Guidelines for Traffic Signal Timing Plan Submission Process

The guidelines apply to all projects under Permit, Location and Design, and Construction pertaining to new, existing, and/or temporary signal installation and modification within the NRO. All references to "engineer" under these guidelines refer to the project's design engineer of record or on-call design/traffic consultant contracted to develop traffic signal timings.

The final signal timing plans shall be submitted to NRO Signal Operations Section for review and approval no more than six (6) months prior to project completion and no less than sixty (60) days prior to the activation of the traffic signal.

The approved timing shall be valid for six (6) months from the date of approval. In cases where the timeline exceeds six (6) months, the engineer shall resubmit the timings to the NRO Signal Operations Section and confirm the latest conditions at the time of first approval are still valid in order for the Section to reissue the approval.

The traffic signal shall not be activated until the timing plans are accepted.

During construction, the contractor maintains the signal. The temporary signal timing adjustments should be submitted to NRO Signal Operations Section for review and approval two (2) weeks in advance of implementation. Further, any changes to the approved temporary signal timings as required by the field conditions should be communicated to the Section in a timely manner.

Following are the guidelines for traffic signal timing plans development:

- VDOT NRO, upon request if available, will provide the most current Synchro files including signal timing, traffic volume, and geometric data for existing and/or adjacent signalized intersections. To request this information, contact Gilbert Castaneda of NRO via email gilbert.castaneda@vdot.virginia.gov and carbon-copy Ta-Cheng Hsu of NRO at Ta-Cheng.Hsu@vdot.virginia.gov.

- The engineer is responsible for collecting, entering, and evaluating all traffic signal related data (i.e. traffic volume, lane configuration, phasing, detector placement, pedestrian movement, storage bay length, etc.) for new and temporary signals, and validate the data as shared by VDOT NRO for existing signals.

- The yellow change and red clearance intervals shall be calculated based on the standards specified in VDOT TE-306.1, TE-306.1 FAQs, Northern Region Traffic Engineering Practice (TEP) 406.2, and NRO Change and Clearance Interval Data Collection and Processing Best Practices 2.0. Memorandum. Pedestrian timing shall be calculated based on the Northern Region TEP 401.1. The engineer shall provide VDOT with the documentation used in calculating these values.

- If the new, existing and/or temporary signal is located between or near any existing coordinated signalized intersections, the proposed traffic signal should be integrated into the existing system of coordinated signalized intersections. Any traffic signal inserted into a

corridor that is determined to be a critical intersection may require an entire corridor evaluation. Any changes made to the intersections in the corridor shall include timing, volume, and geometric data in the files, and must be submitted to and approved by VDOT. However, if the proposed traffic signal is isolated, it may be placed in free operation. VDOT shall approve all free operation requests before implementation.

- The engineer is responsible for submitting traffic signal timing data, which include eight (8) time-of-day timing plans to accommodate changes in traffic patterns for weekdays and weekends. The eight (8) timing plans consist of four (4) timing plans for weekdays (AM, Midday, PM, Off-peak) and four (4) timing plans for weekends (Saturday peak, Sunday peak, weekend before peak, and weekend after peak). This information should be provided in Synchro program compatible with the version used by VDOT. After the approval of Synchro files, the timings need to be configured into the 2070 controller format using the VDOT NRO Controller Signal Timing templates. The 2070 controller timing sheets are to be submitted for review and approval. After the approval, an approval letter will be issued by the VDOT NRO Signal Operations Section.

- The contractor is responsible for inputting the timings into the signal controller. If timings at adjacent signals need modification, VDOT is generally responsible for inputting the timing at adjacent signals in coordination with the contractor.