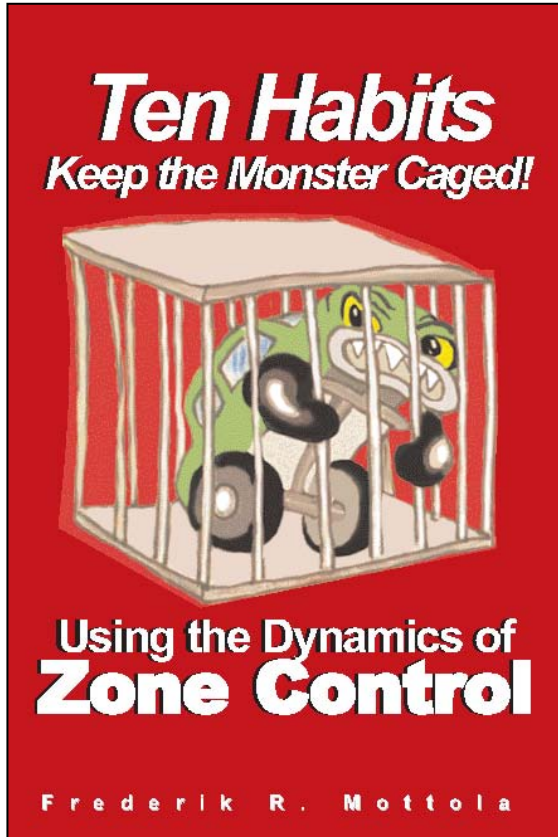


# Section Two

## Ten Habits of Zone Control



by

Professor Frederik R. Mottola  
National Institute for Driver Behavior • NIDB.org

## Do the Zone Control LOS-POT Search

- Search to the Target Area.
- Evaluate Targeting Path for LOS-POT blockage.
- FIND LOS-POT zone changes.
- Check other related zones.

# 5



### The LOS-POT Search

Searching effectively requires moving the eyes much as the feet move during a rhythmical dance routine. While dancing, the feet briefly touch the floor before moving off into another direction with a deliberate plan guiding the feet beat by beat. The eyes must glide over a traffic scene in a rhythmical manner also, pausing only briefly enough to take in vital information before moving into another deliberate direction. **To search effectively, you need to know where to look, what to look for, and what to do when you find it.**

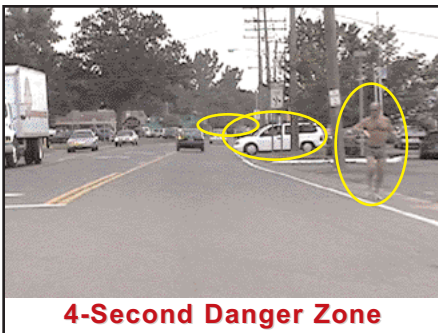
### Three Search Ranges



**Target Area Range**

In the **Target Area** (circled above) is a slight curve. A green traffic light and a van are seen in our **15-Second Range**.

The photo to the right shows the intersection is now in the **4-Second Danger Zone**. In our next **15-second Range** there is a jogger and another van (circled), that is difficult to see in this small photo.



**4-Second Danger Zone**

There are millions of drivers involved in crashes. Most crashes result from the driver's failure to control a LOS-POT blockage. Therefore, if you become aware of a LOS-POT in a timely manner, use of acceleration, braking, and steering become very deliberate and smooth with you totally in control.

**There are three search-ranges of Zone Control:** the Target Area Range, the 15-Second Range, and the 4-Second Danger Zone Range.



**15-Second Range**

The jogger (left photo, circled) is now in the **4-Second Danger Zone**, and the van will soon be in it. Keep track of the jogger's movement with your side peripheral vision, while you re-evaluate the van for updates. Then, after clearing the 4-seconds, search to your target area for the next LOS-POT in the 15-second range, which in this case is a slight right curve.

### Measuring Space in Seconds

#### Measuring Time/Space

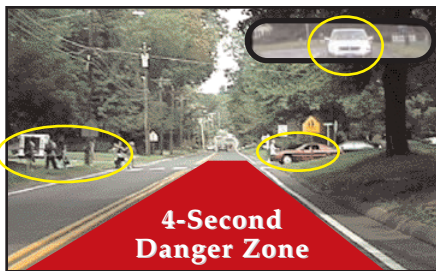
To measure space in seconds: Look ahead to any stationary object, such as a mail box, a utility pole, a bush, a sign, or a shadow on the road. Take a guess as to how many seconds it will take to arrive there. Then, count by 1001, 1002, 1003, etc., until the front of your car gets there. Repeat the process until your estimates are accurate.



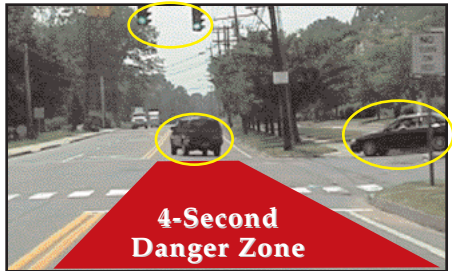
With practice you will be able to look at a distant object, from any speed that the vehicle is traveling, and accurately judge the number of seconds it will take for you to arrive at the location. You will be amazed at how quickly you can develop the ability to judge distance according to seconds of travel time.

### Four Seconds to LIVE or DIE!

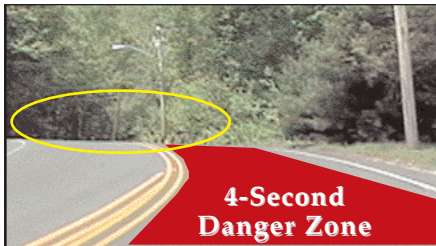
Suppose you knew that you would live or die based upon the decisions you make within the next four seconds. How much emphasis will you place upon making certain your decisions are the best ones? When you are within four seconds of a LOS-POT blockage, that is the Danger Zone. It is the last opportunity you have to control your POT. When you are two seconds away from the LOS-POT you are at your PONR (point of no return). That is the critical second when a “go or no go” decision takes place. Once past the PONR you are committed.



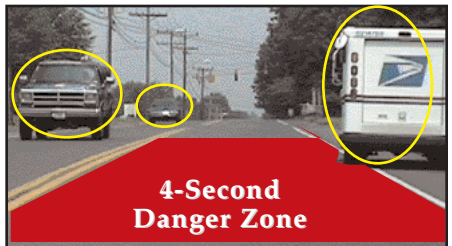
You implemented a plan of action when you saw LOS-POTs within your 15-second range. At the 4-second danger zone you reevaluate your plan.



Within the 4-second danger zone you need to be certain your plan of action is still a good one before you reach the critical second of the PONR.



At hillcrest and curves, attempt to keep at least 4 seconds of vision.



The 4-second danger zone is the area where you have the most crash risk.

### Search to the Target Area

In this photo, we search the target area and are able to detect that en route to our target area there are curves and a stopped mail truck.



### Evaluate Targeting Path, FIND LOS-POTs within the 15-Second Range

Within our 15-second range, we detect the mail truck in our right-front zone. It creates a LOS-POT blockage. How can the mail truck affect our POT (path-of-travel)?



### Check Other Related Zones and Control the 4-Second Danger Zone

Mail delivery trucks stop for only a brief moment before moving on to the next mail box. We can expect that it may pull out into our POT. Even when the truck stays to the right side of the road, it requires us to move partially into the left-front zone to pass it. Therefore, the "other related zone" to check is the left-front zone to see if it is going to be clear. **With the left curve creating a LOS blockage, we have two problems within our 4-second danger zone that require our full attention.** This is not a time to be distracted! First, we have the truck to deal with within the 4-second danger zone. Second, the oncoming car is occupying space that we need. We don't know if there will be other vehicles coming around that curve as we pass the mail truck. We may need to reduce our speed to allow the oncoming car to pass by us before we get to the mail truck. If we give the mail truck time to move further ahead, we may be able to see into the curve before we pass it. When we are able to see problems 15 seconds ahead, we have an opportunity to make slight adjustments in speed and the ability to better time our arrival into open zones. We can control space by separating the problems before we get within the 4-second danger zone. We would have an escape path to one side or the other.



### Conditions of Closed Front and Side Zones

#### Closed Front Zones

A closed front zone exists when any of the following three conditions are present:

- You cannot see at least 12 seconds ahead (closed LOS).
- You do not have at least 12 seconds of an available path of travel (closed POT).
- You do not have at least 4 seconds of following time when traveling behind another vehicle (closed LOS-POT).

#### Closed Side Zones

A closed side zone exists when either of the following two conditions are present:

- You cannot see at least 4 seconds of empty space to the side of your vehicle (closed LOS).
- You do not have an available path of travel to the side (closed POT).



**Searching the Target Area** we see a left curve and an upgrade hill. The left-front zone and the front zone are open. The right-front zone is closed by the curb, the mailboxes, the utility poles, and the LOS blockages of the driveways. There is no escape path to the right.



**In this scene**, due to the magic of digital photography, we see an intersection in the target area that changes our right-front zone. Management of space in our target area becomes slightly more unpredictable.



**We now have an oncoming car**, which gives us a closed left-front zone. We cannot go into the left-front zone as an alternate path of travel. We cannot go left or right. The only zone we have control of now is the front zone, which requires speed management.



**We now have a car ahead of us!** When there is a car in front of us we need to be 4 or more seconds away from it to have an open front zone. If our speed is 35 m.p.h., we have more than 4 seconds of space. Therefore, the front zone is still open.