

EXHIBIT Q
TCSAP INFORMATION PACKET

TRAFFIC COUNTING SAFETY AND ASSISTANCE PROGRAM INFORMATION PACKET

Introduction

The Traffic Counting Safety and Assistance Program (TCSAP) has been developed by the Bureau of Planning and Research (BPR) to:

- verify compliance with the “Traffic Engineering Manual - Pub 46 (03-14) Sections 6.12 Workers’ Attire and 6.13 Specialized Operations”
- improve the safety of the traffic data collection and traffic monitoring site installation/maintenance staff, and the traveling public
- ensure the collection of accurate traffic data
- provide assistance to our traffic counting partners

The TCSAP will include random field visits by BPR staff with those agencies and vendors that are assigned traffic counting responsibilities in support of the Pennsylvania’s Statewide Counting Program or contracted to perform traffic monitoring site installation or maintenance.

Procedures

A copy of the Traffic Counting Safety and Assistance Program – Information Packet will be provided to each agency with their traffic counting assignments and to each vendor as part of their traffic counting or traffic monitoring site installation/maintenance contract. The information packet contains:

- a copy of this document
- a copy of the “Traffic Engineering Manual - Pub 46 (03-14) Sections 6.12 Workers’ Attire and 6.13 Specialized Operations”
- a copy of the “TCSAP Acknowledgement Form”
- a copy of the “TCSAP Field Review Checklist”

All of the above may be reproduced as needed or printed from the Bureau of Planning and Research Traffic Partners webpage at:

http://www.dot.state.pa.us/Internet/bureaus/pdPlanRes.nsf/infoBPRSafety_TCSAP

Exhibit Q

It is the responsibility of each agency/vendor engaged in traffic counting operations as described in the “Traffic Engineering Manual - Pub 46 (03-14) Sections 6.12 Workers’ Attire and 6.13 Specialized Operations”, to provide a copy of the policy to each employee that will be performing the traffic counting operations. The employee shall review the policy and complete the “TCSAP Acknowledgement Form” affirming their agreement to abide by the requirements set forth in the publication. The copy of the acknowledgement form containing the original signature of the employee must be returned to:

Joni Sharp
Pennsylvania Department of Transportation
Bureau of Planning and Research
P.O. Box 3555
Harrisburg, PA 17105-3555

The completed acknowledgment form should contain the most direct phone number available for contacting the employee, which will be used to schedule the TCSAP Field Reviews.

TCSAP Field Reviews will be conducted randomly by the BPR staff and scheduled using the contact phone number provided on the “TCSAP Acknowledgement Form”. During these field reviews the BPR staff will observe the safety procedures used by the agency/vendor’s traffic counting technicians as well as the traffic counting equipment installation practices and record their findings on the “TCSAP Field Review Checklist”. BPR staff will then discuss any safety or equipment installation deficiencies with the agency/vendor’s traffic counting technicians on site and both the traffic counting technicians and the BPR representative will sign the checklist acknowledging the findings of the TCSAP Field Review. When meeting with a traffic monitoring site installation/maintenance contractor, the BPR staff will observe compliance with the “Traffic Engineering Manual - Pub 46 (03-14) Sections 6.12 Workers’ Attire and 6.13 Specialized Operations” requirements and complete the “TCSAP Field Review Checklist” accordingly. A copy of the completed “TCSAP Field Review Checklist” will be forwarded to the Director/President of the agency/company reviewed.

BPR staff will be available during the TCSAP Field Reviews to assist our planning partners during traffic counting equipment setup on high volume roadways or difficult count locations. Assistance with traffic control or providing advanced warning by use of the BPR staff’s vehicle strobe light are ways in which the BPR staff can support our planning partners’ traffic counting operations. Any assistance should be requested when the TCSAP field visit is scheduled.

Questions

Questions about the Traffic Counting Safety and Assistance Program and requests for additional program information may be directed to Joni Sharp (717) 787-0186.

- c) The nose of all impact attenuators used in construction projects shall have delineation in accordance with RC-57M Standard drawings. If using sand barrels for attenuation, use the layouts as displayed in the [Chapter 6 Appendix](#) on page 6-74.

6.12 Workers' Attire

Required Attire

MUTCD Section 6D.03

- All workers within the right-of-way exposed either to traffic, or to work vehicles and construction equipment within the TTC zone shall wear high-visibility safety apparel.
- *Worker* - a person on foot whose duties place him or her within the right-of-way of a street, highway, or pathway, such as street, highway, or pathway construction and maintenance forces, survey crews, utility crews, responders to incidents within the street, highway, or pathway right-of-way, and law enforcement personnel when directing traffic, investigating crashes, and handling lane closures, obstructed roadways, and disasters within the right-of-way of a street, highway, or pathway.
- Responders to incidents and law enforcement personnel may wear a "Public Safety Vest" within the highway right-of-way

Emergency and incident responders personnel may wear high visibility safety apparel that meets the performance requirements of the ANSI/ISEA 207-2006 publication 6 entitled "American National Standard for High-Visibility Public Safety Vests" or equivalent revisions.

High-visibility safety apparel that is intended to provide conspicuity during both daytime and nighttime usage, and that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear" or equivalent revisions.

Department Employees

- a) All Employees shall follow the current version of the Department's Safety Policy Manual (Publication 445).

Ordering High Visibility Garments

- a) High visibility pants and leggings are available through the PIBH. These garments are made with the same lightweight (2.3 oz) material as used in the vests. There are two horizontal retroreflective stripes on each pant leg or legging. Use of these garments will increase visibility of the wearer both day and night due to the continual movement of an employee's legs while walking/working.
- b) High visibility leggings were developed as an option due to comfort concerns. The leggings slip on the lower leg between the knee and ankle. High visibility pants are loose fitting and should be slipped over the employee's regular pants. In no case should these garments be substituted as regular pants the employees wear to work on a daily basis.
- c) Questions regarding high visibility clothing should be forwarded to the Employee Safety Division.

The above information is also included in Publication 445.

Reflective Tape on Hard Hats

Department employees may place one-inch wide strips of silver-colored reflective tape on their hard hats since this may improve the visibility of workers during hours of darkness. This is also referenced in Publication 445.

6.13 Specialized Operations

Counter Installation

General

This is the Safety and Work Zone Traffic Control Policy for the installation, maintenance, repair, or removal of traffic counting equipment for the purpose of recording traffic volumes, classification, and weight. While this policy encompasses most situations encountered during the installation, maintenance, repair, or removal of traffic counting equipment and is intended to highlight and clarify key safety and work zone issues, it is ultimately the responsibility of those engaged in this activity to comply with the policy set forth in the appropriate regulations and publications.

This policy applies to all Department personnel, Metropolitan Planning Organizations (MPOs), Regional Planning Organizations (RPO), contracted vendors and others engaged in the installation, maintenance, repair, or removal of traffic counting equipment on highways within the Commonwealth.

Vehicle

The vehicle(s) used during the installation, maintenance, repair, or removal of traffic counting equipment shall be equipped with either a flashing or revolving yellow strobe light or a bar of lights. The light or bar of lights shall be at a location on the vehicle where it is visible by approaching traffic from all directions (see 67 Pa. Code, Chapter 173, "Flashing or Revolving Lights on Emergency and Authorized Vehicles").

Personal Protection Equipment and Attire

All Employees shall follow the current version of the Department's Safety Policy Manual (Publication 445).

Work Zone Safety and Signing

Most activities performed during the installation and removal of portable traffic counters, and the installation, maintenance, or repair of permanent traffic counting facilities are short-term operations. Therefore, employees shall comply with Publication 213.

- a) Portable Counter Installation/Removal. Since the installation and removal of portable traffic counters normally takes less than 60 minutes, if applicable, refer to notes on the figures in Publication 213 to eliminate the signs and channelizing devices. The vehicle and traffic counting personnel shall be seen by approaching traffic for a distance, in feet, equal to ten times the posted speed limit. In addition, if the counting equipment cannot be safely installed due to a narrow shoulder, insufficient sight distance, heavy traffic volumes, or any other unsafe condition, use a flagger or a uniformed police officer to assist the traffic-counter personnel. If this assistance is not available, do not attempt to set the counter. Notify the immediate supervisor.
- b) Permanent Traffic Counting Facility Installation/Maintenance/ Repair. Permanent traffic counter facilities may include, but are not limited to, Automatic Traffic Recorder (ATR), Continuous Automatic Vehicle Classifier (CAVC), or Weigh-in-Motion (WIM) sites. Use figures from Publication 213 to establish work zone traffic control during the installation, maintenance, or repair of

permanent traffic counting equipment and site components located adjacent to the roadway. Any operation that blocks a portion of the travel lane must comply with Department of Transportation Regulation, 67 Pa. Code, Chapter 212, "Official Traffic Control Devices."

- c) Signing. When warning signs are required, consider using a COUNTER INSTALLATION AHEAD (W21-15) sign instead of the ROAD WORK AHEAD (W20-1) sign.

Additional Safety Precautions

The work performed by personnel during the installation, maintenance, repair, or removal of traffic counting equipment demands a heightened sense of alertness due to exposure to passing motorists. It is for these reasons that everyone is required to adhere to this policy and observe all possible safety precautions to prevent injury to one's self and to prevent hazardous conditions for the motoring public.

- a) Carefully plan the location of traffic counters — use routes that restrict numerous directional changes. A tangent section of highway is best for setting traffic counters. This allows for additional sight distance and helps to ensure the longevity of road tube by avoiding hard steering or braking traffic.
- b) Pull the support vehicle(s) onto the shoulder and turn on the four-way flashers, flashing, or revolving yellow strobe light or light bar, and headlights to give additional warning to approaching motorists.
- c) Wear personal protective equipment, including a hard hat, safety goggles/glasses, gloves, and a high visibility safety vest as required.
- d) Allow enough time to travel between counter locations. Look for a stable (but not too hard) surface to strike nails or spikes into and be careful to strike the center of the nail head or spike to avoid ricochet. Carefully secure the "dead end" of the road tube far enough away from the path of travel to reduce the possibility of injury by a passing vehicle.
- e) Wait until all cars in a row have passed and there is no sound of approaching traffic. Allow enough time to set counters safely and be sure to have enough "slack" in hand before starting across the highway. Tie off and secure the road tube to avoid having the road tube and nails pulled up by traffic.
- f) Avoid setting traffic counters in areas of tall grass where ticks and other flying insects may be harboring. Wear a good pair of hiking shoes, long sleeve shirt, and durable jeans that protect the legs.
- g) Drive defensively. Other drivers are often impatient as you turn or slow down to set up the counters. Use turn signals, mirrors, and avoid backing up whenever possible. Be aware that the typical van creates blind spots to the rear and to the side.
- h) If an accident or injury should occur, immediately report it to the supervisor.
- i) Do not attempt to set a counter in an obviously dangerous area — look for a safer location. If this is not possible, do not attempt to set the counter, but inform the supervisor of the problem.

PennDOT Traffic Counter Training

All persons that will be engaged in installing and removing portable traffic counters shall view PennDOT's Traffic Counter Training video, which includes safety and installation/removal best practices. The PennDOT Traffic Counter Training video is available on the Bureau of Planning and Research's internet "Traffic Partners Page" at: <http://www.dot.state.pa.us/Internet/bureaus/pdPlanRes.nsf/infoBPRvideochoice>.

Copies of PennDOT's Traffic Counter Training video are also available on compact disc from the Bureau of Planning and Research by calling 717-787-5796.

Backing Up or Driving in a Counter-Flow Direction

Legal Opinion

§15.3(b)(1)(ii) of 67 Pa. Code, Chapter 15, "Authorized Vehicles and Special Operating Privileges," authorizes maintenance vehicles to back up on limited access highways and to drive in a counter-flow direction. Moreover, the Office of Chief Counsel supports this position in the following legal opinion:

"It is our opinion, and you are hereby advised, that your interpretation is correct, and the vehicles you describe (Department maintenance vehicles) would, in performing the necessary maintenance activities, be exempted from Section 3702. Section 6107 of the Vehicle Code (75 PA C.S. Section 6107) provides that the Department may designate any vehicle as authorized upon a finding that the vehicle is used in the performance of public service or government functions, and that duly authorized vehicles are exempted from certain provisions of the Vehicle Code as should be specified in regulations promulgated by the Department. These regulations were duly promulgated and are applicable to the activity discussed."

Mobile and Stationary Maintenance Operations

Based on recommendations from the Work Zone Traffic Control Safety Task Force, the following figures for Department force apply to short-term, mobile, or stationary operations, and comply with the *MUTCD*.

- a) The PATA 11A and 11C drawings of Publication 213 generally apply to the following operations, and other similar operations for roadways with an ADT of 1,500 or less:
 - Shoulder grading
 - Shoulder stabilization
 - Shoulder cutting
 - Mechanized patching
 - Surface treatment
 - Sub-base repair
 - Skin patching
 - Scratch coat
- b) The PATA 11D drawing of Publication 213 applies to pipe replacement.

Mowing Operations

- a) The "MOWING NEXT ___ MI" (W21-14) sign is optional for either contract or Department mowing operations. However, Districts are encouraged to: (1) use the "whip type antenna" with the fluorescent orange flag on all mowing equipment; and (2) paint the roll bar framework on Department mowing equipment a bright orange. See the figures in Publication 213 for additional information.
- b) The requirements of PennDOT Publication 213 will still apply and must be followed for mowing operations. These guidelines allow for the use of a shadow vehicle. Consider the use of a shadow

vehicle when the mowing operation is on the travel portion of the highway and the sight distance (in feet) to the work vehicle (mowing equipment) from behind is less than ten times the speed limit (in miles per hour).

Department Surveying Operations

Highway surveying operations that block any portions of a travel lane shall comply with the following guidelines. The Department's Survey Crews are subject to the requirements of Chapter 212, Publication 213, and the *MUTCD*. The SURVEY CREW (W21-6) sign should be used in lieu of the ROAD WORK AHEAD (W20-1) sign for surveying operations.

6.14 Traffic Control Plan (TCP) Design Considerations

General

- a) Refer to Section 6.3 for the Work Zone Safety and Mobility policy for specific requirements and procedures on the determination of "Significant Projects" and the development of Transportation Management Plans (TMP) for projects classified as "Significant." The Traffic Control Plan (TCP) will be included by reference within the TMP when a TMP is developed for a specific project. Additional guidelines intended to supplement Section 6.3 is included in this Section.
- b) Consider the maintenance and protection of traffic on construction projects during the pre-design and design phases of the project. It is the District's responsibility to consider appropriate traffic control with the aim to avoid as much disruption and inconvenience to the motorists as is practical while providing adequate safety to motorists and construction workers. Therefore, designers should coordinate this effort with the District Construction and District Traffic Units.
- c) The designer is primarily to consider achieving maximum traffic control through the project and then to develop a design accordingly. Consider road user costs in the maintenance and protection of traffic schemes. In many instances, the type of design may not change, but the method or scheduling of construction may prove significant in the traffic control plan and have an effect on the community.
- d) Where the impacts on the community would be significant, proper coordination with the community and civic leaders are necessary. Their concerns and input must be a part of the evaluation of the maintenance and protection of traffic schemes. Additional guidance on this is provided in Section 6.3 (Work Zone Safety and Mobility).
- e) An evaluation of maintenance and protection of traffic should be included in all phases of design development.

Work Zone Safety Design Considerations

All Highways

The following guidelines apply to all highways (including freeways; expressways; two-lane, two-way highways; arterials; and streets).

- a) Portable dynamic message signs (DMS) combined with active radar can be effective in reducing speeds through work zones. When the radar detects a speeding vehicle, the sign will display a message to inform the driver that he/she is speeding. Districts are encouraged to use one of the following word messages instead of a numeric speed display:

TRAFFIC COUNTING SAFETY AND ASSISTANCE PROGRAM ACKNOWLEDGEMENT FORM

I have received a copy of the “Traffic Engineering Manual - Pub 46 (03-14) Sections 6.12 Workers’ Attire and 6.13 Specialized Operations” and have viewed the “PENNDOT: Traffic Counting Training video as required by the policy.

- I agree to abide by the requirements set forth in the “Traffic Engineering Manual - Pub 46 (03-14) Sections 6.12 Workers’ Attire and 6.13 Specialized Operations” while performing traffic counting operations as described in the policy.

I understand that the safety requirements and guidelines provided in the “Traffic Engineering Manual - Pub 46 (03-14) Sections 6.12 Workers’ Attire and 6.13 Specialized Operations” are essential to ensure the safest possible working environment, and that working safely is a condition of employment or contract with the Department.

Printed Name: _____

Signature: _____ Date: _____

Agency/Company: _____

Work Phone: _____

Cell Phone: _____

TCSAP Field Review Checklist

DATE: _____

VENDOR: _____

VENDOR REP: _____

BPR REP: _____

TMS ID: _____ **COUNT TYPE:** _____

COUNTY: _____ **SR/FED ID:** _____ **SEG:** _____

SAFETY	Yes	No	N/A	QUALITY ASSURANCE	Yes	No	N/A
Hard Hat				Vehicle Clear of Lane			
High Visibility Vest/Shirt				Work Zone Signing			
Gloves				Count Location			
Safety Glasses				Road Tube Secure			
Flashing/Revolving Light				Traffic Counter Secured			

COMMENTS: _____

SIGNATURES:

Vendor: _____

BPR: _____