

Chapter 15

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15 Red Light Enforcement Plan

15.1 General

This chapter will discuss red light enforcement plan details from two perspectives; the ODOT signal designer and the third party signal designer:

- Typically the ODOT signal designer will have a very minimal amount of involvement associated with this type of plan sheet because red light enforcement plans are ALWAYS designed by third parties and constructed under the district permit process. The role of the ODOT signal designer will range from no involvement at all to just design review.
- The third party signal designer is responsible for designing and producing the plan sheet.

15.2 Operation and Approvals

The installation of a red light running system requires STRE Operational Approval. The red light running system may also include automated speed enforcement (when approved by the STRE), which is now an option under Oregon law. Modifying existing red light running systems to include automated speed enforcement requires meeting all the requirements stated in this this chapter. See the current version of the “Red Light Running (RLR) Camera Guidelines for State Highways” for more information on conducting the engineering study, the Operational Approval process, and standard conditions of approval.

The plan sheets require Design Approval as per Chapter 2.

15.3 When is a Plan Sheet Required?

A red light running plan sheet is required for all intersections where this technology will be used. A plan sheet is also required if the red light running system is removed. These plan sheets are always designed by a third party that is affiliated with the company providing the red light running equipment. ODOT signal designers do not design red light enforcement systems. While ODOT has ownership of the intersection and signal equipment within right-of-way, the red light running equipment is NOT owned or maintained by ODOT.

15.4 Mitigation Requirements

Prior to installation of a red light running system, modifications to the traffic signal design may be required as a means to improving intersection safety. These modifications, if needed, shall be shown in a “Signal Plan” sheet that is separate from the “red light enforcement” plan sheet. The modifications typically include the following:

- Change in the number, size and/or location of the vehicle signal heads

- Enforcement “tattletale” lights
- Speed zone changes (which may result in loop detector placement changes)

15.5 Red Light Running Signing

Installation of a red light running system requires specific signing on all major routes entering the jurisdiction and near the location where each camera is installed. These signs should be shown in a signing plan sheet. See the current version of the “Red Light Running (RLR) Camera Guidelines for State Highways” and the “ODOT Sign Design Manual” for more information.

15.6 Construction

Installation of a red light running system is always constructed under the district permit process.

15.7 Separation of Systems

The traffic signal system and the red light running system are required to be completely separate from each other. The only exception is current clamps (and wiring from the current clamps) that are used inside the traffic signal controller around the field output wires that enable the red light running system to determine which signal indication is on. A current clamp is an electrical device having two jaws which open to allow clamping around an electrical conductor. This allows properties of the electric current in the conductor to be measured, without having to make physical contact with it, or to disconnect it for insertion through the probe.

The wiring from the current clamps then exits the signal controller cabinet through a conduit to the first junction box. These wires do not have to be in a separate conduit if there is enough room in an existing conduit with traffic signal wiring. From the junction box closest to the signal controller cabinet, **every** piece of equipment used for the red light running system (cameras, conduit, wiring, detection, etc.) shall be separated from the traffic signal equipment. For example, the following scenarios are not allowed:

- Placement of red light running equipment on a traffic signal mast arm or pole
- Placement of red light running wiring in conduits and junction boxes that are used for the traffic signal. EXCEPTION: the junction box nearest the signal controller cabinet and the conduit between the two)
- Use of the power to the traffic signal. EXCEPTION: unless ODOT District authorizes the use. In the case where the red light running system power is provided by the traffic signal, it must be on its own clearly identified circuit breaker.

15.8 Removal of Red Light Running Systems

If removal of the system is required, a “Red Light Enforcement” plan sheet is required showing the removal of the equipment. All wiring, junction boxes, external equipment (cameras, mounts, etc.), and equipment in signal controller cabinet must be removed. Conduits and loop detection may be abandoned.