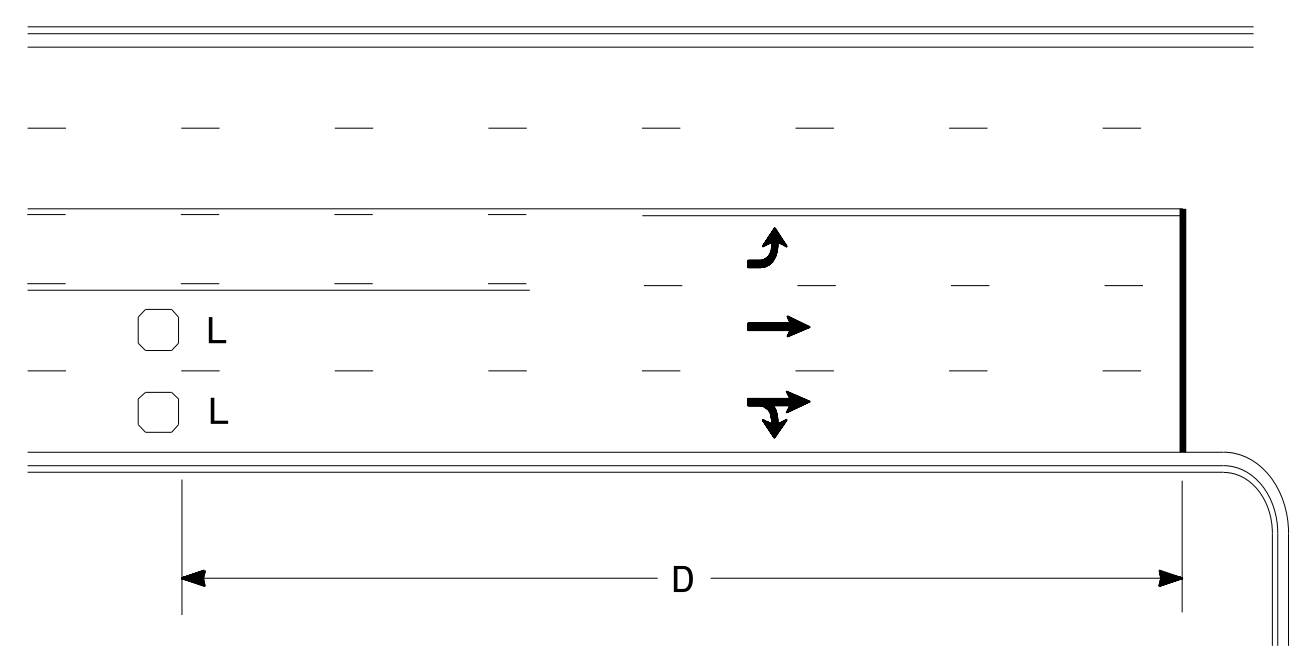


### High Speed Detection (≥40 mph)

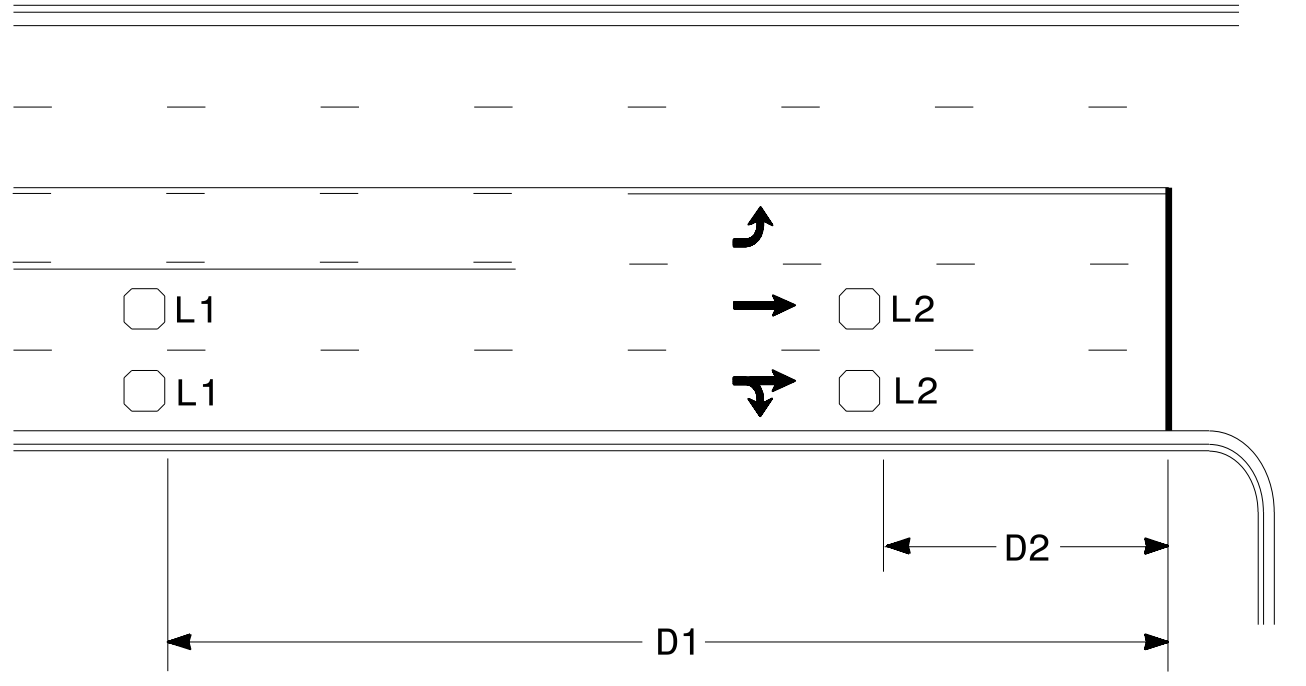


| Speed Limit<br>mph | D<br>ft |
|--------------------|---------|
| 40                 | 250     |
| 45                 | 300     |
| 50                 | 355     |
| 55                 | 420     |

L = 6ft X 6ft  
 Wired in series for TS1  
 Controllers  
 Wired separately for TS2,  
 170, and 2070L Controllers

Volume Density Operation

OR

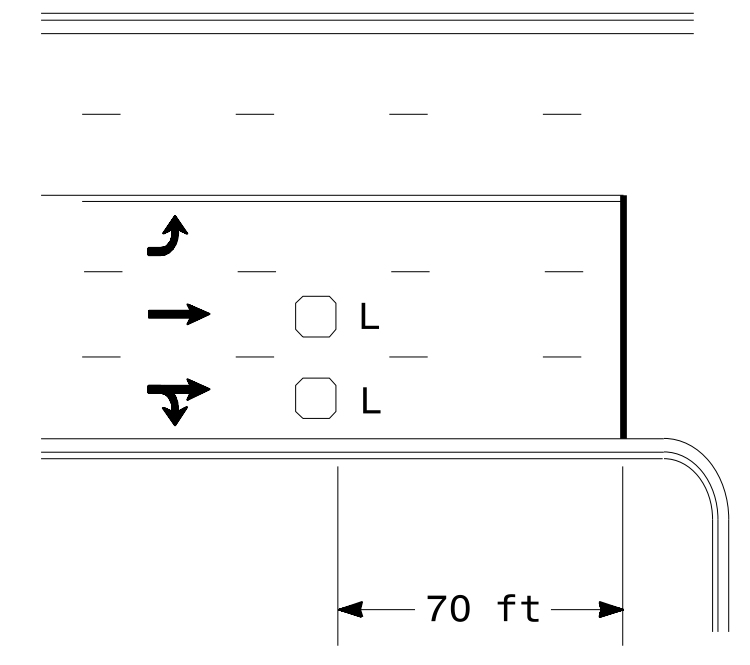


| Speed Limit<br>mph | D1<br>ft | D2<br>ft |
|--------------------|----------|----------|
| 40                 | 250      | 80       |
| 45                 | 300      | 90       |
| 50                 | 355      | 100      |
| 55                 | 420      | 110      |

L1 = 6ft X 6ft  
 Wired in series  
 L2 = 6ft X 6ft  
 Wired in series

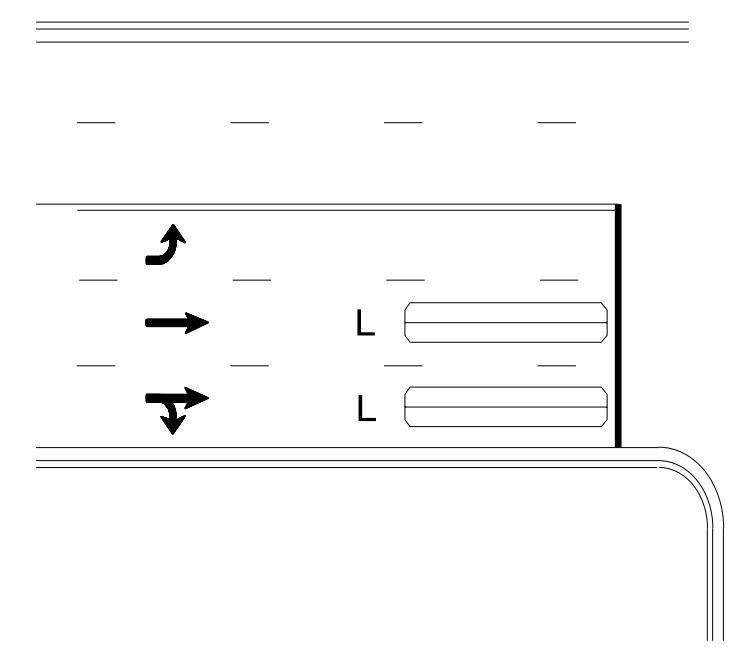
"Stretch" Operation

### Low Speed Detection (≤35 mph)



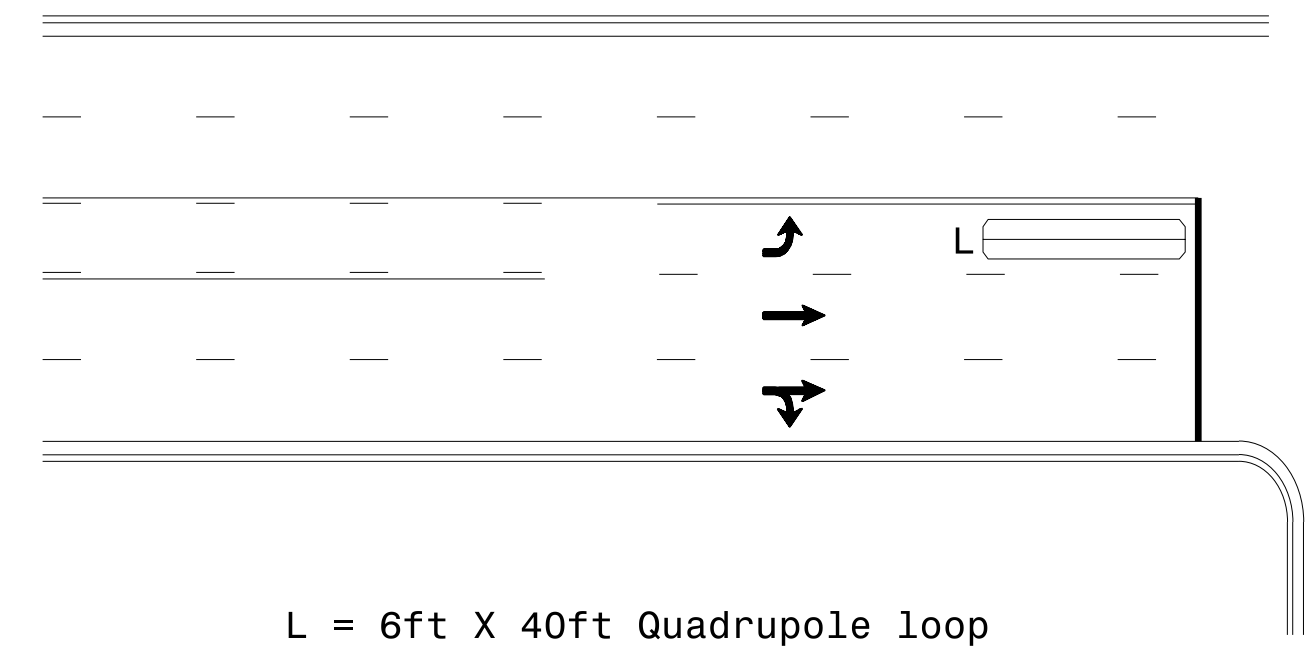
L = 6ft X 6ft  
 Wired in series

OR



L = 6ft X 40ft  
 Quadrupole loop, wired separately

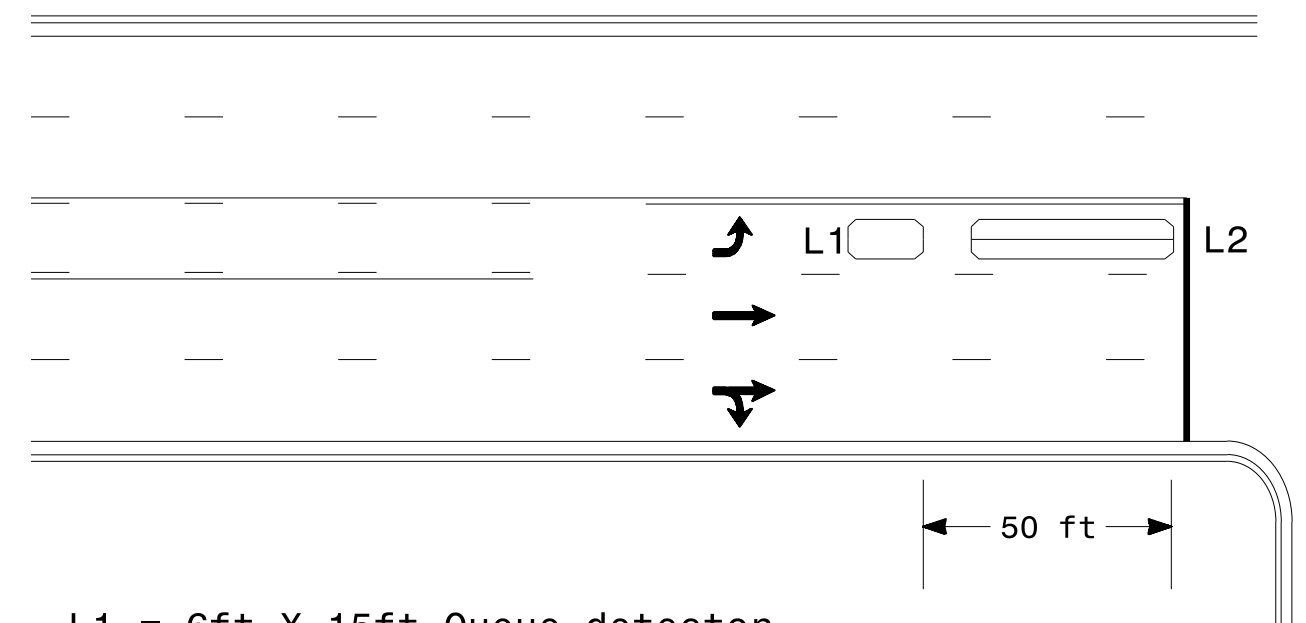
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

OR



L1 = 6ft X 15ft Queue detector  
 L2 = 6ft X 40ft Quadrupole loop

Queue Loop Detection

### Right Turn Lane Detection

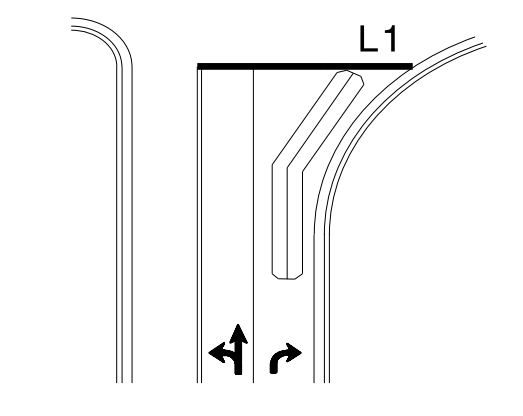


Shared Lane/  
 Wide Radius Turn

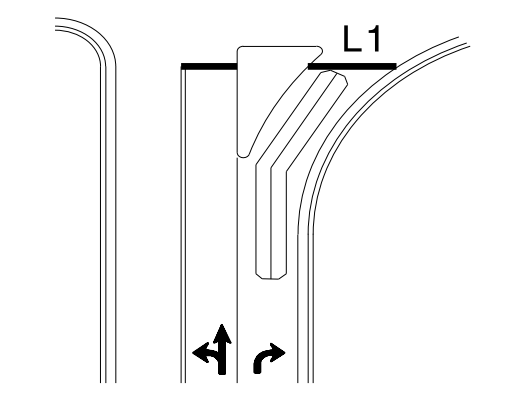
L1 = 6ft X 40ft Quadrupole loop  
 L2 = 6ft X 6ft [Minimum] Presence loop  
 Wired separately



Standard Turn

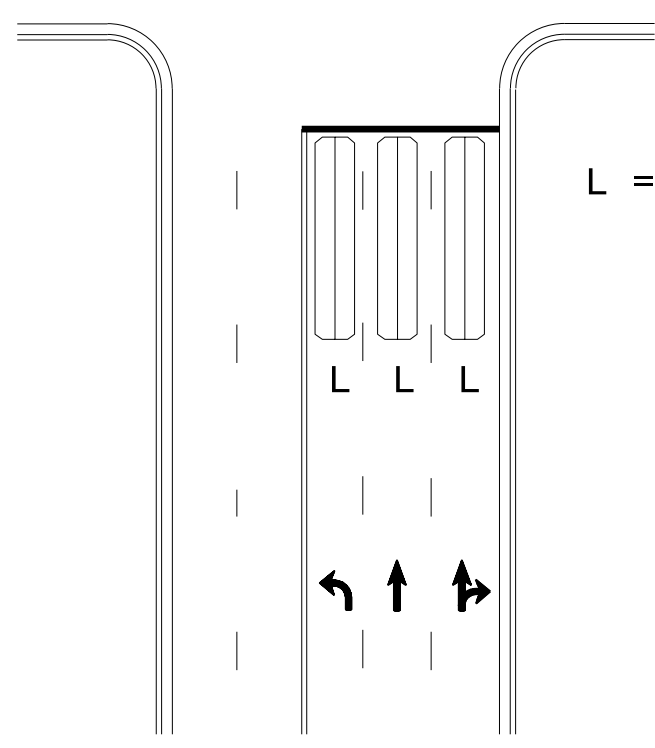


Wide Radius Turn



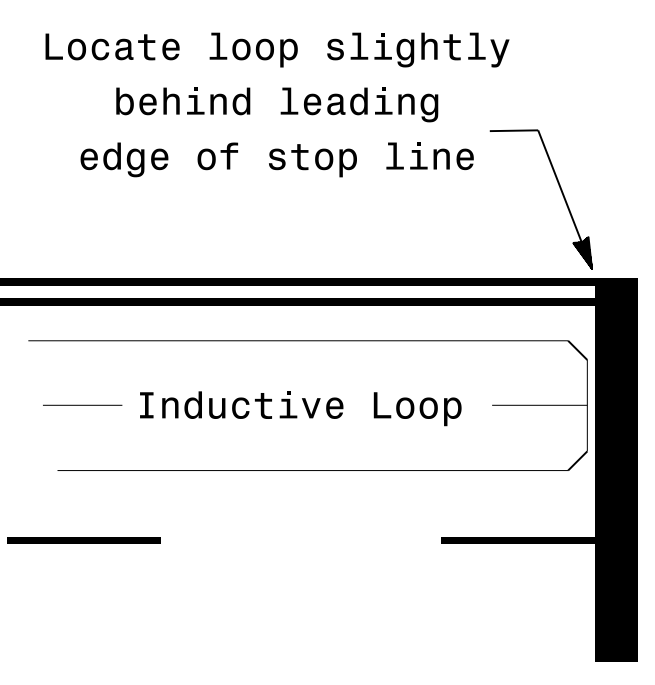
Channelized Turn

### Side Street Detection



L = 6ft X 40ft  
 Quadrupole loop  
 Wired to separate  
 detectors/channels

### Presence Loop Placement at Stop Lines



Locate loop slightly  
 behind leading  
 edge of stop line

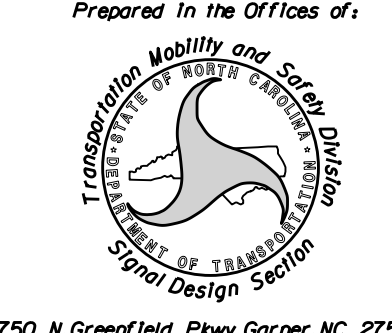
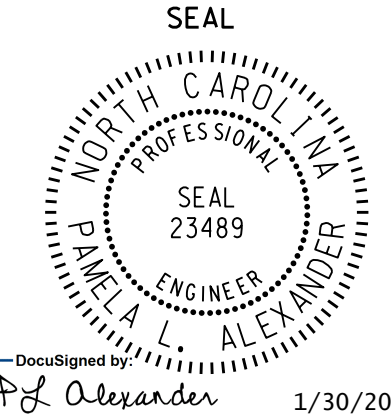
Note:  
 Loop may be located in advance  
 of stop line under any of the  
 following conditions:  
 1) stop line is greater than 15'  
 from edge of intersecting  
 roadway  
 2) loop detects a permissive or  
 protected/permissive left turn  
 3) for an exclusive right turn  
 lane

### Recommended Number of Turns

Single 6' X 6' loop  
 (when wired separately):

| Length of<br>Lead-in<br>ft | Number<br>of Turns |
|----------------------------|--------------------|
| < 250                      | 3                  |
| 250-375                    | 4                  |
| 375-525                    | 5                  |
| > 525                      | 6                  |

Quadrupole loops: Use 2-4-2 turns  
 6' X 15' Loops:  
 Lead-in < 150', use 2 turns  
 Lead-in > 150', use 3 turns

|   |   |                                  |   |
|---|---|----------------------------------|---|
|  | <b>Typical Signal Loop Locations</b>        |                                  |  |
|   | PLAN DATE: January 2015<br>PREPARED BY: PLA | REVIEWED BY: JPG<br>REVIEWED BY: |   |
| REVISIONS   |   | INIT. DATE                       | DocuSigned by:<br>P. Alexander<br>1/30/2015   |
| SIG. INVENTORY NO.  |   |                                  |   |