

5. Roads & Access Considerations

Roads provide critical access to your property so that firefighters can extinguish wildfires while they are still small and do the least damage. Fire and fuelbreaks can be more effective if anchored to a good road system. If you live on your forested property, roads also are critical for your escape and for fire trucks to get to and protect your home.

Here are some proven design criteria to consider for your road system.

1. Plan and design an access strategy for your property. Your property may already have roads on it. Do these roads provide access to all parts of your property? Are they in good enough condition that firefighting equipment can negotiate them? If not, begin developing adequate access to all areas of your property. Be sure you know your county's standards and guidelines on roads, bridges, and so on. Talk to your local fire chief to get advice on building a transportation system that meets all your needs. A good map or aerial photo of your property will help. You can draw preliminary roads on the map and check them in the field to see if the locations make sense. Because road construction is expensive, road development can be done gradually as time and money permits. Income from timber harvests can help offset the cost of constructing new roads. Check with your state forestry agency about rules regarding road construction before you begin.

2. Develop exit routes. Fires can easily make a road impassable, so make sure you have at least two good exit routes. This is especially important if you live on your forest.

3. Make it easy to find your property. A quick response from firefighters can make the difference between disaster and being safe. If firefighters can't find you, critical time will be lost. To facilitate getting

firefighters to your property in the event of a wildfire, you should do the following:

- Always check with your fire chief for local sign standards.
- Post road name or numbered nonflammable signs so they are easy to see and read. Every road intersection should be visibly signed with reflectorized signs.
- If you have a residence at the property, post your address at the beginning of your driveway or on your house if it is easily visible from the road.
- Make sure your road names are not duplicated elsewhere in the county.
- Post road restriction signs such as dead-ends and weight and height limitations.
- Gates are important for restricting unwanted visitors and reducing the potential for human-caused ignition, but be sure firefighters can get through. Provide them with a key or use a double-lock arrangement.

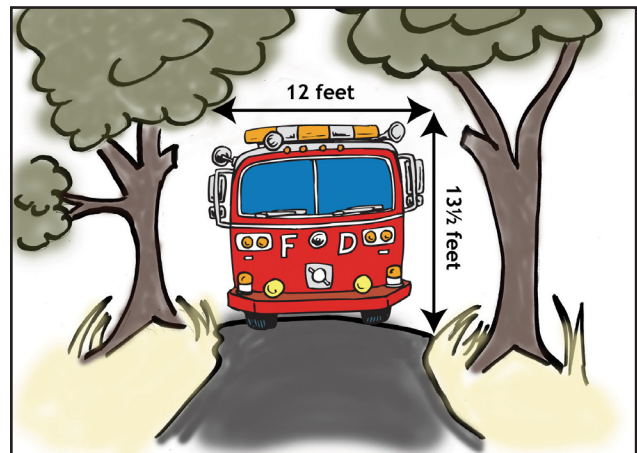
4. Design a good road system. Your road system should allow quick access for emergency vehicles to your home and all other parts of the property. Table 6 provides minimum road design standards for structural and wildlife fire-fighting vehicles. The latter are capable of traversing roads accessible by pickup trucks. For initial attack engines the primary concerns are keeping roads free of obstacles such as downed logs and heavy encroachment of brush into the roadway.

5. Treating vegetation along roads. Firefighters might not enter even a well-designed road if it is overgrown with vegetation. To create a fire-safe road or driveway that allows firefighting equipment to access the area and also helps slow the fire's spread, a landowner should consider the following guidelines from



Bob Parker, Oregon State University.

Figure 15. Turnaround adequate for fire pumper.



Oregon Department of Forestry.

Figure 16. Driveway standards for SB 360.



Sandy Shaffer.



Sandy Shaffer.

Figure 17. Road (a) before and (b) after treatment. Note that slash has been chipped.

Oregon’s SB 360 requirements and the International Fire Code (Figure 16):

- Create a fuelbreak that extends 10 feet from the centerline of a roadway. Ensure the ground cover adjacent to the road is substantially reduced (Figures 17a and b).
- Provide a minimum vertical clearance of 13.5 feet in the driving area. This provides an unobstructed view for firefighters and rids the road or driveway of obstructions that might prevent access by firefighters.
- Provide a minimum horizontal clearing distance of 12 feet in the driving area.
- Thin and prune trees and shrubs adjacent to the road.

6. Road maintenance. Access roads require maintenance to keep them functioning properly.

- Gravel and dirt roads need periodic grading to keep the surface in good shape, particularly when used heavily.
- Drainage structures such as water bars, ditches, and culverts should be regularly inspected to be sure they are clear of obstacles and able to function effectively. Blocked ditches and culverts can result in substantial damage to the road when water flows across it. And this isn’t just a winter weather problem. Summer thunderstorms can both cause wildfires and damage roads at the same time due to intense rains and lightning.
- Road cut-banks may need to be seeded with grass or other vegetation to stabilize the soil, prevent damage to the road from erosion, and minimize movement of sediment into nearby streams. Clear downed logs and other obstacles from the roadway and brush from the edges of the road.

Table 6. Minimum road design standards for structural and wildlife fire-fighting vehicles.

Item	Structural fire vehicles	Wildland fire/initial attack vehicles
Road width	20–24 feet	12 feet
Road grade	< 5–10%	< 15%
Surfacing	Packed gravel or asphalt	Gravel or dirt
Turnarounds (Figure 15)	45–55 foot radius	45–55 foot radius
Bridges (weight limits)	40–70,000 lbs	40–70,000 lbs

Note: Roads and bridges must be able to support heavy equipment loads, including bulldozers carried on a truck.