

TRAFFIC AND SAFETY NOTE 903B

SUBJECT: **Maintaining Traffic During Roadway Work at Railroad Crossings**

PURPOSE: **Consistent and Proper Maintaining Traffic Schemes at Railroad Crossings**

COORDINATING UNIT: **Governmental and Railroad Coordination Unit**

INFORMATION: Railroad crossings need to be considered early in the design process. The application of this guideline is intended for projects where traffic maintenance during construction is temporary (i.e., less than one day's duration) and actively conducted such as with a traffic regulator. Examples of these types of projects include mill and resurface jobs where all lanes are open at night and preventative maintenance crack overbanding and spot patching jobs. Unattended traffic shifts accomplished by signing and arrow panels at crossings, roadway widenings, and/or concurrent railroad work require more extensive considerations than described in this guideline. For such projects, contact should be made to Lansing Design's Trunkline Crossing Program for their assistance.

The common practice of 'gapping out' the crossing area in the project work limits is not recommended. Extending the work limits to the edge of the crossing surface only adds approximately \$2,000 (2003 dollars) to the roadway project and results in a contiguous segment of refurbished roadway. It costs many times this amount to develop a stand-alone project to refurbish 15 ft (4.6 m) of pavement on both crossing approaches at a later date.

Design of a roadway project should consider two types of possible impacts upon the crossing environment. The first consideration is whether or not construction work is intended to take place within 15 ft (4.6 m) of the live rail 25 ft (7.6 m) for crossings with the Canadian National/Wisconsin Central Limited (CN/WCL). If roadway construction equipment operates closer than these limits, a railroad watchperson must be present and it is the contractor's responsibility to obtain and pay for this service as described in the COORDINATION CLAUSE FOR RAILROAD WORK document in the project proposal.

The main purpose of a railroad watchperson being present during construction adjacent to the crossing is to ensure the crossing is clear of construction equipment and safe for train passage. A secondary function may be to inform the contractor well in advance of approach train movements. Typical charges for a railroad watchperson are \$100 per 8 hour day to \$900 per 8 hour day (2008 dollars).

In addition to the contractor obtaining the services of a railroad watchperson, the contractor will be required by the railroad to purchase an insurance policy against

damage to railroad equipment and facilities as described in the SPECIAL PROVISION FOR RAILROAD PROTECTIVE LIABILITY INSURANCE document, also in the project proposal. The cost of such a policy is on the order of \$4,000 (2008 dollars). The NOTICE TO BIDDER document in the project proposal provides the train speed and frequency information necessary for the contractor to estimate the cost of railroad protective liability insurance in bidding the roadway work.

The manner by which traffic will be maintained at the crossing during construction needs to be considered. Maintaining traffic issues can arise even if no physical construction work is performed in the vicinity of the crossing. An example of this situation is where a long traffic regulator zone on a two-lane two-way roadway contains a crossing. When traffic is running reverse to normal travel, the normal right-hand approach display of railroad warning devices at the crossing is then on the far left departure side of the crossing.

In order to maintain a consistent message as to the stopping point to the motorist, contractor stationing of an intermediate roadway traffic regulator is required as described in the paragraphs entitled "SPECIAL CONSIDERATIONS AT RAILROAD CROSSING" to be inserted into the Special Provision for Maintenance of Traffic. Please see page 4 of these notes. Insert "A" is appropriate when traffic regulator zones will occur over the crossing while insert "B" is appropriate when a traffic regulator is not used.

When referring to the crossing, use the "G O Number" (Crossing Number of the Control Section) or the National Inventory Number (NI#) rather than the grade crossing milepoint. The NI# will be located on a tag the size of a motorcycle license plate, in a format of six digits and a letter, on one of the flasher masts, crossbuck posts, or nearby utility pole.

Four possible project scenarios and the appropriate railroad related bid documents are illustrated in the following examples.

1) Milling to crossing surface on roadway, traffic maintained by traffic regulator. The following should be included in the bid package: SPECIAL CONSIDERATIONS AT RAILROAD CROSSING to be inserted into the Special Provision for Maintenance of Traffic – Format A, COORDINATION CLAUSE FOR RAILROAD WORK, SPECIAL PROVISION FOR RAILROAD PROTECTIVE LIABILITY INSURANCE, and NOTICE TO BIDDER (with Train Speed and Frequency)

2) Milling to crossing surface on roadway, traffic maintained by detour. The following should be included in bid package: SPECIAL CONSIDERATIONS AT RAILROAD CROSSING to be inserted into the Special Provision for Maintenance of Traffic – Format B, COORDINATION CLAUSE FOR RAILROAD WORK, SPECIAL PROVISION FOR RAILROAD PROTECTIVE LIABILITY

INSURANCE, and NOTICE TO BIDDER (Train Speed and Frequency).

3) No roadway construction work near crossing, traffic maintained by traffic regulator. The following should be include in bid package: SPECIAL CONSIDERATIONS AT RAILROAD CROSSING to be inserted into the Special Provision for Maintenance of Traffic – Format A, COORDINATION CLAUSE FOR RAILROAD WORK, and NOTICE TO BIDDER (Train Speed and Frequency)

4) No roadway construction work near crossing, traffic flow is in normal state in vicinity of crossing but crossing is within project limits or near beginning/ending of project limits. The following should be include in bid package: SPECIAL CONSIDERATIONS AT RAILROAD CROSSING to be inserted into the Special Provision for Maintenance of Traffic – Format B, COORDINATION CLAUSE FOR RAILROAD WORK, and NOTICE TO BIDDER (Train Speed and Frequency)

The railroad related bid documents and select pages of the plans are transmitted to the railroad. Sending the documents generated to the railroad and indicating the type of work and anticipated construction period serves to allow the railroad to coordinate any maintenance activities they have scheduled along with identifying the extent of requests for railroad watchpersons for the construction season. A copy of the transmittal letter should be submitted at the time of certification bid turn-in in the project's acceptance/certification package.

See also Section 462.309 of Act 354 of 1993 for background information (see page 5 and 6 of this note and/or www.michiganlegislature.org) which defines the railroad and road authority responsibilities in state law. The Department also has Master Agreements and Maintenance Contracts with most operating railroad which further defines the railroad/road authority relationship. For information on the Master Agreements and Maintenance Contracts, please contact Lansing Design's Trunkline Crossing Program.

For more information on work zone management see the Work Zone Safety and Mobility Manual.

Maintaining Traffic Inserts: Special Considerations at Railroad Crossings

Insert A:

An intermediate traffic regulator will be needed at the railroad crossing while it is in a zone where traffic is maintained by traffic regulator control or while traffic shifted in a direction opposed to normal flow through signage. Every effort should be made by the contractor's construction methods as to not obstruct the right-hand display of the railroad signal to traffic approaching the crossing. The intermediate traffic regulator shall serve to stop traffic for vehicles traveling in the direction opposed to normal flow and prevent them entering the crossing upon a train approaching the crossing. The contractor shall place a temporary stop line to indicate the stopping point in advance of the crossing for vehicles traveling in a direction opposed to normal flow. The intermediate traffic regulator(s) and temporary stop line(s) are considered incidental to Flag Control and will not be paid for separately.

The contractor is responsible for contacting the applicable railroad to obtain and pay for a railroad watchperson as described in the Coordination Clause for Railroad Work when construction activities are within 15 feet (4.6 m) from the outside rail on either crossing approach (25 feet (7.5 m) for CN/WCL).

When the railroad crossing is in the influence zone of active construction work, but not in a lane closure, the traffic regulator shall give immediate preference to clearing any traffic which backs-up over the crossing as a result of the traffic regulator control away from the crossing.

No lane closure taper(s) may extend through the crossing. Traffic lane shifts cannot transition over the crossing.

No construction traffic control devices may be placed in the railroad crossing or closer than 15 feet (4.6 m).

Insert B:

When the railroad crossing is in the influence zone of active construction work, but not in a lane closure, the traffic regulator shall give immediate preference to clearing any traffic which backs-up over the crossing as a result of the traffic regulator control away from the crossing.

No lane closure taper(s) may extend through the crossing. Traffic lane shifts cannot transition over the crossing.

No construction traffic control devices may be placed in the railroad crossing or closer than 15 ft (4.6 m) from the outside rail on either crossing approach.

Addendum to Traffic and Safety Note 903B

RAILROAD CODE OF 1993 (EXCERPT)

Act 354 of 1993

462.309 Maintenance, renewal, and repair of roadbeds, tracks, culverts, and certain streets or sidewalks.

Sec. 309. (1) A railroad owning tracks across a public street or highway at grade shall at its sole cost and expense construct and thereafter maintain, renew, and repair all railroad roadbed, track, and railroad culverts within the confines of the street or highway, and the streets or sidewalks lying between the rails and for a distance outside the rails of one foot beyond the end of the ties. The road authority at its sole cost and expense shall construct or improve if necessary and thereafter maintain, renew, and repair the remainder of the street or highway.

(2) The space between the rails and for a distance outside of the rails of one foot beyond the end of the ties shall be surfaced with a material which shall be as durable and as smooth as the adjacent street or highway surfacing, and shall have minimum qualifications not inferior to wood planks, and shall conform, as nearly as reasonably may be, to the configuration of the adjacent street or highway. In the case of streets and highways constructed or reconstructed after the effective date of this act, the surfacing of planks or other material shall have a minimum length equal to the length between the established curb lines, or, in the absence of curb lines, equal to the length between the established shoulder lines of the street or highway plus two feet on each side of the street or highway.

(3) The full cost of maintaining and repairing all existing crossings shall be borne by the respective parties responsible for the work as provided in this act. The cost of improving an existing crossing, where improvement is necessary, shall be borne in the same manner as provided in this act for maintenance and repair.

(4) Any alteration in the existing elevation of the top of railroad track or highway surface in excess of one inch shall be mutually determined by the railroad and road authority, but in case of failure to agree, the parties may apply to the department which may provide for the alteration after hearing. Where the change in elevation of track rails is agreed upon or authorized for purposes other than to conform to the configuration of the adjacent street or highway, the entire cost shall be borne by the party requesting the change.

(5) The railroad shall not perform any work, except emergency repairs, on public streets or highways between the established curb lines, or, in the absence of established curb lines, between the established shoulder lines of the street or highway, without first notifying the road authority having jurisdiction over the

street or highway, and without first providing and thereafter maintaining the necessary traffic controls in accordance with the Michigan Manual of Uniform Traffic Control Devices. The railroad plan for maintaining traffic showing the necessary barricades, lights, flaggers, and traffic detours and other traffic controls shall be approved by the road authority before the work begins.

(6) In cases of sidewalk repair or construction, a railroad shall first be given the right to construct in the same manner as that right is given to individuals, and if it fails, the local unit of government may cause the sidewalk to be constructed at the expense of the railroad, with the cost to be collected in the usual manner as provided in the law governing that local unit of government. In the case of the construction of a railroad upon any public street, lane, alley, or highway, the same shall be on such terms and conditions as shall be agreed upon between the railroad company and the governing body of any city, or the village board of any village, or the township board of any township and appropriate road authority in which the railroad is located; but the railroad shall not be constructed upon any public street, lane, alley, highway, or private way until damages and compensation are made by the railroad company to the owner or owners of property adjoining the street, lane, alley, highway, or private way and opposite where the railroad is to be constructed either by agreement between the railroad company and each owner or owners, or as otherwise provided in this act for obtaining property or franchises for the purpose of constructing a railroad.

(7) Nothing in this section shall prohibit a road authority, at its discretion and sole cost and expense, from performing any of the work described in this section provided that the road authority receives approval from and gives notice to the railroad.

(8) Notwithstanding any other provision of this section, neither the railroad nor the road authority shall charge any type of access fee, inspection fee, or right of entry fee in connection with the performance of work described in this section.

History: 1993, Act 354, Imd. Eff. Jan. 14, 1994;--Am. 2002, Act 420, Imd. Eff. June 5, 2002.