

FRAMEWORK CONNECTIVITY CODE



16.XX.010. Connectivity Standards These standards are intended to create a connected transportation system between neighborhoods, and commercial areas, with the goal of promoting walkability through additional connections and shorter block lengths, improving emergency response times, providing better routes to schools, parks, preventing isolated developments, promoting traditional neighborhood design, and reducing impacts of development on arterial and collector roads by providing alternative routes.

- A.** A circulation plan shall be provided as part of a preliminary subdivision plat application which shall:
 - 1.** Address street connectivity, pedestrian circulation, emergency access, and parking movements. If cut-through traffic is likely, traffic calming measures such as curb extensions, chicanes, raised crossings, or other features shall be required.
 - 2.** Show connectivity index, block length dimensions, cul-de-sac length dimensions, pedestrian facilities, and any proposed traffic calming features.
 - 3.** Plan must account for access and connectivity on adjacent parcels. On a case-by-case basis the city may require changes to stub road locations if it will increase the connectivity within an adjacent property.
 - 4.** Required for any proposed residential development over one acre in size or with more than 10 units. The planning commission may waive the requirement for a circulation plan on a case-by-case basis according to the following criteria:
 - a.** Landlocked. Surrounding properties have not provided adequate stub road connections into the project.
 - b.** A single multifamily structure (10+ units) is being constructed within an existing multifamily development.
 - c.** The proposed development doesn't create any new links or nodes.
- B.** Connectivity Index Calculation. The required connectivity index is calculated by dividing the total number of links by the total number of nodes.



(This example shows 11 links and six nodes which equates to a connectivity index of 1.83)

1. For the purpose of calculating the number of total links, one link beyond each node shall be included in the connectivity index calculation. Street stubs that provide future access to adjacent properties or streets that connect to existing streets are considered links.
 - a. An additional half link shall be included in the connectivity index calculation for each hard surface pedestrian connection through a cul-de-sac with a minimum width of eight feet with an additional two-foot soft shoulder on each side.
 - b. An additional quarter link shall be included in the connectivity index calculation for each roadway segment where homes face an amenitized open space, park, or natural area. The roadway segment shall have a minimum 300 feet of frontage along the said open space.
- C. Residential Connectivity Standards.** All new residential subdivisions with 10 or more units or more than one acre shall meet the following connectivity index: block length and cul-de-sac length standards for public roads. Private roads shall be reviewed on a case-by-case basis; however, a public road may be required to prevent a private road in a subdivision from stubbing into a future or existing public road.

1. Required Connectivity Index. The minimum required connectivity index shall be required based on the project density as identified in the following table of minimum connectivity index scores:

Density	Minimum Connectivity Index Score
0 - 2.5 DU/AC	1.5
2.5 - 4 DU/AC	1.6
4+ DU/AC	1.75

- a. Reduction in Required Connectivity Index. The required connectivity index may be reduced if the applicant provides clear and convincing evidence that it is impossible or impracticable to achieve due to the following limitations:
- i. Topography;
 - ii. Natural features including lakes, rivers, and designated wetlands;
 - iii. Existing adjacent development;
 - iv. Rail corridors;
 - v. Limited access roadways.

Reductions in the required connectivity index will be reviewed on a case-by-case basis and must require recommendations from the reviewing departments and the planning commission and approval by the city council.

The total allowed reduction to the required connectivity index will be based on an analysis of existing conditions that prevent connections. As part of the analysis, city staff will ensure the internal connectivity of the subdivision meets the required connectivity index and that the connectivity is provided to adjacent properties where possible.

2. Maximum Block Lengths. Maximum block lengths allowed shall be required based on the project density as identified in the following table:

Density	Minimum Block Length
0 - 2.5 DU/AC	1,000 ft
2.5 - 4 DU/AC	800 ft
4+ DU/AC	600 ft

- a. Increase in Block Length. The maximum allowed block length may be increased if the applicant provides clear and convincing evidence that it is impossible or impracticable to achieve due to the following limitations:
- i. Topography;
 - ii. Natural features including lakes, rivers, and designated wetlands;
 - iii. Existing adjacent development;
 - iv. Rail corridors;
 - v. Limited access roadways.

Increases in block length will be reviewed on a case-by-case basis and must require recommendations from the reviewing departments and planning commission and approval by the city council.

3. Cul-de-Sac Length Standards. Maximum Cul-de-sac lengths allowed shall be based on the project density as identified in the following table:

Density	Minimum Cul-de-sac Length
0 - 2.5 DU/AC	400 ft
2.5+ DU/AC	250 ft

- a. Cul-de-sacs shall not be allowed unless the application provides clear and convincing evidence that a cul-de-sac is necessary to develop the entire parcel due to the following limitations:
- i. Topography;
 - ii. Natural features including lakes, rivers, and designated wetlands;
 - iii. Existing adjacent development;
 - iv. Rail corridors;

v. Limited access roadways.

4. External Street Connectivity Standards. In addition to the internal street connectivity standards, external connectivity shall be maintained.

a. Cul-de-Sacs. In cases where cul-de-sacs have one or two rows of lots between the end of the cul-de-sac and an external road, a hard surface pedestrian connection with a minimum width of eight feet and an additional two-foot soft shoulder on each side shall be utilized to connect to the external street.

b. Pedestrian connections shall be utilized to connect proposed developments to master planned trails and adjacent existing or future developments where applicable. Connections shall be a hard surface pedestrian connection with a minimum width of eight feet and an additional two-foot soft shoulder on each side

5. Nonresidential Connectivity Standards. All new nonresidential subdivisions containing the dedication of public roads shall meet the following connectivity index and block length standards. Private roads shall be reviewed on a case-by-case basis; however, a public road may be required to prevent a private road in a subdivision from stubbing into a future or existing public road.

a. Required Connectivity Index. The minimum required connectivity index score shall be 1.5 for nonresidential developments.

i. Reduction in Required Connectivity Index. The required connectivity index may be reduced if the applicant provides clear and convincing evidence that it is impossible or impracticable to achieve due to the following limitations:

—Topography:

— Natural features including lakes, rivers, and designated wetlands;

- Existing adjacent development;
- Rail corridors;
- Limited access roadways.

Reduction in the required connectivity index will be reviewed on a case-by-case basis.

The total allowed reduction to the required connectivity index will be based on an analysis of existing conditions that prevent connections. As part of the analysis, city staff will ensure the internal connectivity of the subdivision meets the required connectivity index and that connectivity is provided to adjacent properties where possible.

b. Maximum Block Lengths. Maximum block lengths allowed shall be 1,000 feet for nonresidential subdivision.

i. Increase in Block Length. The maximum allowed block length may be increased if the applicant provides clear and convincing evidence that it is impossible or impracticable to achieve due to the following limitations:

- Topography:
- Natural features including lakes, rivers, and designated wetlands;
- Existing adjacent development;
- Rail corridors;
- Limited access roadways.

Increases in block length will be reviewed on a case-by-case basis.

ii. Cul-de-Sac Standards. Cul-de-sacs shall not be allowed in any nonresidential zone unless the applicant provides clear and convincing evidence that a cul-de-sac is necessary to develop the entire parcel due to the following limitations:

- Topography:
- Natural features including lakes, rivers, and designated wetlands;
- Existing adjacent development;
- Rail corridors;
- Limited access roadways.

Requests for cul-de-sacs within nonresidential zones will be reviewed on a case-by-case basis and must require recommendations from the reviewing departments and planning commission and approval by the city council.

iii. Cross-Access. It is required for nonresidential site plans to provide cross-access to adjacent developments to allow auto and pedestrian trips to occur between developments without the need of using the street