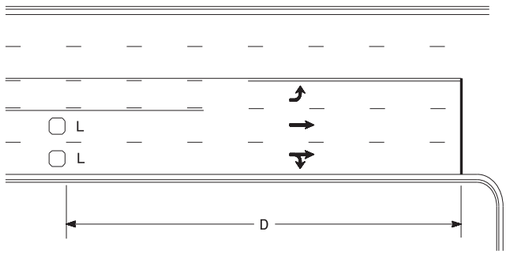
| PROJECT NO. | SHEET NO. |
|---|---|
| 2027CPT.13.04.20111 | SIG-1 |

## High Speed Detection
(≥35 mph)

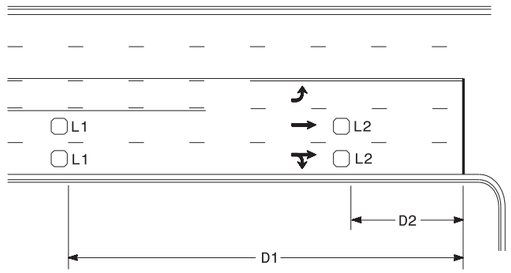



| Speed Limit mph | D ft |
|---|---|
| 35 | 200 |
| 40 | 250 |
| 45 | 300 |
| 50 | 355 |
| 55 | 420 |
| 60 | 475 |
| 65 | 550 |

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



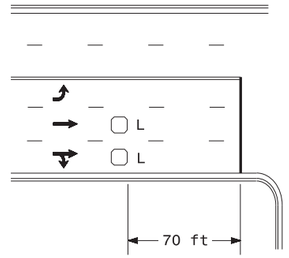

| Speed Limit mph | D1 ft | D2 ft |
|---|---|---|
| 40 | 250 | 80 |
| 45 | 300 | 90 |
| 50 | 355 | 100 |
| 55 | 420 | 110 |
| 60 | 475 | 120 |
| 65 | 550 | 130 |

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

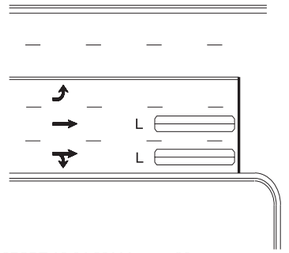
"Stretch" Operation

## Low Speed Detection
(≤35 mph)




L = 6ft X 6ft
Wired in series

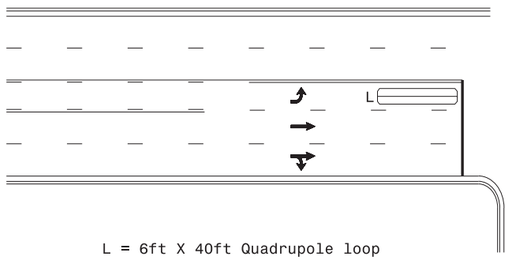
OR




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

2027CPT.13.04.20111 36

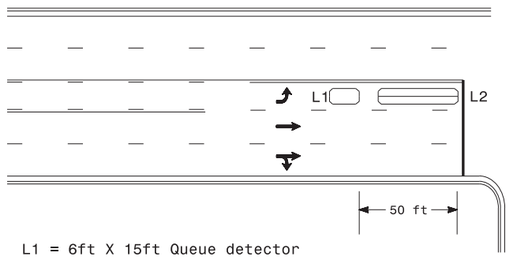
## Left Turn Lane Detection




L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

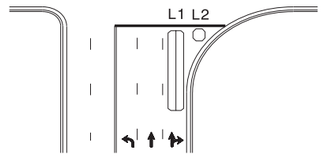
OR




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

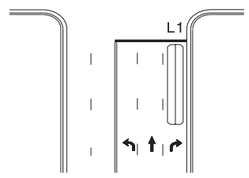
Queue Loop Detection

## Right Turn Lane Detection

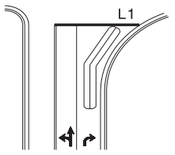



Shared Lane/
Wide Radius Turn

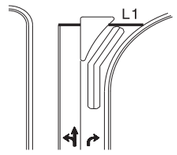
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately




Standard Turn

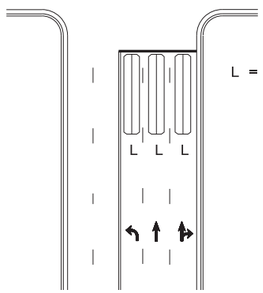



Wide Radius Turn



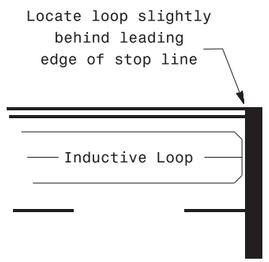

Channelized Turn

## Side Street Detection




L = 6ft X 40ft
Quadrupole loop
Wired to separate
detectors/channels

## Presence Loop Placement at Stop Lines




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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

PLAN DATE: September 2025 | REVIEWED BY:
PREPARED BY: J.A. Lohr | REVIEWED BY:

SCALE
N/A

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL
NORTH CAROLINA
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ENGINEER
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DATE
SIG. INVENTORY NO.

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jalohr