

PROCEDURE BULLETIN

HEADING: PROJECT ASSESSMENT - GENERAL

SUBJECT: LOOP DETECTORS

GENERAL:

Typically traffic counter loops are disturbed when milling existing asphaltic pavements.

The question is sometimes raised: "When a pavement preservation project is proposed to overlay an existing asphalt pavement where there are existing traffic counter loop detectors, how thick of an overlay can be placed before the loop detectors will not function?" The loops are normally placed two to three inches below the pavement surface. The magnetic field created by the loops will function adequately until the pavement above the loops exceeds eight inches. When considering a new overlay, it is essential to determine how much pavement has been added to the original pavement when the loop detectors were originally installed.

When preparing a Project Assessment the location of loop detectors and the traffic data (Average Daily Traffic, and K, D, & T factors) are obtained by sending a written request or e-mail to Joe Flaherty / TPD Data Section / 070 R. This request should be sent to Joe as soon as the project is assigned to provide as much lead time as possible. The request should include a request for the location / status of any TCS, ATR or WIM sites. This information will be sent back while also identifying any special types of loop detectors, sensors or proposed new loop detector systems.

The different types of loops detectors encountered on a typical project include:

TCS	Traffic Counter Loops
WIM	Weigh in Motion Systems
	Speed Counter Loops (No longer in use)
ATR	Automatic Traffic Recorder

TRAFFIC COUNTER LOOPS:

These are typically used to obtain short duration traffic counts such as 48 hour counts, etc. Two types of signs are used to identify Traffic Counter Stations (TCS). A black on white TCS sign indicates the location of functional traffic counter loops. A white on green TCS sign indicates the location of an existing Traffic Counting Station (no loops are located within the roadway pavement) or the location of loops in the roadway pavement which are not functional. This sign may also indicate locations where future loops should be placed in the pavement.

The Traffic Planning Division, Data Section will identify new loop placements when responding to the traffic data request.

Two lane roadway

1 loop per lane
Total 2 loops, one pull box
Estimated cost \$1500

Interstate Highway (Typical Section of two lanes in each direction)

1 loop per lane, 1 pull box per direction
Total 4 loops, 2 pull boxes
Estimated cost \$3000

When loops need to be replaced, Roadway Design takes care of the design by placing quantities and notes in the construction plans. There are no single sheets in the construction plans with Electrical Design's stamp. Therefore, the P.A. Involvement Sheet would show no Electrical Design involvement.

PROCEDURE BULLETIN**WEIGH IN MOTION SYSTEMS:**

These are typically located at existing port of entry (POE) sites or can be used in the roadway in lieu of a permanent POE (ramps, parking area, buildings, etc).

If there is involvement with these types of loops, Joseph Otto with the TPD Data Section will make a special note identifying their impact when sending back the list of involved loops from his office. These are special in the way they are built and operated. Coordination of the project impact and how they will be treated must be coordinated with the TPD Data Section during scoping. Electrical Design should be shown as having significant involvement on the P.A. Involvement Sheet.

AUTOMATIC TRAFFIC RECORDERS (ATR)

These are typically continuous traffic recorder stations, which monitor traffic 24 hours per day and have active computer polling with telemetry. These locations are identified by white on blue signs. In addition to loops and a pull box a traffic signal cabinet with associated equipment will be located along side the roadway. A new ATR site can cost \$50,000. They can function as a WIM system when piezo strips are utilized. Coordination of the project impact must be coordinated with the TPD Data Section during scoping.

SPEED COUNTER LOOPS:

These are no longer in service. Their function is now part of a typical ATR site.

SIGNAL LOOP DETECTORS:

Electrical Design typically has significant involvement on projects when there are traffic signal loop detectors, which are impacted by a proposed project. Coordinate the number of loops and associated costs with your representative from the Traffic Design Section.

INVOLVEMENT SHEET

The Involvement Sheet should have a row for the Transportation Planning Division Data Section in order to identify if they have any anticipated involvement with the scope of the project.