

ELECTRICAL MAINTENANCE SPECIFICATION E-110

TRAFFIC AND PEDESTRIAN SIGNALS MAINTENANCE

1. OBJECTIVE

To ensure that traffic and pedestrian signals, including but not limited to ramp flow metering signals, are operational and function in accordance with their design and Ministry standards.

2. DETAILED PERFORMANCE SPECIFICATIONS

2.1 Routine Maintenance Services

The Contractor must:

- a) repair or replace traffic and pedestrian signals and their components that constitute or have the potential to constitute an immediate Safety Hazard to the highway user or cause a Traffic Disruption, and Respond within 1 hour;
- b) repair or replace traffic and pedestrian signals and their components that do not operate as per their original design intent but are not immediate Safety Hazards, and Respond on the next Work Day;
- c) repair or replace failed traffic signal detection loops within 7 Working Days from the time the deficiency was detected or reported to the Contractor;
- d) repair or replace traffic and pedestrian signals and/or their components that operate as per the original design intent, do not create a Safety Hazard, and are structurally sound but have identified deficiencies, and Respond within 30 days;
- e) perform Preventative Maintenance of traffic and pedestrian signals as required;
- f) replace all non-LED lamps once every 12 months;
- g) replace failed LED signal head light sources as required;
- h) test all conflict monitors once every 12 months;
- i) notify the RTMC of any malfunctioning traffic or pedestrian signal causing Traffic Disruption and Respond within 5 minutes from the time the malfunction was detected by or reported to the Contractor and inform the RTMC when repaired;
- j) remove or cover graffiti in accordance with the performance time frames listed in the *Highway Maintenance Specification – Litter Collection and Graffiti Removal*;

- k) implement traffic signal timing plans as per section 600 of the *Traffic Controller Design Manual* up to a maximum number of 100% of the pedestrian and traffic signal Inventory total per year as follows:
 - (i) new traffic controllers or modifications to existing controllers – to meet the project schedule (with two week notification);
 - (ii) observed operational field problems – Respond within 12 hours of receiving the traffic signal timing plan;
 - (iii) scheduled roadway maintenance or construction activities by others – to meet the scheduled maintenance or construction activities (with one week notification); and
 - (iv) coordination plan updates – Respond within three weeks of receiving the traffic signal timing plans;
- l) collect controller volume and measure of effectiveness (MOE) logs as requested by the Ministry following the guidelines outlined in section 600 of the *Traffic Controller Design Manual* up to a maximum of 60% of the pedestrian and traffic signal Inventory total per year as follows:
 - (i) within 24 hours for 5 locations per year; and
 - (ii) within 2 weeks for the remainder of the 60% of the pedestrian and traffic signal Inventory total per year;
- m) immediately advise the railway authority, and the Ministry Representative if the traffic signal preemption system is not operational;
- n) contact the municipality and arrange to jointly test the operation of the emergency preemption sensors in the field once per year;
- o) test all traffic, railway, and emergency signal and transit preemption systems by using the “local” setting in the controller cabinet preemption cards and testing each direction of preemption to ensure operation as per the design documentation once per year;
- p) contact the railway authority and arrange to jointly test the operation of any railway preemption or railway advance warning sign system including but not limited to signal timing sequences in the field once per year; and
- q) document all activities related to electrical maintenance of traffic and pedestrian signals including but not limited to field inspections, Patrols, testing, complaints received / responses made, and all changes made to the controller equipment and operations, as per section 600 of the *Traffic Controller Design Manual* in a timely manner to the Province’s satisfaction.

2.2 Materials

Refer to Article 3 of the Introduction to the Specifications. For new traffic signal controller installations, the Ministry will supply a complete unit as per the design requirements.