility type is presented in **Table 1**. Illustrations of the facility types noted in **Table 1** are presented in **Figure 2**. Coloured lines surrounding the illustration correspond to the colours used to illustrate the facility types on the network maps.

Table 1 – Existing & Proposed Facility Types for London ON Bikes (Full Build-out 15+ years)

Facility Type	Existing (km) ¹	Proposed (km) ¹	Total (km) ¹
Shared Facilities			
Signed Bike Route	50.8	157.9	208.7
Signed Bike Route with Edgeline	0	2.6	2.6
Signed Bike Route with Sharrow	10	23	33
Designated Facilities			
Paved Shoulder	0	79.5	79.5
Bike Lane	60	48.3	108.3
Separated Facilities			
Buffered Bike Lane	0	31.9	31.9
Buffered Paved Shoulder	0	10.7	10.7
Cycle Track	0	7.5	7.5
In-Boulevard Multi-use Pathway	42	28.2	70.2
Multi-use Pathway	166	78.7	244.7
Total	329	468	797

¹ On-road facilities are measured per roadway km. (i.e. includes bike lanes typically on both sides of the road). Pathways in-boulevard or in public open space are based on linear km off-road pathways (i.e. both directions share the same measurement in length).

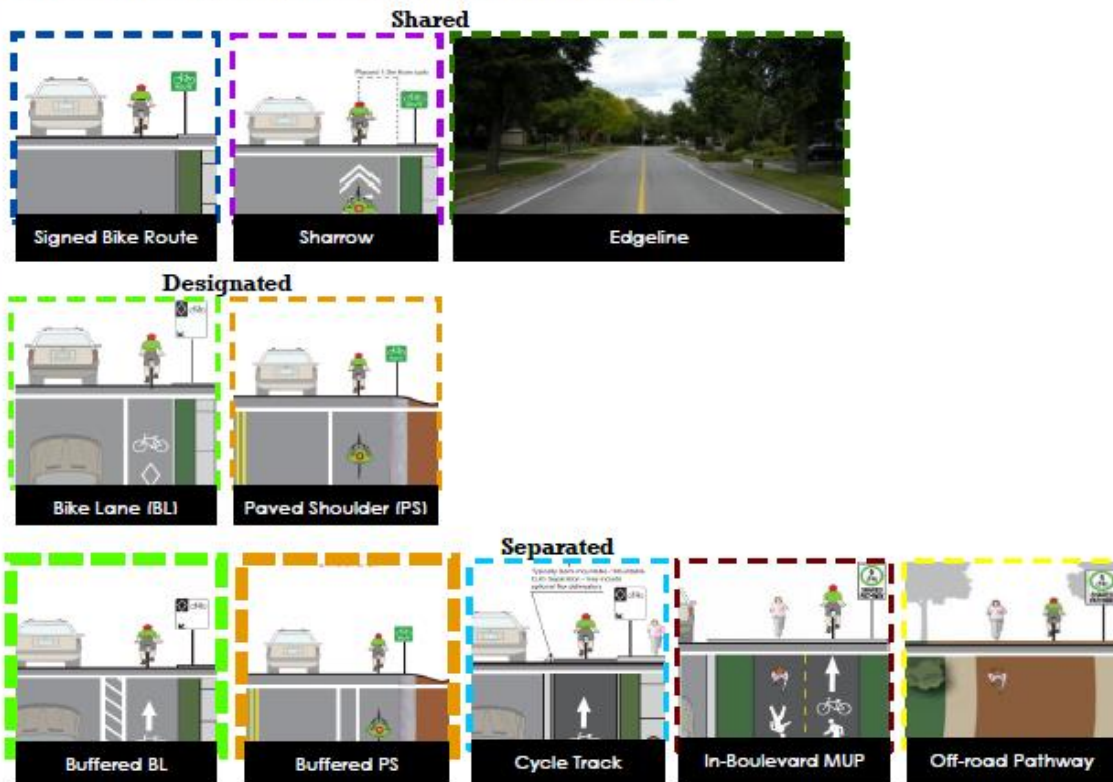


Figure 2 – Overview of Proposed Cycling Facility Types



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Map EX-1

Citywide Map Proposed Cycling Network by Proposed Detailed Facility Types

Legend

- Existing Cycling Routes
 - Half Way Pathway
 - Reservoir Path
 - Exa Lane
 - Signed Blue Route with Sorrow
 - Signed Blue Route
 - Proposed Facility Types
 - Millican Pathway
 - Individual Facility
 - Cycle Track
 - Cycle Lane
 - Exa Lane
 - Enhanced Power Shoulder
 - Power Shoulder
 - Signed Route with Ecoplane
 - Signed Blue Route with Sorrow
 - Signed Blue Route
 - Signed Green Route
 - Signed Green Route
 - Signed Green Route
- Key Destinations
 - Community Destination
 - Potential Rapid Transit Station
 - Hospital
 - Public Library
 - School
 - Sport Facility
 - Transit Hub
 - Potential Transit Village
- Other
 - Road Network
 - Railway
 - Potential Future Rapid Transit Route
 - 1-800 UNDERPASS LONDON
 - Connection to Surrounding Municipality
 - Environmentally Significant Area
 - Future Ongoing / Completed Environmental Assessment (Bicy Army)
 - Park
 - Conservation Authority Land
 - Provisional Park
 - Watercourse



Notes:
 1. Areas of construction include suggested routes that are found on maps and under the City's jurisdiction at this time, those owned by private land.
 2. Based on City's environmental conditions for potential future cycle.
 3. Future Ongoing / Completed Environmental Assessment (Bicy Army)
 4. Based on results of London's Environmental Assessment.
 5. Based on results of London's Environmental Assessment (Bicy Army)
 6. Based on results of London's Environmental Assessment (Bicy Army)
 7. Based on results of London's Environmental Assessment (Bicy Army)
 8. Based on results of London's Environmental Assessment (Bicy Army)
 9. Based on results of London's Environmental Assessment (Bicy Army)
 10. Based on results of London's Environmental Assessment (Bicy Army)

**LONDON
BIKES**
 M/M GROUP

City of London Cycling Master Plan Update

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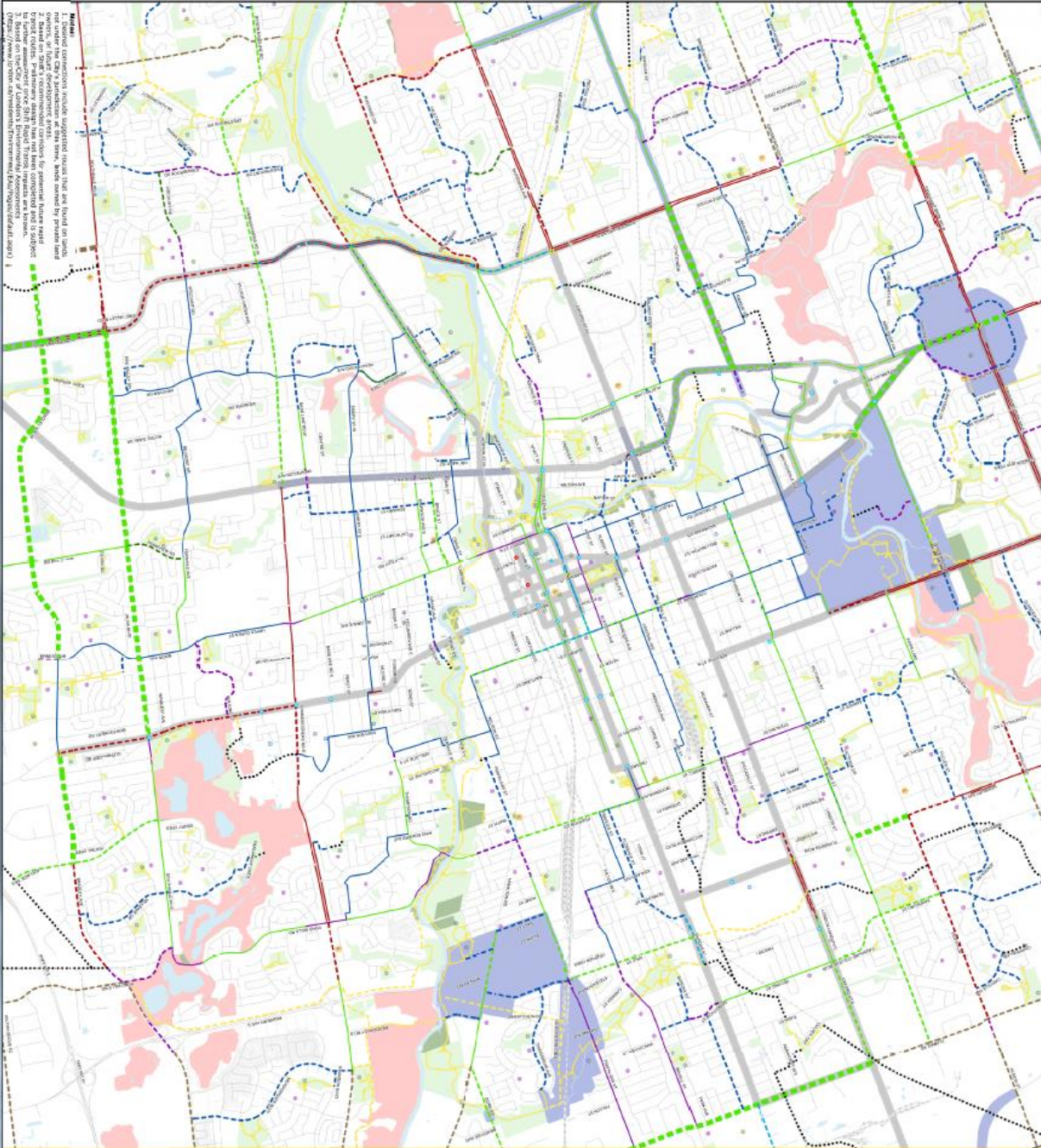
Map

EX-2

Central Area Map Proposed Cycling Network by Proposed Detailed Facility Types

Legend

- Existing Cycling Routes
 - High Way (Grey)
 - Leisureway Path (Blue)
 - Esplanade (Blue)
 - Signed Bike Route with Signage (Yellow)
 - Signed Bike Route (Red)
 - Proposed Facility Types
 - Multi-use Pathway (Green)
 - Leisureway Path (Blue)
 - On-street (Purple)
 - Off-street (Yellow)
 - Leisureway Path (Blue)
 - Esplanade (Blue)
 - Signed Bike Route with Signage (Yellow)
 - Signed Bike Route (Red)
 - Signed Bike Route (Red)
 - Leisureway Path (Blue)
 - On-street (Purple)
 - Off-street (Yellow)
- Key Destinations**
 - Community Centres
 - Railway Station Target Station
 - Hospital
 - Public Library
 - School
 - Sport Facility
 - Taxi Hub
 - Potential 'neat' Village
- Other**
 - Road Network
 - Railway
 - Potential 'Active Right' Transit Route
 - Future Development Land
 - Environmentally Significant Area
 - Future / Ongoing/ Completed Environmental Assessments (Study Area)
 - Park
 - Conservation Authority Land
 - Partial Property
 - Watercourse



Notes:
1. Detailed directions include suggested routes that are found on the map, however, they do not represent the actual route taken.
2. Based on 2016 recommendations, the proposed future route is shown as a dashed line. The proposed future route is shown as a solid line.
3. Future assessment of the SHK Road 77 route is shown as a yellow line.
4. The map is a draft and is subject to change. For more information, please visit the website: www.cityoflondon.gov.uk/transport/cycling





The design of cycling facilities should be based on the most current guidelines and best practices. A set of design guidelines were developed for London ON Bikes and are presented in Technical Appendix G. The guidelines were developed based on the following design guidelines and standards:

- Ontario Traffic Manual Book 18: Cycling Facilities ([here](#)).
- Ontario Traffic Manual Book 15: Pedestrian Crossing Treatments ([here](#)).
- Ministry of Transportation Ontario (MTO) Bikeways Design Guidelines .
- National Association of City Transportation Officials Urban Bikeways Design Guide and Urban Street Design Guide ([here](#)).
- American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities ([here](#)).
- Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads ([here](#)).
- Transportation Association of Canada (TAC) Bikeway Traffic Control Guideline for Canada ([here](#)).
- Accessibility for Ontarians with Disabilities Act – Built Environment Standards ([here](#)).

The guidelines are meant to be used as the London ON Bikes network is being implemented and should be updated as primary reference guidelines are reviewed and revised.

EX.4 The Policies & Action Plan

Six policy trends have been identified based on input received, discussions throughout the planning process and policy trends throughout Southern Ontario. The policy trends include:

- Cycling facilities related to **complete streets**;
- Cycling on **sidewalks**;
- Cycling infrastructure and **e-bikes**;
- **Risk management and liability**;
- Cycling and pathways in **new development areas**; and
- **Accessibility**.

For each of the policy areas, key considerations based on current best practices and trends are highlighted, the current context in London is noted, recommendations are identified and affected policies and plans are highlighted.



In addition to proposed policy considerations, a master plan requires actions and recommendations that address the five E's (Engineering, Education, Encouragement, Evaluation and Enforcement). Together the proposed network, policies and actions will help to establish the core objectives and desired outcomes of the plan. There are a total of fourteen actions currently underway or being proposed to enhance and influence cycling throughout London. An overview of the fourteen actions, their objectives and the "E's" that they support are presented in Table 2.



Table 2 – Overview of Current and Proposed Actions

Action	Objective	Five E's Support
1: Wayfinding & Signage Strategy	To create a consistent visual identity in the form of a wayfinding and signage strategy to achieve connectivity between the on and off-road system and awareness of route alternatives.	Engineering & Encouragement
Status	Discussion and research in progress.	
2: Winter Cycling Network	To provide cyclists with year-round commuter and recreational cycling opportunities which are considered comfortable, and to guide decision making related to maintenance.	Engineering & Encouragement
Status	In progress. To be discussed and further researched once the Minimum Maintenance Standard (MMS) has been updated and adopted.	
3: Touring Loop	To provide residents and visitors (with a focus on novice / recreational cyclists) with opportunities to tour the city by bike.	Encouragement & Education
Status	Discussion and research in progress.	
4: Bike Share	To identify a system of "for rent" bicycles located at key destinations providing residents and visitors with an opportunity to use a bike – on demand.	Encouragement
Status	Discussion and research in progress.	
5: CAN-Bike Program	To educate residents – specifically youth – on how to safely and comfortably cycle throughout the city – on and off-road.	Education
Status	CANBike London already exists. Further expansion should continue to be examined.	
6: Cycling Webpage	To establish an online "hub" of cycling specific information, to celebrate successes, continue the discussion, provide education materials and promote future opportunities.	Encouragement & Education
Status	Discussion and research in progress. Content of the London ON Bikes website could be used to develop a potential layout or content.	





Action	Objective	Five E's Support
7: Local Cycling Destinations	To educate the public on specific locations throughout the city those are supportive of, and have cycling amenities.	Encouragement & Evaluation
Status	Discussion and research in progress. Additional consideration for signage concepts and details related to implementation to be considered.	
8: Bicycle Parking	To provide cyclists with a variety of secure locations throughout the city where they can lock-up their bicycle.	Encouragement
Status	Discussion and research in progress.	
9: Performance Measures	To establish a process and procedure to track and document successes and progress made as a result of the implementation of London ON Bikes.	Evaluation
Status	Discussions started. Research to be in 2016 and 2017 to explore the development and implementation of performance and monitoring measures.	
10: Cycling Crossings	To provide design direction on potential locations where crossings need to be enhanced to safely accommodate cyclists.	Evaluation & Engineering
Status	Consideration and coordination with the City's capital program is planned. Further discussions are needed.	
11: Enforcement	To increase relationships with the London Police Service to improve enforcement and safe cycling practices.	Enforcement & Education
Status	Discussions and research in progress.	
12: Events	Work with local partners including but not limited to technical agencies, interest groups, businesses and public representatives to celebrate the cycling related successes achieved within the City of London.	Encouragement & Education
Status	Past events completed by the City. Future events to be planned and coordinated.	
13: Integrate with Transit	To encourage residents and visitors of London to integrated cycling into day to day activities including transit and walking to achieve multi-modal trips.	Engineering & Encouragement
Status	All City departments coordinating through the planning, design and implementation of the Shift network and London ON Bikes network.	
14: Update Municipal Policies	To ensure that Municipal policies are aligned with consistent messaging related to the planning, development and promotion of cycling as a viable mode of transportation and recreation.	Encouragement



Action	Objective	Five E's Support
Status	Policies should continue to be updated consistent with current schedules and should reflect the policy suggestions and other cycling and sustainable transportation considerations outlined within London ON Bikes as well as emerging trends identified through Provincial policies.	



Detailed workplans (e.g., where additional feasibility studies are required such as a Bike Share Program) and/or changes to implementation plans (e.g., identifying & enhancing local cycling destinations) will occur as part of the annual cycling program. Municipal Council approved a 10 year funding program using Federal Gas Tax (see section 4.4.2) that will assist with these strategic actions.

EX.5 The Implementation Strategy

Successful implementation requires a clear strategy and a set of tools. London ON Bikes is intended to be implemented over a 15+ year timeline. It focuses on the short-term (0 - 5 years) and medium-term (6 - 15 years) horizons. Maps EX3 and EX4 illustrate the proposed cycling routes identified for implementation within these two phases. An overview of the facility types proposed within these phases is presented in Table 3.

Table 3 – Proposed Facility Types in the Short and Medium-term

Phase	Facility Types (Roadway / Pathway km)										
	Total	Signed Bike Route	Edgeline	Sharrow	Paved Shoulder	Bike Lane	Buffered Bike Lane	Buffered Paved Shoulder	Cycle Track	In-Boulevard Pathway	Off-road Pathway
Existing	331	51	0	10	0	60	0	0	0	42	166
Short (0 - 5 years)	92	15	1	3	9	17	12	4	2	3	26
Medium (6 - 15 years)	212	99	2	15	30	14	12	3	3	16	22
Total	635	165	3	28	39	91	24	7	5	61	214

All other proposed routes are intended to be implemented within the long-term horizon 15+ years unless opportunities such as a road reconstruction project arise that would enable a cost-effective implementation. Routes beyond the 15 year short and medium-term phases have not been costed in the London ON Bikes master plan. It is recommended that the master plan be reviewed and updated every 5 to 10 years.



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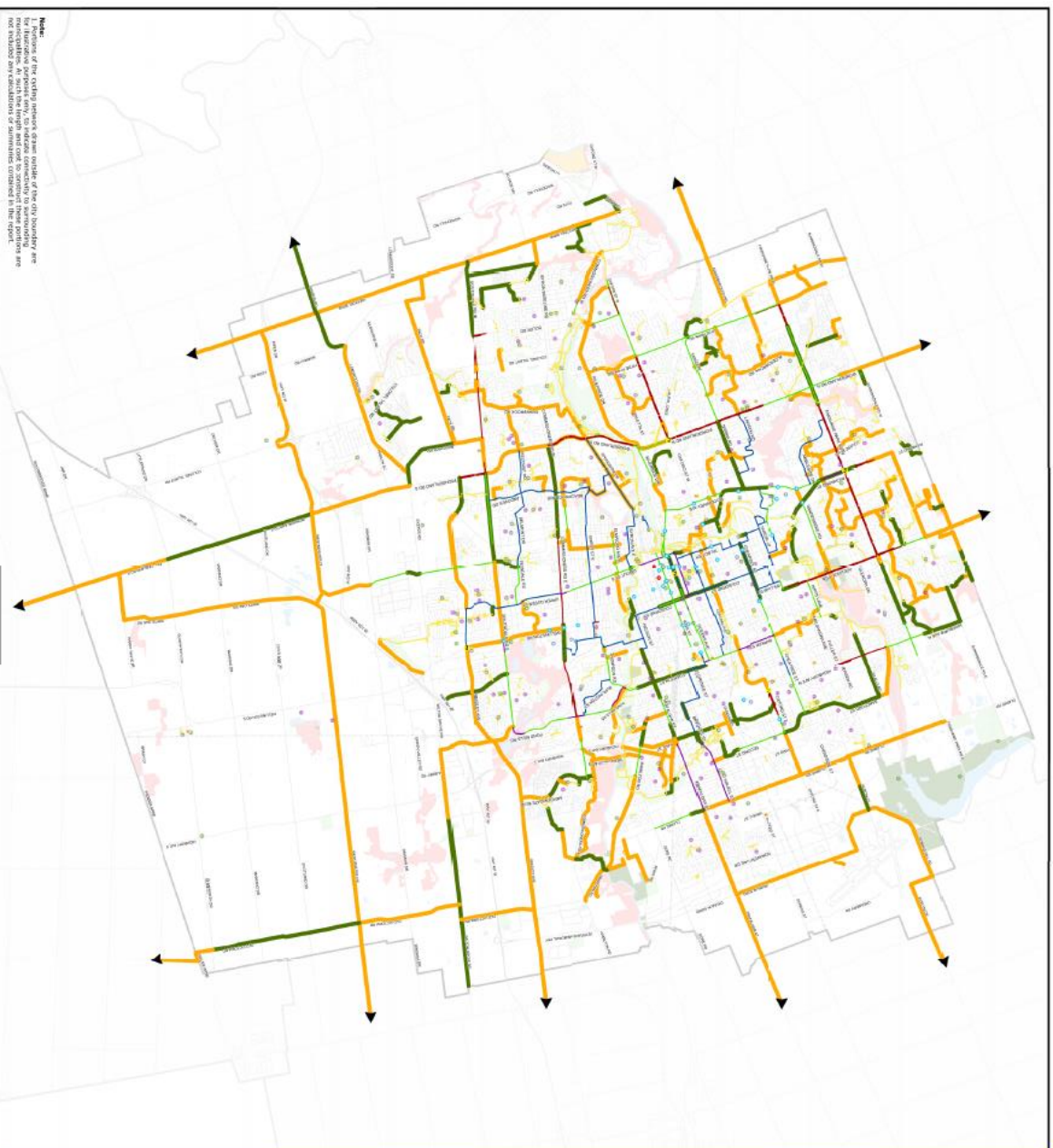
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Map EK-3

City-wide Map
Proposed Short Term &
Medium Term Phasing

Legend

- Existing Cycling Routes**
 - Multi-Use Pathway
 - Leisure/Recreation Facility
 - Bike Lane
 - Signed Bike Route with Signrow
 - Signed Bike Route
- Proposed Phasing**
 - Short Term (0-5 Years)
 - Medium Term (6-15 Years)
- Key Destinations**
 - Community Destination
 - Potential Rapid Transit Station
 - Hospital
 - Public Library
 - School
 - Sport Facility
 - Transit Hub
 - Potential Transit Village
- Other**
 - Road Network
 - Railway
 - Future Development Lands
 - Connection to Surrounding Municipality
 - Environmentally Significant Area
 - Park
 - Conservation Authority Land
 - Provincial Park
 - Watercourse



Map shows the City of London boundary. The City of London is a separate authority and is not included in the calculations of distances contained in this report.



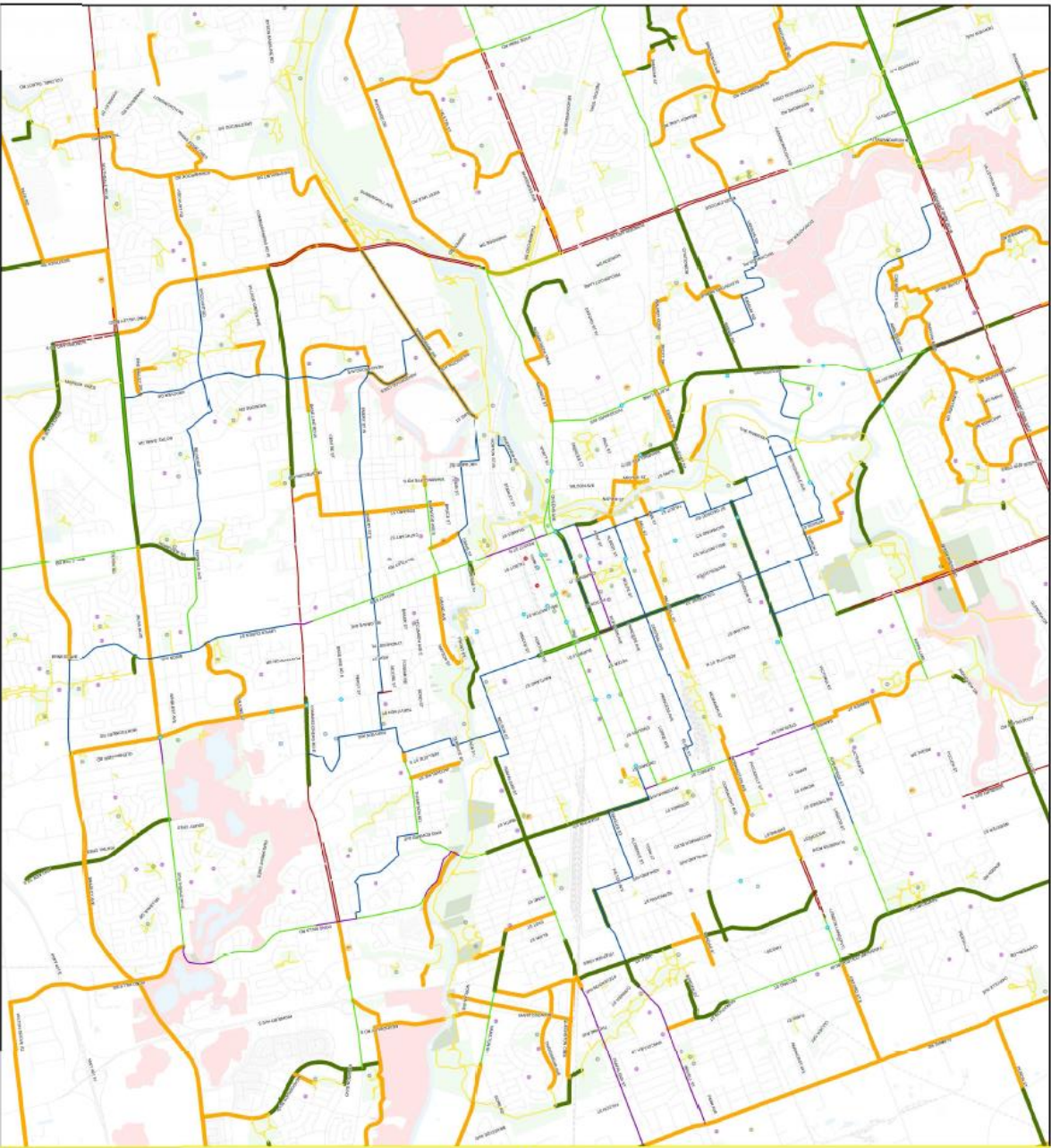
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**Map
EX-4**

Central Area Map
Proposed Short Term &
Medium Term Phasing

Legend

- Existing Cycling Routes**
 - Multi Use Pathway
 - In-Route/ward Facility
 - Bikes Lane
 - Signed Bike Route with Sharrow
 - Signed Bike Route
- Proposed Phasing**
 - Short Term (0-5 Years)
 - Medium Term (6-15 Years)
- Key Destinations**
 - Community Destination
 - Potential Rapid Transit Station
 - Hospital
 - Public Library
 - School
 - Sport Facility
 - Transit Hub
 - Potential Transit Village
- Other**
 - Road Network
 - Railway
 - Future Development Lands
 - Environmentally Significant Area
 - Park
 - Conservation Authority Land
 - Watercourse











Though a proposed phasing strategy has been identified, like the master plan, it is meant to be a flexible tool which can be adapted should additional routes be identified or if implementation is deferred or expedited. A five step process was used to review and select the appropriate phasing for the proposed routes that makeup the cycling network. The process took into consideration three key pieces of input:

- **Public / stakeholder comments:** including input received from the second public information centre – where attendees were asked to highlight their top three priority routes – as well as input from the Cycling Advisory Committee and other local stakeholders.
- **Capital plans and priorities:** cycling routes have been identified in a number of key Council approved planning and implementation documents including the 4 – year capital budget, planned infrastructure renewal list, Smart Moves, Parks & Recreation Master Plan, among others.
- **Network objectives:** overarching objectives established early in the process such as connectivity and continuity, overcoming key barriers, prioritization of separated infrastructure, north-south and east-west connections and major loop routes.

Implementation is meant to be supported by a set of tools that will help to guide future decision making, planning, design and implementation. There are a number of tools identified in section 4.0 of London ON Bikes including:

- Defined roles and responsibilities for those who will be involved in the implementation of the plan;
- A decision making process which builds on the process defined in the 2005 Master Plan and has been updated based on recently adopted guidelines;
- Defined next steps based on the Municipal Class EA process; and
- Operations and maintenance considerations and references.

A plan of this scale will require annual investments. The benefits of implementing a comprehensive city-wide cycling network on an annual basis and where possible with larger capital projects will maintain momentum and achieve cost efficiencies.



Network costs developed for London ON bikes are intended to be used for initial budgeting purposes. The cost of implementation has been categorized as **funded** and **unfunded** projects. An overview of the cost to implement London ON Bikes is presented in Table 4.

Table 4 – Overview of Proposed Costing for London ON Bikes

	Short-term (0 – 5 years)	Medium-term (6 – 15 years)	Short + Medium Term (total)
Within the Road Right-of-Way	\$9,673,000	\$20,013,000	\$29,686,000
Outside of the Road Right-of-Way	\$13,406,000	\$9,873,500	\$23,279,500
Total	\$23,079,000	\$29,887,000	\$52,966,000
Cost Rationalization			
Funded Projects	\$19,607,000	\$14,688,000	\$34,295,000
Unfunded Projects	\$3,472,000	\$15,199,000	\$18,671,000
Cost Per Year (unfunded projects)	\$694,000	\$1,519,900	N/A
Annual Cost per Resident (381,000 - 2016) to address unfunded projects	\$1.82	\$3.99	N/A

Approximately \$34 million of the total estimated cost has already been allocated for through approved major road projects, monies made available for cycling specific infrastructure. Approximately \$18.6 million of the total cost is currently unfunded which will require additional consideration regarding funding options. This equates to \$1.82 per person, per year during the first five years, and \$3.99 per person per year over the course of 10 years (medium term).

EX.5.1 Additional Implementation Considerations

Implementation not only refers to the proposed routes and facility types (i.e. the cycling network) but must also take into consideration the cost of supporting assets such as bike parking, bike lockups, cycling destination infrastructure, roadway wayfinding signage, potential partnership investment in a bikeshare program, etc. These types of supportive programs / initiatives are in the process of being researched and discussed by City staff and have also been identified as some of the key actions (EX.4) to achieve the London ON Bikes vision and objectives. During the 2016 – 2019 multi-use budget deliberations, Municipal Council approved a 10 year capital program valued at \$2.85 million with projected expenditures of \$150,000 in 2016 and \$300,000 per year from 2017 to 2025 using the Federal Gas tax as the funding source.





In addition to supportive amenities, as the routes and facilities that make up the cycling network are implemented, improved operations and maintenance are needed. Costs associated with the operation and maintenance of cycling facilities are necessary to provide a quality user-experience, encourage repeat use, and maximize the return on the capital investments. Operational costs can vary depending on the type of cycling facility and level of service. Operation and maintenance of roadways and pathways pertains to seasonal practices such as sweeping in the summer and ploughing and salting in the winter. London currently uses the Minimum Maintenance Standards as a guide for on-road route operations and maintenance. Operation and maintenance of the off-road system is addressed on a case by case basis. Operations and maintenance of both systems are dependent on available budget, the available tools and staff capacity. Estimated annual costs for the maintenance of the cycling network during non-winter seasons – informed by best practices from comparable municipalities – are presented in Table 5. The information is meant to be used as references until the Minimum Maintenance Standards (MMS) is updated and adopted.

Table 5 – Annual Maintenance Costs for Existing and Proposed Facility Types during Non-Winter Seasons (pavement marking renewals, sweeping, etc.)

Facility Type	Existing (km)	Proposed (km)	Total (km) ¹	Per km Cost (per year)	Estimated Cost (per year)
Signed Bike Route	50.8	157.9	208.7	\$260	\$54,000
Signed Bike Route with Edgeline	0	2.6	2.6	\$6,260 - \$7,660	\$16,000 - \$20,000
Signed Bike Route with Sharrow	10	23	33	\$2,950 - \$6,410	\$97,350 - \$211,530
Paved Shoulder	0	79.5	79.5	\$6,260 - \$7,660	\$498,000 - \$609,000
Bike Lane	60	48.3	108.3	\$6,650 - \$8,050	\$721,000 - \$871,820
Buffered Bike Lane (Hatched)	0	31.9	31.9	\$8,050 - \$9,650	\$256,800 - \$307,840
Buffered Paved Shoulder (Hatched)	0	10.7	10.7	\$7,660 - \$9,260	\$82,000 - \$99,000
Cycle Track	0	7.5	7.5	\$6,650 - \$8,050	\$50,000 - \$60,380
In-Boulevard Multi-use Pathway	42	28.2	70.2	\$1,685 - \$2,310	\$118,000 - \$162,000
Multi-use Pathway	166	78	244.7	\$1,685 - \$2,310	\$412,320 - \$565,260
Total					\$2,305,000 - \$2,961,000

1. See Section 4.3.3 in the London ON Bikes master plan report for cost assumptions



Table 6 below summarizes an estimated annual maintenance cost by facility type for the proposed winter cycling network.

Table 6 – Annual Maintenance Costs for Winter Cycling Network

Facility Type	Existing (km)	Proposed (km)	Total (km) ¹	Per km Cost (per year)	Estimated Cost (per year)
Signed Bike Route	15.1	1.3	16.4	-	-
Signed Bike Route with Edgeline	-	0.7	0.7	\$1,000	\$700
Signed Bike Route with Sharrow	5.8	3.2	9.0	-	-
Bike Lane	33.7	9.4	43.1	\$1,000	\$43,000
Buffered Bike Lane	-	8.3	8.3	\$1,000	\$8,000
Cycle Track	-	5.6	5.6	\$13,500 - \$25,000	\$76,000 - \$140,000
In-Boulevard Multi-use Pathway	19.3	3.9	23.3	\$6,750 - \$12,500	\$157,000 - \$291,000
Total					\$285,000 - \$483,000

The City will review the annual year-round maintenance costs including the winter network, based on an approved level of service strategy and data collected from field operations.

EX.5.2 How will the Plan be Funded?

Understanding that additional funds will be required to achieve the implementation of all recommendations identified in the plan, there are three potential sources which could be explored to help fund the proposed projects / initiatives:

- **Economies of Scale:** coordination with large scale infrastructure projects so that cycling facilities are implemented at the same time as road reconstruction, utility projects such as water mains to reduce the burden of cost.
- **Annual Monies Allocated:** Budgets have been determined by City Council to facilitate the implementation of both the Cycling network as well as the proposed actions. In addition, Council has identified opportunities to allocate monies to future infrastructure maintenance.





- **External Funding Sources:** External funding options at the provincial and federal level such as the federal / provincial gas tax, Ontario Municipal Cycling Infrastructure Program, green municipal fund, infrastructure stimulus program, etc.
- **Partnerships:** Establishing new or enhancing existing public-public or public-private partnerships to identify opportunities to partner on implementation.

EX.6 Summary of Recommendations

Recommendations are identified throughout the body of London ON Bikes. Table 7 summarizes the 36 recommendations found throughout the plan. It is important to note that the City has already begun action on a number of the recommendations noted below. London ON Bikes is meant to be used as a supporting document to reinforce the work being completed and to continue with the necessary changes being made.

Table 7 – Summary of London ON Bikes Recommendations

#	Recommendations
1	The proposed cycling network illustrated on Maps EX-1 and EX-2 is to be adopted as the guide for the implementation of cycling infrastructure in London.
2	As the network changes over time, the mapping and corresponding GIS database should be updated to reflect the most up to date cycling conditions / routes.
3	OTM Book 18 and the other design guidelines / standards identified in this plan should be used as primary references when designing the cycling network in conjunction with existing pathway design guidelines prepared.
4	The information contained within Technical Appendix G is to be used as a guide when designing cycling facilities, developing communication materials or updating other municipal guidelines.
5	The policy considerations and recommendations should be reviewed and, where appropriate, should be integrated into Municipal policies. The policies and plans affected by London ON Bikes noted for each of the policy considerations should be reviewed by staff coordinating the implementation of the cycling master plan when it comes time for future updates or revisions to be made.



#	Recommendations
6	In principle and based on the Planning Act, municipal policies should be updated on a regular basis – every 5 – 10 years to ensure that they remain consistent and reflective of current trends and practices.
7	Review the 13 proposed strategic actions recommended within section 3.2 and consider them as new programs or initiatives are to be implemented by the City in coordination with various community partners.
8	Review and confirm a preferred signage strategy and wayfinding concept and work with local partners to implement signage along key cycling routes including gaps / missing linkages as they are implemented.
9	Review and discuss the adoption and maintenance of a winter cycling network. In the early stages of implementation the City should prioritize existing routes that provide connections to the downtown core.
10	Continue to explore the opportunity of recreational cycling touring loops. The updated loop routes – now consistent with the London ON Bikes network – should be reviewed and confirmed.
11	Should the touring loops be confirmed, a range of promotional tools such as route guides, signage, online interactive mapping, etc. should be explored.
12	Continue to explore and develop a business case for a city-wide Bike-Share Program suitable for London based on best practices from municipalities of similar scopes and scales.
13	Work with Middlesex-London Health Unit, school boards and other supporters of CAN-BIKE London to explore the possibility of implementing a permanent CAN-BIKE program in schools throughout the city, building on the existing program.
14	Building on the existing information found on the city website and the project specific website developed for London ON Bikes a dynamic online Cycling Hub should be developed.





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#	Recommendations
15	Continue to identify opportunities to enhance and promote cycling destinations throughout the city including but not limited to park spaces, major tourism points (e.g. Covent Garden Market and Western Fair District, etc.)
16	Continue to implement bicycle parking with a focus on implementing bike corrals within the downtown core and stylized bike racks in various neighbourhoods throughout the City.
17	The proposed performance measures should be reviewed, confirmed and used to monitor the implementation and success of London ON Bikes.
18	The proposed crossing improvements should be identified and additional considerations for potential projects should be explored for both off-road pathway crossings and intersection improvements.
19	London Police Service should consider enhancing their cycling program including investments in additional bicycles for patrol. – clearly define allocations of monies and specifics of the total # recommended
20	The City of London should establish a budget and program to celebrate local cycling successes including but not limited to "opening" events for new infrastructure or amenities.
21	The City of London should work with local stakeholders and media to increase the profile of cycling at local events.
22	The City should continue to coordinate the implementation of rapid transit routes with cycling routes. When designing rapid transit routes cycling facilities should be integrated where possible or direct connections to the transit routes should be prioritized.
23	Transit hubs and stops should be designed with cycling in mind. Where possible, cycling amenities such as bicycle parking and fix-it stations along with encouragement materials should be provided.
24	The City of London should continue to review and update municipal policies to reflect the policy considerations noted in section 2.0 as well as emerging trends at the provincial and municipal level.



#	Recommendations
25	The proposed phasing plan identified for London ON Bikes should be adopted. The focus should be placed on implementing those priorities identified within the short and medium-term horizon.
26	The proposed facility mapping should be considered when updating other supportive policies such as the Official Plan, Transportation Master Plan and Parks and Recreation Master Plan.
27	The implementation tools identified in the cycling master plan should be used as an internal guide for City staff to facilitate the implementation of the London ON Bikes network as well as supportive programs and initiatives.
28	The KMZ (GoogleEarth™) database should be considered as a potential communication tool and to better understand some of the current conditions of proposed routes.
29	Periodically review the potential partners and the opportunities for partnership identified in Table 7.
30	City staff from various divisions and service areas should continue to work together to coordinate the implementation of London ON Bikes. A point person from each service area should be identified to track progress made and next steps as required.
31	Identify opportunities for the involvement of other municipal service area staff – based on further investigation of potential roles and responsibilities.
32	Utilize the updated decision making process to inform how the master plan is implemented and how additional routes are planned, designed and constructed.
33	As a project moves forward to implementation City staff should investigate the environmental impacts and determine the appropriate schedule to determine next steps.
34	The City should develop level of service standards for the maintenance and operations of cycling facilities based on the updated Minimum Maintenance Standards.





#	Recommendations
35	The City should identify London specific maintenance and operation practices for specific facility type such as in-boulevard facilities and cycle tracks. As new facilities are implemented, the City should consider whether the current maintenance practices address them appropriately.
36	The City should review and consider developing a standardized method of reporting, documenting and addressing concerns related to cycling maintenance and operation. The City should explore both online and manual reporting mechanisms. The results should be reported to Council and the public on an annual basis.
37	The unit costs spreadsheet should be used as a tool to inform future budgeting and costing for the on-road system of facilities. For the off-road system, previously developed guidelines and costing should be used.
38	When determining annual budgets, costs for facility maintenance and cycling programs / education should also be considered and budgeted.
39	Continue to identify projects which can be funded by existing programs established by various service areas within the city (i.e. lifecycle renewal projects).
40	Explore external funding sources and partnerships to help fund the proposed "enhancements" as well as other programs and promotional initiatives.
41	Continue to identify opportunities to coordinate large-scale capital projects to achieve economies of scale and build the costs for cycling facilities into those budgets.

