
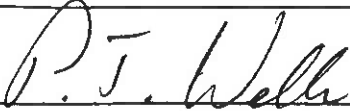


TO:  <b>SUPERSEDED BY EB 96-016</b> <b>EFFECTIVE 5/7/96</b>	 <b>ENGINEERING BULLETIN</b> NEW YORK STATE DEPARTMENT OF TRANSPORTATION
SUBJECT: SAFE WORKSITE ACCESS  Subject Code 7.26-2-16	
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Recent experience has focused attention on the importance of safe access to construction project worksites for workers, vehicles and equipment. Over the past several years, a number of accidents on Department projects were related to worksite access. Most recently, a flagwoman died from injuries sustained when she was struck by an oncoming vehicle while crossing active traffic lanes to reach her own vehicle on the opposite side of the road.

The solution to this problem is twofold. First, worksite access must be considered in the design of Traffic Control Plans (TCP's) for individual projects. EI 93-013, issued on July 7, 1993, provides specific guidance on this issue for designers and for Construction staff performing constructability reviews as required by EI 91-30.

The second part of the solution consists of project-level actions. Attached to this EB is a section for the Construction Supervision Manual entitled WORKER ACCESS ON CONSTRUCTION PROJECTS, which provides considerations and guidelines for Construction staff during the construction phase of the project.

This section requires contractors to address worksite access in their project-specific Safety and Health Plans. It should be inserted in the CSM between pages 107-24g and 107-25. Project Safety and Health Plans are required by an amendment to Section 107-05A of the Standard Specifications. That amendment was originally transmitted by EB 92-04, and is also included in the recently issued Addendum No. 1.

## WORKER ACCESS ON CONSTRUCTION PROJECTS

The risks associated with construction activities are not always clearly understood by designers, construction inspection staff and workers. When a work zone is set up, the travelling public is expected to stay out of it and, for the most part, they do so. Traffic Control Plans (TCPs) must provide specific details for the maintenance and protection of traffic on individual projects, and must be closely followed in the field. This is essential to minimize risks to workers and the travelling public.

What is less well understood is that the travelling public also has an expectation that workers on a construction project will remain inside their work zones. Unfortunately, this is not always possible. Workers must enter and leave the work zone at the beginning and end of their shift, and also occasionally during the shift. Vehicles and equipment, too, must gain access to the worksite. All of these and similar movements are considered under the general category of worksite access.

Experience indicates that substantial risks are associated with gaining access to worksites for workers, material and equipment. Over the past several years, a number of accidents involving worksite access have resulted in serious or fatal injuries to motorists, workers, and Department employees.

To minimize the risks associated with worksite access, it is essential to consider this issue as an integral element in the traffic safety plan for each project. To ensure this goal is achieved, the following steps are essential:

1. The Facilities Design Division has included steps in its design procedures to ensure that worksite access for workers, material and equipment is considered as an element in the design of project Traffic Control Plans. Review of Traffic Control Plans by Construction staff should ensure that, when they are needed, specific provisions for worksite access are included.
2. Worksite access for workers, material and equipment is to be addressed in the Project Safety and Health Plan required by Section 107-05A of the Standard Specifications, and as discussed in the applicable sections of the Construction Supervision Manual. The need to address worksite access is dependent upon traffic and site conditions. Guidelines that are helpful in determining the need for specific worksite access provisions are provided below. This element of the Project Safety and Health Plan is to be handled the same

as other project-specific hazards. Work is not to begin on affected operations until the contractor has provided a plan for worksite access that is acceptable to the Engineer and the Regional Construction Safety Coordinator, relying upon worksite access provisions in the TCP, and supplemented by such additional provisions as may be necessary to ensure adequate worksite access safety on the project. The Engineer is responsible for requiring revisions to these provisions as necessary as the job proceeds.

3. Construction workers, surveyors, inspection staff, supervisors and all other persons on a project are not to cross active traffic lanes to gain access to worksites where traffic and site conditions pose a high risk of an accident, unless specific provisions are in place to do so safely.
4. Department employees are to receive periodic training, through Tailgate Safety Sessions and other appropriate means, to enable them to recognize and avoid the hazards associated with working in or near traffic. This training will include a discussion of risks associated with worksite access. Contractors and consultants are responsible for providing this training to their employees.

It must be clearly understood that all activities in or adjacent to traffic entail an element of risk. This risk must be managed through the design and implementation of adequate TCPs, and through training of all workers to recognize and avoid the hazards associated with traffic. Workers must always be aware of and protect themselves from these risks, even on projects with very low traffic speeds and volumes.

Detailed worksite access plans and provisions are certainly not expected on all projects, but it is essential to ensure that such plans and provisions are provided on projects where traffic and site conditions impose high risks. Based on guidance developed by the Facilities Design Division, designers are expected to exercise engineering judgement to identify situations requiring worksite access provisions in the TCP. The following guidelines are provided to assist construction project staff in exercising engineering judgement to ensure that worksite access provisions are implemented where needed on individual projects - whether they are provided in the TCP, added by the contractor as part of the Project Safety and Health Plan, or required by the Engineer.

## Guidelines for Safe Worksite Access

1. High traffic speed and volumes increase the risks associated with worksite access. When speeds and volumes combine such that sufficient gaps to safely cross or enter traffic are not available, specific provisions must be added to provide safe worksite access.
2. Sight distance for through traffic, and for workers and vehicles entering or departing the worksite, is an important parameter affecting safety of worksite access. When sight distance is restricted (e.g. by site conditions or by the deployment of temporary barriers, barricades, construction signs, vehicles or equipment), provisions must be added to facilitate safe access, or access must be restricted to locations where adequate sight distance is available.
3. Two-way traffic increases the risk for workers crossing traffic lanes, and the risk is further increased where there are multiple travel lanes in one or both directions. Traffic volumes that present sufficient gaps for safe worker crossing on one-way roadways may provide few or no sufficient gaps on two-way roadways.
4. Pedestrian refuge areas between opposing roadways enhance safety for workers crossing two-way roadways, because the workers need negotiate only one travel direction at a time. Conversely, narrow medians, especially if equipped with median barrier, increase the risk associated with crossing two-way traffic. In such situations, the worker must cross over the barrier in addition to finding a safe gap simultaneously in both traffic streams.
5. Workers are also exposed to risks while walking adjacent to traffic to gain access to the worksite. Risks are increased when workers cannot face oncoming traffic. Risks are also increased where the area available for workers is narrow and close to traffic, and where possible worker escape paths are blocked by railings, excavations or other site features. Walking between opposing traffic streams, such as on a narrow median, represents a particularly high risk, especially in the presence of high traffic speeds and volumes.
6. Where equipment and supply/delivery vehicles must maneuver into or out of worksites, the safety of these maneuvers is governed by many of the same parameters as for pedestrian movements. In addition, operating characteristics (acceleration, braking, turning rates) of these vehicles may impose further restrictions.

7. Nighttime operations (EI 91-4) increase the risks for workers crossing travel lanes or walking adjacent to traffic. Special consideration should be given to ensuring safe worksite access for these situations.
8. When consideration of the above parameters indicates that worksite access is a safety concern, specific provisions may be necessary to ensure that safe access is provided and used. Such provisions may include:
  - Imposing jobsite work rules that require workers and vehicle operators to access the worksite only at designated points.
  - Barricading, fencing or otherwise restricting unsafe access points or routes
  - Providing training for workers to enable them to recognize and avoid the hazards associated with crossing or entering traffic.
  - Adding temporary walkways, crossways, access ramps, stairways and other features to provide safe access points for workers, vehicles and equipment.
  - Adding temporary crosswalks, traffic signals or flaggers to control the movement of workers and vehicles into or out of worksites.
  - Providing remote parking areas for workers, with shuttle vehicles for transport to the worksite.
  - Restricting delivery of material and supplies to certain hours (e.g. off-peak)
9. Due consideration should also be given to selecting an appropriate location for the Engineer's Office.
10. Concerns for safe worksite access apply during the workshift, and for workers reporting and departing at the beginning and end of the shift. The safety of inspection personnel and contractors' supervisory personnel is of special concern because they must frequently travel throughout the project. It is important that consideration of safe worksite access includes not only construction workers and vehicles, but also inspectors, supervisory personnel, surveyors and project visitors.

In conclusion, the material in this section is not intended to suggest or imply that signalized crosswalks, temporary traffic signals, pedestrian overpasses or other such extraordinary provisions are routinely necessary to provide safe worksite access on construction projects. However, it is essential that construction staff recognize the potential hazards associated with worksite access, especially on projects with high traffic speeds or volumes and site restrictions. The above guidelines are intended to help project staff in identifying and addressing potentially troublesome locations.