

Figure 4-20 Detector location for multiple detector technique (level approach)



Source: City of Portland, Oregon

A key element of this design is the use of detectors and extend values within the controller timing to reduce the time between successive vehicles. A sample table of extend values from the City of Portland is shown in Table 4-2.

Table 4-2 Recommended detector locations and timing settings for multiple detector technique

Approach Speed, mph	Location of Advance Detector (feet)	Location of Second Detector (feet)	Location of Detector Nearest Stop Bar (feet)	Extend (Carryover) Value from Upstream Detectors (secs) <sup>1</sup>
25	105	60		0.8
30	140	60		2.1
35	183	115	60	1.0
40	230	130	60	1.6
45	283	190	115 & 60	1.0

Notes:

1 - A minimum gap of 0.5 seconds is used to allow the vehicle to leave the last detector.

Source: City of Portland

#### 4.8.4 Left-Turn Movements

The guidelines provided in this section can be used to design the left-turn movement detection when this movement has an exclusive lane (or lanes). In general, the detection design for a left-turn movement should follow the guidelines offered for through movements, as described previously for basic fully-actuated design in Section 4.8.1.