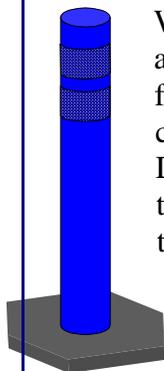


Helping Businesses in Work Zones



Would “blue cones” and “business access” signs help potential customers find business driveways in road construction work zones? The Oregon Department of Transportation (ODOT) tested the use of these devices and found they may be helpful for highway projects in commercial areas.

Many business owners fear that highway construction projects will significantly reduce traffic to their businesses. Customers complain about the difficulty in finding business driveways in work zones. Drivers are guided through most work zones using orange tubular markers and standard traffic control devices. This research project tested if the use of blue tubular markers and special signs at business entrances would improve safety and traffic flow by helping drivers locate open business accesses.

ODOT’s Research Group monitored traffic patterns and measured community response to the new devices at ODOT construction projects in Sweet Home and Pleasant Hill.

Blue Tubular Markers and Signs

The “blue cones” are actually tubular markers. They are made of flexible urethane plastic and are 900 mm high and 75 mm in diameter. Usually, the blue marker is used as a permanent traffic channelization or separation device, where the base of the marker is adhered to the pavement surface. For use in ODOT work zones, the base of the marker was modified to fit into a standard hexagonal base so the tubes

could be moved and placed as needed in the work zone. To be visible at night, two bands of high intensity reflective sheeting circle the markers near the top.

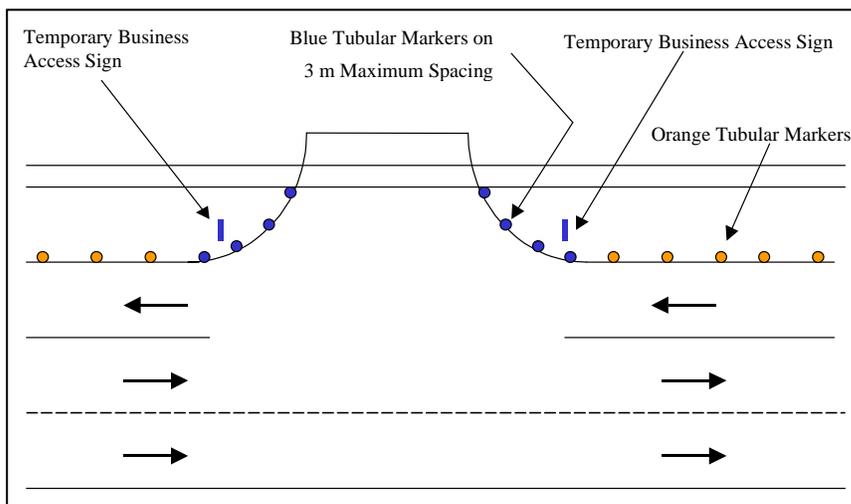
The blue Temporary Business Access signs were Type “B” 610 mm x 610 mm signs with 76 mm letters. Two types of sign supports were used, either an A-frame barricade or a tripod support. The signs and markers were generally placed as shown in the diagram at the bottom of this page.

For the Sweet Home test, only Temporary Business Access Signs were used. The Pleasant Hill project used both signs and blue tubular markers.



How did it work?

Traffic counts were taken at several business accesses before construction began. This provided baseline counts for business traffic. During construction, counts were taken and compared to the baseline. No conclusions could be drawn from



the Sweet Home traffic counts, as the number of counts was limited, and other factors (weather, special events, etc) influenced traffic levels at the sites. In Pleasant Hill, traffic counts at businesses spanned two construction seasons, and traffic displayed a seasonal pattern. However, the counts made during construction with tubular markers and signs did not vary significantly from the seasonal pattern observed when there was no construction underway.



Telephone surveys collected opinions of business owners or managers and of the motorists who traveled through the work zones while the markers and signs were used. From the survey data, it was found that the majority of businesses and motorists noticed the signs and markers and felt they were helpful in locating driveways. Several recommendations from survey

respondents are incorporated in the study recommendations.

Recommendations

On future ODOT projects where business accesses are affected by construction, Business Access signs and blue tubular markers should be used if

possible. The signs should read “Business Access” and be made larger than the test signs. Sign supports should be durable enough to meet NCHRP 350 requirements, and allow signs to be placed to be more prominent and visible to the motorist.

Those responsible for traffic control should fully understand the requirements for placing, monitoring and relocating signs and markers. And a public awareness program on the markers and signs should be established prior to construction.

Use of the Business Access signs and blue markers can build positive relationships between businesses and ODOT, even when construction impacts business access.

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For more information on ODOT's Research Program and Projects, check the website at

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