



# Traffic Signal Design Manual

ORIGINATOR Director, Bureau of Highway Operations		7-1-6
CHAPTER 7	Sequence of Operations	
SECTION 1	General	
SUBJECT 6	Other Charts	

The Sequence of Operations Sheet contains several tables and charts. A complete description of the Detector Logic Chart and Controller Logic Chart is covered in TSDM 8-2-1, and the Sequence of Operations Chart is discussed in TSDM 7-1-5. Five tables have been created for special purposes; these are shown in Figure 1 below.

TYPE OF INTERCONNECT COMMUNICATION		TYPE OF PRE-EMPT		TYPE OF LIGHTING			
NONE		NONE		BY OTHER AGENCY			
TBC		RAILROAD		IN TRAFFIC SIGNAL CABINET			
CLOSED LOOP TWISTED PAIR*		EMERGENCY VEHICLE		IN SEPARATE DOT LIGHTING CABINET			
CLOSED LOOP FIBER OPTIC*		3M					
RADIO*		TOMAR					
*LOCATION OF MASTER CONTROLLER #: S- _____		HARDWIRE					
SIGNAL SYSTEM #: SS- ____ - ____		OTHER					
		LIFT BRIDGE					
		QUEUE DETECTOR					

  

TYPE OF COORDINATION		EVP SEQUENCE				
NONE		EMERGENCY	A	B	C	D
TBC		VEHICLE DETECTOR				
TRAFFIC RESPONSIVE		MOVEMENT				
ADAPTIVE		PHASE				

**Figure 1**  
Sequence of Operations - Other Tables

The main purpose of these tables is to indicate what additional equipment *may* be installed at the intersection. These charts *should* always be filled in.

### TYPE OF COORDINATION

Coordinating traffic signals requires several additional coordination settings to be made in the controller. The type of coordination *should* be indicated with an "X." If the type of coordination is other than TBC, then the master signal controller location **shall** be identified by the signal number.

If tone frequency coordination is used, the actual tone frequency(s) *should* also be listed.

### TYPE OF PRE-EMPT

Use of a pre-empt device at some locations provides additional safety for both the motorist and pre-empt authority (i.e. railroad, emergency vehicle). The type of pre-empt *should* be indicated with an "X."

If pre-emption is installed at the intersection, in addition to filling out the Type of Pre-empt Device Table, one *should* include a general note on the Sequence of Operations Sheet. The note *should* describe the pre-empt sequence beginning at the cross street or mainline green through the pre-empt cycle. The note *should* describe what indications *should* be displayed for each phase at the intersection when the signal is pre-empted. A sample note is shown below:

*IN THE EVENT OF A RAILROAD PRE-EMPTION CALL, PHASE 8 **SHALL** RECEIVE A GREEN INDICATION TO CLEAR THE SOUTH APPROACH. FOLLOWING THE TRACK CLEARANCE INTERVAL, THE CONTROLLER **SHALL** ADVANCE TO PHASES 2 & 6 GREEN AND HOLD FOR THE DURATION OF THE PRE-EMPTION. AT THE END OF THE PRE-EMPTION, THE CONTROLLER **SHALL** RETURN TO PHASES 4 & 8 GREEN.*

Additional discussion of pre-emption of State signals, including eligibility, request procedure, review/approval, installation, and cost, is covered in the TEOpS 4-2-22.1.

### TYPE OF LIGHTING

Designate with an "X" the lighting service installed at the intersection. It is important to indicate whether lighting is wired into the controller cabinet or to a separate cabinet. If state and local lighting exist at same intersection, multiple boxes **shall** be checked to reflect maintaining authority for all lighting.