



# COLORADO

## Department of Transportation

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**DATE:** 12/12/2022

**TO:** All ITS Staff, Region Traffic Engineers

**FROM:** ITS & Network Services Branch Manager

**CC:** Deputy Director of Operations

**SUBJECT:** ITS Moratorium and Maintenance Windows

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### Purpose:

The purpose of this memo is to document **standard practices for maintenance periods for ITS, Traffic, Signals, and Tunnel devices, systems, networks, servers and security, and all other systems used to operate the highways.** The CDOT ITS Branch has established a standard maintenance window and moratoriums that apply to all CDOT employees and projects including ITS, traffic and specialty crews, temporary employees, contractors, and all other staff with access to CDOT data centers, nodes, systems and the fiber backbone.

The intent of a maintenance window and moratoriums is to avoid disrupting the operations of the transportation system, and therefore only allowing service impacting work during low traffic volume periods. Service impacting work includes any work that could impede operations centers or groups of employees from typical job duties. (All work that is service impacting requires a notification, whether it is within a maintenance window or not. To request a notification refer to [Requesting a Notification.](#))

### Maintenance Window:

A maintenance window is defined as a designated time that is appropriate to perform service impacting work. The established maintenance window is defined as 8:00 pm to 4:00 am Sunday through Thursday (meaning work on a Thursday could begin at 8:00 pm and continue into Friday morning but should end by 4:00am). Specifically for planned fiber backbone cutovers the established maintenance window for projects is 9:00pm to 4:00 am on a Sunday through Wednesday night, excluding holidays. (Some applications and systems are primarily used Monday to Friday for business operations, such as ITS ticketing systems, it is suggested system upgrades for these types of applications request an exception to the maintenance window, see section **“Exceptions to a Moratorium or working outside an established Maintenance Window”**.)



## **Moratoriums:**

A state of moratorium is defined as a designated time frame when all work that directly affects the ITS and Traffic network and systems is suspended. Moratoriums are put into effect to mitigate unplanned outages during holidays when a higher than average traffic volume is anticipated. A state of moratorium will be established for the following holidays:

1. Independence day. The moratorium will begin 2 business days\* prior to the holiday and changes can resume the following business day.
2. Memorial day. The moratorium will begin the Thursday\* prior to the holiday and changes can resume the following Tuesday.
3. Labor day. The moratorium will begin the Thursday\* prior to the holiday and changes can resume the following Tuesday.
4. Thanksgiving day. The moratorium will begin Friday\* prior to Thanksgiving Day and changes can resume the following Monday.
5. Christmas day and New Years Day. The moratorium will begin 5 business days\* prior to Christmas and changes can resume two business days after the New Year holiday.

\*Moratoriums begin at the beginning of the day. For example; if a moratorium starts on Thursday no service impacting work should occur at any time on that Thursday.

During the moratorium there will be no changes to switches, routers, servers, fiber, radios or software configurations (production environments), no node or data center access and/or no power work will be performed that impacts the CDOT and ITS Traffic network. The following work on CDOT systems will not be allowed during a moratorium:

- a. Access to all node buildings and the data centers,
- b. All work on switches that are connected to the backbone, plugged into the network or are within a node building or data center,
- c. Any fiber lateral and/or backbone work, including splicing or access to any pull boxes or manholes where the fiber resides (the only exception is to perform locates to protect the fiber asset, any other reason needs approval, see section "**Exceptions to a Moratorium or working outside an established Maintenance Window**"), and
- d. System upgrades, system configurations, firewall changes, or any other changes that have the potential to interrupt the daily operations of CDOT.

Work in lab environments not connected to production systems can continue. Field devices can continue to be repaired and maintained during moratorium as long as the work is isolated to the device, such as fixing pixel boards, cleaning cameras, resetting a knocked down device; this includes adding and removing cameras and ITS devices to applications. Larger updates that impact configuration standards should not take place during a moratorium.

## **Emergency Work**

During a moratorium or outside of a maintenance window, there can still be impacts and outages to the systems. Emergencies and outages during a moratorium should be escalated following typical



procedures, engaging the Network Operations Center (NOC) during 6:00 am to 5:00 pm Monday through Friday or the appropriate On-Call support staff if outside those hours.

During a moratorium, Data Center or Node access will be granted to CDOT personnel if the following urgent situations have occurred:

1. If the HVAC, generator, UPS, or power distribution and distribution equipment has failed or is in an alarmed state,
2. When backbone fiber damage has been identified as an issue and entry is required to troubleshoot the damage, or
3. If hardware failure has caused the core network or computer systems to fail or impacts the ability to operate the highway and traffic systems or Traffic Operations Centers.

### **Exceptions to a Moratorium or working outside an established Maintenance Window**

All non-emergency exceptions to the moratorium or maintenance window will have to be approved by the ITS Branch Manager or acting Branch Manager. Any exceptions related to traffic units (signals, ramp meters, etc) must include the approval of the Region Traffic Engineer. Exceptions must be documented in writing (email) prior to any work occurring. The request for exception must include a scope of work.

### **How to request an exception to the moratorium or maintenance window:**

If you are requesting an exception to perform work during a moratorium or outside the standard maintenance windows, you must submit your request 7 business days in advance of the work.

1. Email [cdot\\_its\\_support@state.co.us](mailto:cdot_its_support@state.co.us) with the following information:
  - a. requestor name and phone number
  - b. what work will be performed,
  - c. who will perform the work,
  - d. what could potentially be impacted,
  - e. when work will start and when work will end (date/time),
  - f. where the work is being done, and
  - g. why it is necessary to complete the work during a moratorium or outside of the maintenance window.
2. The NOC will route the ticket for approval to the ITS Branch Manager.
3. The Branch Manager will assess the request and reach out to the requestor if more information is needed. If the work involves traffic assets, the ITS Branch Manager will request approval from the Region Traffic Engineer.
  - a. If the request is approved, the ITS Branch Manager will approve the ticket in MESD. The NOC will inform the requester of approval via email and request information to send out notification for the work activity. When the NOC has sufficient information to send out a notification, the NOC will resolve the MESD ticket. The NOC will add the requested work to the ITS Coordination calendar. The requestor may proceed with the work.



- b. If the request is not approved, the ITS Branch Manager will reject the ticket in MESD. The NOC will inform the requester via email. The requestor may NOT proceed with the work.

### **NOC Expectations**

For Moratoriums, the ITS Network Operations Center (NOC) is responsible to send out notifications in advance of a moratorium to inform and remind all parties when they are applicable. Notifications will be provided by email two weeks and one business day prior to the beginning of a moratorium. The NOC is also responsible to monitor activity (such as node entry during a state of moratorium) and report and escalate failure to comply with these established maintenance periods to the ITS Branch Manager.

For all service impacting work, the NOC is responsible to send out notifications regarding the specific work. For planned outages, requesters can follow this process: [Requesting a Notification](#). For requestors seeking an exception to the moratorium or standard maintenance windows, requesters can follow the process in this section “**Exceptions to a Moratorium or working outside an established Maintenance Window**”.

