

Chapter 1.0 Planning Considerations

The primary goal of the York Region Pedestrian and Cycling Master Plan (PCMP) is to create a well-connected, safe and functional pedestrian and cycling system that will encourage more people to become and remain interested in walking and cycling.

This can be accomplished by providing facility types that appeal to a wide range of users groups, skill and age levels, including a variety of on-road and off-road facilities such as bike lanes, sidewalks and multi-use trails.

1.1 User Categories

Since it would be impossible to plan and design a pedestrian and cycling network system for every individual users group, two primary users groups are assumed, one based on cyclists and one based on pedestrians. Most other users fall into one of these categories from a facility design perspective. However, there are some users that have special considerations which should be accounted for outside of the two primary design groups.

Guideline:

1.1 Planning and design of a regional pedestrian and cycling network should be primarily based on two design modes: cycle based and pedestrian based. Most other modes fall under these two categories.

1.1.1 Cycle Based

Cycle based users include most users that are on wheels. They can travel at higher rates of speed and require more space to manoeuvre than users who are on foot. Wheeled users are also typically willing or able to travel longer distances than those on foot, but are more susceptible to steep grades.

This group includes cyclists, those using scooters, in-line skaters and skateboarders.

1.1.2 Pedestrian Based

Pedestrian based users are primarily those who are travelling on foot. These users typically travel at lower speeds (with the exception of joggers) than cycle based users and generally require less manoeuvring space.

This group includes pedestrians, joggers, those requiring mobility aides to walk and people in wheelchairs. People in wheelchairs are included in this category because they tend to operate at speeds more comparable to pedestrians than to cyclists.

1.1.3 Skateboarders and In-line Skaters

These user categories require special consideration beyond the primary cycle based and pedestrian based categories. For example, skateboarders and in-line skaters are similar to cycle based users. However, they are more vulnerable to the effect of grades (both up and downhill), require more manoeuvring space and typically do not travel as fast. As a result, they may be able to use cyclist facilities but not in all cases or without adjustments to the design of a facility.

Guideline:

1.2 Skateboarders and in-line skaters have special design requirements which should be considered when designing a trail.

1.1.4 All Terrain Vehicle (ATV) Considerations

Since All Terrain Vehicles (ATV) are motorized vehicles and do not qualify as a sustainable mode of transportation, this document does not directly address their requirements in terms of trail planning and design. However, in rural areas of York Region, ATV's do and will likely continue to share some multi-use trails with users. As a result, there are a few general guidelines that should be given consideration when planning and designing multi-use trails to ensure that all trail users are able to enjoy them in a safe manner:

- Signage should be installed, warning users of potential ATV traffic and vice-versa;
- Trails should be wide enough to allow ATVs to safely pass other trail users; and
- Trails should be patrolled and monitored to ensure that trail users are acting in a safe manner with respect to each other.

Guideline:

1.3 Although ATV's are not a sustainable mode of transportation, their requirements and interaction with users should be considered where ATV use is permitted.

1.2 Cycling Network Classification

The proposed network hierarchy for the cycling network portion of the PCMP consists of two systems:

- The primary “spine system”; and
- The secondary “community system”.

The details of each system are discussed in the following subsection.

Guideline:

1.4 The cycling network portion of the York Region PCMP should consist of a primary “spine system”, and a secondary “community system”.

1.2.1 The Primary “Spine” System

The spine system will consist of cycling routes designed to provide direct links between major nodes and transit and communities throughout York Region including commercial, employment, institutional, residential, tourist destinations and transit terminals and buses, serving as the “backbone” of the cycling network. Spine cycling routes are intended to serve utilitarian (commuter) cyclists, although recreational cyclists may and should be encouraged to use these routes as well.

The proposed spine system will consist primarily of on-road bike lanes, paved shoulder bikeways signed-only routes and some linear off-road multi-use trails. The cycling facilities encompassing the spine network would be located mainly on arterial roads to serve as a “higher-order” cycling network geared towards more experienced and confident cyclists. However, the spine network will also have segments of signed-only cycling routes (some with wide curb lanes) where space constraints will make retrofitting existing roads to accommodate dedicated bike lanes difficult and in most cases not economically feasible. **Chapter 3.0** of this document describes these bikeway facility types in more detail.

Guidelines:

1.5 The spine system should consist of routes designed to be direct and that support cycling for commuting purposes.

1.6 The spine network should be comprised mainly of on-road bike lanes, paved shoulder bikeways with some wide curb lanes and signed-only routes as well as linear off-road multi-use pathways, serving as a higher-order cycling network for experienced and confident cyclists.

1.2.2 The Secondary “Community” System

The purpose of the secondary community system is to provide connections between local destinations in a specific neighbourhood and “feed” them into the spine system. Community routes will typically be planned and implemented by Local Municipalities and Conservation Authorities and should be designed to serve both utilitarian and recreational cyclists. Routes along this system may be less direct than the spine system routes, and take advantage of quieter streets, providing links to local destinations such as schools, community centres, residential areas, local stores and commercial nodes, parks and recreational areas. The community system also provides an alternative to the spine system for longer-distance or primarily recreational cyclists who simply prefer a quieter cycling environment.

The proposed secondary community system may consist of bike lanes, signed-only routes on local residential streets, some with wide curb lanes, as well as off-road multi-use pathways. Bike lanes and paved shoulders should be provided where feasible, especially in new development areas.

Guideline:

1.7 The community system should consist of routes that lead into the spine system. Community system routes should connect local destinations such as schools, community centres, residential areas, local stores, commercial nodes, parks and recreational areas.

1.3 Pedestrian System Classification

The system hierarchy for the pedestrian-based portion of the PCMP will follow the same Primary (Spine) and Secondary (Community) hierarchy as the Cycling Network. The pedestrian system can be further broken down into three elements:

- The pedestrian zonal system;
- Connections between zones; and
- Key missing links within zones.

The details of each element are discussed in the following subsection.

Guideline:

1.8 The pedestrian-based portion of the York Region PCMP should consist of a pedestrian zonal system, which consists of connections between zones and key missing links within zones.

1.3.1 Pedestrian Zonal System

The pedestrian zonal system should consist of geographic zones of pedestrian facilities. A density of facilities and facility types are recommended for each zone in the PCMP, with zones further removed from the Regional Centres having a lower density of facilities. This reduction in facility density should be coincident with a reduction of population and employment density. This system of zones will allow infrastructure to be placed where it is most needed, without ignoring areas that require less infrastructure. Areas contained within pedestrian zones should receive first priority in terms of investment in pedestrian infrastructure, while general policies should oversee the development of pedestrian infrastructure outside of the zones.

Guideline:

1.9 The pedestrian zonal system should consist of geographic zones of pedestrian facilities that see increased pedestrian infrastructure as one gets closer to schools, Regional Centres and transit nodes.

1.3.2 Connections Between Zones

Zones should be connected by supportive pedestrian links to encourage longer distance trips across zonal boundaries. This could include such measures as improving the pedestrian experience along arterial roads by widening or adding sidewalks, or by moving sidewalks back from the roadway to increase the distance between pedestrians and vehicular traffic. These links should be capable of handling relatively large volumes of pedestrian traffic.

Guideline:

1.10 Pedestrian zones should be connected to encourage longer and more frequent trips across zonal boundaries.

1.3.3 Key Missing Links Within Zones (Sidewalks)

While the pedestrian zonal system should dictate the density of links and facilities that are provided within the pedestrian system, it is important to identify missing links in the system that are of such importance that they deserve extra consideration. This could include an arterial road that services a school, but does not have any pedestrian facilities. Identifying key links that are missing can help to move them higher on the list of infrastructure priorities. The pedestrian component of the PCMP focuses primarily on missing sidewalk links on regional roads.

Guideline:

1.11 Key missing links within pedestrian zones should be identified so they may be scheduled as high infrastructure implementation priorities.

1.4 User Characteristics

A successful pedestrian and cycling network should provide a well-defined and comfortable environment for all its anticipated users. It is therefore important to identify the primary target groups for whom the facility is being designed. While there are a wide range of skill and age levels and considerable variation in typical trip length and purpose, from a planning perspective, users can generally be grouped according to age, skill level, trip purpose and whether they are in an urban, suburban or rural environment. In the Region of York, consideration should also be given to the needs of tourists who may choose to walk or cycle to enjoy the many attractions and natural amenities that the Region of York has to offer.

1.4.1 Age

A successful pedestrian and cycling network should account for the needs of all users, young and old. As people age, their needs shift between utilitarian and recreational, short-distance and long distance trips.

While cyclists can be of all ages, different age groups typically have different needs. Children may cycle to their school or to local recreational facilities, or for other short distance trips, but are unlikely to go on longer trips. Many children also cycle for recreational purposes.

Adults are more likely to cycle for longer trips, and some will use a bicycle as a commuting option. As adults age, they tend to move more toward cycling for fitness and recreation.

With respect to pedestrians, walking skill levels tend to vary between younger and older people. Children are less likely to travel alone on streets other than their local neighbourhood streets than are adults. Most parents will not allow children to walk along, or cross, busy roads without adult supervision. Thus if children are to be attracted to a pedestrian system, it is important for links to be created on residential side streets with clear sightlines and moderate traffic volumes and speeds. Children are also more prone to unpredictable behaviour, and therefore require a higher order of attention with regards to safety.

For the elderly, crossing wide streets can be difficult, especially if the pedestrian signals do not allow enough clearance time for seniors to make their crossing. By providing alternative links away from busy, wide

arterial roads, or introducing refuge islands to permit two-stage crossings of wide roads, more seniors are likely to use the system.

1.4.2 Skill Level

Generally speaking, pedestrian and cycling facilities should consider the needs of users of all skill levels. However it should be recognized that a master plan which is aimed towards experienced users will likely intimidate inexperienced users, who then lose any benefit of the plan.

A plan that is aimed toward inexperienced users will attract few additional experienced users. Since the experienced users are likely already using the existing system and typically have preferred routes, they are unlikely to deviate from their usual patterns.

An effective plan should be for the most part designed for new and inexperienced users, but still provide good links for experienced users. With respect to cyclists, less skilled, casual riders tend to cycle for recreation more often than utility, typically stay within their local neighbourhood and will usually avoid busier roads until they gain sufficient confidence and skill. They typically favour easier cycling conditions, such as trails or routes that are relatively flat and have good surfacing. They are more easily discouraged from cycling by poor conditions than experienced riders.

Experienced riders tend to cycle more frequently than casual riders and will typically use the network for both utilitarian and recreational purposes. Experienced cyclists are not averse to using busy roads, but prefer to make use of wide shared curb lanes and on-street bike lanes in urban areas. When making use of off-road trails, they prefer a wide range of conditions that will offer a challenging experience.

1.4.3 Trip Purpose

Recreational users are more likely to use the system for fitness, leisure or touring, while utilitarian users are more likely to use the system to reach specific destinations such as places of employment.

There are several barriers that may deter recreational users from becoming utilitarian users. Weather is a major factor, as the general climate of York Region is not conducive to most users during winter and parts of the fall and spring. A lack of trip end facilities is another factor. Proper workplace showering, changing, and lock-up facilities are essential in encouraging increased utilitarian use of the system. Another factor is trip distance. Most users are only willing to travel a relatively small distance (this is more pronounced for pedestrians than for cyclists). To overcome

this, network facilities should provide links to other transportation modes, most notably public transit. Trip end facilities and linking walking and cycling with public transit are discussed further in **Chapter 6** and should be a priority for the Region of York.

1.4.4 Urban – Suburban / Rural

The use of the network will differ between urban / suburban users and rural users. Since urban / suburban users typically live closer to their destinations than their rural counterparts, they are more likely to make short trips and utilitarian trips. Urban and suburban systems will generally have a higher order of infrastructure than rural systems due to a higher density of users. Urban and suburban systems should have more bike lanes, signed routes and sidewalks, while rural systems may have more roads with wide paved shoulders (which could be used by both cyclists and pedestrians) and off-road trails.