1)	What infrastructure should be prioritized to make cycling in Ontario safer and more convenient to support commuter cycling between residential communities, major transit stations, employment areas and other destinations travelled to on a frequent basis?	 The type of cycling infrastructure that is most appropriate is site and context specific. What works and makes sense in an urban setting does not necessarily apply in smaller and rural communities. Therefore, rather than identify specific infrastructure priorities, we recommend that the MTO establish criteria for assessing how effectively proposed projects will be in making commuter cycling safer and more convenient. Cycling infrastructure includes on and off-road cycling facilities, end-of-trip facilities and signage. Using criteria such as that listed below means that all applications are reviewed in a common way, but specific to their context. Recommended criteria include asking applicants to explain how their project: provides connection(s) from residential areas to and between key destinations such as work, school, services, transit is part of an identified local cycling network (i.e. part of a cycling master plan) completes a gap in the current cycling network helps achieve municipal objectives (e.g. sustainability, land use planning, economic development, etc.) will enable/encourage more people of all ages to cycle commute addresses an existing barrier to reaching key destinations by bike addresses an existing safety issue serves the needs of a particularly vulnerable segment of users (e.g. children/youth, seniors, people with disabilities) encourages/builds linkages to transit (where applicable) is the only route available (i.e. there are no alternative quieter streets that lead to the same destination) - this would be especially true in small and rural communities where there may only be one road to/from a particular destination or village centre demonstrates appropriateness of facility given context e.g. traffic volumes, speed, road cross section. OTM Book 18 provides guidance on types of facilities and conditions in which those facilities are most appropriate. Applicants could be direc

2) What evidence can demonstrate the impact of cycling infrastructure investments on the number of cyclists and on GHG emissions?	The impact of traffic-related air pollution on health has been recently documented in the Ontario Health Profile on traffic-related air pollution. https://goo.gl/7PdVZH Promoting cycling and investing in cycling infrastructure may help reduce vehicle traffic and greenhouse gas emissions and well as lead to more active lifestyles. This investment is an opportunity to collect data and build an evidence base to further understand the impact of bicycle infrastructure on mode share and on GHG emissions. Some ways to measure the impact on cycling could include pre and post project bicycle counts. This collection of data could be a requirement of funding. Also, to allow for more continuous bicycle counts, provincial funding could be provided to cover bike counters.
3) For local cycling networks, what types of cycling infrastructure would best support commuter cycling between residential communities, major transit stations, employment areas and other destinations travelled to on a frequent basis?	As stated in our response to question 1, in local cycling networks, the types of cycling infrastructure that will best support commuter cycling are context-specific, and will be influenced by surrounding land use and the type of community (i.e. urban, rural, suburban, etc.). In larger centres, cycling infrastructure could include: - separated, buffered or raised cycling facilities in areas of high speed - protected intersections - dedicated bike paths - painted bike lanes - bike carriers on transit buses In smaller and rural communities, cycling infrastructure could include: - bike paths and trails - paved shoulders

	In all types of communities, schools (elementary, secondary and post-secondary) need to be identified as frequent destinations.
	Finally, although traffic calming measures may not be cycling infrastructure per se, projects such as bulbouts, narrowing road widths and pavement markings can improve cycling safety by reducing traffic speed, and be part of an overall objective to increase commuter cycling.
4) What types of cycling infrastructure on provincial highways would best support commuter cycling between residential communities, major transit stations, employment areas and other destinations travelled to on a frequent basis?	 The following are suggestions for the types of cycling infrastructure on provincial highways that could support commuter cycling: bicycle repair stations and secure bicycle parking - To encourage carpooling, the use of public transit and cycling, provide bicycle repair stations and secure bicycle parking facilities (that include anti-theft measures such as cameras and secure bike lockers) at carpool parking lots, transit stations and buffered bike lanes - Depending on the traffic volume and speeds some provincial roads would benefit from paved shoulders, separated bicycle lanes or buffered bike lanes. Book 18 also suggests that buffers or rumble strips should be added to provide increased separation between cyclists and motorists. Thought also needs to be given to protecting cyclists making left turns off of provincial highways. Communities impacted by the 400 series highways have very different bicycle facility needs than more rural highway situations. Consideration should be given to the following:
	 facilities that protecting cyclists at on and off ramps especially those that are sweeping - a redesign of the infrastructure may be required separate bicycle bridge - this is particularly valuable in the continuation of trails and where access to the next on road bridge is further than what is reasonable to cycle. A good example of this is the bicycle bridge that runs parallel to the train bridge crossing over the QEW in Niagara Falls. Fully lit bicycle tunnels - where going over may not be appropriate, going under could be an alternative A completely separated cycling facility may be a more appropriate option in complex highway crossing situations. For example there is about a kilometer of on and off ramps on St. David's Road in Thorold coming from highway 406 where there is no

 of local commuter routes 5) What types of bike parking facilities are needed to support cycling facilities are for commuting and other frequent trips? Bicycle parking for transportation. A lack of parking may deter people from using bicycles for transportation and commuting. Convenient, secure, bicycle parking can encourage cyclists to use their bikes for all kinds of trips. Cyclists require both short-term and long-term parking. Short term is required where bicycles will be left for a short period of time and needs to be easy to acc and convenient (e.g. bicycle racks). Long-term parking is required where bicycle will be left for a long period of time, for example when commuting to work. Par in this case needs to be secure, and protected from the weather (e.g. bike locked) 		refuge of cycling facility available for cyclists.
 needed to support cycling for commuting and other frequent trips? promoting bicycling for transportation. A lack of parking may deter people from using bicycles for transportation and commuting. Convenient, secure, bicycle parking can encourage cyclists to use their bikes for all kinds of trips. Cyclists require both short-term and long-term parking. Short term is required where bicycles will be left for a short period of time and needs to be easy to acc and convenient (e.g. bicycle racks). Long-term parking is required where bicycle will be left for a long period of time, for example when commuting to work. Par in this case needs to be secure, and protected from the weather (e.g. bike locker 		 paved shoulders on highways that are part of provincial cycling network paved shoulders on highways that pass through towns and are therefore key pieces
 provides information on cycling infrastructure, such as bicycle parking facilities, be considered in the planning and design stages of cycling networks. According to the OTM, factors that should be considered when planning and designing bicycle parking include: Type and Location of Bicycle Parking Area; Visibility and Security; Type of Bicycle Parking Facility; Weather Protection; and Clearance Considerations Financial incentives for workplaces and business associations could help in the development of end of trip facilities. One way to ensure that bicycle parking is available, is to provide policy direction 	needed to support cycling	 Bicycle parking is an important part of a connected cycling network, and for promoting bicycling for transportation. A lack of parking may deter people from using bicycles for transportation and commuting. Convenient, secure, bicycle parking can encourage cyclists to use their bikes for all kinds of trips. Cyclists require both short-term and long-term parking. Short term is required where bicycles will be left for a short period of time and needs to be easy to access and convenient (e.g. bicycle racks). Long-term parking is required where bicycles will be left for a long period of time, for example when commuting to work. Parking in this case needs to be secure, and protected from the weather (e.g. bike locker). The Ontario Traffic Manual (OTM) Book 18: Cycling Facilities (https://goo.gl/7MKriS) provides information on cycling infrastructure, such as bicycle parking facilities, to be considered in the planning and design stages of cycling networks. According to the OTM, factors that should be considered when planning and designing bicycle parking Facility; Type and Location of Bicycle Parking Area; Visibility and Security; Type of Bicycle Parking Facility; Weather Protection; and Clearance Considerations Financial incentives for workplaces and business associations could help in the development of end of trip facilities. One way to ensure that bicycle parking is available, is to provide policy direction to recommend that bicycle parking be mandatory at any destination that has a certain

 6) What types of government-owned, publicly accessible facilities should have bike parking? 7) What types of transit or transportation stations should have bike parking to support improved cyclist access (e.g., GO Stations, LRT stations, bus terminals)? 	 There are a number of types of bike parking facilities that can be considered. The Association of Pedestrian and Bicycle Professionals (APBP) Bicycle Parking Guidelines, 2nd edition (<u>http://www.apbp.org/?page=publications</u>) provides additional information regarding the selection of bicycle parking options. These guidelines as well as The Ontario Traffic Manual (OTM) Book 18: Cycling Facilities can be consulted when considering bicycle parking projects. All government-owned facilities should include bicycle parking for the workers and for the general public. This can include schools, colleges and universities. All transit and transportation stations should have bike parking. Please see comments in question # 4.
8) What types of private facilities could potentially be eligible to receive provincial funding for bicycle parking facilities?	The more private facilities that are included, the greater the opportunity for people to choose cycling as a viable transportation option. Some private facilities that should be eligible include: workplaces, Downtown associations, tourist destinations, private bus companies(i.e. Megabus station), not-for-profit agencies, etc.

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