

# FIRE DEPARTMENT ACCESS

SEPTEMBER 2025

## GRAND JUNCTION FIRE DEPARTMENT DIVISION OF FIRE PREVENTION



If you have any questions or comments regarding the information contained within, or if you need assistance interpreting these requirements, please contact:

625 Ute Avenue  
Grand Junction, Colorado 81501  
Tel: (970) 549-5800  
Website: [gjcity.org](http://gjcity.org)  
Email: [fire@gjcity.org](mailto:fire@gjcity.org)

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## Introduction

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The Grand Junction Fire Department responds to a multitude of emergencies in various types of buildings and occupancies. These include single-family dwellings, apartment buildings, shopping centers, business complexes, industrial facilities, schools, hospitals and nursing homes. To provide effective fire-fighting operations, we must be able to reach all structures by way of approved access roads, streets or driveways. This guidance document provides general access requirements for the development review process. It is not an all-inclusive list. **Requirements are accompanied by International Fire Code (2024 ed.) Section Numbers.**



## Definitions (International Fire Code)

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**FIRE APPARATUS ACCESS ROAD.** A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as *fire lane*, public street, private street, parking lot lane and access roadway.

**FIRE LANE.** A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

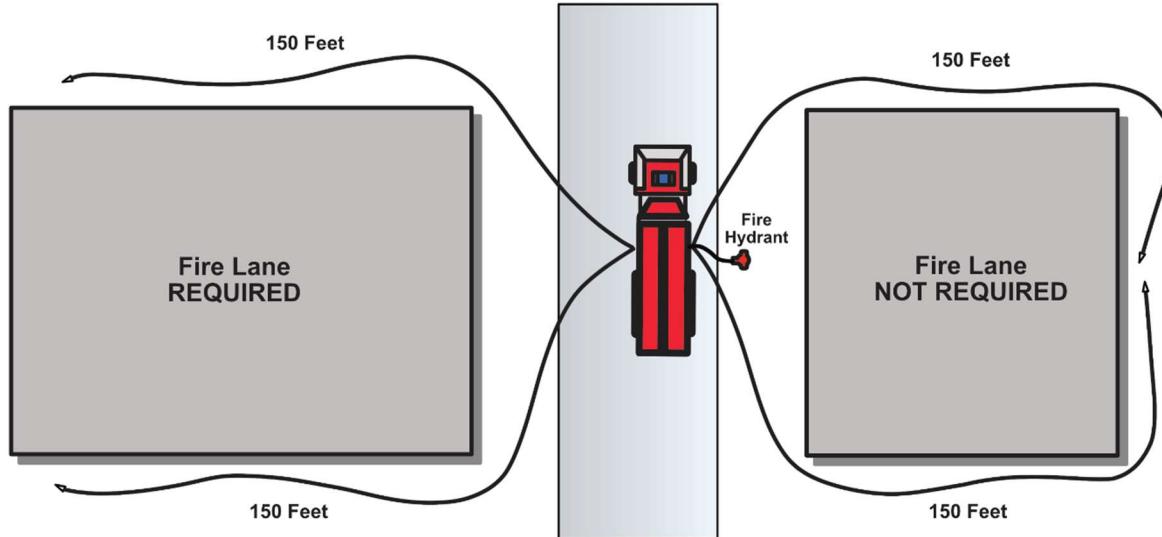
**APPROVED.** Acceptable to the *fire code official*.

**FIRE CODE OFFICIAL.** The fire chief or other designated authority charged with the administration and enforcement of the code, or a duly authorized representative (i.e. Fire Marshal, Fire Prevention Specialist, Fire Inspector)

## General Requirements

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**Locations.** *Approved* fire apparatus access roads shall be provided within 150 feet of the exterior walls of all buildings or facilities at grade level as measured along an *approved* route around the exterior of the building. The distance may be extended to 200 feet on one side of the building or facility when equipped with a full NFPA 13 fire sprinkler system and when *approved* by the *fire code official*. [503.1.1]



**Maintenance.** *Fire apparatus access roads* shall not be obstructed in any manner to include the parking of vehicles. The installation of gates, bollards and other similar devices must be *approved* by the *fire code official*. [503.4, 503.5, 503.6]

**Design.** The fire apparatus access road must be prepared and certified by an engineer registered by the State of Colorado. [503.2.3.1]

**Public Street Access.** A *fire apparatus access road* on a public right of way. Public street access routes must comply with the City or County road design standards and also must comply with the International Fire Code.

**Private Street Access.** A *fire apparatus access road* on private land. Private street access routes must comply with the International Fire Code. Private fire apparatus access roads are permissible provided they are on the same property as the project or, when located on an adjacent property, a permanent access agreement has been secured and recorded on the site plan.

**Width.** *Fire apparatus access roads* shall have an unobstructed width of not less than 20 feet. Loop lanes, shared driveways and private driveway have different width criteria. The *fire code official* is authorized to require or permit modifications to required access widths were they are determined to be inadequate for emergency operations or when necessary to meet public safety objectives. [503.2.1, 503.2.2]

**Height.** All fire apparatus access roads shall have at least 13 feet, 6 inches of vertical clearance for the entire required width. [503.2.1]

**Turn Radius.** All fire apparatus access road designs must be *approved* and shall be in compliance with the turning radius and maneuverability of the jurisdiction's largest fire apparatus specifications. The use of computer modeling in the form of Auto-Turn or similar software shall be used, unless otherwise directed by the fire code official. Apparatus specifications are on the jurisdiction's website. [503.2.4]

**Surface Materials.** Facilities, buildings or portions of buildings shall be accessible to fire department apparatus by way of an *approved* fire apparatus access road with asphalt, concrete or other approved drivable surface capable of supporting the imposed load of fire apparatus weighing up to GVW 80,000 pounds minimum; H-20 loading.

**Alternative Engineered Surfaces.** The use of alternative drivable surfaces known as engineered alternative fire apparatus road systems to include, but not limited to surfaces commonly known as gravel, recycled asphalt, pavers, or grasspave require review and *approval* of the *fire code official*. These surfaces are generally discouraged for common applications and mainly considered for campus settings with a common maintenance entity or personnel group in order to maintain the continuity and reliability of the surface (i.e. college campus, government, district entities, etc.) Applications are considered on a case by case basis.

**Grade.** Street grades shall comply with City or County design standards for both *Public* and *Private Street Access* routes. Maximum grade shall not exceed 8%. Maximum grades on fire apparatus access road turn around areas shall not exceed 4%. Grades steeper than 10% must be approved by the fire code official [503.2.7, D103.2]

**Private Driveway.** A private driveway is defined as a driveway that is 12-foot-wide minimum and intended for the use of occupants of no more than two single-family dwelling units, or one two-family dwelling unit. If the most remote area of the dwelling unit's exterior is located more than 150 feet from an approved fire apparatus access road, then the private driveway must meet minimum design standards of this code related to fire department access to include, but not limited to surface, weight support, grade, apparatus turnarounds, etc. as determined by the fire code official. The fire code official is authorized to increase the minimum width requirement where sharp curves and grades are factors. [D102.2]

**Looped Lane.** A *fire apparatus access road* route in a public right of way, consisting of a looped road that must be at least 16 feet wide. Loop lanes may be approved for residential subdivisions and must be designed to *approved* standards (see design pages).

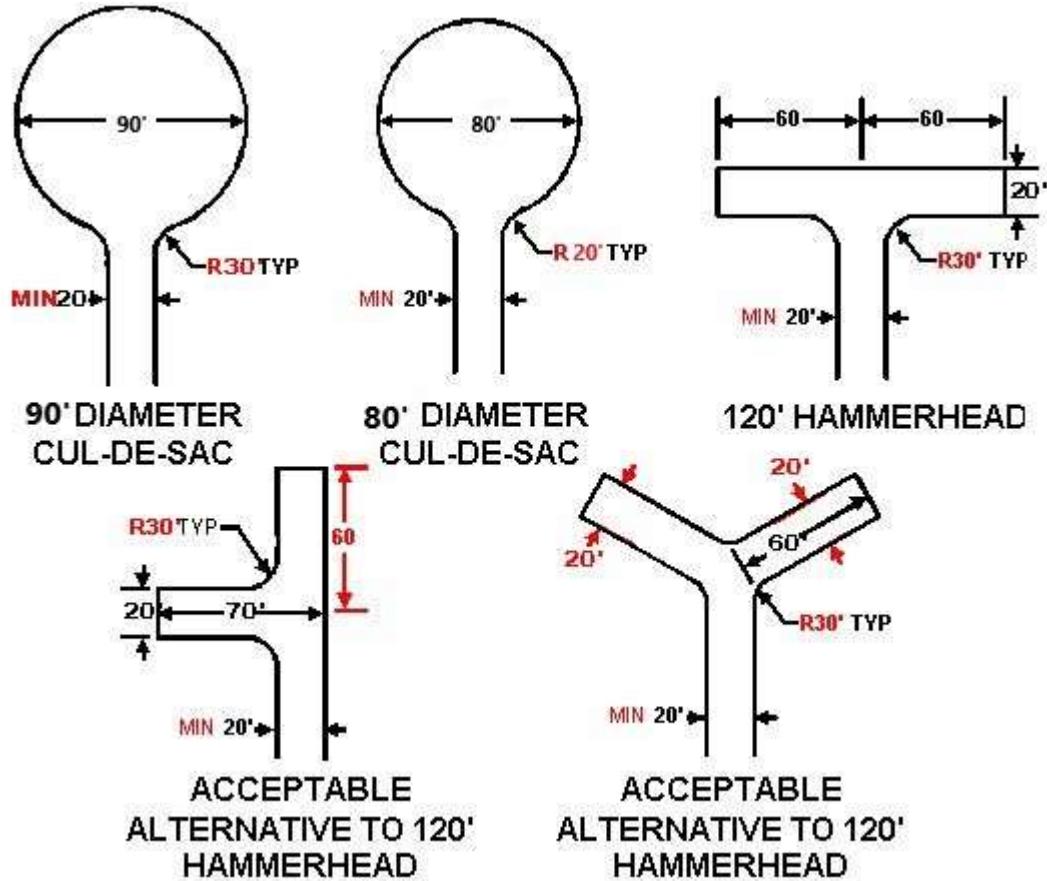
**Shared Driveway.** A *fire apparatus access road* route on private property, serving three or more single-family units. A shared driveway must be at least 16 feet wide and be designed to *approved* standards (see design pages).

**Dead Ends.** Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with an *approved* area for turning around fire apparatus. [D103.1, D103.4]

**Exceptions:** When all buildings are equipped throughout with approved automatic sprinkler systems installed in accordance with NFPA 13, NFPA 13R or NFPA 13D/IRC P2904 the fire code official is authorized to allow a dead-end fire apparatus road to extend to 300 feet before a turnaround is required.

**Fire Apparatus Access Road Turnaround.** Fire apparatus access road turnarounds shall be designed and constructed utilizing Figure D103.1 and City of Grand Junction Transportation Engineering Design Standards (TEDS). Specifically, all residential and commercial/industrial court Cul-De-Sac designs shall adhere to TEDS. All designs must be *approved* by the fire code official (see design pages) [D103.1, D103.4]

Figure D103.1 Dead-End Fire Apparatus Access Road Turnaround



**TABLE D103.4.1**  
**REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS ROADS**  
**FIRE SPRINKLER PROVISION EXCEPTION**

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0-300	20	None Required
301-500	20	120-foot Hammerhead, 60-foot "Y" or 90-foot diameter cul-de-sac in accordance with Figure D 103.1
501-750	20	120-foot Hammerhead, 60-foot "Y" or 90-foot diameter cul-de-sac in accordance with Figure D 103.1
Over 750		Special Approval Required

For SI: 1 foot = 304.8 mm

**Intermediate Fire Apparatus Turnarounds.** The fire code official is authorized to require an intermediate fire apparatus turnaround where a single point of access exceeds 500 feet or when development projects utilize an alternative streets design in accordance with the City of Grand Junction Transportation Engineering Design Standards. All designs must accommodate for fire apparatus turn radius requirements and be *approved* by the fire code official.

**Signs.** Where required by the fire code official, fire apparatus access roads shall be marked with permanent NO PARKING – FIRE LANE signs complying with Figure D103.6 below or City of Grand Junction Transportation Engineering Design Standards. All sign locations must be *approved* by the fire code official. [D103.6 thru D103.6.4]



**FIGURE D103.6**  
**FIRE LANE SIGNS**

**Roads between 16 to 22 feet in width.** NO PARKING – FIRE LANE signs shall be posted along both sides of the access route.

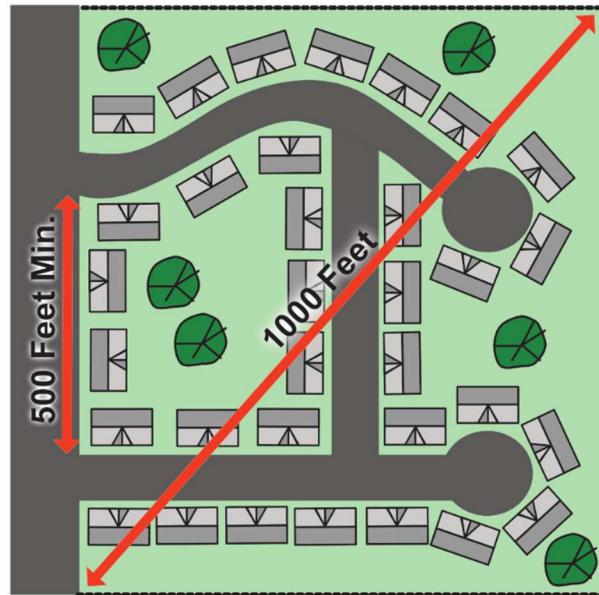
**Roads between 22 to 28 feet in width.** NO PARKING – FIRE LANE signs shall be posted along one side of the access route.

**Fire Apparatus Access Road Turnarounds.** NO PARKING – FIRE LANE signs shall be posted along both sides of the turnaround areas.

**Cul-de-sacs.** NO PARKING – FIRE LANE signs shall be posted along the outside of the turnaround area when required by the fire code official

**Two Points of Access Required.** Some developments upon reaching established thresholds are required to provide two access points into the project. Providing two points of fire apparatus access has several benefits to include the availability of a second means of access should the primary means be obstructed and the second point of access may serve as an alternative exit/evacuation route during emergency events.

When two points of access are required, they shall be placed a distance apart equal to no less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, and be measured in a straight line between accesses. The second access road must be made available to the public and cannot be designated for sole use by emergency responders unless otherwise *approved* by the fire code official. [D104, D106, D107]



**Note:** Main road containing two access points to development should not be a dead-end.

#### **Commercial and Industrial Developments:**

Buildings or facilities exceeding 30 feet or 3 stories in height shall have at least 2 means of fire apparatus access.

Buildings or facilities having a gross building area of more than 62,000 square feet shall have at least 2 means of fire apparatus access. If the buildings or facilities are provided with an approved automatic fire sprinkler system, the gross building area can be increased to 124,000 square feet with one access road.

#### **Multi-family Residential Developments:**

Multi-family residential projects having more than 100 dwelling units shall be provided with at least 2 means of fire apparatus access.

Multi-family residential projects of up to 200 dwelling units, which are provided with an approved fire sprinkler system, may have one means of fire apparatus access.

#### **One or Two Family Residential Developments:**

Developments where the number of dwelling units exceeds 30, shall be provided with separate and approved fire apparatus access roads.

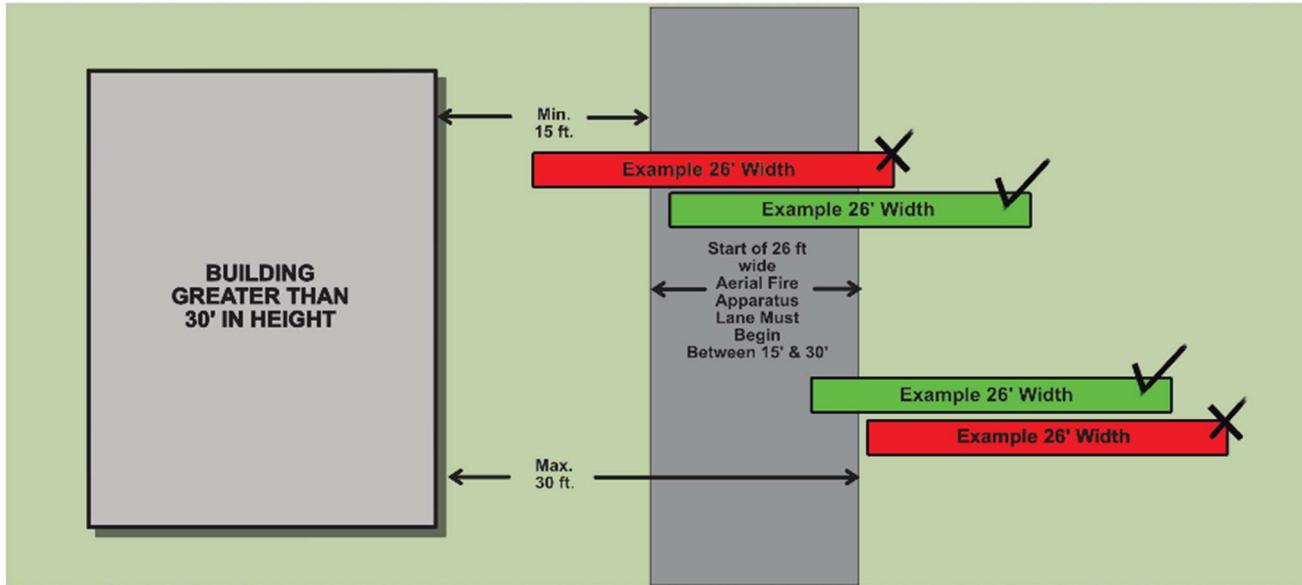
**Exception 1:** Developments where the number of dwelling units is 60 or less may be served by a single fire apparatus access road, provided all dwelling units are provided with approved residential fire sprinkler systems.

**Exception 2:** A development with a single access is allowed to a maximum of 100 dwelling units when a viable future secondary access is platted as public right-of-way and constructed to public street standards to the property line of the subdivision (TEDS). This includes circumstances involving the extension of an existing development by means of adding new lots or dwellings.

**Building Access for Ladder Truck Operations.** Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet (9144 mm), *approved* aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater. [D105]

Aerial fire apparatus access roadways shall have a minimum unobstructed width of 26 feet in the immediate vicinity of any building or portion of building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building. The location of the aerial fire apparatus road must be *approved* by the *fire code official*.

**Exception:** Buildings equipped throughout with an approved NFPA 13 automatic sprinkler system installed in accordance with Section 903.3.1.1 and when *approved* by the *fire code official*. NFPA 13R systems will not be considered.



# Alternative Street Designs

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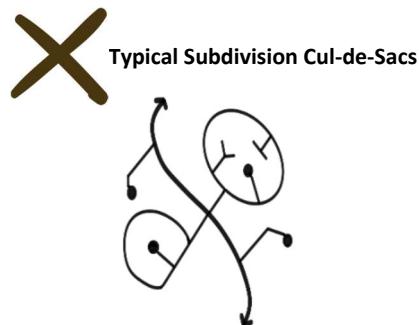
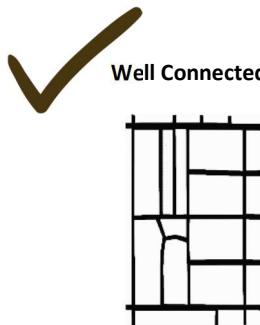
## Gaining Fire Department Support through Urban Design

Municipal code authorizes the fire code official the ability to utilize the City of Grand Junction's Traffic Engineering Development Standards (TEDS) and the Alternative Streets during the review of fire apparatus access road designs for proposed developments. [503.1 as amended, 503.2.2]

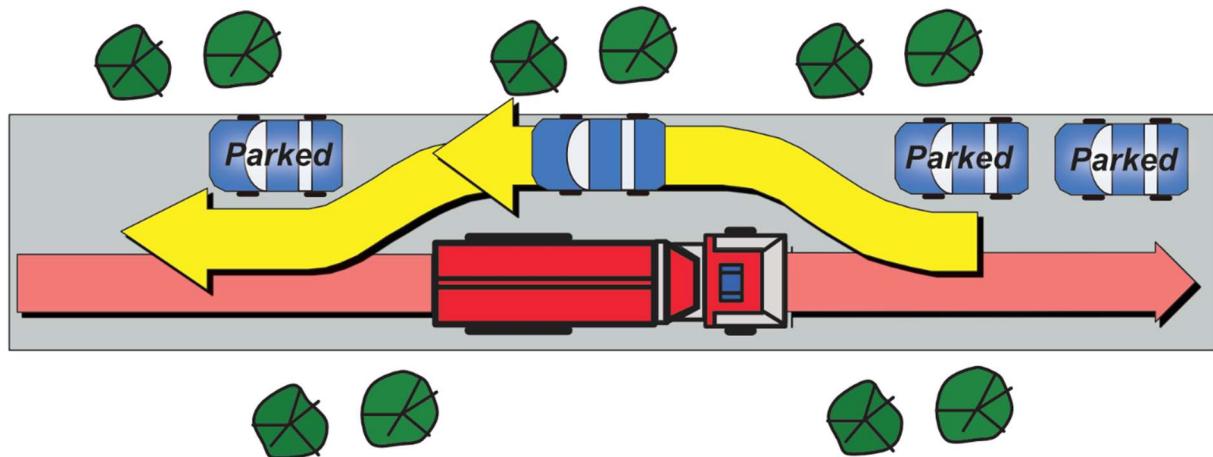
The Fire Marshal, or his designee, serves as a member of a committee panel, in cooperation with Traffic Services, Public Works and Community Development, in order to assess the merits and possible approval of proposed TEDS exceptions and Alternative Street Designs (i.e. narrow widths, design dimension changes, etc.) It is recognized that streets and their functionality play a significant role in the livability of residential neighborhoods and when properly designed play an active role in reducing vehicle speeds contributing to safer communities. It is a challenge for large fire apparatus to navigate narrow streets. It is the petitioner's responsibility to demonstrate the alternative street design does not diminish safety and emergency response capabilities. **All designs must be in compliance with City Planning and Public Works regulations. Each proposal should carefully contemplate and incorporate into the design, where appropriate, the following elements before the fire code official will consider supporting its acceptance via committee. The following is not an all-inclusive list:**

### Alternative Street Design Considerations

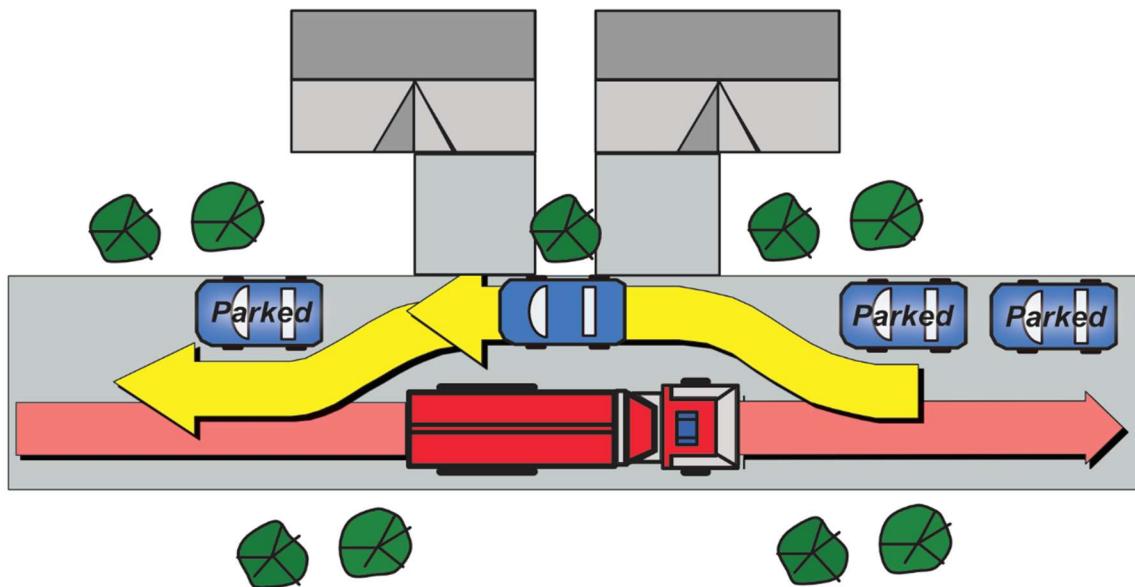
**1. Connected Street Network.** Multiple access points and street connectivity are crucial in the design. This allows fire apparatus to respond to and leave emergency situations from multiple directions and can potentially encourage quicker response times. A hierarchy of different street types and widths should be used to complement one another. Narrow streets coupled with cul-de-sac designs typically associated with suburban street layouts may not accommodate the needs of fire service deployment tactics and therefore are generally discouraged unless mitigation measures are implemented. Cul-de-sacs and dead-end streets may be evaluated on a case-by-case basis dependent upon density, lot street frontage, and location.



**2. Queuing and Yield Street Techniques.** Streets should be designed in a manner that allows for moving vehicles to yield in between parked vehicles allowing opposing traffic, including large fire apparatus, to pass by to their destination unobstructed. This type of design can also provide areas of periodic parking for large commercial vehicles and fire apparatus to conduct response activities.



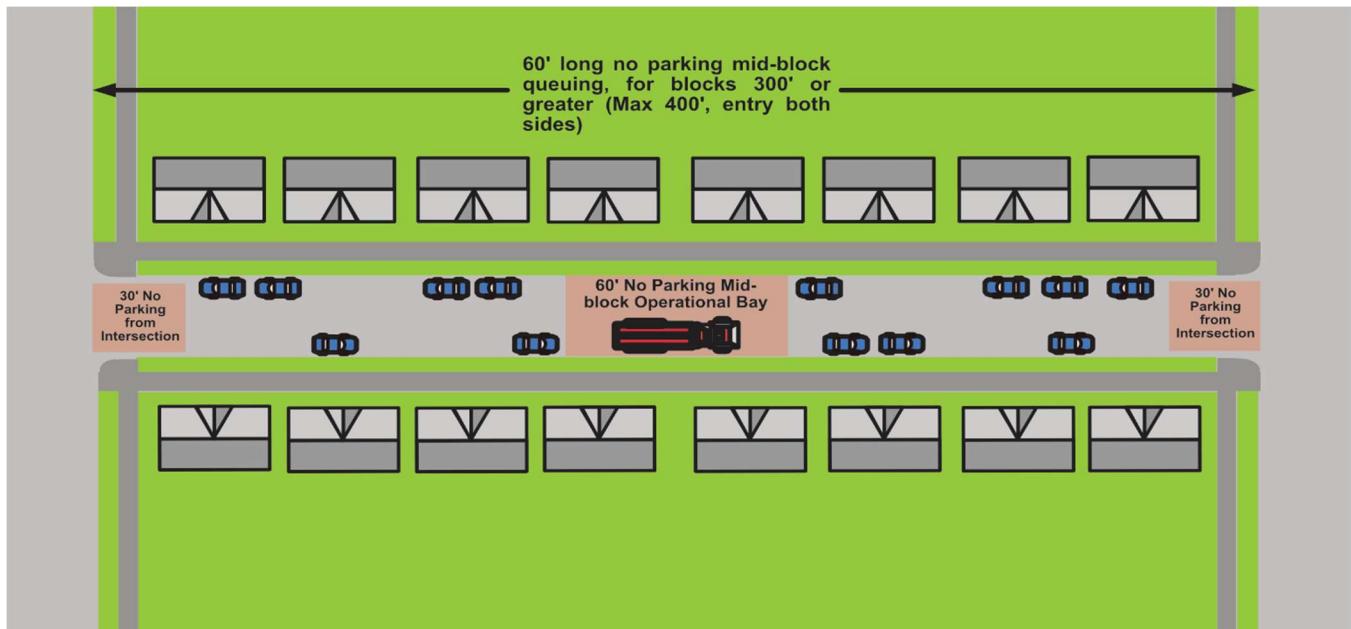
*Visual example of queuing and fire apparatus movement*



*IDEA - Driveway Clustering is an optional design that creates natural queuing opportunities*

**3. Street Designs.** Streets should be designed in a manner that allows for moving vehicles to yield in between parked vehicles allowing opposing traffic, including large fire apparatus, to pass by to their destination unobstructed. This type of design can also provide areas of periodic parking for large commercial vehicles and fire apparatus to conduct response activities. Below pavement measurements are from gutter flow line to flow line. **Narrower widths on cul-de-sac designs are discouraged unless effective parking management solutions are implemented. A street network, access from two separate directions, is always encouraged to gain design support.**

**4. Consider Short Blocks with Network Connectivity.** Neighborhood block lengths contribute to street connectivity. Block lengths limited to 300 feet are encouraged to accommodate for the deployment of 150 feet of pre-connect fire hose lengths typically carried on the fire apparatus. This allows for fire apparatus to reach the site of the emergency from two separate directions when street connectivity in the form of two or more apparatus access points are present. Block lengths longer than 300 feet will be considered on a case-by-case basis and are encouraged to incorporate the concept of large queuing areas mid-block that prohibit parking and are designated as fire lanes. These midblock queuing areas can also serve as fire department operational bays and should at a minimum have a clear working area of 60 feet (length) by total width of street.



**5. Sidewalks, Bike Lanes or Shared Pedestrian Ways.** When provisions are made for the emergency use of shared pedestrian spaces such as sidewalks or bike lanes, careful design of rolled curbs, mountable curbs or same grade capabilities should be considered. All designs must be capable of supporting the imposed load of fire apparatus weighing up to GVW 80,000 pounds minimum; H-20 loading.



**6. Adequate Parking Strategies.** Appropriate parking management is key to every successful design. A combination of adequate parking opportunities in the form of on street, private driveway and designated parking pods or clusters should be employed to discourage illegal parking. Parking in close proximity to intersections should be discouraged to allow for adequate turning radius for fire apparatus. Parking spaces should be striped to designate allowed parking when approved by the Public Works Department. Stripping may be maintained by the municipality when approved or the home owner's association.



**Parking Pods or Clusters** - Parking clusters allow for nearby parking opportunities on streets that would not otherwise allow for on-street parking due to narrow widths



**Inset Parking and Valley Gutters** – Extending curbs out at intersections and midblock with inset parking can help the street feel narrower encouraging safer speeds while maintaining street parking and emergency access widths. Valley gutters between street parking and travel lanes slope towards one another creating a narrow feel.

**7. Parking Enforcement.** If thoughtful adequate parking is provided, then parking enforcement is less likely to be a concern. Dedicated enforcement of parking regulations remains a key component and all proposals shall submit a detailed plan outlining parking enforcement procedures, no parking locations, and the entity designated to have authority for enforcement. The use of Homeowner's Associations for primary enforcement action is discouraged and under most circumstances will not be accepted. Consider showing no parking areas at intersections and near fire hydrants on the fire department site plan.

**8. Fire Department Access Mitigation Plan.** The petitioner may be required to submit a mitigation plan when one or more of the design criteria cannot be achieved (i.e. when multiple fire apparatus turnarounds are proposed in lieu of a street network due to poor topography).

**9. Fire Sprinkler Systems.** The voluntary installation of residential or commercial fire sprinkler systems in all buildings is considered an option that encourages design flexibility, but may not always serve as standalone solution. Other emergencies exist besides those that involve active firefighting. These situations require appropriately designed vehicle access accommodating fire apparatus as well as commercial services.

# Shared Driveway and Loop Lane Designs

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## Shared Driveway Design Specifications

Shared driveways shall comply with the following standards in addition to those set forth in Zoning and Development Code:

1. No gateways, locked entries or other restrictive access constraints are allowed across a shared driveway.
2. A shared driveway shall be at minimum sixteen feet (16') wide flowline to flowline and a maximum of one hundred and fifty feet (150') in length.;
3. Parking on a shared driveway is prohibited. No parking signs shall be required as determined by the fire code official.
4. Each lot abutting a shared driveway must provide four (4) on-site parking spaces. For homes on shared driveways that access a cul-de-sac, five on-site parking spaces shall be provided. These additional parking spaces may be provided on the shared driveway if it is widened to accommodate such parking and is approved by the fire code official.
5. Each lot abutting a shared driveway must access off the shared driveway unless approved otherwise at the time of subdivision.
6. A shared driveway may be used only where it intersects a street with on street parking.
7. Shared driveways are considered fire apparatus roads and shall be developed in accordance with Chapter 5 and Appendix B, Appendix C and Appendix D as determined by the fire code official.
8. Individual driveways located off the shared driveway shall be developed in accordance with Chapter 5 and Appendix B, Appendix C and Appendix D when the residential structure is located in excess of 150 feet from the shared driveway as determined by the fire code official.

## Looped Lane Design Specifications

Loop lanes as defined and regulated by the Grand Junction Zoning and Development Code, are considered an alternative street design that provide a turnaround in place of a cul-de-sac. Loop lanes shall comply with the following standards:

1. The loop lane shall be a minimum sixteen feet (16') wide from flow line to flow line and shall consist of an all-weather driving surface capable of supporting fire apparatus equipment of

the jurisdiction as determined by the fire code official.

2. No curve on any portion of the flow line of the loop lane shall have an inside radius of less than thirty-three feet (33') and an outside radius of less than forty-eight feet (48'). The entire design must demonstrate that the department's fire apparatus design vehicle can successfully navigate the turn-radius.
3. No portion of the loop lane shall extend more than 250 feet from the abutting street right-of-way.
4. A minimum separation of sixty-six feet (66') is required between the right of way on each side of the loop.
5. The loop lane shall be dedicated to and maintained by the City.
6. No parking signs shall be installed and maintained so that no parking is allowed between the curbs on any travelled portion of the loop lane.
7. Two-way traffic is allowed on the loop lane
8. No gateways, locked entries or other access constraints are allowed across the loop lane.
9. Loop lanes are considered fire apparatus roads and shall be developed in accordance with Chapter 5 and Appendix B, Appendix C and Appendix D as determined by the fire code official.
10. Individual driveways located off loop lanes shall be developed in accordance with Chapter 5 and Appendix B, Appendix C and Appendix D when the residential structure is located in excess of 150 feet from the loop lane as determined by the fire code official.

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## **Code References**

**International Fire Code (2014 Edition), as amended**

**City of Grand Junction Ordinance No. 5269**

**Local & State Regulations**