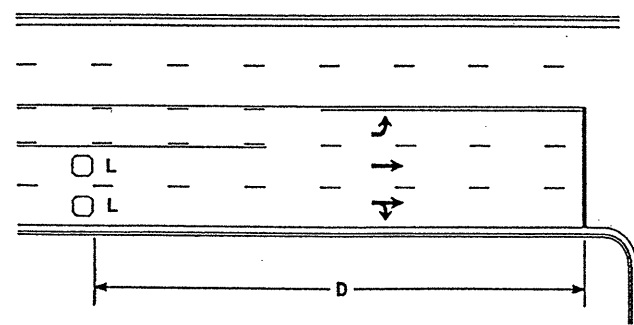
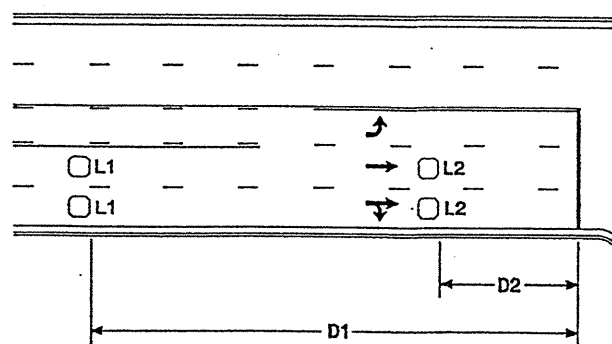


**High Speed Detection**  
[≥40 mph (64 km/hr)]



OR



Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

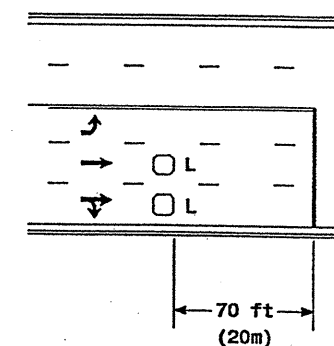
Volume Density Operation

Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

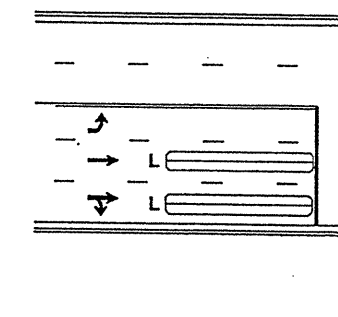
L1 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series  
L2 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series

"Stretch" Operation

**Low Speed Detection**  
[≤35 mph (56 km/hr)]



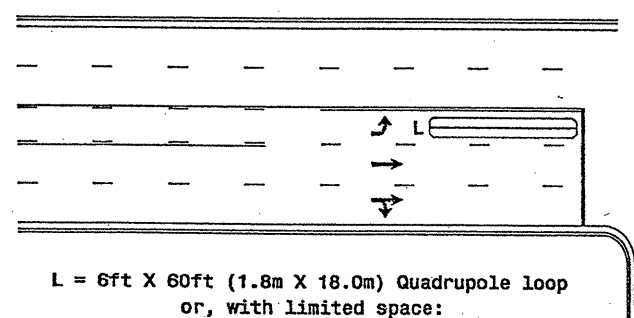
OR



L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

L = 6ft X 60ft (1.8m X 18.0m)  
Quadrupole loop, wired separately

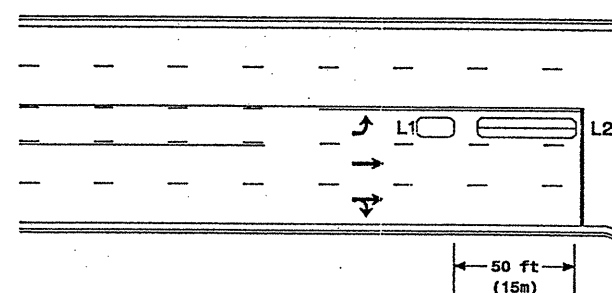
**Left Turn Lane Detection**



L = 6ft X 60ft (1.8m X 18.0m) Quadrupole loop  
or, with limited space:  
6ft X 50ft (1.8m X 15.0m) Quadrupole loop  
or  
6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

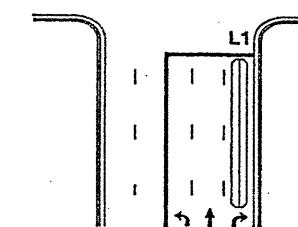
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector  
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Queue Loop Detection

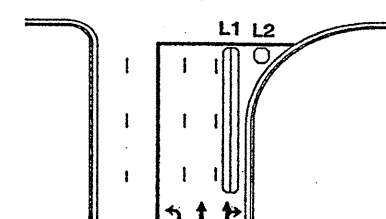
**Standard Turn**



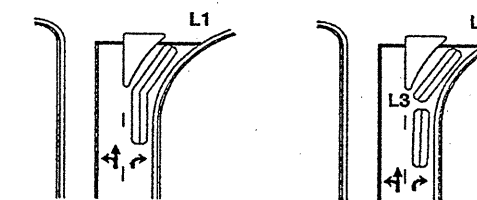
**Right Turn Lane Detection**

L1 = 6ft X 60ft (1.8m X 18.0m) Quadrupole loop  
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop  
Wired separately  
L3 = 6ft X 30ft (1.8m X 9.0m) Quadrupole loop  
Wired in series

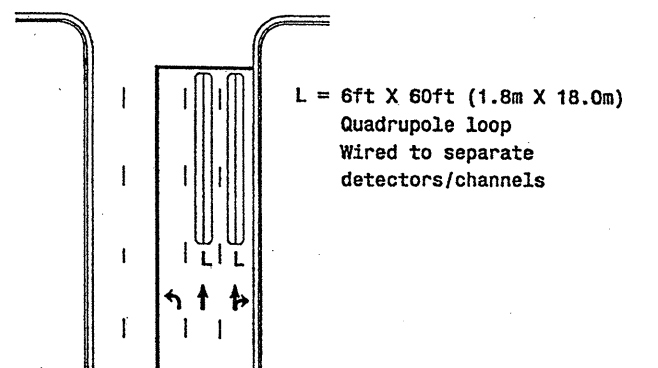
**Wide Radius Turn**



**Channelized Turn**



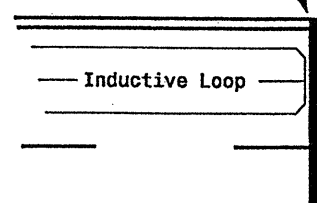
**Side Street Detection**



L = 6ft X 60ft (1.8m X 18.0m)  
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 when stop line is  
greater than 15' (4.5m) from edge  
of intersecting roadway; or, when  
loop detects a permitted or  
exclusive/permitted left turn.


**Recommended Number of Turns**

Single 6' X 6' (1.8m X 1.8m)  
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' (1.8m X 4.6m) Loops:  
Lead-in < 150' (45 m), use 2 turns  
Lead-in > 150' (45 m), use 3 turns



222 N. McDowell St., Raleigh, NC 27603

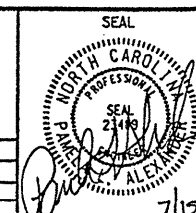
### Typical Loop Locations

PLAN DATE: July 2003

PREPARED BY: P L Alexander

SCALE: N/A

SEAL



7/15/03

SIG. INVENTORY NO.