

Guidelines for the Construction of Recreational Trails on or in Proximity to a Departmental Road

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Introduction

The Province of Manitoba supports the creation of the Trans-Canada Trail system. In order to minimize the exposure of trail users to unnecessary risks however, recreational trails should not generally be developed within provincial highway rights-of-way. Normally, these installations should be placed on property outside of the highway right-of-way.

Notwithstanding the above, Manitoba Infrastructure and Transportation (the Department) recognizes it is not always possible to obtain property which is outside of the highway right-of-way. Therefore, in unique circumstances it may be necessary to allow some trail development within the Department's right-of-way to avoid gaps in the trail system and assure route continuity. In these circumstances, the Department will allow recreational trail development within the highway right-of-way subject to conditions outlined in these guidelines.

Trail Planning Guidelines

General

When planning a trail to be located within a highway right-of-way, the following general guidelines will protect both the trail user and highway user from unnecessary risks:

1. The trail will be designed and constructed in a manner that does not interfere with the safe and free flow of traffic on the highway.
2. The trail will be located in a manner that does not constitute a safety hazard for pedestrians, cyclists and vehicles currently using the travel lanes or shoulders of the highway.
3. The trail will not create a hazard for pedestrians, cyclists or off road vehicles that currently utilise the non-roadway portion of the highway right-of-way.
4. The trail will be planned in such a way that it does not interfere with right-of-way requirements for the future upgrading of the highway.
5. The trail will be designed so that it does not have a detrimental effect on the Department's existing or future structures such as bridges, overpasses, culverts, sign structures etc.
6. The trail location will be selected to ensure that it does not interfere with or adversely affect existing utilities, railway crossings, or other installations that are in the vicinity of the proposed trail location.
7. The trail will not adversely effect existing Departmental drainage facilities.
8. The users of the trail will operate in accordance with the requirements of The Highway Traffic Act and The Off Road Vehicles Act.

Location

The following guidelines are to be followed when determining the location of a trail within the highway right-of-way:

1. Trail locations will generally be restricted to the outermost edge of the right-of-way to maximize safety for both highway users and trail users. If trail construction cannot take place at the outer edge of the right-of-way, the trail may be placed closer to the edge of the roadway, subject to it being located outside the minimum clear zone for the facility as defined in Chapter 3.1 of the "TAC Geometric Design Guide for Canadian Roads".
2. At any location where the minimum clear zone requirements cannot be achieved, consideration will be given to locate the trail within the clear zone subject to the implementation of mitigative measures, such as the erection of a traffic barrier satisfactory to the Department.
3. Where a parallel trail crosses an intersecting road or driveway, special attention must be paid to its location because vehicles turning off the main roadway do not generally expect to encounter trail users. At these intersections, trail locations must be selected recognizing the following competing priorities:
 - Minimize turning vehicle speed
 - Maximize stacking space between the parallel roadway and the trail
 - Maximize driver recognition of the trail
 - Maximize trail user recognition of the turning vehicle

To satisfy the above requirements the trail should either be located close enough to the intersection to allow adequate visibility or far enough to allow sufficient reaction time for a driver to stop. As a general rule of thumb the trail separation at an intersection should fall into one of three categories shown on the table below:

Parameter	Recommended Separation Distance		
	<1-2 m	4-10 m	>30 m
Vehicle turning speed	Lowest	Higher	Highest
Vehicle stacking distance	None	Yes	Yes
Driver awareness of trail user	Higher	Lower	High or Low
Trail user awareness of vehicles	Higher	Lower	Highest

4. The trail must include appropriate warning signs, in accordance with the requirements of the "TAC Bikeway Traffic Control Guidelines for Canada", telling the trail user to prepare to stop as he/she approaches an intersecting road/driveway crossing
5. All costs associated with the provision and maintenance of any trail signage required by the Department will be the responsibility of the applicant.

Highway Crossings

The number of at-grade crossings of the trail over highways shall be minimized. At locations where a highway crossing is deemed necessary, the Department will work with the applicant to assess the safety of the crossing and to assist them in obtaining the necessary approval from either the Highway Traffic Board or the Department.

Departmental approval is required for all highway crossings. The Department will only consider highway crossings if they meet the following minimum criteria:

1. All crossing locations must meet the minimum sight distance requirements contained in Figure 3.4.7.2 and Table 3.4.7.1 - "Minimum Sight Distance for Bike Path Crossing" of the "TAC Geometric Design Guide for Canadian Roads".
2. The crossing should normally intersect the highway at a 90-degree angle. If a 90 degree angle cannot be achieved the angle shall be as close to 90 degrees as possible and in no case shall it be less than 75 degrees.
3. The trail must approach and meet the roadway at the same elevation as the adjacent roadway lanes. The grade of the approach shall either be flat or match the existing highway cross-fall for a minimum distance of 3 m from the shoulder edge.
4. Crossing more than three driving lanes will not be permitted unless a refuge island is available or the crossing is located at a signal-controlled or all-way stop controlled intersection. Any intersection upgrading deemed necessary to accommodate a trail crossing will be undertaken at the cost of the applicant.
5. If possible, the crossing should be located at an existing intersection. If a crossing cannot be located at an existing intersection it must be located a minimum of 180 m away from any existing intersection or driveway to minimize driver confusion.
6. The trail shall include appropriate warning signs, in accordance with the requirements of the "TAC Bikeway Traffic Control Guidelines for Canada", telling the trail users to prepare to stop as they approach highway crossings.
7. All costs associated with the installation of the highway crossings to Departmental standards and the provision and maintenance of any trail signage required by the Department will be the responsibility of the applicant.
8. The Department will not permit the installation of trail information signing, pedestrian crosswalk signing, pavement marking, or pedestrian corridors on the highway.
9. The trail crossing location shall include appropriate access control measures to prevent motorized vehicles from using the trail (e.g. bollards). These devices shall be located outside of the minimum clear zone as defined in Chapter 3.1 of the "TAC Geometric Design Guide for Canadian Roads" or shall be of an approved breakaway design satisfactory to the Department.
10. The highway crossing shall be designed to maintain existing ditch drainage patterns to the satisfaction of Manitoba Transportation & Government Services and Manitoba Conservation.

Trail Continuity

Where trails are planned next to highways, the general principles for deciding on the location of the trail are as follows:

1. Locate the trail so that users will not find it easier to use the highway surface than the trail itself.
2. Ensure a distinct and continuous main route for long-distance travel alongside the highway, or parallel to it in other corridors, to avoid gaps in trails.

In cases where the above principles cannot be met due to rough terrain, bodies of water, or other obstructions, the Department is willing to work with applicant to ensure continuity between sections of major trails and to eliminate short gaps in trails. If gaps of less than approximately 5 km are left in trails, the Department fears that users may move onto the highway to circumnavigate the gap thereby creating a safety concern. Failure of the applicant to address the traffic safety issues of gaps may result in trail closure. Gaps of more than 5 km are generally considered to constitute a trail transit section and can be accommodated by treating each end of the gap as a trail head.

In working with the applicant to eliminate small gaps, the Department will try to find solutions that keep trail users well separated from highway traffic. The Department understands that this may not always be possible and may consider allowing trail traffic to use highway shoulders and bridges in exceptional circumstances if the following guidelines are met:

Shoulders

The use of highway shoulders may be approved for short distances (less than 1Km) to eliminate gaps in trails if no other feasible solution exists. Highway shoulders can only be considered for use if the following criteria are met:

1. Average annual daily traffic of highway is less than 1500 vehicles per day.
2. Shoulder width is no less than 1.8 m. If posted speeds exceed 90 km/h or if annual truck percentages are greater than 10% the minimum allowable shoulder width is increased to 2.3 m.
3. Appropriate signing is installed on the trail (at the applicant's cost) to direct pedestrians and cyclists to use the appropriate side of the road for shoulder travel (e.g., pedestrians shall travel facing traffic while bicycles shall travel with traffic).
4. All the guidelines for highway crossings listed above are adhered to, as pedestrians and cyclists will be required to cross the highway to travel on the appropriate shoulder, depending on the direction of travel.

Bridges

Every effort should be made to **avoid** the shared use of highway bridges unless the bridge was specifically built to accommodate pedestrians (i.e. has a fully developed sidewalk). If a sidewalk is in place, pedestrian trail users can use it to cross the bridge while all other trail users can cross the bridge in a manner that conforms to the requirements of The Highway Traffic Act and The Off-road Vehicles Act. If, due to site specific constraints, an applicant wishes to use a bridge that does not have a sidewalk, the request must be reviewed and may be approved by the Director of Bridges and Structures and the Director of the Traffic Engineering Branch.

All requests will be reviewed on an individual basis recognizing that trails will not be allowed to share bridges unless the following minimum criteria are met:

1. Average annual daily traffic on highway is less than 1500 vehicles per day.
2. The bridge length is less than 60 m.
3. Shoulder width on the bridge and adjoining road is no less than 1.2 m. If posted speeds exceed 90 km/h or if truck percentages are greater than 10% the minimum allowable shoulder width is increased to 1.8 m.
4. Appropriate signing is installed on the trail (at the applicant's cost) to direct pedestrians and cyclists to use the appropriate side of the bridge for shoulder travel (e.g., pedestrians shall travel facing traffic while bicycles shall travel with traffic).
5. Existing or future bridge approach guardrail does not interfere with the safety or access of the trail users.
6. All the guidelines for highway crossings listed above are adhered to, as pedestrians and cyclists will be required to cross the highway to travel on the appropriate side of the bridge, depending on the direction of travel.

The construction of independent bridge structures within the highway right-of-way for the use of trail users only, may be permitted if they do not interfere with existing drainage patterns and do not have a detrimental effect on the Department's existing or future bridge structures. All bridge plans must be sealed by a Professional Engineer and reviewed by the Director of the Bridges and Structures.

Detailed Design and Related Engineering Analysis

The Department may require detailed plans and analysis when a proposed trail location impacts the highway right-of-way due to significant geometric and/or topographical features such as hills, ditches, rock outcrops, rivers, ravines etc. On request, the applicant must provide detailed plans and analysis, prepared and sealed by a Professional Engineer or other approved qualified professionals addressing slope stability, drainage mitigation, and all other trail location issues identified by the Department. All costs for detailed engineering analysis will be the responsibility of the applicant.

Trail Construction Guidelines

Notification

The applicant shall notify the Department's Regional Maintenance Superintendent or designate at least 48 hours (2 working days) prior to commencing construction on any portion of the trail located within a highway right-of-way or within a Control Area.

The applicant shall notify the Regional Maintenance Superintendent or designate upon completion of construction on the trail to allow for a site inspection. In emergencies such as a vehicle accident or highway

damage during the work on the trail, the Regional Maintenance Superintendent shall be notified as soon as possible.

Construction Safety

The applicant shall ensure the safe movement of highway traffic and pedestrians during construction and maintenance activities on the trail, by providing and maintaining the necessary signs, barricades, channeling and other devices in accordance with the Departmental Work Zone Traffic Control Manual. . Please refer the latest version of the Department's "Work Zone Traffic Control Manual" revised March, 2002 on the internet at <http://www.gov.mb.ca/tgs/contracts/workzone/index.html>.

Damage to Department Facilities or Property

Costs incurred by the Department as a result of any damage within the highway right-of-way related to the construction, maintenance, and operation of the trail will be the responsibility of the applicant. Earthwork will be restricted to minimal quantities required for the grading of the trail. Existing highway side slope and back slope ratios must be maintained.

On-going Operation and Maintenance of the Trail

The applicant shall maintain and operate the trail in compliance with these guidelines and with any conditions contained in the original approval of the trail, without assistance from the Department.

Should the applicant (i.e. Trail Committee) dissolve at any time, the Department will not assume responsibility for the trail. The trail shall be closed, decommissioned and the right-of-way restored to its original condition. All costs associated with the removal of the trail shall be borne by the applicant.

Any changes to the route or nature of the trail located in highway right-of-way will require the prior approval of the Department.

The applicant will be responsible for a proportion of the costs associated with the modification and/or relocation of all or part of the trail if required due to highway improvements, modifications, maintenance, or construction or due to Departmental safety concerns arising after trail construction, as outlined below.

- Up to 2 years after construction the applicant pays 0% of the cost of modification/relocation
- In the 3rd year after construction the applicant pays 25% of the cost of modification/relocation
- In the 4th year after construction the applicant pays 50% of the cost of modification/relocation
- In the 5th year after construction the applicant pays 75% of the cost of modification/relocation
- Beyond 5 years after construction the applicant pays 100% of the cost of modification/relocation

Administrative Procedures

Application Procedure

Applications to construct a recreational trail on departmental roads, provincial lands under the administration of Manitoba Transportation & Government Services, or on lands within controlled areas or control circles adjacent to departmental roads are to be submitted to the appropriate Director of Regional Operations (DRO) or appointed delegate.

Applications shall be submitted for any proposed trail that:

1. Is located within the right-of-way of a Limited Access Highway or Provincial Road
2. Is located within the controlled area that parallels an existing Limited Access Highway or a control circle that has been established at the intersection of a Limited Access Highway and another road.
3. Is within 38.1 meters of the existing right-of-way boundary of a Provincial Road.

Applications shall include a written description of the proposed project, including an explanation of why it is not feasible to locate the trail outside of the highway right-of-way. The application is to be accompanied by 6 copies of the proposed plans and any other information the Department may require for review and evaluation purposes. The Department will assume absolutely no responsibility for the detailed design, construction or maintenance of the trail or any costs related thereto.

The Applicant's plans are to show the following information:

1. A key or location map showing the general location of the proposed project.
2. Legal land description and number(s) of the departmental roads involved.
3. Location, alignment, width and length of the proposed trail relative to the highway centreline.
4. Location and description of all trail signing, culverts, and any other proposed trail facilities.
5. Proposed construction and/or installation methods.
6. Each drawing shall be dated and numbered for reference purposes.

Review Procedure

A Department-wide review process will screen the trail plans to ensure compliance with Departmental guidelines. In addition to the Regional office review, the Highway Planning & Design Branch, the Traffic Engineering Branch, the Bridges & Structures Branch, and the Property Services Branch will also review the plans. All branches are to submit written comments to the originating Region within 30 working days (6 weeks) of receipt of the plans.

If the review procedure recommends approval in concept, trail locations will be staked by the applicant and the Department will conduct a field review to identify any outstanding issues or concerns with trail location. Only following this field review will final approval for construction be granted

Permits

Departmental approval of trail construction on highway rights-of-way will be conditional on the applicant obtaining all of the necessary permits and/or approvals as listed below:

Highway Access

If the trail is to cross a Limited Access Highway, the applicant will be required to obtain a permit from the Highway Traffic Board. The Department will work with the applicant to assess the safety and location of the crossing and assist them in obtaining the necessary permit.

Approval of the local municipality will be required if the trail crosses a designated highway which forms a connecting link between declared highway sections through the built up area of a community.

Approval for the crossing of all other departmental roads will be included in the trail licence issued by the Department.

Highway Control Areas

Approvals for trails located outside of the highway right of way, but within the controlled areas that parallel a Limited Access Highway or a control circle that has been established at the intersection of a Limited Access Highway and another road, will be in the form of a permit from the Highway Traffic Board. The Department will work with the applicant to evaluate the impacts of the proposed trail location and assist them in obtaining the necessary permit.

Approvals for trails located outside of the highway right-of-way but within 38.1 m of the existing right-of-way boundary of Provincial Roads will be in the form of a permit issued by the Department.

Adjoining Land

If the trail crosses land adjoining the highway right-of-way that is under the Department's administration and control, the applicant will require an easement from the Department.

If the trail crosses crown land adjoining the highway right-of-way that is under the Department of Conservation's administration and control, the applicant will require a permit from Lands Branch.

If the trail crosses privately owned land adjoining the highway right-of-way a land use licence or other acceptable documentation will be required from the landowner.

Other Required Approvals

The applicant shall comply with all applicable federal and provincial statutes and all applicable municipal bylaws and obtain any other approvals, licenses or permits that are required from other government departments and agencies, and acknowledges that the trail licence may not necessarily be sufficient for the applicant's purposes. The applicant will be responsible for obtaining any environmental approvals that may be required.

Approval Procedure

Approval of trail construction on highway rights-of-way will be in the form of a licence issued by the Department and shall be subject to any conditions specified in the licence. The licence will be signed by the Director of Regional Operations (DRO) or appointed delegate and an authorized official for the applicant.

Approval of trail construction outside of the highway right-of-way but within the highway control area will be in the form of a permit issued by the Department or the Highway Traffic Board and shall be subject to any conditions specified in the permit.

The Department will require a minimum of 5 copies of the finalised plans before the licence allowing trail construction will be issued.

Liability Issues

Any liability related to the trail and its use will be the responsibility of the applicant.

The applicant shall be responsible for locating all existing utilities and obtaining the necessary approvals from the utility owners to locate on, over or adjacent to the affected utility prior to any construction taking place.

The applicant is responsible for any protective measures that may be required by the utility to protect the existing installation from damage.

The Department's consent does not eliminate the need for the applicant to comply with the requirements of any other government department or authority.

Liability Insurance

The applicant shall, prior to or at the time of the approval of its trail, file with the Department a Certificate of Insurance satisfactory to the Department.

The applicant shall also provide the Department with annual written evidence of the insurance coverage required under the agreement.

The applicant agrees to maintain general liability insurance against claims for personal and bodily injury, death or damage to property arising out of all operations of the applicant, its officers, employees or agents under the agreement.

The insurance shall provide \$5 million per occurrence limits of liability with terms and conditions satisfactory to the Department.

The province as owner of the highway right-of-way shall be added as an additional insured to the applicant's liability policy. The policy shall contain a cross liability clause and provide coverage for operations, participant injury, blanket contractual, non-owned auto and extended bodily injury.

Checklist

Application Procedure

- Application received
 - 5 copies of plan
 - Written description of project, including explanation of why trail located in right-of-way
 - Proof of liability insurance

Technical Review Procedure

- Trail location review
 - Outside edge of right-of-way **OR** Outside clear zone **OR** Mitigative measures if located inside clear zone
- Crossing intersecting road or driveway
 - <1-2m from edge of highway **OR** 4-6m from edge of highway **OR** >30m from edge of highway
 - Warning signs as per TAC Bikeway Traffic Control Guidelines for Canada
- Highway Crossings
 - Required sight distance
 - Intersection angle 75-90 degrees
 - Trail elevation matches road elevation
 - Cross fewer than 4 traffic lanes **OR** Refuge island available **OR** Signalized intersection or all-way stop controlled location
 - Cross at existing intersection **OR** More than 180m from nearest intersection
 - Warning signs as per TAC Bikeway Traffic Control Guidelines for Canada
 - Access control measures to prevent vehicles from accessing trail (e.g. bollards)
 - Existing ditch drainage patterns maintained
- Use of highway shoulders
 - AADT < 1500 VPD
 - Posted speed < 90km/h AND trucks < 10% min. shoulder width = 1.8m **OR** Posted speed > 90km/h OR trucks > 10%, min. shoulder width = 2.3m
 - Signing on trail to direct users to use appropriate side of road for shoulder travel
 - All highway crossing guidelines are met at location of shoulder access

- Use of highway bridges
 - AADT < 1500 VPD
 - Posted speed < 90km/h AND trucks < 10% min. shoulder width = 1.2m OR Posted speed > 90km/h OR trucks > 10%, min. shoulder width = 1.8m
 - Bridge length < 60m
 - Shoulders extend beyond end of bridge for safe transition
 - Signing on trail to direct users to use appropriate side of road for shoulder travel
 - All highway crossing guidelines are met at location of shoulder access
 - Approval received from Director of Bridges & Structures Branch and Director of Traffic Engineering Branch

Use of departmentally administered land adjacent to the highway right-of-way authorized by the Department (if required).

Detailed design and related engineering analysis submitted by applicant (if required)

Plans reviewed by Regional staff, Highway Planning & Design Branch, Bridges & Structures Branch, Traffic Engineering Branch, and Property Services Branch.

Trail staked by applicant and field review conducted by Departmental staff

Approval Procedure

All necessary permits obtained by the applicant

Easement for use of departmentally administered land adjacent to highway right-of-way obtained (if required)

Formal agreement signed by the applicant and returned for Director of Regional Operations signature

Formal agreement issued