**PROCESS FOR DETERMINING CLEAR ZONES**

1. **ROADSIDE WITH NON-RECOVERABLE FORESLOPES (NON-CURBED SECTION)**
   - **DISTANCE REQUIRED TO COVER CLEAR ZONE**
   - **CLEAR ZONE** is the total roadside border area starting at the edge of the traveled way available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and a clear run-out area. It is preferred to make the clear zone as wide as practical. The design clear zone is dependent on traffic volumes, speeds, and the roadside geometry.

2. **ROADSIDE TERRAIN** includes all surfaces along the roadway other than travel lanes, auxiliary lanes, and ramps. For the purpose of establishing clear zones and lateral offset to obstruction requirements, road shoulder terrain is defined as recoverable, non-recoverable, non-traversable, and hazardous as follows:
   - **RECOVERABLE** - slope is safely traversable and is 4:1 or flatter.
   - **NON-RECOVERABLE** - slope is safely traversable and steeper than 4:1 but not steeper than 3:1.
   - **NON-TRAVELABLE** - slope is not stably traversable or is steeper than 3:1.
   - **HAZARDOUS** - slope is steeper than 3:1 and vertical difference is greater than 6 ft.濬

3. **CLEAR ZONE COMPLIANCE** - the roadside area where the sum of all recoverable terrain is equal to or greater than the determined clear zone value and where every feature has been addressed in one of the following ways:
   - Has been eliminated (removed, relocated outside of the clear zone, or is traversable or crash-worthy) or:
   - Has been protected in place or:
   - Is left unshielded with design waiver (if barrier or crash cushion is more hazardous than the feature, likelihood of striking the feature is very small, or the treatment expense outweighs the benefits in terms of crash reduction).

4. **LATERAL OFFSET TO OBSTRUCTION REQUIREMENTS** are defined as follows:
   - **FOR NEW CONSTRUCTION/RECONSTRUCTION/WIDENING PROJECTS ON RURAL AND URBAN HIGHWAYS WITHOUT CURBS**, the minimum lateral offset to obstruction is from the edge of the traveled lane to the edge of the shoulder as defined by UDOT’s accepted design standards. Narrowing shoulders to accommodate obstructions (for example, existing bridge piers that will remain in place, utility poles, and building) will necessitate a design exception for lateral offset to obstruction.
   - **FOR NEW CONSTRUCTION/RECONSTRUCTION/WIDENING PROJECTS ON RURAL AND URBAN HIGHWAYS WITH CURBS**, the minimum lateral offset to obstruction is a distance of 1.5 ft behind the face of the curb on tangent sections and 3 ft behind the face of the curb on curves. This distance represents an operational offset that permits curbside parking, but does not adversely affect traffic flow. It does not apply to approved traffic barriers where one is deployed; barriers should be installed at an offset consistent with standard practice.
   - **FOR PRESERVATION PROJECTS**, the minimum lateral offset to obstruction is the existing condition or the minimum for new construction/reconstruction, whichever is less.

**NOTES:**
- Use the current edition of Ashto Roadside Design Guide for clear zone requirements.
- Clear zone may extend into curbs or full slopes, in both cut and fill conditions. Maintain a clear zone compliant slope from the edge of the pavement to the distance required to achieve clear zone. There may be cut slopes/lopes and back slopes in the clear zone.
- Foreslope breaks may be required to prevent encroaching vehicles from becoming airborne.
- Treat auxiliary lanes such as passing lanes or acceleration and deceleration lanes that lead to ramp gores as travel lanes for the purposes of clear zone and shoulder.
- Acceleration or deceleration lanes within the ashto defined distances, other than those leading to and from ramps, may be included in the clear zone.
- No more than one acceleration or deceleration lane may be included in the clear zone.
- Use the ramp operating speeds for clear zone calculation for ramps.
- Use a constant 6:1 or flatter slope to clear zone for prevails and multilane highways.
- Maintain a minimum 15 ft distance from edge of pavement or hinge point to non-recoverable slope.
- Evaluate areas outside of right-of-way when clear zone extends beyond right-of-way limits.
- Evaluate each feature in the clear zone for context within the project. Examples of features within the clear zone that may be considered repetitive or expected in an urban environment include, for example, utility poles, traffic signals, trees, and business signs.
- Do not consider canals that parallel the roadway repetitive or expected.
- For preservation projects, the clear zone is the existing condition.
- Do not include slope distance in calculated clear zone distance.