



# **WORK AREA TRAFFIC CONTROL POLICIES & PROCEDURES**

TRAFFIC OPERATION  
P.O. BOX 580,  
626 LINDEN ST.  
FORT COLLINS, COLORADO 80522  
PH. 970.221.6630 FAX 221.6282

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WORK AREA TRAFFIC CONTROL PLAN FORM

December 30, 2010

## **A. INTRODUCTION:**

The purpose of this handbook is to set forth the basic principles and standards to be observed by all who perform work in the public right-of-way, to provide a safe and effective work area and to warn, control, protect and expedite vehicular, bicycle, and pedestrian and traffic.

## **B. APPLICABILITY:**

The requirements specified in this handbook are applicable to all contractors, public utilities and all city work crews performing work on or near the public roadway, in all cases where traffic is affected by such work.

All work performed in the public right-of-way **REQUIRES** the submittal of a **TRAFFIC CONTROL PLAN** for review and approval by the City of Fort Collins Traffic Operations Department. This includes all work, which requires traffic (traffic being defined as vehicles, bicycles and pedestrians) to operate in a manner which is different than when the work is being done, including sidewalk work. If you have any questions as to whether or not your project is required to have a traffic control plan, please contact The Traffic Operations Department at (970)221-6815  
Fees for WATC Plans are \$35.00 new plans, \$10.00 for re-submittal.

## **C. GOALS:**

Proper traffic control techniques shall be effectively utilized to:

- 1) Prevent accidents
- 2) Prevent damage to private and public property, including damage to construction projects and construction equipment, most important personal injury.
- 3) Minimize the possibility of claims and litigation from construction area accidents.
- 4) Reduce confusion to motorists, bicycles, and pedestrians.
- 5) Expedite traffic flow.
- 6) Improve public relations

- 7) Insure conformity with national, state and city regulations for traffic control.

#### **D. AUTHORITY:**

**No work may be preformed in the public right-of –way without permission and required permits from the City of Fort Collins.** The City Traffic Engineer and his designates have centralized authority for reviewing and prescribing proper traffic control and devices at work sites and **shall have final determination in case of conflict on equipment required.** The Traffic Operations Department has the responsibility to assure public safety within the City of Fort Collins public right-of-way. All traffic plans shall be submitted to the Traffic Operation Department for review and approval prior to starting any project in the public right-of-way. Upon approval of the traffic control plan by this department, the contractor, developer, and the City of Fort Collins departments may set up the traffic control devices.

#### **E. PLANNING:**

All persons responsible for supervising work sites shall plan in advance to keep traffic obstructions, public inconvenience and lost of work time to a minimum. The planning responsibility requires a visit to the work site to consider: **special attention shall be given to individuals under the American Disability Act, traffic conditions, existing traffic control “existing signage”, traffic lane requirements, physical features, activities, the type, number and location placement of signs, barricades, lights and bicyclists and pedestrians effected by the work sites.**

#### **F. RESPONSIBILITIES:**

It shall be the responsibility of the person doing the work to complete the following:

- 1) Obtain a permit as prescribed in the Permit Section of this booklet for all work.
- 2) Submit a Traffic Control Plan and approval form to Traffic Operations Department for approval.

- 3) Provide timely notification to, and coordination with, all effected agencies including the following:
  - i. City Traffic Operations (970)221-6815
  - ii. Fire Department (970)221-6570
  - iii. Police Department (970) 221-6540 – **ask for Dispatch.**
  - iv. Poudre R-1 School District (970) 490-3232
  - v. City Engineering Department (970) 221-6605
  - vi. Utility companies, public/private when applicable.
  - vii. City of Fort Collins Transfort Bus Service (970) 221-6620
  - viii. Streets Department (970)221-6615
  - ix. Fort Collins Coloradoan and radio stations when needed (The City notifies the Coloradoan and radio stations each Friday morning of all on-going construction projects for which a Traffic Control Plan has been submitted). **Some of the agencies mentioned above may not need to be notified, when performing minor maintenance work, unless working under a full road closure.**
  - x. Inform occupants of abutting properties of access by the work.
  - xi. Parking Services (if in the Downtown area)
- 4) Schedule and expedite the work to cause the least amount of inconvenience to the public. Construction or repair work will not be permitted at or in the vicinity of a signalized intersection or any Arterial and Collector streets that have major traffic volumes between the hours of 7:00 a.m. to 8:30 a.m. or 3:30 p.m. to 6:30 p.m. (except in the case of an emergency).
- 5) No full street closures will be allowed except under special conditions.
- 6) No work will be permitted on Holidays (except in cases of an emergency).
- 7) Install and maintain required traffic control devices.
- 8) Provide adequate and knowledgeable flag personal when required.
- 9) All crew members, employees, and visitors of a work site, working in or near the public right-of-way must wear safety garments, as required.
- 10) Provide adequate safeguards for workers and the general public.

- 11) Service check the construction sites as required and/or requested to insure that all devices are in place and operating at all times.
- 12) Remove all traffic control devices immediately when they are no longer needed.
- 13) Work on Arterial Roadways is encouraged to occur at night and weekends.

## **G. EXCAVATING PERMITS:**

Any firm or individual, other than the City of Fort Collins Utility Department is required by Chapter 23 of the City code, to obtain a written permit from the City Engineer for any work affecting city streets, alleys, sidewalks, and/or right-of-ways. Although not required to obtain an excavation permit, all city departments are required to submit a Traffic Control Plan, for review/approval prior to working in the public right-of-way.

## **H. CONTROL, WARNING AND GUIDANCE DEVICES:**

The most effective system of warning and guidance is provided through properly planned usage of traffic control devices, uniformly placed and well maintained. All traffic control, warning and guidance should meet at least the minimum requirements of the latest Manual of Uniform Traffic Control Devices for Streets and Highways, these requirements are just minimums and in some cases the City of Fort Collins Traffic Operations Department may request devices that exceed the minimum requirements.

## **I. SIGN TYPES:**

Traffic signs are classified into several functional groupings:

### **REGULATORY, GUIDE AND WARNING**

The use of REGULATORY signs MUST be approved by the City of Fort Collins Traffic Operations Department and when required, all such signs will be provided, installed and maintained by the contractor or permittee. Existing REGULATORY

signs within or adjacent to the work area must be maintained by the contractor or permittee. If existing signs are not appropriate for the traffic conditions in the work area, the City of Fort Collins Traffic Operations Department must be notified if the signs are to be covered, replaced or relocated.

Temporary NO PARKING signs shall be installed and removed as directed by the City of Fort Collins Traffic Operations Department. All No Parking signs shall be a minimum of 12" x 18" Red on White and SHALL include, the Time and Dates when parking is to be restricted. Property owners and businesses should be given a minimum of 24 hours notice of said restrictions.

**NON STANDARD SIGNS OF ANY TYPE ARE NOT ACCEPTABLE.**

No existing signs of any type shall be removed by the contractor or permittee, the Traffic Operation Department shall be notified 48 hours in advance of any signs to be removed by either the contractor or by City forces.

**J. SIGN PLACEMENT:**

A work area traffic control zone is defined as the stretch or portion of roadway or highway in which all of the traffic control devices are used to warn, regulate or guide motorists, bicyclists and pedestrians past a roadway construction or maintenance operations. It is often the portion of the roadway for construction and maintenance work that is performed on or near the public right-of-way. There are several ways to do this; each involves some form of closure; and every situation and location may be different.

Note: **Pre-warning signs should not be placed in any portion of the bike lane, sidewalk, or driveway.** Certain conditions may warrant the use of a portion of the sidewalk. See the Traffic Operation Departments for specific instructions. The only sign that may be placed in the bike lane is the BIKE LANE ENDS MERGE WITH TRAFFIC sign, Black on Orange, 4" letters on a 30" x 24" inch sign black. This sign is to be placed at the point where the transition starts, when closing a drive lane. See Traffic Operations department for specifics on this sign.

- 1) Traffic lanes may be narrowed to NO LESS than 10' ft. in width.

- 2) Traffic may be moved over into part of the shoulder, providing that portion is safely drivable to motorists and bicyclists.
- 3) The number of lanes may be reduced at certain locations, see Traffic Operation Department for specific location applicable.
- 4) Traffic may be detoured over another route, providing the detour route does not interfere with another project within the area.
- 5) All open holes (sidewalk removal, utility trenches, tie-ins, bore pits, etc) left over night **MUST** be illuminated and surrounded with the proper safety devices.
- 6) It is preferable to open only that which can be back filled at the end of the approved working hours.

All roadway traffic control zones **SHALL** have an advance warning area, a transition area, a buffer area, a work area and the termination area. The main devices used in these areas are cones, barrels, barricades and the diamond-shaped pre-warning signs in the black on orange series specified for construction and maintenance sites. Each apparatus may or may not require various predetermined illumination, but must have reflectorized material. The minimum sized accepted by the City of Fort Collins for these signs is 36" x 36". All traffic control devices must meet the minimum or exceed the specifications set forth in the M.U.T.C.D. manual and the City of Fort Collins Traffic Control Handbook.

The advance warning area starts the Work Area Traffic Control Zone and consideration must be taken in the placement of the traffic control devices, due to various situations. These could be driveways, side streets, site obstruction, parked vehicles, etc.

Signs that have distance footages, such as **ROAD WORK AHEAD 1000 FEET**, **SHOULD NOT** be used within the city limits, they should only read as **ROAD WORK AHEAD**, unless prior approval has been given by the Traffic Operations Department.

Signs shall face and be visible to oncoming traffic and should be a **MINIMUM OF (2') TWO FEET** from the bottom of the sign to the pavement of the roadway. In some cases, signs may be required to be at a higher height, due to location placement.

Only on raised center medians islands can double posted signs be used, never on just a painted center median island, unless prior approval is obtained from the Traffic Operations Department. Note: All signs placed on State Highways (2 signs required, on either side of the roadway, when a divided center median is present) 48" x 48" must be used on the right hand shoulder and 36" x 36" in the center median, and meet all highway specifications.

All signs, which are to convey their message during darkness, shall be reflectorized and/or illuminated. No signs or supports should bear any commercial advertising, or bear any company name, logo, etc, on sign face or stand.

“Sidewalk Closed Ahead” or “Sidewalk Closed Ahead Cross Over” signs shall be used whenever such work occurs.

Signs shall be install immediately before work is to commence and be **REMOVED IMMEDIATELY** when they are no longer needed.

Pre-project specialty signs may be placed prior to work for additional pre-warning of projects (see section “P”).

Signs not used for overnight projects **SHOULD NOT** be left in **ANY** portion of the roadway (including bike lanes or sidewalks) unless otherwise approved by the Traffic Operations Department.

Examples of acceptable overnight signage would include total road closures, partial road closures, drive lane, or a closure due to emergency.

## K. BARRICADES:

Barricades serve the following purposes:

- 1) To alert the public of the fact that a particular area is closed to traffic
- 2) To prevent drivers, bicyclists and pedestrians from entering the work area.
- 3) To protect the workers, equipment and other people or item inside the work area.
- 4) To support warning lights and specific signs that are required on certain projects.

NOTE: Type I barricades should be a minimum of 2' wide and 3' in height. (1 board)

Type II barricades should be a minimum of 2' wide and 3' in height. (2 boards)

Type I barricades should be a minimum of 2' wide and 3' in height. (3 boards)

Barricades should not be placed in a drive lane or bike lane without the proper advance warning signs. When barricades are used to close to the roadway, they should be placed so there is no gap large enough for a vehicle or bicyclist to pass through, usually between 2 -3 feet, except when it is necessary to provide access for local traffic or emergency vehicles.

Markings for barricade rails shall be alternate orange and white stripes sloping downward at an angle of 45 degrees in the direction traffic is to pass. The entire area of white and orange shall be reflectorized. The use of **FIXED LEGGED** and **SAWHORSE TYPE** barricades are **PROHIBITED**. No commercial or company advertising logos shall be placed on the front of the rail; they must be placed on the backside of the rail.

## **L. DELINEATORS:**

Delineators are markers which aid the driver and bicyclist in determining the location and alignment of the traffic lane or the edge line. By day, the effectiveness of the delineators is determined by the position, spacing, form, texture, size and color. By night, the effectiveness is determined by position and visibility. All delineators used at night **MUST** be reflectorized and adequately maintained.

Delineators are used for:

- 1) To channel and divert traffic in advance of the work zones.
- 2) To define the travel way through the work zone.
- 3) To define curves and the edge of the roadway or detours.

Delineators shall be of a material that withstands impact without appreciable damage to the device, the striking vehicle or passing traffic.

Due consideration also must be given to the necessity against knockdown from the wind or turbulence due to passing traffic.

Devices which could roll into adjacent traffic lanes when hit **SHALL NOT BE USED. METAL OR WOODEN POSTS MOUNTED IN CONCRETE** filled buckets or on **AUTOMOBILE** wheels or rounded metal bases are examples of the types **WHICH ARE PROHIBITED.**

All vertical panels shall be a minimum of 36" inches in height.

## **M. WARNING LIGHTS – ILLUMINATION:**

Barricade warning lights are used to indicate hazards and to delineate the safe path of travel. Portable variable message boards are designed to have one or more messages that may be displayed or deleted as required, they are used to inform motorists of variable situations, particularly among congested traffic corridors.

**TYPE A** lights are low – intensity flashing lights that are generally mounted on barricades or vertical panels; they are effective at night.

TYPE B lights are high – intensity flashers which are effective both day and night, but caution should be taken when used at night.

TYPE C lights are steady – burning low wattage lights which are used at night for delineation. They are commonly used at night.

A single flashing light is to be mounted on barricades to indicate a hazard in or adjacent to the roadway. Flashers are also effectively used to draw attention to warning signs in the Traffic Control Zone. Flashing lights are also used to highlight the beginning of tapers or lane shifting.

Steady – burning lights are used on a series of barricades or other movements through a work area. They are particularly advantageous:

- 1) When reflectorize panels may be covered with dust or snow.
- 2) In times of decreased visibility due to rain, snow, or fog.
- 3) On barricades and vertical panels for around curves in the roadway.
- 4) To alert pedestrians and bicyclists.
- 5) At hazardous locations and for channelizing slow speed areas.

Flashing yellow lights used for advance warning must be clearly distinguishable from primary delineation and shall be seen above normal reflectorized units. Warning lights are portable, lens-directed, enclosed and mounted at a minimum 3 feet from the bottom to the pavement of the roadway. The color of the light emitted shall be yellow.

Barricade warning lights shall be in accordance with the requirements of the M.U.T.C.D. Manual.

## **N. CONES:**

Traffic cones and tubular markers of various configurations are available. Cones range in size from 28” inches and up. The City of Fort Collins DOES NOT ALLOW the use of cones less than 18” inches in the public right-of-way. The minimum size

of cones on any street posted 25 MPH to 40 MPH is 28” inches. On any street posted over 40 M.P.H. the cones MUST be a minimum of 36” inches. All cones must have a reflective collar to help highlight the taper or transition and work area. The collar must be a 6” inch band and should be placed 3” to 4” inches from the top of the cone and supplemented with a 4” inch collar spaced a minimum of 2” inches below the 6” inch collar.

Cones should not be used for nighttime operations unless an emergency should arise and MUST be replaced with the proper nighttime equipment. Any work areas that need to remain in place through the night MUST be cleared with the Traffic Operations Department.

#### **O. PAVEMENT STRIPING AND MARKINGS:**

Under certain circumstances, the use of pavement striping and raised pavement markers may be justified to supplement devices for delineation. On major construction projects where traffic is diverted for extended periods, pavement striping and markers are required to assure positive delineation and to minimize driver confusion. The Traffic Operations Department will determine the need for and the extent of striping removal, as well as the re-striping of the project.

#### **P. SPECIALTY SIGNS:**

Specialty signs will be required for long duration projects (for informational purposes) or where construction will impact traffic on major streets, roadways, intersections, bike lanes, sidewalks, etc. They may be also used in some cases where full road closure is allowed to pre-worn motorist in advance of the start of a project. See the Traffic Operations Department for specifics before manufacturing these signs.

## **Q. FLAGGER REQUIREMENTS:**

Flaggers are required:

- a. Where workers or equipment intermittently block traffic lanes or two-lane roadway, or any other operation where equipment will obstruct the free flow of traffic.
- b. Where the safety of the public and/or workers are at risk, or where the Traffic Operations Department determines for safety reasons

Flaggers must be selected with care. They should be alert, intelligent, and neat in appearance, have good hearing, eyesight, and be capable of commanding the traveling public. They should be stationed far enough from the work area to slow down or stop traffic before it enters the work area. All pre-warning signs shall be placed well in advance of the flagger station as much as is practical. Cell phone use is NOT ACCEPTABLE while flagging in the public right-of-way.

All flaggers shall have and wear the proper safety equipment:

1. Hard hat at all times. (Fluorescent Orange-Red, fluorescent Yellow-green)
2. Safety vest (in good repair). (Class 2 daytime and Class 3 nighttime)
3. Stop/slow sign paddle (18" x 18" minimum) in good repair.
4. Proper attire for all weather conditions.
5. SHALL have in their possession a current flagger certificate card (copies will not be accepted) at all times while working in the public right-of-way.

## **R. TRAFFIC CONTROL SUPERVISORS :**

All Traffic Control Supervisors shall have in their possession a current T.C.S. card issued by the COLORADO CONTRACTORS ASSOCIATION, INC., and/or by the AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION while working in the public right-of-way. Copies of the above mentioned card will not be acceptable. **NOTE:** While the Traffic Control Supervisor is flagging, they **SHALL** wear the proper safety equipment, as the stated for the flaggers above.

## **S. ARROW PANELS AND MESSAGE BOARDS:**

If an arrow panel (arrow board) consisting of a bulb matrix is used, the element should be recessed – mounted or equipped with an upper hood of not less than 180 degrees.

An arrow panel shall have the following three mode selections:

1. Either a Flashing Arrow, Sequential Arrow, or Sequential Chevron mode.
2. A flashing Double Arrow mode.
3. A flashing Caution mode.

An arrow panel in the arrow or chevron mode should be used only for stationary or moving lane closures on multi-lane roadways.

An arrow panel should be used only in the caution mode for shoulder work, blocking the shoulder, for roadside work near the shoulder, or for temporarily closing one lane on a two-lane, two-way roadway.

A vehicle displaying an arrow panel should be equipped with rotating lights or strobe lights.

NOTE: The minimum size of an Arrow Panel allowed in the City of Fort Collins City limits should be 48”x 24”, length of arrow equals 48” inches, and width of arrow equals 24” inches. See Traffic Operations Department or the M.U.T.C.D Manual for specifics on message boards,

## **T. NON-COMPLIANCE:**

All work actively not in compliance with afore mentioned requirements of this handbook should be temporarily suspended until the Traffic Operations Department determines that such work is actively in compliance.

## **U. WORK AREA TRAFFIC CONTROL FEES:**

The Work Area Traffic Control (WATC) fee is assessed at the time of WATC plan submittal. This fee helps recover the costs of reviewing and monitoring roadway work area traffic control within the city.

The fee structure is as follows:

- \$35.00 for the first submittal of a WATC plan
- \$10.00 for each re-submittal of the same WATC plan\*

The three payment options include:

- Check: Made payable to the City of Fort Collins, please write the WATC Plan Number in the memo line of the check (this number will be assigned to each plan by the Traffic Operations office at the time of submittal)
- Cash
- Account: Visit the Traffic Operations department to obtain a Billing Account Application. Accounts will be billed at the end of each month. Payment terms are net 30 days. If the account becomes delinquent, further WATC plans will not be accepted or approved until the account is brought current.

\* A re-submittal is an adjustment to a plan that was originally approved. It is not a plan that was denied and therefore must be re-designed to meet approval standards