



Traffic Control Device: **Work Zone**

Date of Revision: **March 15, 2002**

Division:

Subject: **Fast Moving Operations -  
Benkelman Beam (Pavement Deflection)**

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## Purpose

Fast moving operations present a special set of traffic control problems.

Protection of the travelling public, and the safety of workers is paramount. However, these must be weighed against the cost and time involved with installing and removing the necessary traffic control devices.

The lateral position of the flagperson, i.e. distance away from the relative safety of the shoulder, also must weigh personal safety against the flagperson's ability to adequately control and warn traffic.

## Definition

**Fast Moving Operations** will generally be considered to include any operation which stops on the travelled surface of the road for a period not exceeding 10 minutes in daylight hours only.

This standard covers Benkelman beam (pavement deflection) only. Due to variations in their operations, other fast moving operations such as B-30 soil drill truck, nuclear density testing, coring unit, profilometer and "hi-lo" measurements have similar complimentary standards.

## Policy

This standard covers the self-propelled Benkelman beam operation only. Due to the continuous mobile nature of this operation, static advance signing is not feasible. Vehicle and equipment mounted signs and lights must provide adequate warning.

This policy applies to all Provincial Trunk Highways and Provincial Roads.

RECOMMENDED: \_\_\_\_\_  
Director, Traffic Engineering

APPROVED: \_\_\_\_\_  
Executive Director  
Highway Engineering

## Standard

Traffic control should consist of at least the following (see drawing S-TMP-1):

- Symbolic FLAGMAN sign (WD-A45) or rectangular fluorescent orange warning sign FREQUENT STOPS mounted on rear of trailing flagman's vehicle (1/2 ton or van).
- Flagpersons stationed **in the closed lane**, approximately 1 m from roadway centreline, **at the front of the flagperson's vehicle** (no closer than 15 m to the vehicle) to allow a clear "escape route" for the flagperson, and to provide refuge from a possible errant vehicle.
- Five-ton "deflection unit" vehicle with the following warning devices operating: front and rear facing "wig-wag" amber flashers, high beam headlamps, and four-way flashers.
- A rectangular fluorescent orange warning sign FREQUENT STOPS and fluorescent orange/black hazard marker signs should be mounted on the rear of the five-ton deflection unit. (Signs should be removed or covered during travel to and from the highway under measurement.)
- The five-ton deflection unit vehicle is required to be parked in the closed lane during pavement deflection measurements.
- Flagperson must be in position **before** Benkelman beam operator proceeds onto roadway surface.
- For urban areas with speed limits under 60 km/h, traffic controls may be compressed to 50 m overall (sign to deflection unit vehicle). Additional care should be exercised to ensure accesses from driveways, etc. are considered.