

April 14, 2021

Off Road Vehicle Use of City Roads Task Force
Attention: Pat Dunn, Chair ORV Task Force

(via bharrison@kawarthalakes.ca)

Re: Off Road Vehicle Consultation

Dear Mr. Dunn,

The Haliburton, Kawartha, Pine Ridge District Health Unit (HKPRDHU) is mandated by the *Health Promotion and Protection Act* (HPPA) and the Ontario Public Health Standards to deliver public health programs and services that promote and protect the health of residents in Haliburton and Northumberland Counties and the City of Kawartha Lakes (CKL).¹ This includes addressing road safety to reduce the burden of preventable injuries as well as promoting active transportation and supporting the creation of age-friendly communities.

We understand that the recently introduced provincial Bill 107 has made it necessary for municipalities to address if and where the use of Off-Road Recreational Vehicles (ORVs) will be permitted on municipal roads. As this has potential implications for the health of CKL residents, I am providing recommendations for the CKL ORV Task Force to carefully consider prior to submitting a final report to CKL Council.

The recommendations included in this letter address road safety related to ORV use but also address the connection between ORV use and active transportation where it may be relevant and necessary to do so.

Attached please find a report from our Epidemiology Department which provides health and safety-related evidence and information relating to general and on-road ORV use. For the purpose of this letter, the term ORV is inclusive of all-terrain vehicles (ATVs), side-by-side ATVs, utility-terrain vehicles, and off-road motorcycles (i.e., dirt bikes), and does not include snowmobiles, except where specified.

Over a 5-year period from 2015 to 2019, statistics in the attached report show that there were 1,286 ATV related emergency department (ED) visits among HKPR residents, with almost half of these (602 visits) involving CKL residents. Among residents of CKL, the age groups 10-19, 20-29 and 30-39 accounted for 74.3% of ATV related ED visits during that time. Also in CKL, there was an increase in ED visits from 119 in 2018 to 141 in 2019. During this same 5-year time period, there were 140 hospitalizations in HKPR as a result of ORV injuries, 55 of them involving CKL residents. Of note, the age-standardized rate of ATV-related hospitalizations in CKL in 2019 was 5 times greater than the rest of Ontario.

.../2

PROTECTION · PROMOTION · PREVENTION

HEAD OFFICE
200 Rose Glen Road
Port Hope, Ontario L1A 3V6
Phone · 1-866-888-4577
Fax · 905-885-9551

HALIBURTON OFFICE
Box 570
191 Highland Street, Unit 301
Haliburton, Ontario K0M 1S0
Phone · 1-866-888-4577
Fax · 705-457-1336

LINDSAY OFFICE
108 Angeline Street South
Lindsay, Ontario K9V 3L5
Phone · 1-866-888-4577
Fax · 705-324-0455

ORV-related incidents are classified according to whether they occur on roadways ("traffic") or off-roadways ("non-traffic"). Research indicates that there are higher rates of fatalities and serious injuries for ORV riders on roadways compared to off-roadways,^{2,3,4} being on roadways increases the risk of collisions with other motor vehicles.^{2,5,6} Also, certain design characteristics of these vehicles, particularly ATVs, make them unsafe on roadways.^{2,7} As indicated in the attached report, CKL experienced 45.8% of all HKPR traffic-related ED visits. Some of the risk factors for ORV associated injury in Ontario include alcohol and drug use, riding at night, lack of helmet use, and excessive speed.^{8,9} Research has shown that the majority of ORV-related ED visits occur on the weekend (Friday to Sunday), and almost all are related to recreational use of ORVs.⁸ It is also important to note that accidents involving ORVs are classified as non-traffic accidents unless the contrary is stated, which may under-report ATV related traffic accidents.

Restricting ORVs to trail use only would be the preferred best practice from a public health standpoint, but as CKL has already included limited road access in its current bylaw, HKPRDHU understands that reverting to trail use only is probably not a viable option. We would however recommend that the City continue to take a precautionary approach in their response to the provincial legislation change. A precautionary approach would mean to continue with a restrictive ORV by-law, that identifies specific routes that connect trails, possibly in the southern end of the municipality as the current bylaw is more focused on the northern section. Implementing any changes for a set period of time and then reviewing and possibly revising, as the ORV Task Force is currently recommending, is a sensible and safe approach. It allows for additional access to be granted if this is deemed appropriate or for access to be restricted/revised if necessary.

Taking a precautionary approach would also allow time and space for coordination of the ORV bylaw with the Active Transportation (AT) Master Plan, which is also in process. The HKPRDHU is concerned that opening up ORV access to the extent currently being recommended by the ORV Task Force will be at cross purposes with the goals of the AT Master Plan. Active transportation systems are designed to create infrastructure that supports citizens to conduct their essential activities in an active manner first with increased recreation opportunities as a secondary benefit. Priority areas for active transportation infrastructure development are settlement areas as this supports citizens being able to walk, cycle, or wheel to access essential goods and services. Expanding and enhancing ORV use through increased access is primarily about supporting a recreational activity that has grown significantly in recent years. The HKPRDHU appreciates the challenge faced by CKL Council to implement active transportation and to also increase opportunities for ORV recreational use but believes that this would be best achieved by prioritizing access (and infrastructure) in settlement areas for active transportation by not allowing ORV use in these areas. By doing so, this also promotes safe accessibility within a community which is an important building block of age friendly communities.

In addition, if the CKL ORV Task Force feels that ORV use cannot be restricted to trail use and trail connections only, the HKPRDHU recommends:

1. Restrict ORV use on rural arterial municipal roads. Rural arterial roads tend to have higher traffic volume and higher traffic speeds.

2. In addition to restricting ORV use on rural arterial municipal roads, additional CKL roads or sections thereof may also be restricted if public or staff feedback suggest that road characteristics would not be safe for ORV use. This could include sections of CKL roads that traverse through settlement areas, areas where the road is heavily used by cyclists or walkers/pedestrians or roads that have already been identified as a road cycling route, promoted through City maps.

3. Any exceptions to this restriction (Recommendation 1.) being considered should be based on an objective assessment of the risks and benefits and a clear understanding of what criteria needs to be met for a road to be deemed safe for ORV use. A process would need to be determined for quantifying and comparing the benefits and risks of permitting ORVs on the section of the rural arterial municipal road.

4. The ORV by-law should continue to include information that is applicable to the roads where ORVs are permitted:

- Specify speed limits
 - As per O. Reg. 316/03 (2018), set maximum speed limits of 20 kilometres per hour, if the roads speed limit is not greater than 50 kilometres per hour, and 50 kilometres per hour, if the roads speed limit is greater than 50 kilometres per hour.
- Specify restrictions to time of operation.
 - Prohibit night-time riding. Language that references “dusk to dawn” better addresses seasonality of night-time and is preferred to set times e.g., 7 a.m. to 9:30 p.m. as is currently being proposed.
 - Align the timing of access to roads with that of the trail system (May 1st to December 1st) as the ORV Task Force has proposed.
 - Emphasize provincial regulations relating to minimum age and safety requirements, such as requirement to wear an approved helmet.
 - Determine ways that users can be educated about ORV road-use laws and the risks of riding on the roads. If ORVs are to be permitted on more CKL roads, a coordinated communication strategy for all road users should be employed. This may be a role for the Kawartha ATV Association.
 - Work with local police services to increase enforcement campaigns and gather data that can be used to determine if ORV access should be revised/expanded at the end of the pilot period.

In summary, ORV-related accidents continue to cause injury and death. We ask that as the ORV Task Force moves forward with updating the CKL ORV bylaw, they consider the health implications of increased ORV use on municipal roads, not only in the context of safety itself but also in relation to how it impacts the development of the AT Master Plan and the implications for all other road users and/or impacts on accessibility of settlement areas. We trust that the information and recommendations provided by the HKPRDHU will assist the municipality in establishing a bylaw that meets the needs of not only ORV users, but all citizens of the City of Kawartha Lakes.

Please feel free to use the local statistics provided in the attached report and direct any questions related to this letter of recommendations to Andrew Harris, Epidemiologist (aharris@hkpr.on.ca) or Doreen Boville, Health Promoter (dboville@hkpr.on.ca).

Sincerely,

BOARD OF HEALTH FOR THE HALIBURTON,
KAWARTHA, PINE RIDGE DISTRICT HEALTH UNIT



Natalie Bocking, MD MIPH CCFP FRCPC
Medical Officer of Health, Haliburton, Kawartha, Pine Ridge District Health Unit

References

1. Ontario Ministry of Health and Long-term Care. (2018). *Ontario Public Health Standard: Requirements for Programs, Services, and Accountability*. Toronto, ON: Author.
2. Denning, G. M., Harland, K. K., Ellis, D. G., & Jennissen, C. A. (2013). More fatal all-terrain vehicle crashes occur on the roadway than off: increased risk-taking characterises roadway fatalities. *Injury prevention*, 19(4), 250-256.
3. Williams, A. F., Oesch, S. L., McCartt, A. T., Teoh, E. R., & Sims, L. B. (2014). On-road all-terrain vehicle (ATV) fatalities in the United States. *Journal of safety research*, 50, 117-123.
4. Denning, G. M., & Jennissen, C. A. (2016). All-terrain vehicle fatalities on paved roads, unpaved roads, and off-road: Evidence for informed roadway safety warnings and legislation. *Traffic injury prevention*, 17(4), 406-412.
5. Yanchar NL, Canadian Paediatric Society Injury Prevention Committee. (2012). Position statement: Preventing injuries from all-terrain vehicles. Retrieved from <http://www.cps.ca/en/documents/position/preventing-injury-from-atvs>.
6. Ontario Medical Association. (2009). OMA Position Paper: All-Terrain Vehicles (ATVs) and children's safety. *Ontario Medical Review*, p. 17–21.
7. Fawcett, V. J., Tsang, B., Taheri, A., Belton, K. & Widder, S. L. (2016). A review on all terrain vehicle safety. *Safety*, 2, 15.
8. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Chu A, Orr S, Moloughney B, McFaul S, Russell K, Richmond SA. The epidemiology of all-terrain vehicle- and snowmobile-related injuries in Ontario. Toronto, ON: Queen's Printer for Ontario; 2019.
9. Lord, S., Tator, C. H., & Wells, S. (2010). Examining Ontario deaths due to all-terrain vehicles, and targets for prevention. *The Canadian Journal of Neurological Sciences*, 37(03), 343-349.

Epidemiology report, which provides health and safety-related evidence and information relating to general and on-road ORV use.

Methods

Data were obtained from the National Ambulatory Care and Reporting System (NACRS), the Discharge Abstract Database (DAD), and Vital Statistics (VS), via the Ontario Ministry of Health's IntelliHEALTH application. Population estimates and projections were obtained from the Ontario Ministry of Health's IntelliHEALTH application, extracted March 13th, 2021.

Emergency department (ED) visits and hospital discharge records in Canada are coded using the International Statistical Classification of Diseases and Related Health Problems, 10th revision, Canada (ICD-10-CA). Overall injuries for ATV-related ED visits were identified by the ICD-10-CA codes listed in Table 1 below. The included codes for other all-terrain or other off-road motor vehicles, where the vehicle type was known, do not include snowmobiles (with the exception of V86.2, V86.4, and V86.7, where these are not separated), specialty vehicles mainly used in agriculture, or special construction vehicles. These codes also exclude motorcycles and three-wheeled motor vehicles, unless their primary purpose is for off-road use. Geography is assigned to residents based on where they reside, not where an injury occurred or the location of the emergency department attended.

Table 1. All-terrain or other off-road motor vehicle codes, International Statistical Classification of Diseases and Related Health Problems, 10th revision, Canada (ICD-10-CA). CIHI, 2015.

V86.08 Driver of other all-terrain or other off-road motor vehicle injured in traffic accident
V86.18 Passenger of other all-terrain or other off-road motor vehicle injured in traffic accident
V86.2 Person on outside of all-terrain or other off-road motor vehicle injured in traffic accident
V86.38 Unspecified occupant of other all-terrain or other off-road motor vehicle injured in traffic accident
V86.4 Person injured while boarding or alighting from all-terrain or other off-road motor vehicle
V86.58 Driver of other all-terrain or other off-road motor vehicle injured in nontraffic accident
V86.68 Passenger of other all-terrain or other off-road motor vehicle injured in nontraffic accident
V86.7 Person on outside of all-terrain or other off-road motor vehicle injured in nontraffic accident
V86.98 Unspecified occupant of other all-terrain or other off-road motor vehicle injured in nontraffic accident

Note: V86.2, V86.4, AND V86.7 may include persons injured from snowmobiles.

Within the ICD-10-CA, a traffic accident is defined as any vehicle accident occurring on a public highway (i.e., originating on, terminating on, or involving a vehicle partially on the highway): "A public highway or street is the entire width between property lines (or other boundary lines) of land open to the public as a matter of right or custom for purposes of moving persons or property from one place to another. A roadway is that part of the public highway designed, improved and customarily used for vehicular traffic" (p.888; ICD-10-CA; Canadian Institute for Health Information (CIHI), 2015). Accidents involving

off-road motor vehicles are classified as nontraffic accidents unless the contrary is stated, which may under-report ATV-related traffic accidents. For ED visits specifically identified as traffic accidents the ICD-10-CA codes used are listed in Table 2 below.

Table 2. Traffic accident all-terrain or other off-road motor vehicle codes, International Statistical Classification of Diseases and Related Health Problems, 10th revision, Canada (ICD-10-CA). CIHI, 2015.

V86.08 Driver of other all-terrain or other off-road motor vehicle injured in traffic accident
V86.18 Passenger of other all-terrain or other off-road motor vehicle injured in traffic accident
V86.2 Person on outside of all-terrain or other off-road motor vehicle injured in traffic accident
V86.38 Unspecified occupant of other all-terrain or other off-road motor vehicle injured in traffic accident

Note: V86.2 may include persons injured from snowmobiles; traffic-related ATV accidents may be under reported as accidents involving off-road motor vehicles are classified as nontraffic accidents unless the contrary is stated.

The data provided include a combination of counts, percentages, and age-standardized rates. Age-standardized rates were calculated using the 2011 Canadian population as the standard population. Age-standardization ⁴is statistical method to account for differences between age-distributions in the populations being compared. Confidence intervals (CIs) are the range of variability around an estimate. The 95% CI displays the range surrounding an estimate in which there is a 95% probability that the population value occurs.

⁴ Statistics Canada. [Age-standardized Rates \(statcan.gc.ca\)](http://www.statcan.gc.ca)

Results

Overall ATV-related emergency department (ED) visits

Over the 5-year period 2015 – 2019, there were 1,286 ATV-related emergency department (ED) visits among residents of the Haliburton, Kawartha, Pine Ridge District Health Unit (HKPRDHU), an average of 257.2 per year. Across counties, the majority of these ATV-related ED visits occurred among residents of Kawartha Lakes (602), followed by Northumberland (516), and Haliburton (168). By 10-year age-group, the highest number of ATV-related ED visits occurred among residents 10-19 years of age (386; 30.0%), 20-29 years of age (363; 28.2%), and 30-39 years of age (159; 12.4%) (Table 3). These three age-groups accounted of 70.6% of all ATV-related ED visits over the 2015 – 2019 period.

Among residents of Kawartha Lakes, the highest number of ATV-related ED visits occurred among residents 10-19 years of age (197; 32.7%), 20-29 years of age (163; 27.1%), and 30-39 years of age (87; 14.5%). These three age-groups accounted of 74.3% of ATV-related ED visits for residents of Kawartha Lakes, over the 2015 – 2019 period.

Table 3. Number of ATV-related emergency department visits by age-group, 2015 – 2019, HKPRDHU.

Age-group	ATV-related ED visits (#) 2015 - 2019	Percent of all ATV- related ED visits (%) 2015 - 2019
00-09	34	2.6
10-19	386	30.0
20-29	363	28.2
30-39	159	12.4
40-49	144	11.2
50-59	123	9.6
60-69	45	3.5
70-79	25	1.9
80+	7	0.5
All Ages	1,286	100.0

Table 4. Age-standardized rates of ATV-related emergency department visits, 2015 - 2019, by selected geography.

Geography	Year	ATV-related ED Visits	Age-standardized Rate per 100,000	Lower 95% Confidence Interval	Upper 95% Confidence Interval
KAWARTHA LAKES	2015	110	174.9	143.3	211.1
	2016	105	169.9	138.7	205.7
	2017	127	198.8	165.3	236.9
	2018	119	190.2	157.2	227.8
	2019	141	226.0	189.8	266.8
HKPRDHU	2015	238	156.0	136.4	177.6
	2016	253	171.6	150.8	194.4
	2017	251	167.6	147.2	190.0
	2018	276	185.4	163.8	209.0
	2019	268	186.4	164.4	210.3
ONTARIO*	2015	5,285	39.1	38.0	40.1
	2016	5,190	37.9	36.9	39.0
	2017	5,099	36.9	35.9	38.0
	2018	4,894	34.9	33.9	35.9
	2019	4,843	34.2	33.3	35.2

*For comparison purposes, Ontario contains all other areas in the province, excluding the HKPRDHU.

Traffic accidents ATV-related ED visits

From 2015 – 2019 there were 48 ATV-related ED visits specifically identified as traffic accidents² among residents of the HKPRDHU (3.7% of all ATV-related ED visits), an average of 9.6 per year. Traffic-related ATV injuries resulting in an ED visit occurring among residents of the HKPRDHU occurred most frequently among those 20-29 years of age (20; 41.7%), 10-19 years of age (12; 25.0%), and 30-39 years of age (6; 12.5%). Over the 5-year period, residents of Kawartha Lakes accounted for 45.8% (22/48) of ED visits specifically identified as a traffic-related ATV injury, ranging from an annual high of 71.4% to a low of 33.3%.

Overall ATV-related hospitalizations

Over the period of 2015 – 2019, there were 140 hospitalizations from ATV-related injuries, an average of 28 per year. The majority of these ATV-related hospitalizations occurred among residents of Northumberland (61), followed by Kawartha Lakes (55), and Haliburton (24). By 10-year age-group, the highest number of ATV-related hospitalizations occurred among residents 20-29 years of age (29;

² Traffic-related ATV accidents may be under reported as accidents involving off-road motor vehicles are classified as nontraffic accidents unless the contrary is stated.

20.7%), 50-59 years of age (27; 19.3%), and 40-49 years of age (23; 16.4%) (Table 5). These three age-groups accounted of 56.4% of all ATV-related hospitalizations over the 2015 – 2019 period.

Among residents of Kawartha Lakes, the highest number of ATV-related hospitalizations occurred among individuals 10-19 years of age (11; 20.0%), 50-59 years of age (10; 18.2%), and both 40-49 and 30-39 and year-olds (9 each; 16.4% each). These four age-groups accounted of 70.1% of ATV-related hospitalizations for residents of Kawartha Lakes from 2015 – 2019.

Table 5. Number and percent of ATV-related hospitalizations by age-group, 5-year total (2015 – 2019), HKPRDHU.

Age-group	ATV-related Hospitalizations (#) 2015 - 2019	Percent of all ATV-related Hospitalizations (%) 2015 - 2019
00-09	3	2.1
10-19	20	14.3
20-29	29	20.7
30-39	17	12.1
40-49	23	16.4
50-59	27	19.3
60-69	10	7.1
70-79	7	5.0
80+	4	2.9
All Ages	140	100.0

In 2019, the age-standardized rate of ATV-related hospitalization for residents of the HKPRDHU was 15.8 per 100,000 population, about 3.5 times greater than the rest of Ontario (4.4 per 100,000). The age-standardized rate of ATV-related hospitalizations in 2019 for Kawartha Lakes residents was 22.8 per 100,000 population, about five times greater than the rest of Ontario (4.4 per 100,000) (Table 6). Over the 5-year period 2015 – 2019, the number of ATV-related hospitalizations ranged from a low of 23 to a high of 33, though no annual trend over time was observed (Table 7).

Table 6. Age-standardized rates of ATV-related hospitalizations, 2019, by selected geography.

County	Year	Hospitalizations (#)	Age-standardized Rate per 100,000	Lower 95% Confidence Interval	Upper 95% Confidence Interval
KAWARTHA LAKES	2019	14	22.8	12.4	38.0
HKPRDHU	2019	23	15.8	9.9	23.7
ONTARIO*	2019	627	4.4	4.2	4.9

* For comparison purposes, Ontario contains all other areas in the province, excluding the HKPRDHU.

Table 7. Number of ATV-related hospitalizations, 2015 – 2019, HKPRDHU and Kawartha Lakes.

Year	HKPRDHU ATV-related hospitalizations (#)	Kawartha Lakes ATV-related hospitalizations (#)	Kawartha Lakes percent (%) of HKPRDHU ATV- related hospitalizations
2015	27	9	33.3%
2016	31	10	32.3%
2017	26	14	53.8%
2018	33	8	24.2%
2019	23	14	60.9%
2015 - 2019	140	55	39.3%

ATV-related Mortality

Currently, provincial mortality data is only available until the end of 2015, therefore mortality data covering the same 2015 – 2019 period is not available. Over the ten-year period 2005 – 2015, there were 11 ATV-related deaths among residents of the HKPRDHU. The youngest death occurred in the 10–14-year-old age group and the oldest death occurred in the 75-79-year-old group. The majority of deaths (54.5%) occurred among residents aged 25-29 and 45-49. Over the most recent six-year period (2010-2015) there were 3 ATV-related fatalities within the HKPRDHU (Table 8).

Table 8. Number of ATV-related deaths, 2010 – 2015, HKPRDHU and Kawartha Lakes.

County	Year	ATV-related deaths, 5-year total (#)	Age-standardized Rate per 100,000	Lower 95% Confidence Interval	Upper 95% Confidence Interval
HKPRDHU	2010 – 2015	3	2.2	0.5	6.2
ONTARIO	2010 – 2015	235	1.8	1.5	2.0