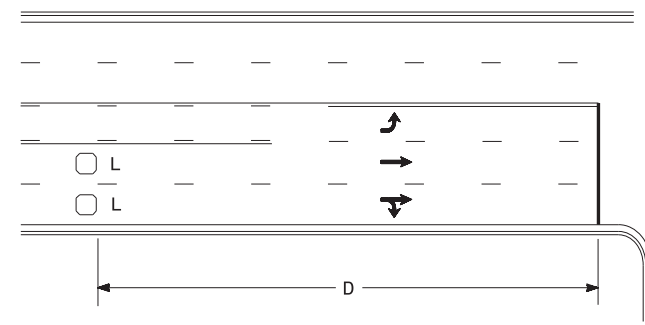


### High Speed Detection (≥40 mph)

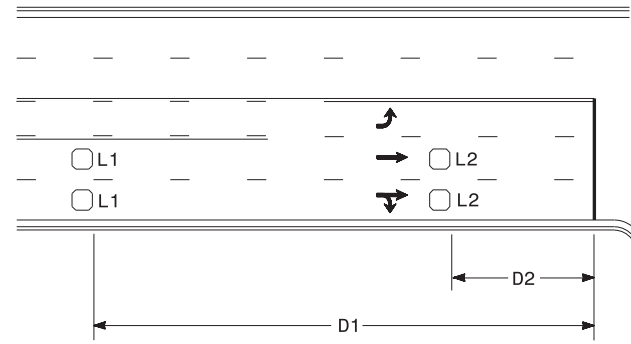


| Speed Limit<br>mph | D<br>ft |
|--------------------|---------|
| 40                 | 250     |
| 45                 | 300     |
| 50                 | 355     |
| 55                 | 420     |

L = 6ft X 6ft  
Wired separately

Volume Density Operation

OR

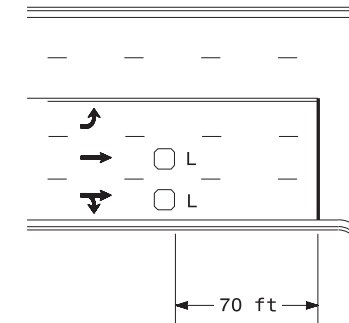


| Speed Limit<br>mph | D1<br>ft | D2<br>ft |
|--------------------|----------|----------|
| 40                 | 250      | 80       |
| 45                 | 300      | 90       |
| 50                 | 355      | 100      |
| 55                 | 420      | 110      |

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

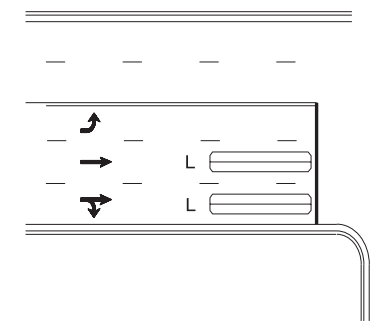
"Stretch" Operation

### Low Speed Detection (≤35 mph)



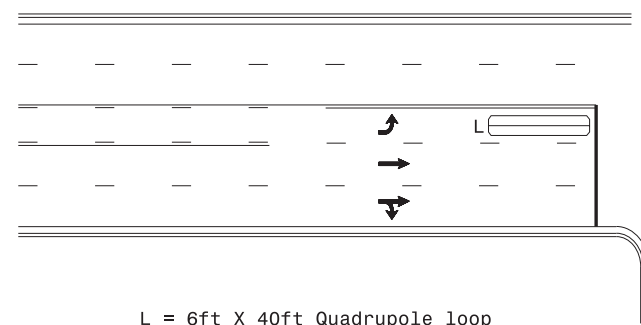
L = 6ft X 6ft  
Wired in series

OR



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

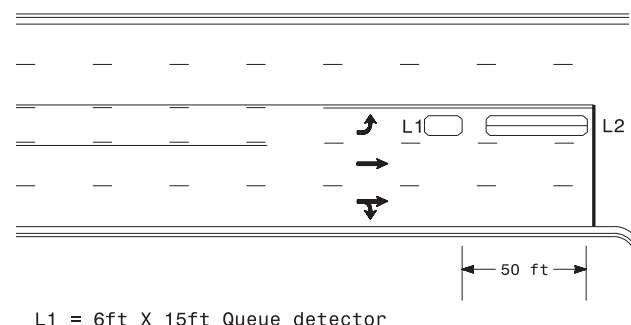
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

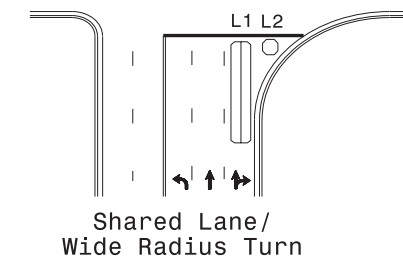
OR



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

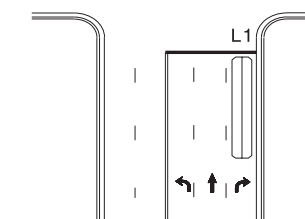
Queue Loop Detection

### Right Turn Lane Detection

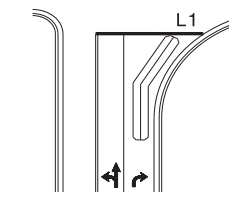


Shared Lane/  
Wide Radius Turn

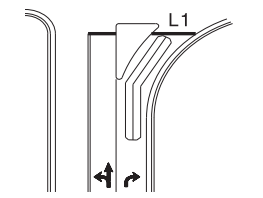
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

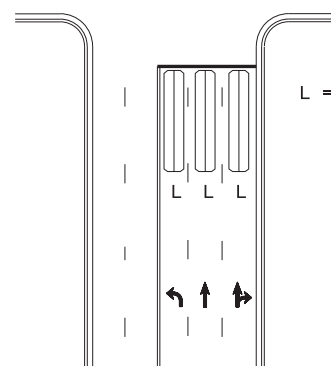


Wide Radius Turn



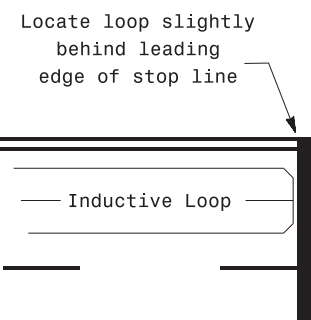
Channelized Turn

### 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

750 N. Greenfield Pkwy, Garner, NC 27529

Prepared In the Offices of:

TRANSPORTATION MOBILITY AND SAFETY DIVISION  
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| Typical Signal Loop Locations |                       |
|-------------------------------|-----------------------|
| PLAN DATE: September 2020     | REVIEWED BY: JPG      |
| PREPARED BY: PLA              | REVIEWED BY:          |
| SCALE: N/A                    | REVISIONS: INIT. DATE |
|                               |                       |
|                               |                       |

9/8/2020  
DATE  
SIG. INVENTORY NO.