

7.0 THOROUGHFARE PLAN

Analysis of Future Conditions

Future conditions of the Town of Flower Mound thoroughfare system were analyzed using 20-year land use assumptions supplied to us by the North Texas Council of Governments (NCTCOG). These land use projections for population, households, and employment were used in the NCTCOG computerized travel demand model to estimate future traffic volumes on the roadway system within and adjacent to Flower Mound. In addition, existing traffic counts were collected by the Town of Flower Mound and used by Kimley-Horn to validate the results of the NCTCOG travel model.

The land use plan for the newly annexed western region of Town has been completed. Future thoroughfares in that region are addressed in this plan based upon the Area Plan. The Town also has recently adopted a new land use plan that incorporates the Town's new "SMARTGrowth" initiative. This plan is not part of the NCTCOG's 2020 travel model. It is important to note that some manual adjustments had to be made to the traffic assignment to adjust for the Town's new land use plan, based on traditional transportation distribution and assignment techniques.

An analysis of the results of the travel demand modeling effort yielded several findings and implications:

1. The roadways projected to carry the most traffic within Flower Mound are FM 1171, FM 3040, Morriss Road, and FM 2499. Defined as Major Arterials, these roadways should be planned to carry significant traffic in the year 2020, and efforts to coordinate with TxDOT to obtain funding and construct improvements should continue.
2. The major roadways that connect to the TxDOT regional freeway system likely will be congested at interchanges and major intersections. These roadways are FM 1171, FM 3040, FM 407, and FM 2499. Alternate routes to connect with the freeway system are needed, and this effort will involve coordination with adjoining cities. The primary candidates for these alternate routes are Lakeside Parkway to SH 121 in Grapevine, an extension of Spinks Road to Valley Parkway in Lewisville, and an extension of Kirkpatrick Lane to Bellaire in Lewisville.
3. The thoroughfare alignment of the Flower Mound Road extension west of Bruton-Orand is planned to be a four-lane urban arterial all the way to FM 1171. Due to the urban nature of this facility, a six-lane major arterial, as previously planned, is not recommended.
4. In general, the Flower Mound roadways classified as collectors do not carry volumes that warrant four lanes. It appears that high-quality two-lane roads with provisions for turning traffic and shoulders are a viable alternative.
5. The volumes projected on Bruton-Orand do not indicate need for a six-lane arterial. A minor arterial, which would connect adjacent land uses and

the major roadways, appears appropriate for Bruton-Orand.

6. The projected volumes of over 25,000 vehicles per day on Morriss Road indicate the need to widen that roadway to a six-lane arterial section. In addition, Gerault Road should be improved to a six-lane section to provide a direct connection from Morriss Road to SH 121.
7. Generally, the system of planned arterials appears capable of handling the traffic demand within Flower Mound. The arterial system should be planned and depended on to carry traffic to, through, and from the Town of Flower Mound. The collector system should be configured to provide access to, not through, adjacent land uses. This suggests that collectors generally should not be continuous for long distances and should not encourage through-traffic in residential neighborhoods. To discourage traffic through neighborhoods, it is essential that adequate capacity and acceptable operating conditions be maintained on the major roadway system.

7.0 THOROUGHFARE PLAN

Thoroughfare Plan

The recommended thoroughfare plan for Flower Mound is based on information obtained at public hearings and the analysis of existing and projected conditions. The major features of this plan are as follows:

1. **Lakeside Parkway Connection to SH 121** - A direct connection to SH 121 would provide another access to the center of Flower Mound and relieve FM 2499. Implementation requires continued coordination with the City of Grapevine.
2. **Flower Mound Road** - Flower Mound Road is proposed to extend to FM 1171. A four-lane Minor Arterial roadway with median, curb, and gutter is proposed. This alignment would provide a connection with FM 1171 and blend in with the urban character of the corridor.
3. **Kirkpatrick Extension** - The alignment of this roadway should be extended to provide a connection to Valley Parkway in Lewisville.
4. **Collector Street Cross Sections** - Two cross-sections have been developed to reflect the Town's characteristics and collector street needs. Urban collectors have a 36-foot wide pavement with curb and gutter. Rural collectors have two 12-foot travel lanes but no curb or gutter; however, full-width shoulders could provide for bicycle travel and left-turn bypass lanes.

Proposed Cross-Sections

Cross-sections describe the basic attributes of roadways: lanes, sidewalks, drainage and pavement, medians, parkway, and right-of-way (ROW). All dimensions other than lane widths presented in the accompanying cross-sections are minimums. Based on the travel needs and community goals for appearance and character, several typical roadway cross-sections have been developed to specify the basic ROW dedication needs and design criteria. Note that all urban sections shall have a minimum offset of four feet from the back of curb to the sidewalk and a one foot minimum from the ROW line to the back of the sidewalk. Two basic categories, arterials and collectors, contain several variations to meet differing travel needs.

Arterials

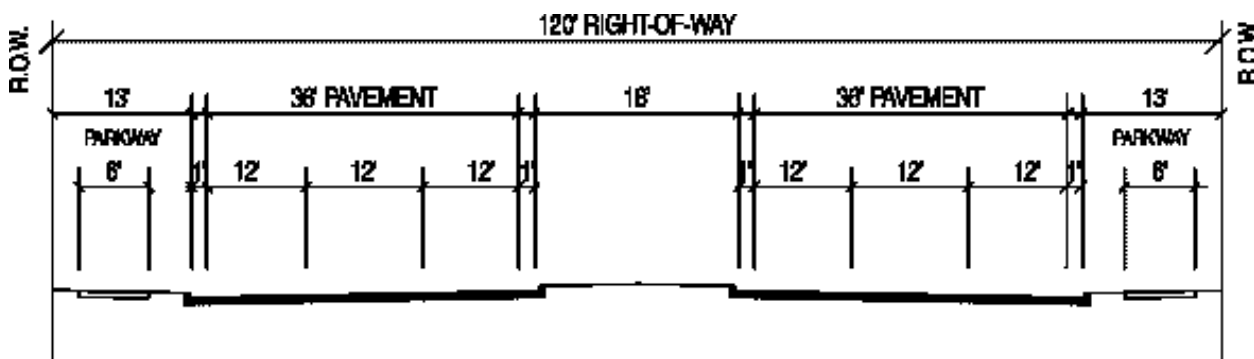
Two different arterial classes were identified for use in Flower Mound: Major Arterials and Minor Arterials.

Major Arterial

Major Arterials carry traffic long distances and connect the Town to the regional freeway system and other major regional activity centers. These facility types serve Flower Mound traffic and traffic traveling through Flower Mound. They are the most heavily traveled roadways and require some degree of access control. Access standards for Major Arterials, which are more stringent than those applied to Minor Arterials, should address driveways, median-openings, and deceleration lanes.

Major (Principal) Arterial

The proposed Major Arterial cross-section shown below consists of a six-lane roadway with 12' lanes, an 18' median, curbs, gutters, and sidewalks within 120' of ROW.



MAJOR (PRINCIPAL) ARTERIAL

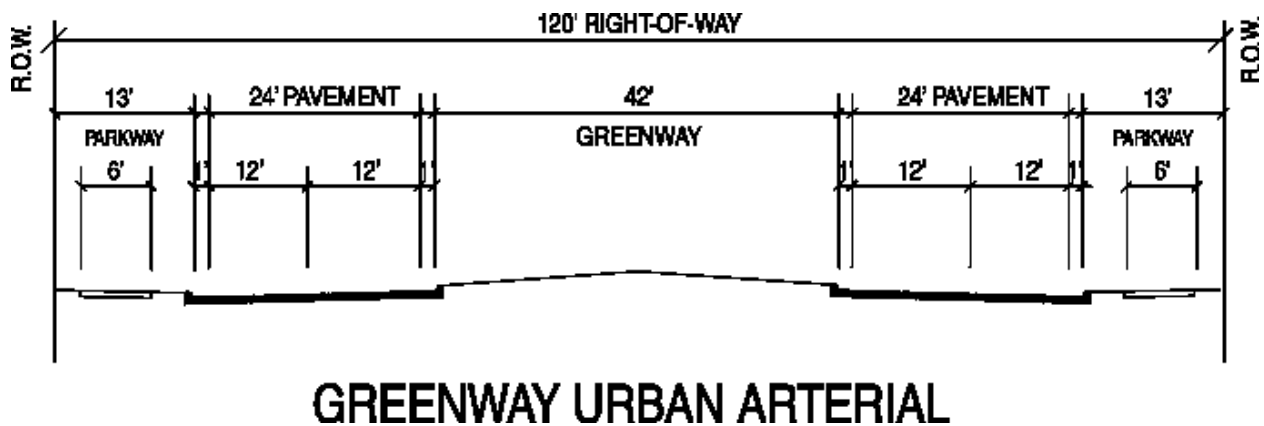
7.0 THOROUGHFARE PLAN

Greenway Urban Arterial

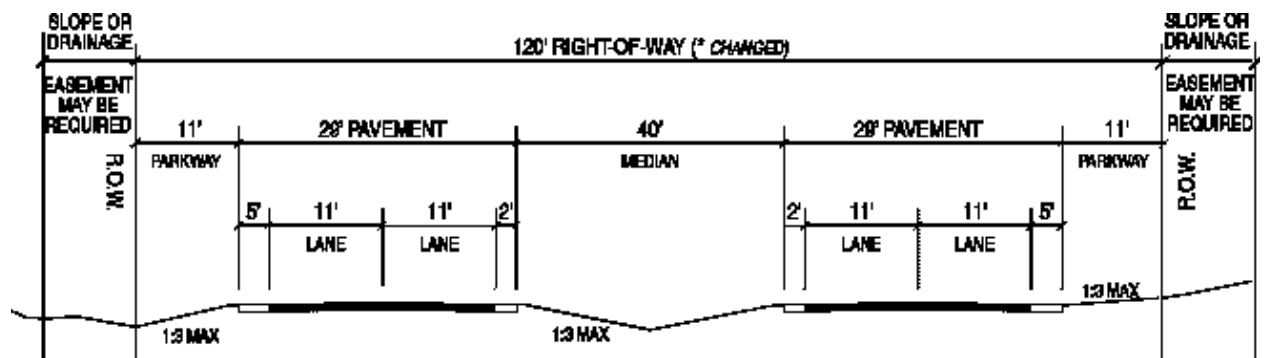
The next Major Arterial is called a Greenway Urban Arterial. It is designed to provide for a large (42') landscaped median and 120' of ROW. This typical section allows the Town the flexibility to widen to six lanes, if needed, without taking additional ROW.

Greenway Rural Arterial

The third and final Major Arterial is called a Greenway Rural Arterial. For this typical section, the raised curb and gutter median is replaced with a grassy swale in the median that drains into an underground system. Two 11' travel lanes are provided in each direction. The minimum ROW is 120'. This facility type reflects the desire to maintain a rural character in the western portion of the Town.



GREENWAY URBAN ARTERIAL



GREENWAY RURAL ARTERIAL

Minor Arterial

Two different cross-sections for Minor Arterials were developed to maintain the rural character of the western portion of Flower Mound. These facility types serve traffic originating in or destined for locations within Flower Mound, and they are not intended to serve traffic traveling through the Town. Urban and rural cross-sections, which can be distinguished by their differing approaches to roadway drainage, are recommended. Also, a suburban typical has been developed for those facilities that want a rural feel; it features shoulders, open swale ditches, and a raised, landscaped median with curb and gutter.

Urban Minor Arterial

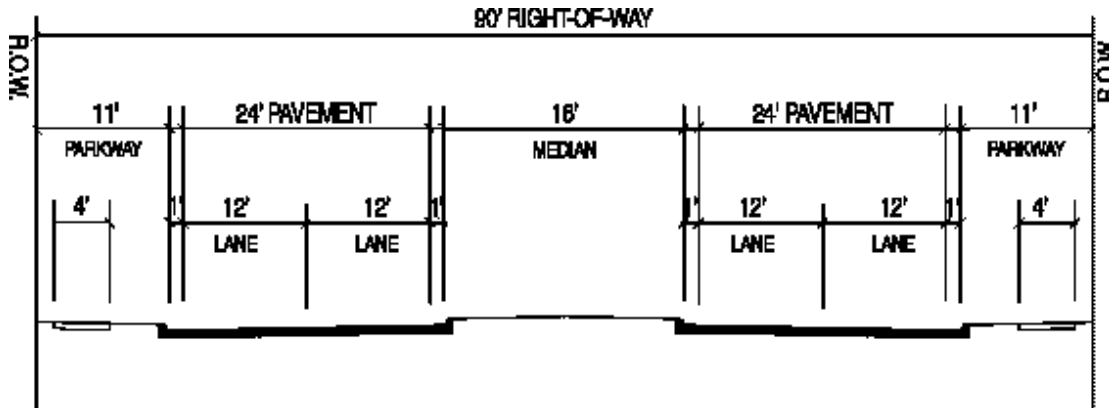
An Urban Minor Arterial, as shown below, has two 12' travel lanes in each direction separated by a 16' median. The minimum ROW is 90'.

Suburban Minor Arterial

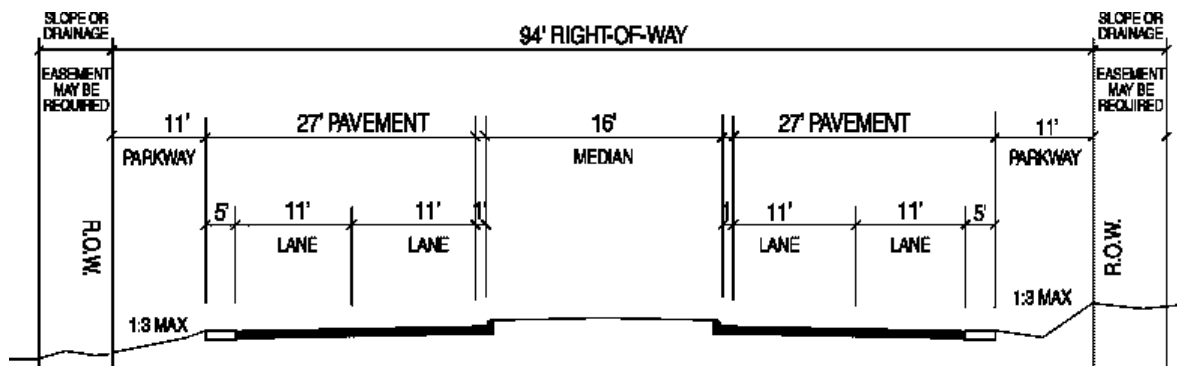
Suburban Minor Arterials, as shown below, have two 11' travel lanes in each direction separated by a raised, landscaped median with curb and gutter.

Urban Minor Arterial Undivided

The Urban Minor Arterial (Undivided) as shown consists of four 12-foot travel lanes with 48 feet of pavement. The minimum ROW is 70 feet

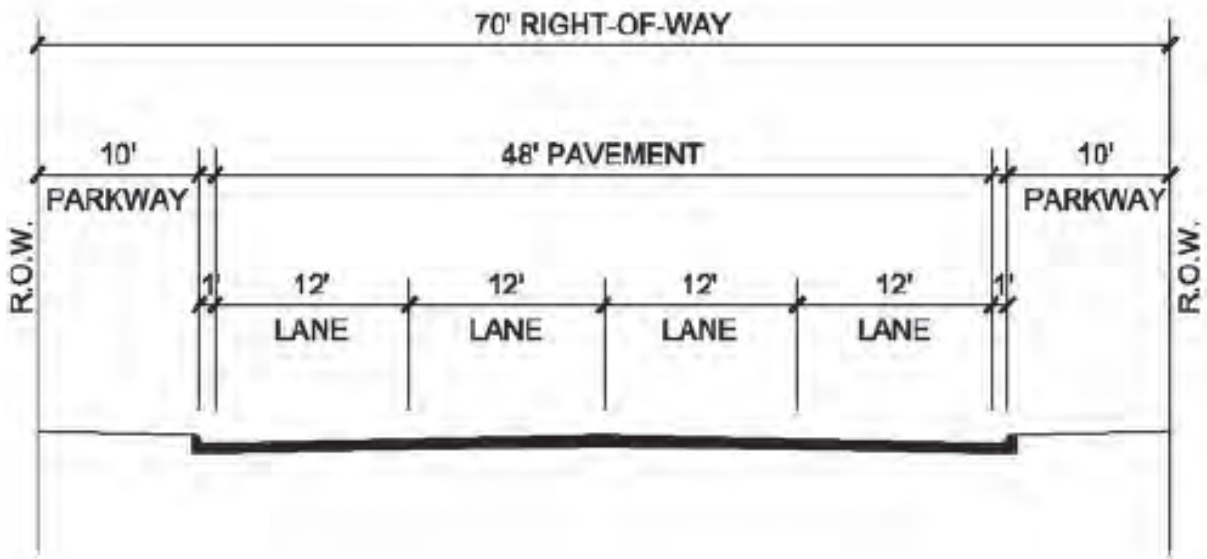


URBAN MINOR ARTERIAL



SUBURBAN MINOR ARTERIAL

7.0 THOROUGHFARE PLAN

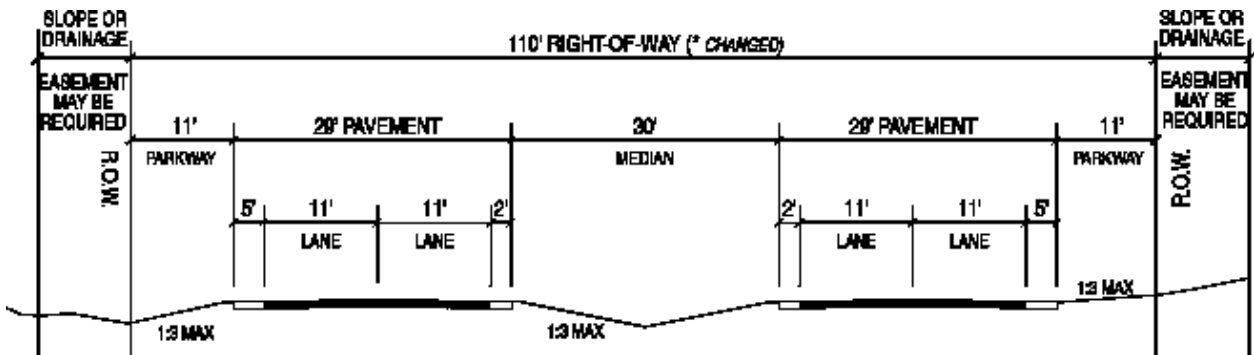


URBAN MINOR ARTERIAL UNDIVIDED

Rural Minor Arterial

For Rural Minor Arterials, curb and gutter drainage is replaced with a grassy swale in the median that drains into an underground system. Shoulders, which can serve as bicycle lanes, have been integrated into the design.

If asphaltic paving is used, then the concrete shoulders would serve to maintain the integrity of the pavement and to delineate the travel paths. As shown below, a minimum ROW of 110' would be necessary for this facility type. Two 11' lanes are provided in each direction.



RURAL MINOR ARTERIAL

7.0 THOROUGHFARE PLAN

Collectors

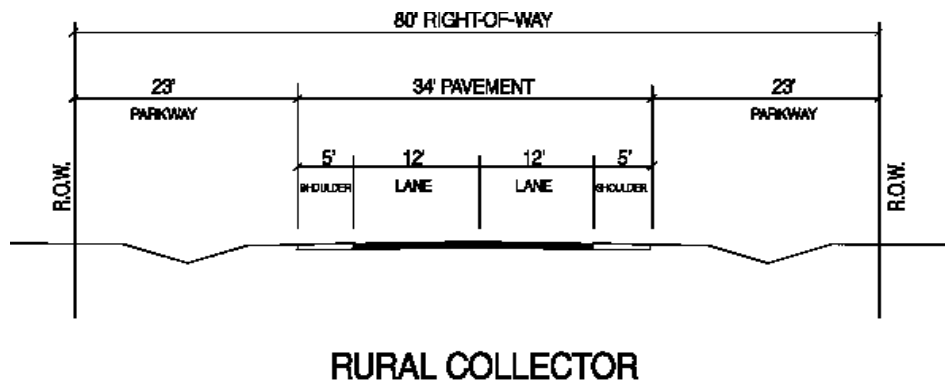
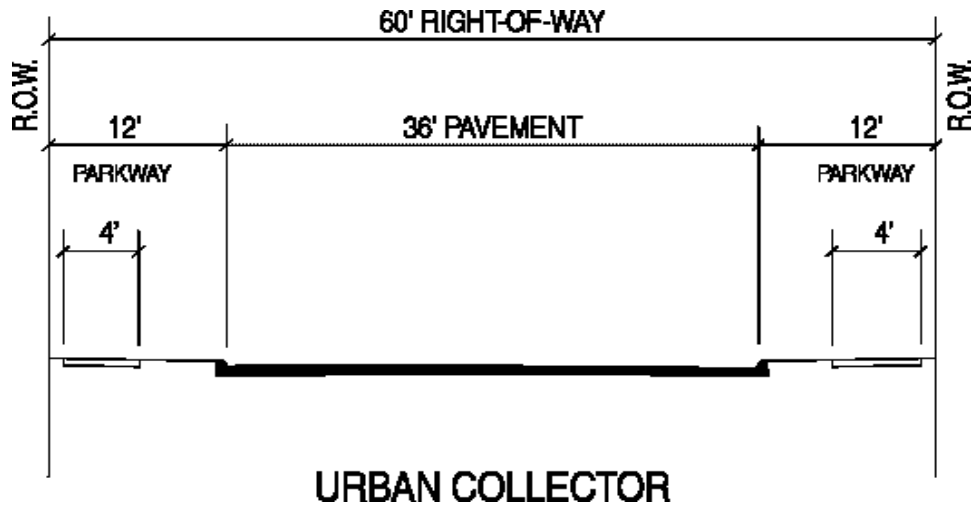
Collector roadways connect residential and commercial areas to the arterial system and collect and distribute traffic from these areas. They carry less traffic for shorter distances than arterials, and they carry traffic to and from areas rather than through them. The collector cross-sections reflect the desire to maintain a rural character in the western portion of the Town. Each collector cross-section provides one travel lane in each direction.

Urban Collector

The cross-section below depicts an Urban Collector. A 36' pavement with curb and gutter in a 60' ROW is recommended.

Rural Collector

The cross-section below shows two 12' travel lanes with 5' shoulders within an 80' ROW.



Local Streets

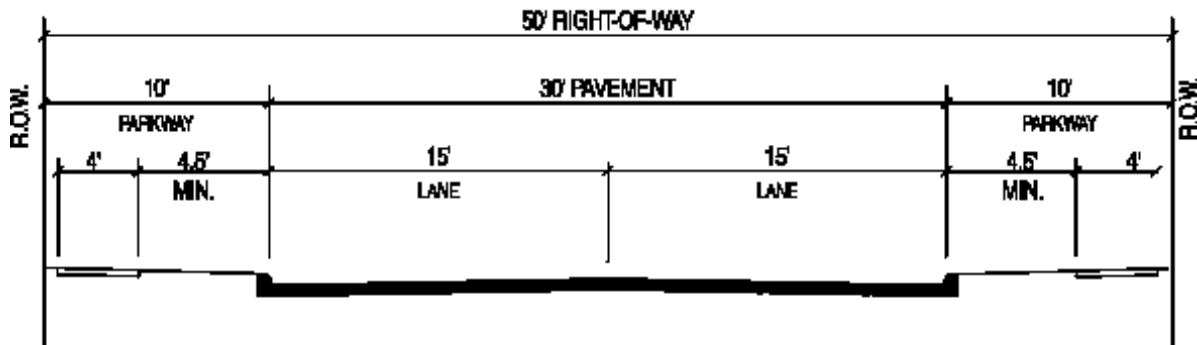
The following are four variations of the Local Street facility type.

Local Residential Urban

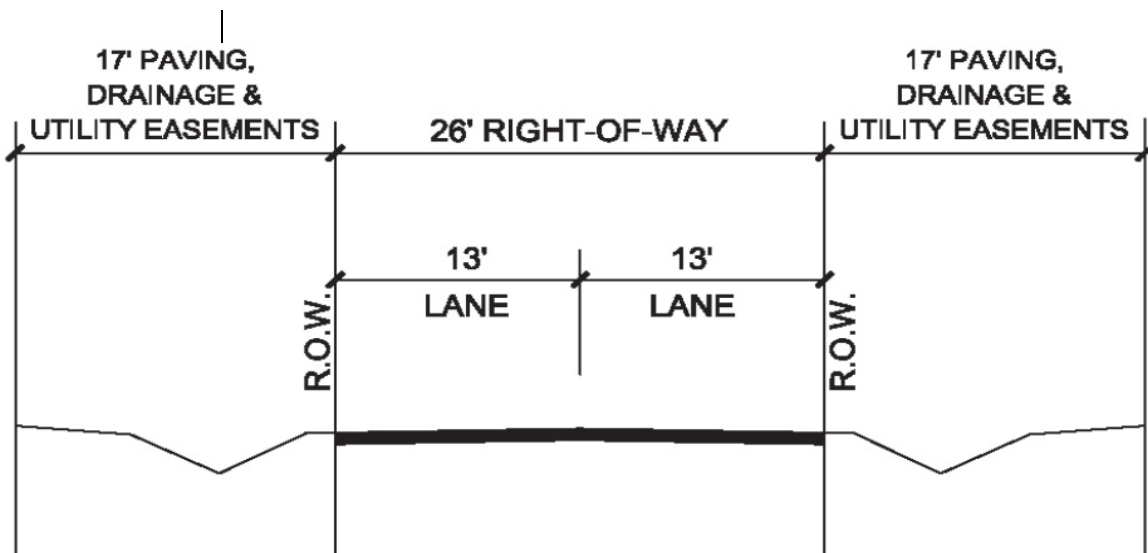
The Local Residential Urban cross-section features 15' travel lanes with curb and gutter all within a 50' ROW.

Local Residential Estate

The Local Residential Estate cross-section features two 13' lanes within a 26' ROW.



LOCAL RESIDENTIAL URBAN



LOCAL RESIDENTIAL ESTATE

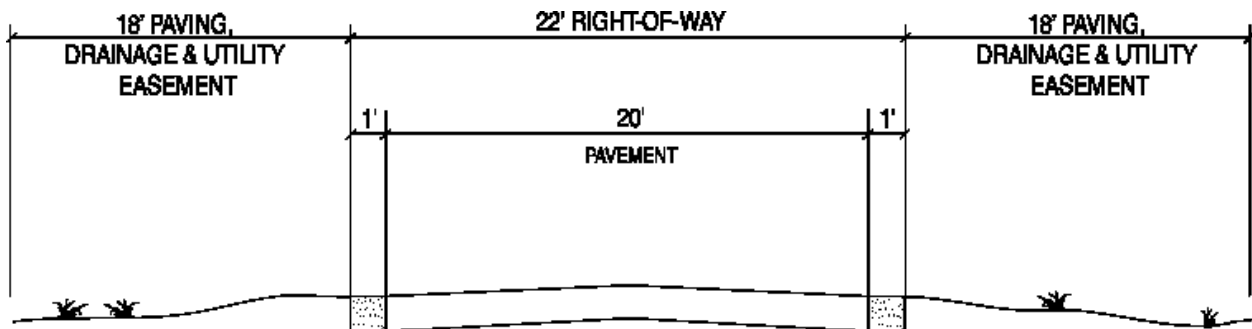
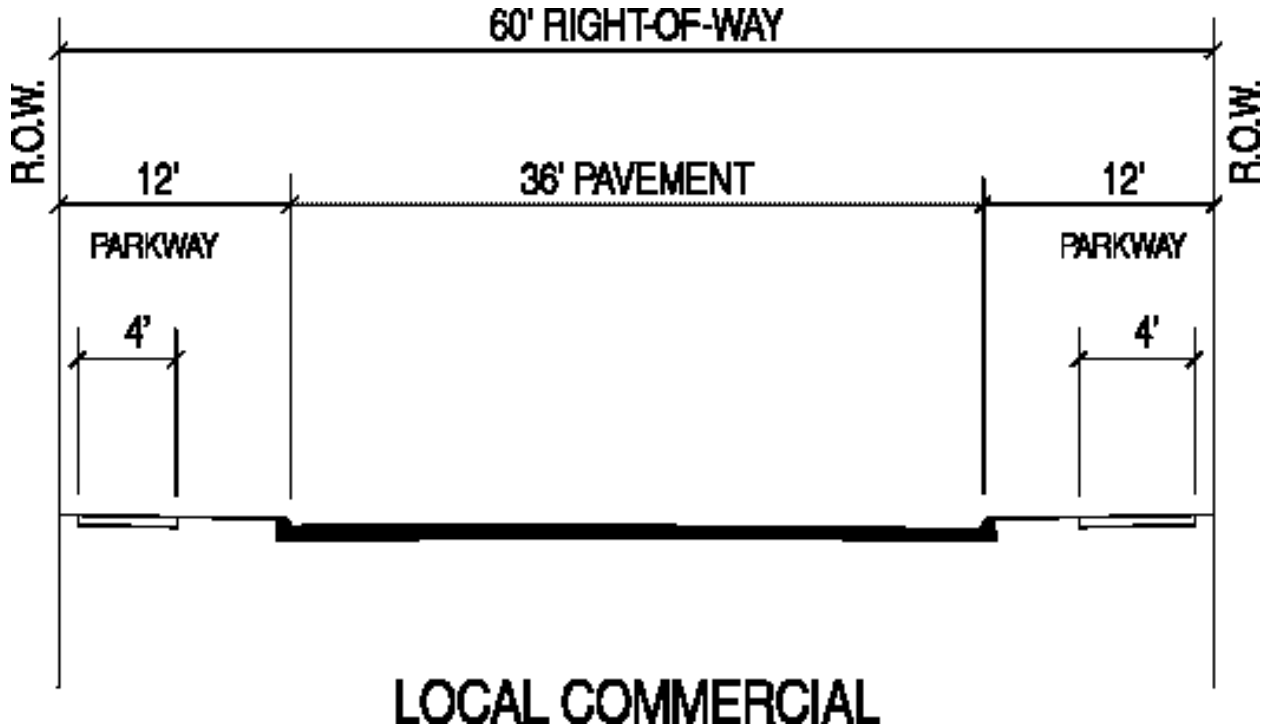
7.0 THOROUGHFARE PLAN

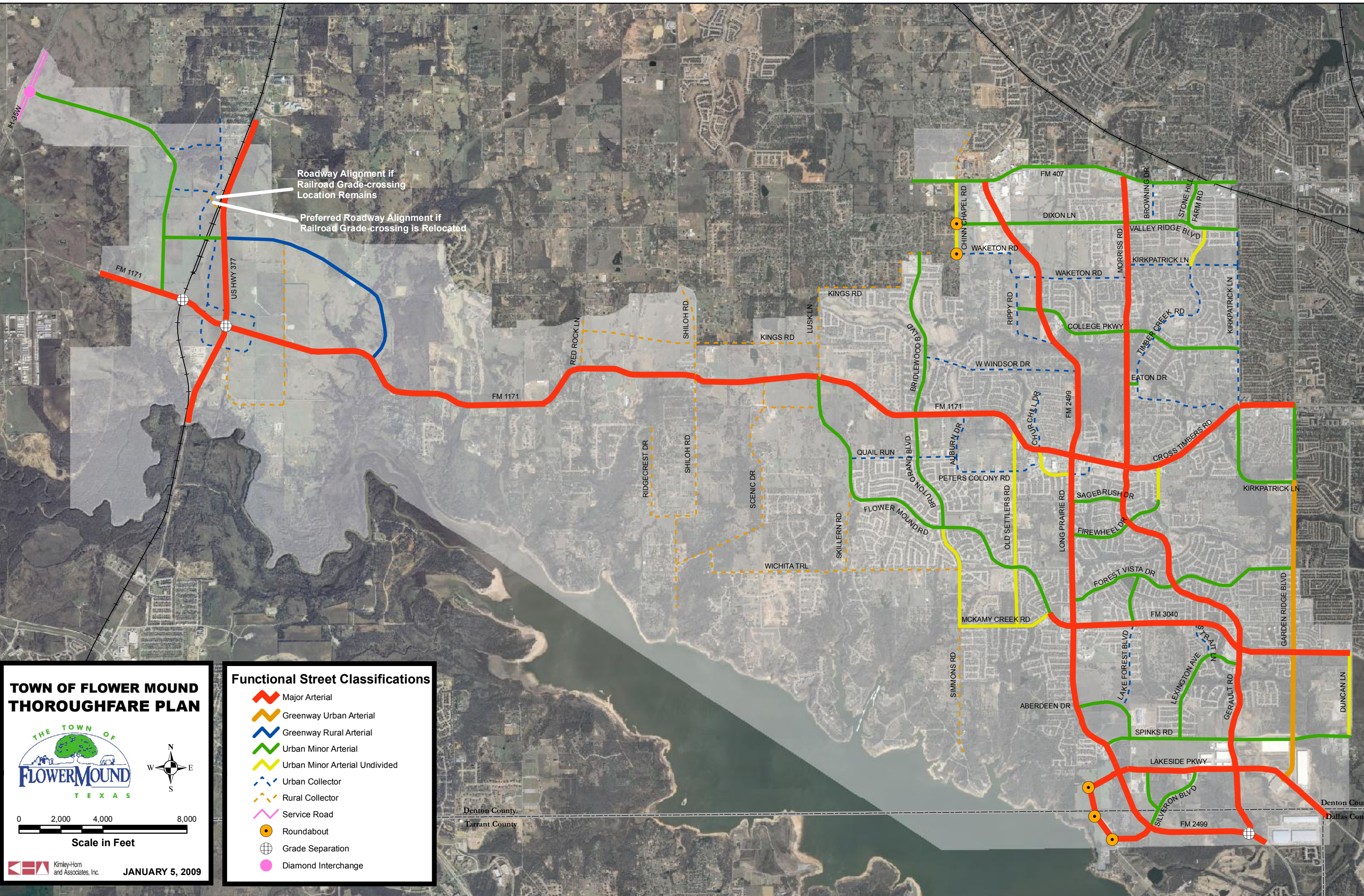
Local Commercial

The next local street section depicts a Local Commercial street. A 36' pavement section with curb and gutter in 60' of ROW is recommended.

Local Cluster Development

Below is a Local Cluster Development Street. This section depicts 20' of pavement and one foot drop curbs.





Roadway Alignment if
Railroad Grade-crossing
Location Remains

Preferred Roadway Alignment if
Railroad Grade-crossing is Relocated

**TOWN OF FLOWER MOUND
THOROUGHFARE PLAN**

Scale in Feet
0 2,000 4,000 8,000

Kimley-Horn
and Associates, Inc. **JANUARY 5, 2009**

Functional Street Classifications

- Major Arterial
- Greenway Urban Arterial
- Greenway Rural Arterial
- Urban Minor Arterial
- Urban Minor Arterial Undivided
- Urban Collector
- Rural Collector
- Service Road
- Roundabout
- Grade Separation
- Diamond Interchange

Denton County
Tarrant County
Denton County
Dallas County