

### High Speed Detection (≥40 mph)

Volume Density Operation

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

OR

"Stretch" Operation

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

### Low Speed Detection (≤35 mph)

Volume Density Operation

L = 6ft X 6ft  
Wired in series

OR

"Stretch" Operation

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

### Left Turn Lane Detection

Presence Loop Detection

L = 6ft X 40ft Quadrupole loop

OR

Queue Loop Detection

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

### 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

Inductive Loop

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

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

Prepared In the Offices of:	
750 N. Greenfield Pkwy, Garner, NC 27529	
SCALE	N/A

Typical Signal Loop Locations	
PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SEAL

NORTH CAROLINA  
PROFESSIONAL ENGINEER  
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1/30/2015 10:47:00 AM  
SIG. INVENTORY NO.

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