

### High Speed Detection (≥40 mph)



Speed Limit mph	D 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 mph	D1 ft	D2 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)



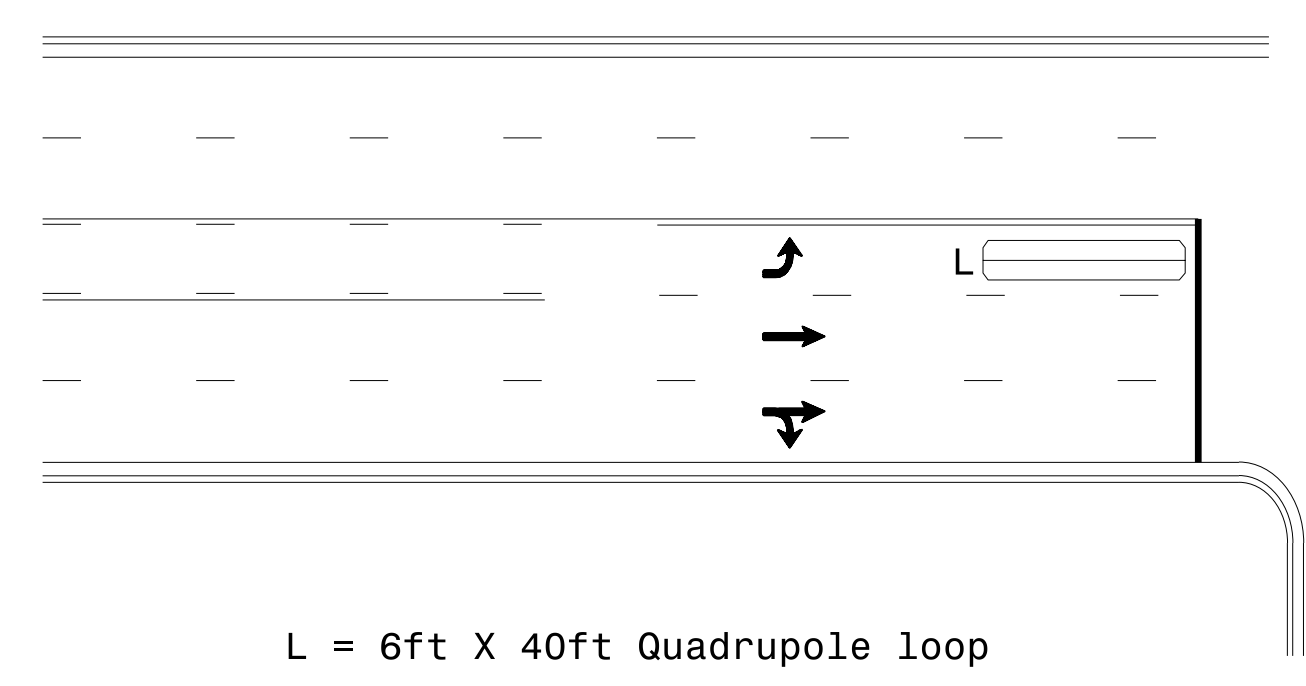
L = 6ft X 6ft  
 Wired in series

OR



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

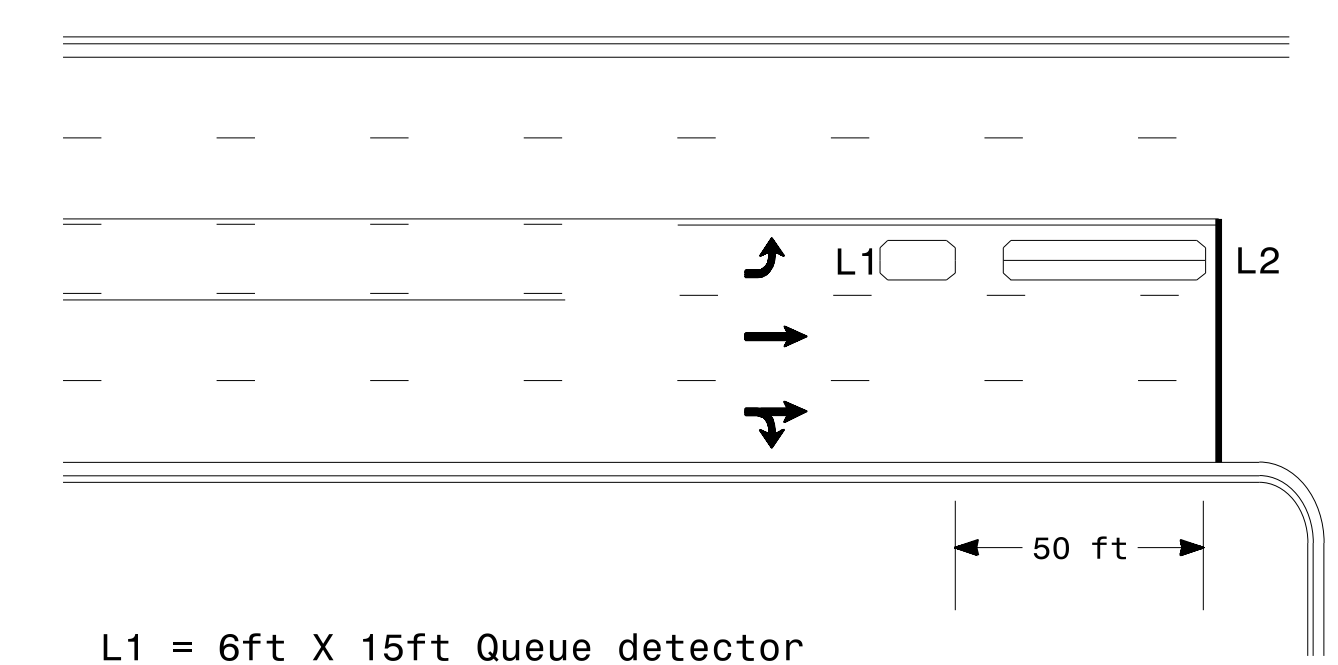
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

OR



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

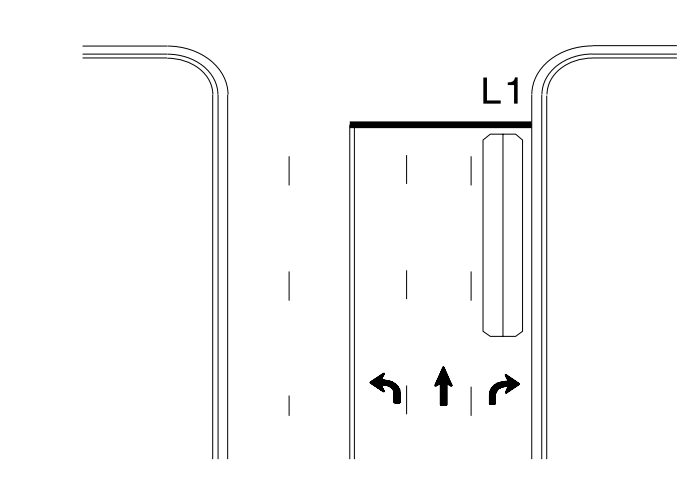
Queue Loop Detection

### Right Turn Lane Detection



Shared Lane/  
Wide Radius Turn

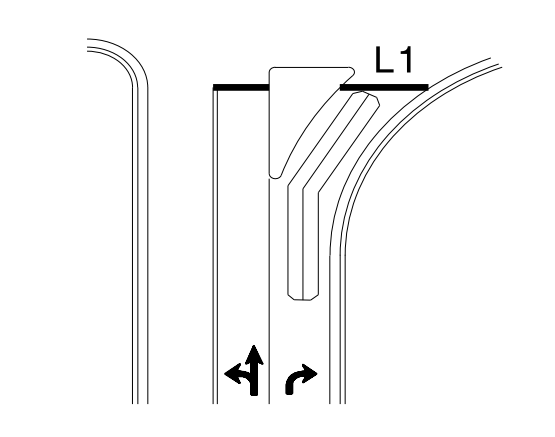
L1 = 6ft X 40ft Quadrupole loop  
 L2 = 6ft X 6ft [Minimum] Presence loop  
 Wired separately



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 Lead-in ft	Number 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

#### Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SEAL  
 NORTH CAROLINA  
 PROFESSIONAL ENGINEER  
 PAMELA L. ALEXANDER  
 23489

DocuSigned by:  
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 1/30/2015

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