High Speed Detection
(≥40 mph)
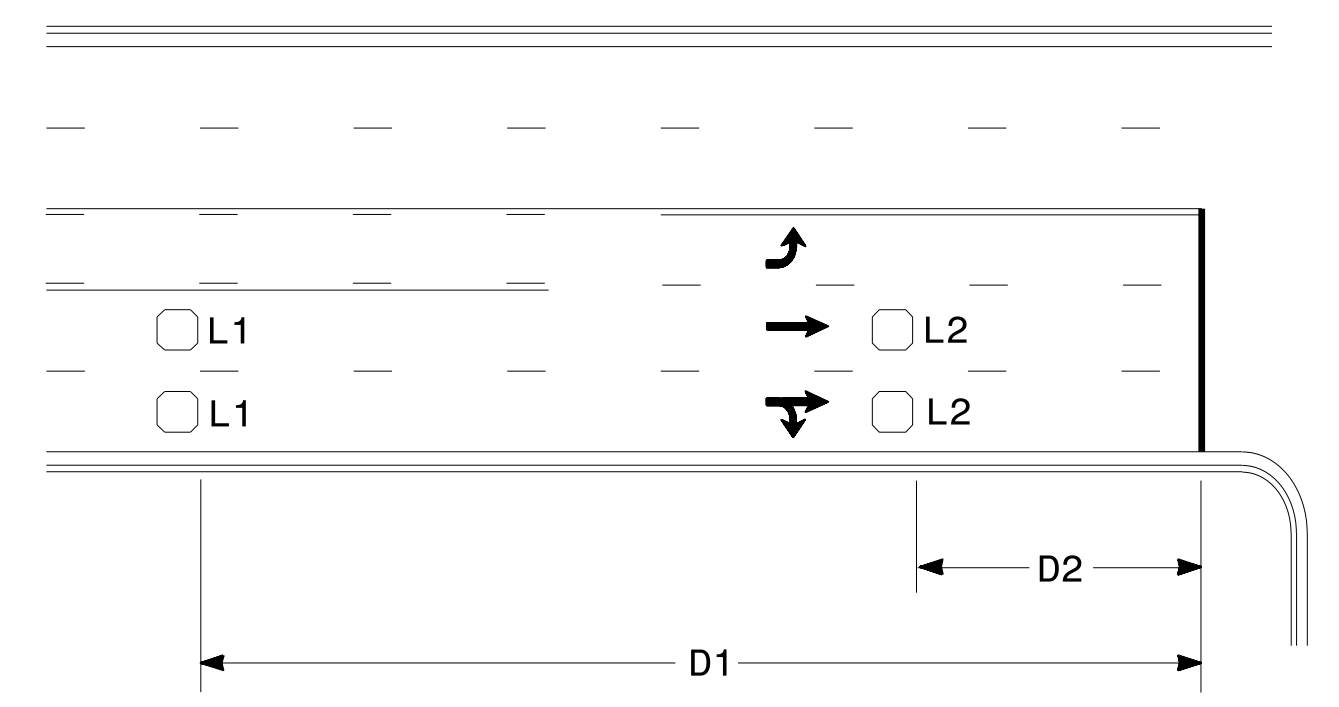

OR

Volume Density Operation
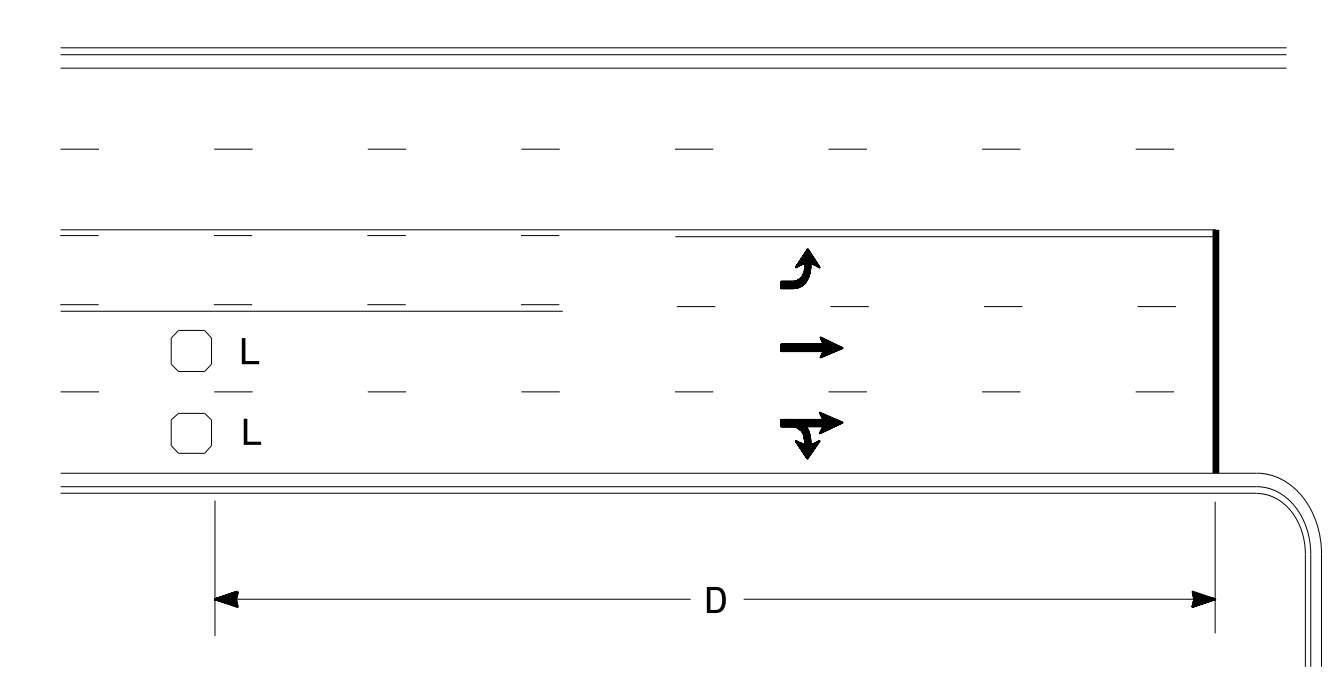
Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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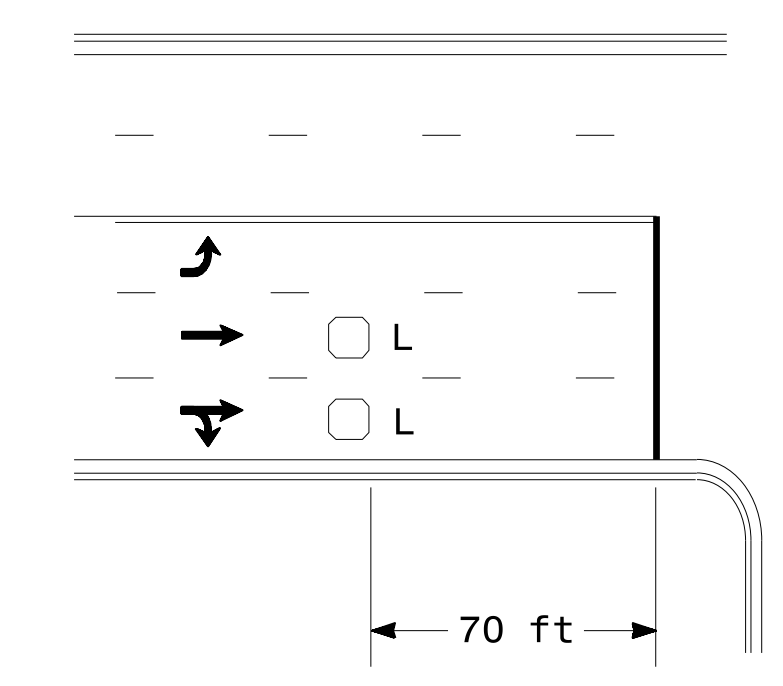Wired separately for TS2, 170, and 2070L Controllers

"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
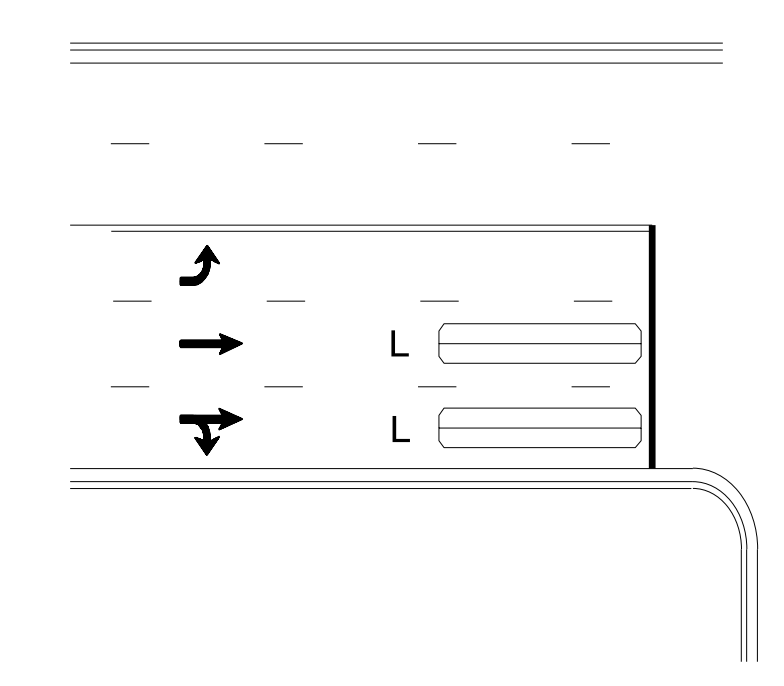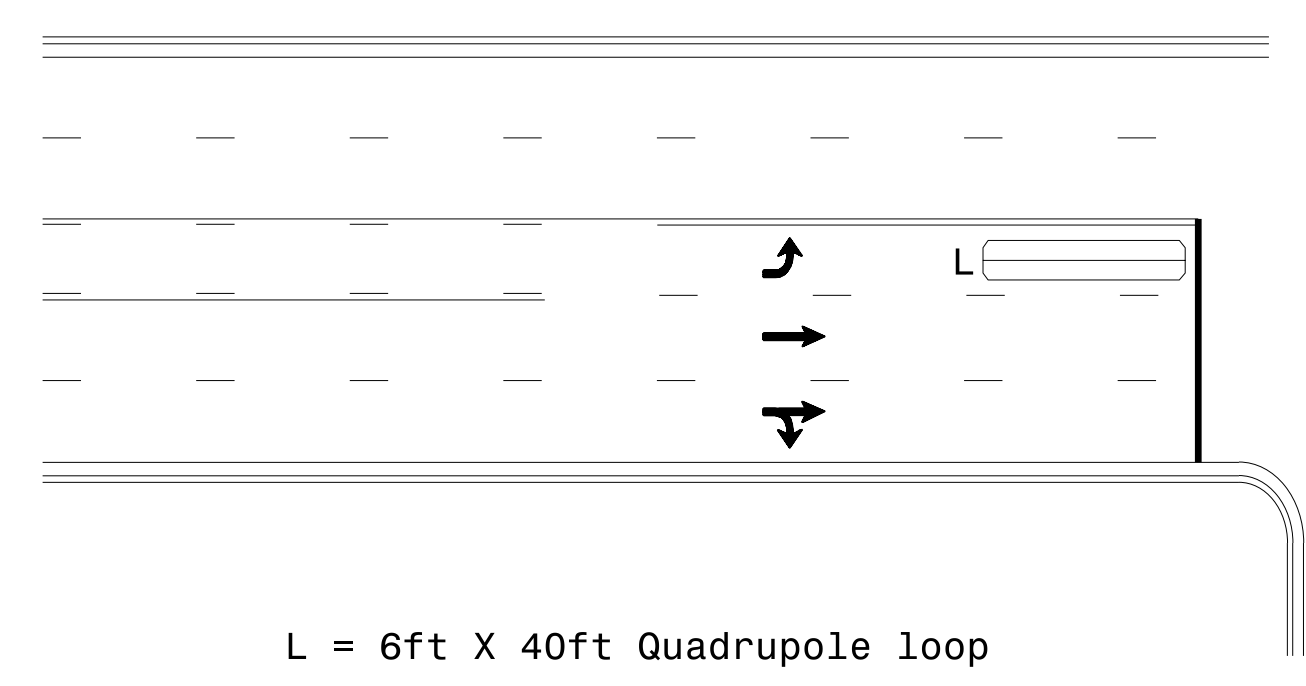
Low Speed Detection
(≤35 mph)

OR

L = 6ft X 6ft
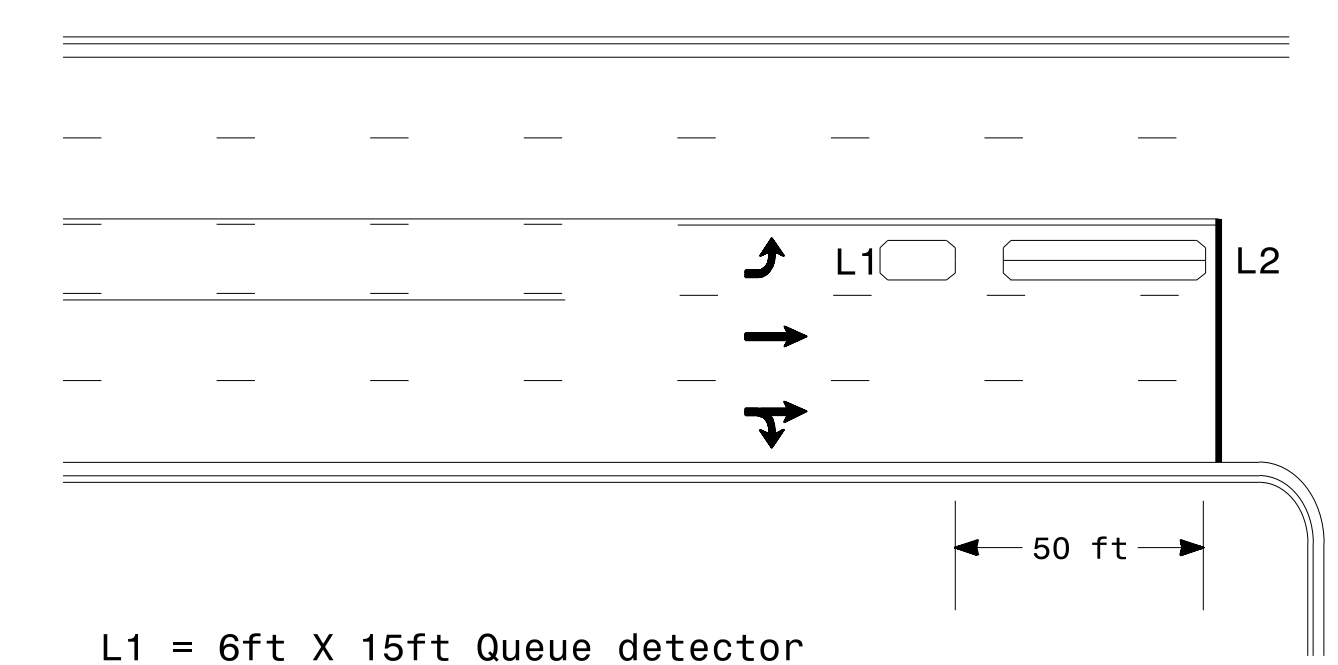Wired in series

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

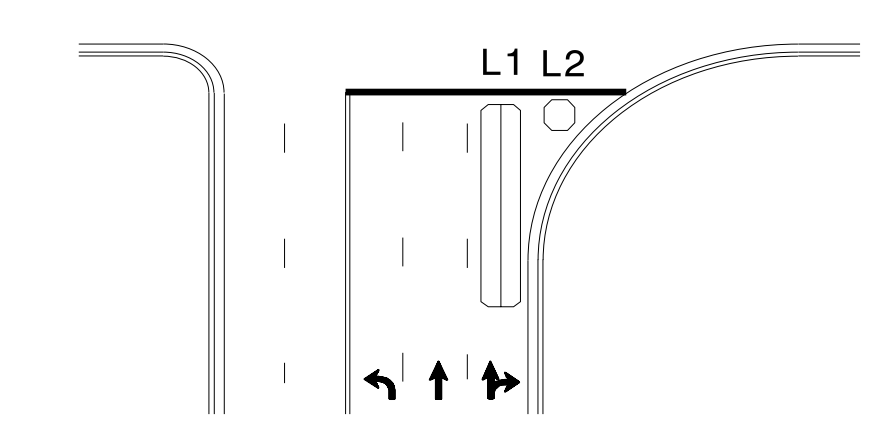# Left Turn Lane Detection

OR

Presence Loop Detection

L = 6ft X 40ft Quadrupole loop

Queue Loop Detection

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

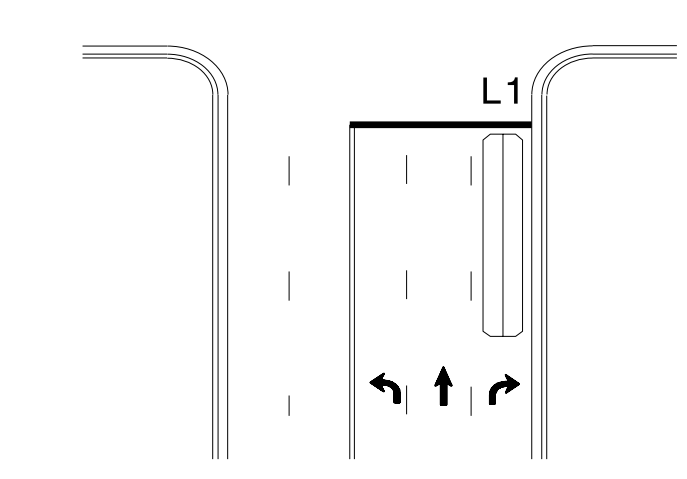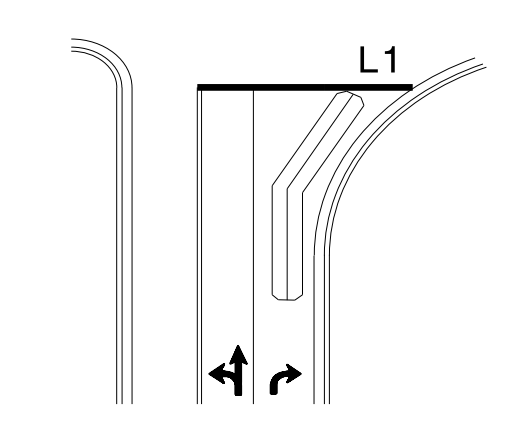# Right Turn Lane Detection

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

Shared Lane/ Wide Radius Turn
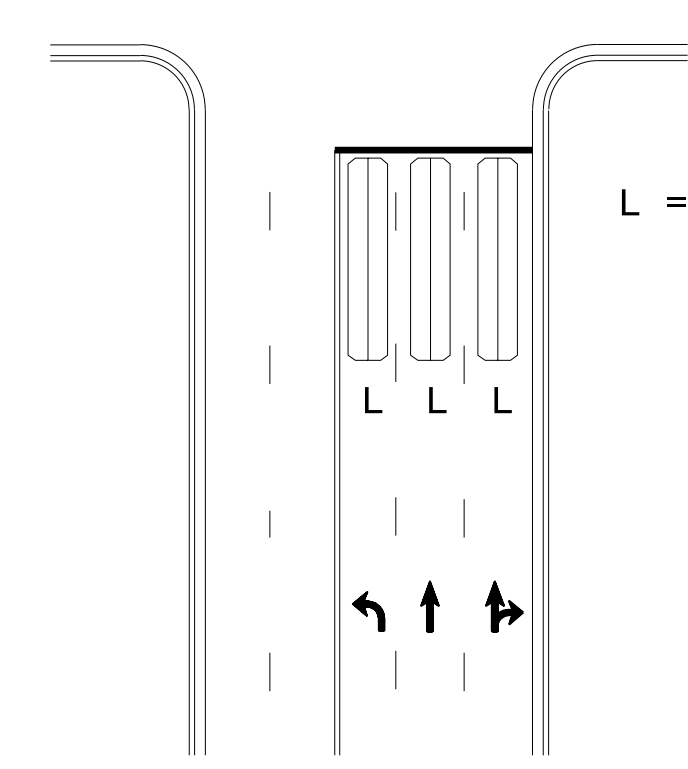
Standard Turn

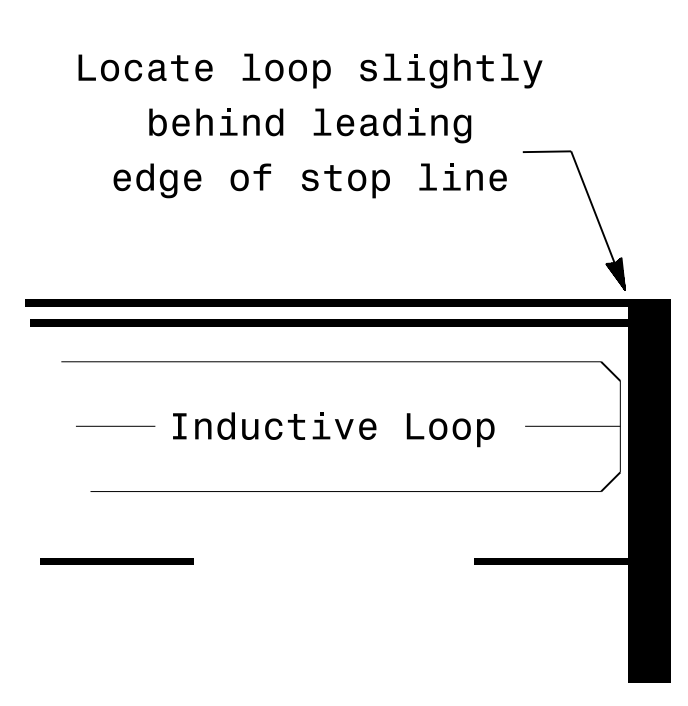### Wide Radius Turn
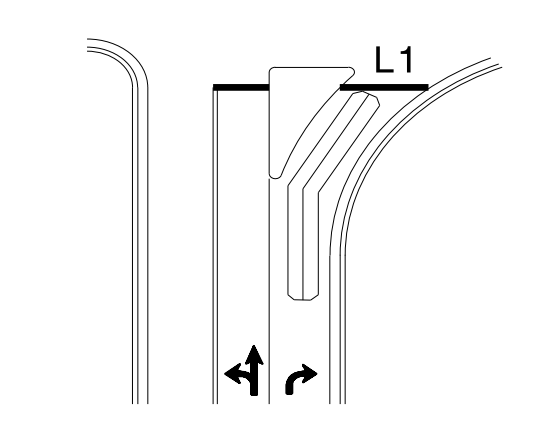
Channelized Turn

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

Prepared in the Offices of:
Transportation Mobility and Safety Division, Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
23489
ENGINEER
PAMELA L. ALEXANDER

PLAN DATE:	January 2015	REVIEWED BY:	JPG
PREPARED BY:	PLA	REVIEWED BY:	

SCALE
N/A

REVISIONS | INIT. | DATE

DocuSigned by:
P.L. Alexander
1/30/2015
DATE

SIG. INVENTORY NO.