Sample Preventive Maintenance Program Checklist

VEHICULAR SIGNAL HEADS
☐ Clean and inspect all visors; replace those that are cracked or broken. Tighten all screws securing visors to the signal head.
☐ Clean and inspect all lenses; replace those that are damaged.
☐ Inspect traffic signal housing for cracks or damage.
☐ Check terminal block connections.
☐ Check gaskets and mounting hardware; retighten as necessary.
☐ Check head alignment relative to lanes they serve.
☐ Check safety chains.
☐ Relamp all incandescent signals.
☐ Relamp all sealed beams for programmed signal heads.
☐ Clean reflectors on inside of signal housing (applies only to incandescent fixtures).
☐ Note serial numbers and/or date of manufacture for LED modules.
☐ Clear any obstructions (such as branches) that block visibility.
☐ Check underclearances for span wire mounted signals; adjust height as necessary.
☐ Check bushings on cable outlet and universal hangers; replace as necessary.
☐ Check for cracked and/or damaged mounting brackets.
☐ Clean back plates and check for cracks and/or missing screws.

PEDESTRIAN SIGNAL HEADS
☐ Clean and inspect all visors.
☐ Clean and inspect all lenses.
☐ Inspect signal housing for cracks or damage.
☐ Check terminal block connections.
☐ Check gaskets and mounting hardware; retighten as necessary.
☐ Check head alignment relative to the crosswalks they serve.
☐ Relamp incandescent bulb (if any) with correct wattage bulb.
☐ Clean reflectors on inside of signal housing (applies only to incandescent fixtures).
☐ Note serial numbers and/or date of manufacture for LED modules.

PEDESTRIAN PUSHPBUTTONS
☐ Check housing for damage or signs of vandalism; replace as necessary.
☐ Check for tightness.
☐ Verify operation.
☐ Check accompanying sign; repair or replace as necessary.
SIGNAL POLES AND MAST ARMS
☐ Check anchorage.
☐ Check tightness of mounting hardware.
☐ Check that each pole is electrically bonded.
☐ Re-tighten bolt covers.
☐ Check poles for plumbness; shim or adjust as necessary.
☐ Check mast arm alignment.
☐ Check pole and/or arms for warping or other damage; note deficiencies.
☐ Replace missing pole base access doors.
☐ Check paint condition and/or corrosion.
☐ Clear drainage holes in pole bases, if present.
☐ Check for missing pole caps and mast arm end caps; replace as required.
☐ Check condition of grout at pole bases, if applicable.
☐ Check condition of varmint screen at pole bases, if applicable.

CONDUIT SYSTEM AND JUNCTION BOXES
☐ Check grounding bushings on rigid metallic conduit; replace as necessary.
☐ Inspect junction box covers for cracks or misalignment; replace as necessary.
☐ Check proper seating of junction and splice box covers.
☐ Check grounding; secure all straps and rod connections.
☐ Check above ground conduit for damage; replace damaged and/or missing conduit straps.
☐ Clear debris and/or overgrowth around junction box.
☐ Visually inspect junction box covers for cracks and/or other damage; replace covers, as necessary.
☐ Clear lip of junction box covers to ensure proper seating of cover; tighten cover bolts if present.
☐ Check junction boxes for proper grade; note any deficiencies.

SPAN WIRE SIGNAL INSTALLATIONS
☐ Check condition of strain vises, if applicable.
☐ Visually inspect each upper and lower tether span wire for damage or deterioration.
☐ Visually inspect each upper and lower tether span wire for excess sag; adjust as necessary.
☐ Inspect all connecting span wire hardware; tighten or replace as necessary.
☐ Inspect guy anchors for proper attachment and/or damage.
☐ Visually inspect pole condition for cracks and/or checks (wood poles); note any deficiencies.

TRAFFIC SIGNAL CABLE
☐ Check all splices in each traffic signal pole base; resplice as necessary using waterproof connectors or splice kits.
☐ Visually check the condition of the traffic signal cable for dry rot, nicks, cuts, or other damage to the outer jacket insulation; perform resistance and continuity tests, if required.
☐ Check all overhead cables and connections.
☐ Check to ensure cable is not rubbing against cable outlet (free-swinging, end-mounted signals only).
VEHICLE DETECTION—LOOPS
☐ Verify operation of areas of detection.
☐ Measure each loop for resistance (R), inductance change DL%, and loop quality (Q).
☐ Visually inspect loop installation; reseal sawcut trench, if necessary.
☐ Check loop detector splices.
☐ Re-tune loop detector amplifiers at the cabinet.
☐ Check that all loop leads are properly tagged.

VEHICLE DETECTION—CAMERAS
☐ Verify operation of areas of detection.
☐ Check video camera positioning.
☐ Check video camera mounting hardware.
☐ Inspect camera head for damage.
☐ Clean camera lens.
☐ Verify operation of video processor at cabinet.
☐ Update card firmware, if applicable.
☐ Verify camera cables are labeled for identification.

OVERHEAD STREET NAME SIGNS
☐ Clean sign faces.
☐ Check mounting hardware; tighten as necessary.

UNINTERRUPTIBLE POWER SOURCE (BATTERY BACK-UP)
☐ Verify automatic transfer switch operation.
☐ Verify incoming line voltage.
☐ Verify DC output to batteries.
☐ Verify AC output on inverter.
☐ Check electrical connections.
☐ Test system via simulated power outage at cabinet.
☐ Record events and run times either saved on UPS unit manually or uploaded to laptop.

CONTROLLER AND METER CABINETS
☐ Vacuum cabinet interior.
☐ Change cabinet filter.
☐ Check operation of fan and thermostat.
☐ Check operation of cabinet light and switch; replace if necessary.
☐ Check and tighten all terminal connections.
☐ Verify operation of detector panel relays.
☐ Check telephone functions.
☐ Lubricate hinges and locks.
☐ Check cabinet door gaskets.
☐ Check neutral and grounding bus.
☐ Check conditioning of incoming line voltage.
☐ Test circuit breakers.
☐ Check GFCI receptacle on power distribution panel; replace if necessary.
☐ Seal all conduit.
☐ Verify that all spare conductors are landed on spare terminal blocks or taped off.
☐ Verify all cables are tagged or otherwise identified.
☐ Seal around cabinet base with silicone caulking.
CONTROLLER ASSEMBLY

- Note and record make, model, firmware version and serial number for controllers, conflict monitors and other major components.
- Scan conflict monitor for logged events; note any entries.
- Perform conflict monitor test; place copy in cabinet.
- Run internal diagnostic routine on the controller.
- Verify input timing versus approved timing, including coordination and time-of-day parameters.
- Upload controller timing and parameters via laptop; place copy in cabinet.
- Check yellow change and all-red clearance intervals against current design standards for duration.
- Check pedestrian clearance times against current design standards for duration.
- Verify vehicle and pedestrian calls.
- Check preemption function for firehouses, if applicable.
- Check confirmation/tell-tale light for preemption, if applicable; relamp if needed.
- Check programming and operation of time clocks (school zone flashers only).
- Verify correct date, time and DST function for controller (intersections only).
- Verify communication with master controller, if applicable.
- Place cabinet wiring diagram(s) in cabinet, if missing.
- Place user and/or programming manuals in cabinet, if missing.