

Transportation Element (2011)

Purpose

Overland Park strives to create a street and highway network that balances the need for a safe, efficient and well-maintained street network with the desire for environmentally compatible and visually pleasing design. The Transportation Element highlights the principal means used by the City to achieve this optimal street network.

Street Network

- Three main purposes:
 - Provide access to property
 - Provide for the safe and efficient movement of vehicular traffic
 - Provide for the safe circulation of pedestrians and bicyclists
- Hierarchy of streets from local to thoroughfare as shown in Figure 1 on page TE-20:
 - Local:
 - ◆ Mainly two-lane streets
 - ◆ Primary function is access
 - Thoroughfare streets:
 - ◆ For example, Metcalf Avenue and 119th Street
 - ◆ Primary function is the movement of traffic

- Elements of a street:
 - Pavement – driving surface which varies in width and types of materials used
 - Curbs – define the edge of the street, provide for storm water drainage, and can assist in the application of traffic calming
 - Right-of-way – all of the pavement area plus unpaved areas on both sides that are reserved for sidewalks, landscaping, bike/hike trails and utilities
 - ◆ Sometimes used for expansion of pavement
 - ◆ In public ownership rather than private ownership
- General rules:
 - The fewer the drives and intersections on a roadway the greater the amount of traffic it can handle and the higher the level of safety
 - Locations near high traffic areas are more appropriate for nonresidential land uses
 - ◆ Easier access
 - ◆ Higher visibility
 - Locations where the traffic volume and speed are lower are more suitable for residential uses

City Street Classifications and Standards

- Six major categories of public streets (see Figure 2 on page TE-21):
 - Local residential streets
 - Collector/apartment streets

- Commercial and industrial streets
 - Super-Collector streets
 - Thoroughfare streets
 - Freeways
- In areas covered by the Downtown Form-based Code, an alternative system of street designations is in effect. Refer to that document for the specifics of those standards.

Local Residential Streets (see Figure 3 on page TE-22)

- **Primary function** - access to abutting property
 - On-street parking permitted in most situations
 - The design of local streets is meant to discourage traffic cutting through residential areas
 - T-intersections are encouraged to reduce the number of potential conflicts when turns are made
 - Pedestrian movements accommodated by sidewalks on one side of the street
 - Bicyclists share the roadway with other vehicles
- **Street standards:**
 - A 28-foot street (back-of-curb to back-of-curb) within a 50-foot wide right-of-way
 - Where existing streets are being rebuilt, standard street widths may be reduced and right-of-way may be less than 50-feet
- **Traffic handling capacity:**
 - Up to 2,000 to 3,000 vehicles per day

Collector and Apartment Streets (see Figure 4 on page TE-23)

- **Primary function (collector street)** - collect and move traffic generated by a neighborhood to a thoroughfare street
 - Generally spaced one mile apart and offset one-half mile from thoroughfares
 - ◆ Allows for an efficient level of service without causing disruptions by excessive amounts of traffic traveling through neighborhoods
 - Pedestrians are served by sidewalks on both sides of the street
 - Bicyclists share the roadway with other vehicles, and in some cases parallel multipurpose trails may be provided within or adjoining the public street right-of-way
 - On-street parking on a collector generally is permitted if adequate pavement width is available, but is discouraged in some cases, even if sufficient pavement width is available
 - Collector/Collector Intersections
 - ◆ T-type intersections can be used to:
 - Promote safety by reducing the number of conflicting turn movements at intersections
 - Reduce the amount of non-local traffic
 - ◆ Four-legged intersections are acceptable when a roundabout is used or in cases where a new-urbanist design is being pursued
- **Primary function (apartment streets)** - serve multifamily residential areas.
 - Apartment streets are located at irregular intervals as multifamily developments are dispersed throughout the City

- Pedestrian and bicycle accommodations are similar to those provided for collector streets
- **Street standards (collector and apartment streets):**
 - A 36-foot street within a 60-foot wide right-of-way
- **Traffic handling capacity (collector and apartment streets):**
 - Up to 10,000 vehicles per day

Commercial and Industrial Streets (see Figure 5 on page TE-24)

- **Primary function** - ability to carry high amounts of car and truck traffic
 - Traffic from commercial or industrial areas is to be diverted away from residential neighborhoods
 - Pedestrian and bicycle accommodations are similar to those provided for collector streets
- **Street standards:**
 - A 36- to 52-foot roadway within a 60- to 80-foot wide right-of-way, depending on the size of the development being served
 - ◆ Greater pavement thickness requirements than for collector streets
- **Traffic handling capacity:**
 - 10,000 to 25,000 vehicles per day
- In effect, the classification of a street as either an Industrial, Commercial or Apartment street is determined by the zoning of abutting parcels of land. For any section of street with multiple abutting zoning classifications, the most restrictive classification shall apply.

Super-Collector Streets (see Figure 6 on page TE-25)

- **Primary function** - collect and move traffic generated by a residential neighborhood and/or apartment, commercial, industrial or office developments to a thoroughfare street
 - Traffic volumes generally are higher than many Collector streets and speed limits may be higher than on typical Collector streets
 - Pedestrian and bicycle accommodations are similar to those provided for collector streets
- **Street standards:**
 - A 36- to 52-foot roadway within a minimum 80-foot wide right-of-way, depending on the expected traffic volumes and usage of the street
 - ◆ Greater pavement thickness requirements than for collector streets
- **Traffic handling capacity:**
 - 10,000 to 25,000 vehicles per day

Thoroughfares (see Figure 7 on page TE-26)

- **Primary function** - move large amounts of traffic through areas of the City
 - Located at one-mile intervals
 - Direct driveway access is undesirable
 - New residential lots are restricted from fronting on, or having direct access to, thoroughfares

- Median breaks are restricted to quarter-mile intervals along thoroughfares
 - On-street parking is prohibited
 - Pedestrians are served by sidewalks on both sides to the street
 - Bicyclists share the roadway with other vehicles. Many four-lane divided thoroughfares contain a wide curb lane to better accommodate bicyclists. In several cases parallel multipurpose trails are provided within the public street right-of-way.
- **Thoroughfare standards:**
 - 80 to 200 feet of right-of-way to provide for medians, exclusive turn lanes, and four to six through-traffic lanes
- **Traffic handling capacity:**
 - Up to 50,000 vehicles per day on six-lane thoroughfares

Freeways (See Figure 8 on page TE-27)

- **Primary function** - carry high volumes of traffic to different sections of the metropolitan area with uninterrupted, high-speed movement of traffic
 - Access is restricted to grade-separated interchanges
 - The developers of some land uses consider the freeway an asset while others take measures to screen the sight of the freeway and the traffic noise
 - Locations near interchanges are highly desired by businesses because of the high visibility and ready access to such sites
 - Adjacent residential landowners often lobby government officials to build visual and sound barriers to lessen the noise and screen the sight of the freeway

- ◆ Sound barriers are expensive and do not always meet residents' expectations, but are a way to lessen excessive freeway noise
- **Freeway standards:**
 - Up to 300 feet of right-of-way to provide for exclusive turnoff and merge lanes, and four to eight through-traffic lanes
- **Traffic handling capacity:**
 - Up to 120,000 vehicles per day on six-lane freeways
 - Up to 150,000 vehicles per day on eight-lane freeways

The Street Network

Traffic Components

- The Traffic Volumes Map that is produced by the City each year displays the amount of traffic using the network of collector streets, thoroughfare streets and freeways located within the City. Present and past maps can be accessed on the City's website, www.opkansas.org.
 - The traffic counts shown are averages taken over a 24-hour period
 - Not all street segments and intersections are counted each year
 - The segments of I-435 and I-35 that traverse Overland Park have some of the highest traffic volumes in the Kansas City metropolitan area

Existing and Proposed Transportation System

Existing Street Network

- The street network is shown on the Street Network/Official Street Map.
- Overland Park has more than 895 miles of public and private streets and highways.
 - Local residential streets have the greatest amount with 526 miles (58.8 percent of the total)
 - ◆ 425 miles (80.8 percent) of all local streets are public
 - ◆ 101 miles (19.2 percent) of all local streets are private. The private streets category includes those private streets and major drives serving single-family, duplex, multifamily, office and retail developments.
 - Apartment, Commercial, and Industrial streets total 56 miles (6.3 percent of the overall total)
 - Collector streets account for 100 miles of streets (11.2 percent of the total)
 - Thoroughfares total 189 miles (21.1 percent of the total)
 - Freeways comprise the remaining 24 miles (2.7 percent of the total)

Proposed Street Network

- The Street Network/Official Street Map also displays the approximate location of future collectors and thoroughfares.
- Overland Park has adopted as policy the spacing of thoroughfares at one-mile intervals.

- City policy is that thoroughfares are centered on section lines
- Collectors are located approximately half way between the thoroughfares.
- Interruptions to this spacing occur where freeways or major public uses appear such as I-435 and Johnson County Community College.
- The location of thoroughfare and collector streets is intended to promote the concept of a neighborhood.
 - A neighborhood is roughly one-square mile in size
 - A neighborhood has well defined boundaries
 - A thoroughfare is located on each of the neighborhood's four sides
 - Two collector streets intersect in the middle, dividing the neighborhood into approximately four equal parts

Maintenance of the Street Network

- Overland Park continues to have an extensive program for maintaining the existing public street network.
- Each street is evaluated every two years using the PAVER pavement management system.
 - The results from the street evaluations are used to determine the appropriate maintenance schedule for each street type
- Thoroughfares are generally resurfaced every seven to ten years.
 - Curbs and gutters are replaced as needed
- Collector and residential streets are generally sealed every seven years and resurfaced every 25 to 30 years.

- The construction, maintenance (including snow removal), and repair of private streets are the responsibility of the property owner(s).

Aesthetic Design

- Extensive landscaping has been installed and maintained along a number of major streets. The area included within the Vision Metcalf Study area (located roughly between I-35 and 123rd Street along Metcalf Avenue) has been selected to be enhanced with a higher level of landscaping and streetscaping improvements than elsewhere in the City. Some areas in the City where specific projects have been completed or are underway include:
 - The intersection of Metcalf Avenue and Shawnee Mission Parkway
 - 103rd Street between Lowell and Quivira Road
 - Metcalf Avenue between 99th Street and College Boulevard
 - Metcalf Avenue from 135th Street to 151st Street
 - 127th Street from Switzer Road to Pflumm Road
 - 143rd Street from Quivira Road to Pflumm Road
 - Santa Fe from Conser to 79th Street
 - 80th Street from Santa Fe to Metcalf Avenue
 - I-435 and Metcalf Avenue
 - 119th Street and Blue Valley Parkway
 - College Boulevard from Metcalf Avenue to west of Quivira Road
 - 127th Street from Metcalf Avenue to Nall Avenue

- Decorative traffic signals poles and street light poles have been used in various locations, including Downtown Overland Park
- One very significant landscaping and streetscaping project is scheduled to be completed by the end of 2012. As a part of a federal Tiger Grant, bike/hike trails, extensive landscaping and other streetscape improvements will be installed along a section of Metcalf Avenue from 87th Street to College Boulevard. Those improvements will work in concert with major enhancements to transit stops in that area to improve access to transit services.
- Landscaping design guidelines have also been approved for various street corridors.
 - In 1992, design guidelines were approved for use within and adjacent to the right-of-way of 135th Street
 - ◆ The guidelines are for use by both the private and public sectors
- Design guidelines also are part of the adopted Greenway Linkages Guidelines and Plan.
- The Overland Park Design Standards, adopted in 2009, and the Downtown Overland Park Form-based Code, approved in 2011, include provisions for extensive landscaping installations when new development projects are constructed.

Commuting Choices

- The 2000 Census found that the vast majority of residents rely solely on their personal vehicle for commuting to their jobs. Alternative methods of transportation are, as a whole, very limited in the City and County.
- Most employed City (86.8 percent) and County (86.7 percent) residents, 16 years or older, drive to work alone.

- Only 6.5 percent of City residents carpool, compared to 6.9 percent of County residents.
- More City (0.7 percent) and County (0.8 percent) residents walked to work than used public transit (.5 percent of City residents and .3 percent of County residents).
- The average commuting time for City residents was 19.5 minutes and 20.2 minutes for County residents, compared to the U.S. average of 25.5 minutes.
 - The commuting times are only slightly changed from 1990 when the average was 19.1 minutes for City residents and 19.5 minutes for County residents.

Public Transportation

- Johnson County Transit (JCT) provides weekday public transportation services for Johnson County as well as portions of Kansas City, Missouri; Kansas City, Kansas; and Lawrence, Kansas. JCT operates The JO, a fixed-route public transportation system with a total of 24 routes including:
 - Twelve routes between Johnson County and downtown Kansas City, MO. Nine of these routes go through Overland Park. There are currently nine designated park-and-ride lots within Overland Park that provide access to various JO routes.
 - The Metcalf-Plaza Route connects major destinations along Metcalf Avenue in Overland Park to the Country Club Plaza in Kansas City, MO.
 - The 75th Street-Quivira Route connects portions of Overland Park to the Waldo area of Kansas City, MO, providing transfers to the popular MAX service provided by KCATA.
 - The K-10 Connector provides commuter express service from KU-Edwards and Johnson County Community College in

Overland Park to the University of Kansas and other destinations in Lawrence, Kansas.

- Five Local Links routes that provide curb-to-curb service within designated areas, and also have fixed stops at major residential complexes and shopping destinations. The JoFlex (Route J) operates Mondays, Wednesdays, and Fridays in the area of Overland Park between Quivira, 75th, Lamar, and 95th streets.
 - Reverse commute routes to Olathe on weekdays from both downtown Kansas City, KS and Kansas City, MO
 - One mid-day fixed route and two mid-day flex routes from Johnson County to Kansas City, MO, including downtown, the Plaza, and Waldo
 - Senior citizens, disabled individuals, and youth between the ages of 6 and 17 are eligible for special reduced fares.
 - The JO - Special Edition is a program administered by Johnson County Transit that provides weekday curb-to-curb service for disabled, elderly, and low-income residents of Johnson County.
 - ◆ Offers a reduced fare program which is based on an individual's monthly income
 - ◆ The Special Edition service area includes all of Johnson County north of 159th Street and east of K-7 Highway and Hedge Lane. Special Edition also travels into portions of Kansas City, Kansas and Kansas City, Missouri for medical trips only.
 - JCT also provides Sheltered Workshop Industrial Fixed Transportation (SWIFT), providing home-to-worksite trips for Johnson County Developmental Supports clients.
- Metcalf and Shawnee Mission Parkway Alternative Analysis, Phase II
 - Participants:

- ◆ Study Advisory Team – consisting of Johnson County Transit Staff and representatives from various cities, including Overland Park
- The purpose of the study is to conduct a rigorous analysis of transit alternatives along the Metcalf and Shawnee Mission Parkway corridors, extending from 119th Street to the Plaza in Kansas City, Missouri
 - ◆ Four alternatives are being studied:
 - No-Build
 - TSM (Transportation System Management) – lower cost system improvements
 - Mixed Traffic - buses traveling in existing traffic lanes with other vehicles
 - Fixed Guideway – dedicated lanes for transit service only, either on both sides of the street or center-running
 - ◆ Several public meetings being held to garner public input
 - ◆ Final report, anticipated to be completed in 2011, to identify a recommended alternative that could be advanced for consideration for federal funding

Bike Route Plan

- The City has identified a network of on-street bike routes and off-street multipurpose trails in the City which are included in the Bike Route Plan.
- The on-street bike routes that are included in the plan were selected to comply, in almost all cases, with the location criteria included in Section 5302, Local Bicycle Design Guidance, Design Criteria, established by the Kansas City Metropolitan Chapter of the American Public Works Association.

- Since bicycles share the roadway with vehicular traffic, the on-street routes which have been selected are located predominantly on collector streets, which often have wide lanes, moderate traffic volumes and a higher level of parking restrictions.
- The multipurpose trails shown on the plan are those identified in the City's Greenway Linkages Plan.
- The Bike Route Plan can be accessed on the City's website at: www.opkansas.org

Traffic Management Measures

Traffic Studies and Traffic Model

- The City of Overland Park monitors the existing street network and makes considerable use of traffic studies to determine future transportation improvement needs.
- The Overland Park Traffic Model is used to evaluate the effects of future land use changes.
 - Projections of traffic volumes and circulation can be used to help determine the future road improvement needs to serve the proposed land uses and intensities of development

Capital Improvements Program

- The Capital Improvements Program (CIP) is used to schedule and finance the development of major physical improvements over a five-year time period. The transportation-related components of the CIP include:
 - Streets
 - Bridges
 - Traffic signals

- Street lighting
 - Sidewalks
- The CIP is reviewed annually to keep it timely, to serve the needs of currently developing areas, and also to take into consideration the needs of areas likely to develop or redevelop in the future.
- The transportation-related portion of the CIP focuses on:
 - Meeting needs for roadway improvements in the higher-growth areas south of I-435
 - Making street improvements determined to be necessary to support redevelopment efforts in the older parts of the City
 - Widening existing thoroughfares from four to six lanes where traffic needs dictate the improvement.

Residential Street Program

- Initiated in 1988 to upgrade over 40 miles of ditched streets to modern standards found throughout the rest of the City, including storm sewer systems, streetlights, sidewalks and similar pavement
- A five-year, 1/8 cent sales tax increase to provide funding for the Residential Street Program was passed in November 1998 and renewed in April 2003 and April 2008.
- The City's investment in high-quality public infrastructure has been matched by investment of property owners to upgrade their properties.
- The residential street program was completed in 2010. The funds generated by the sales tax have been redirected to a new program, the Residential Street Reconstruction Program, described on the next page.

Residential Street Reconstruction Program

- Started in 2011 to totally rebuild streets where the pavement has reached the end of its useful life.
- If needed:
 - Sidewalks will be replaced
 - Storm sewers will be upgraded
 - Streetlights will be replaced
- In cases where enhancements, such as bike/hike trails, are contained in planning documents, those improvements will be included as part of a construction project.

Traffic Calming Program

- The City has developed a traffic calming policy to help deal with complaints about traffic, particularly speeding, on residential and collector streets.
- Traffic calming measures may include signage, speed humps, stop signs, increased police enforcement or roundabouts – anything that will reduce the negative effects of motor vehicles, alter driver behavior and improve conditions for residents.
- Although funding has not been earmarked specifically for the City's traffic calming program, individuals may contact the City and request inclusion in the program.

OPTCS

- Another traffic management tool used by the City is the Overland Park Traffic Control System (OPTCS).

- A computer system which coordinates 168 (approximately 65 percent) of the City's 258 intersection signals
- 222 of the signals monitored and adjusted remotely using the City's extensive fiber-optic network
- Compiles traffic information for use in managing the flow of traffic
- 113 closed-circuit television cameras monitor OPTCS intersection signals
- Nine Dynamic Message Signs (DMS) are available to provide motorist information and special event messages

Transportation Planning Goals and Policies

- The transportation planning goals and policies as identified by the Governing Body, Planning Commission, and staff are addressed in the Goals section of the Comprehensive Plan's Plan Implementation text.

Summary

Significant dependence upon personal vehicles will likely continue at or near current levels into the foreseeable future. This dependence will require the City to continue to build and maintain an extensive street network. As the principal means of funding the construction of street improvements, the City's CIP will need to keep pace with increased land development, redevelopment, and the corresponding rise in traffic. The continued development of high traffic-generating land uses such as shopping centers and office buildings will require greater emphasis on traffic management tools by both the public and private sectors.

The goals and policies that are an integral part of the Comprehensive Plan are essential for achieving the ideal of an efficient street network. The continued evaluation of the transportation standards and traffic management measures discussed above are also important for achieving that ideal.

Proportion of Service

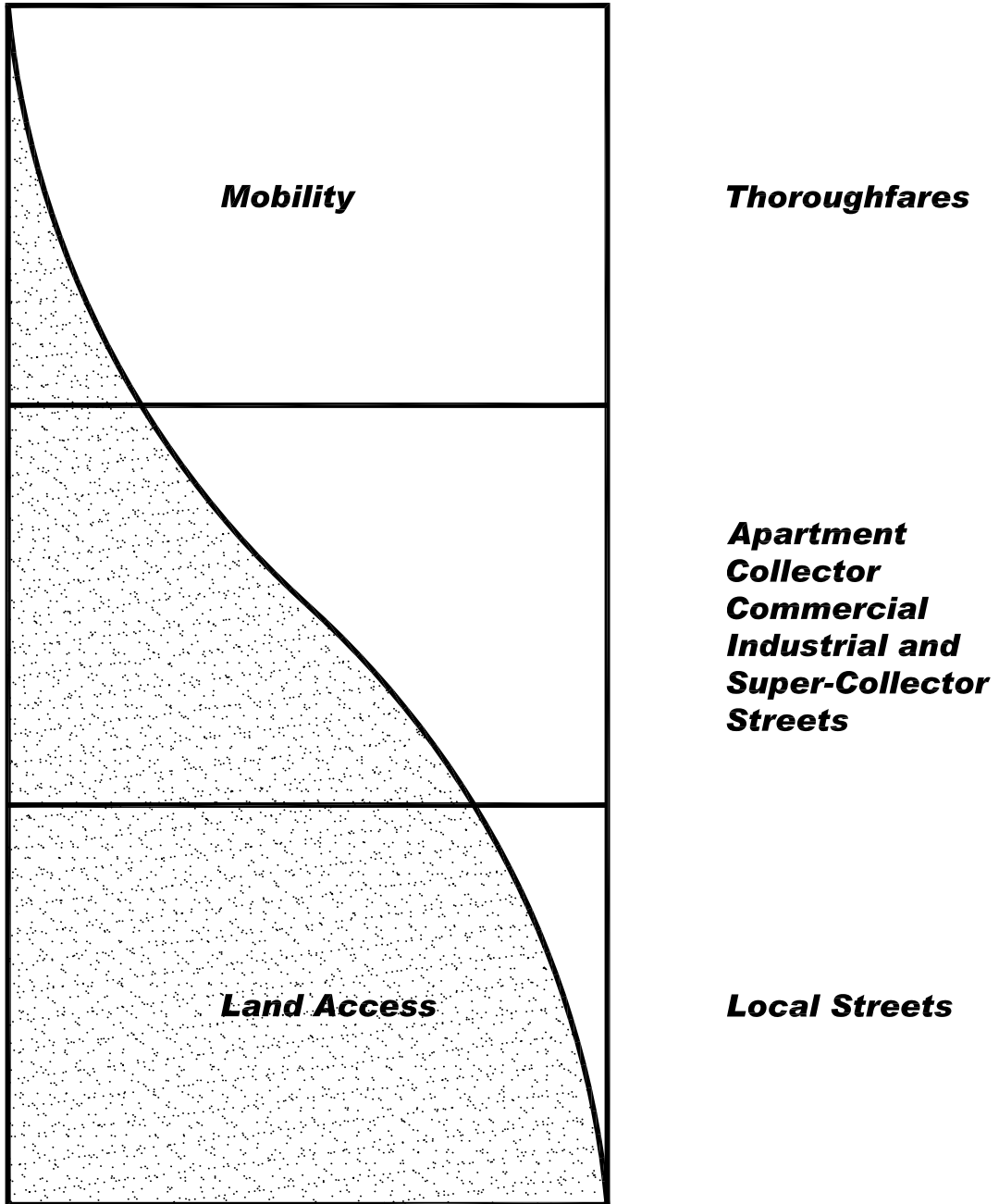


Figure 1
Objectives of the Transportation System

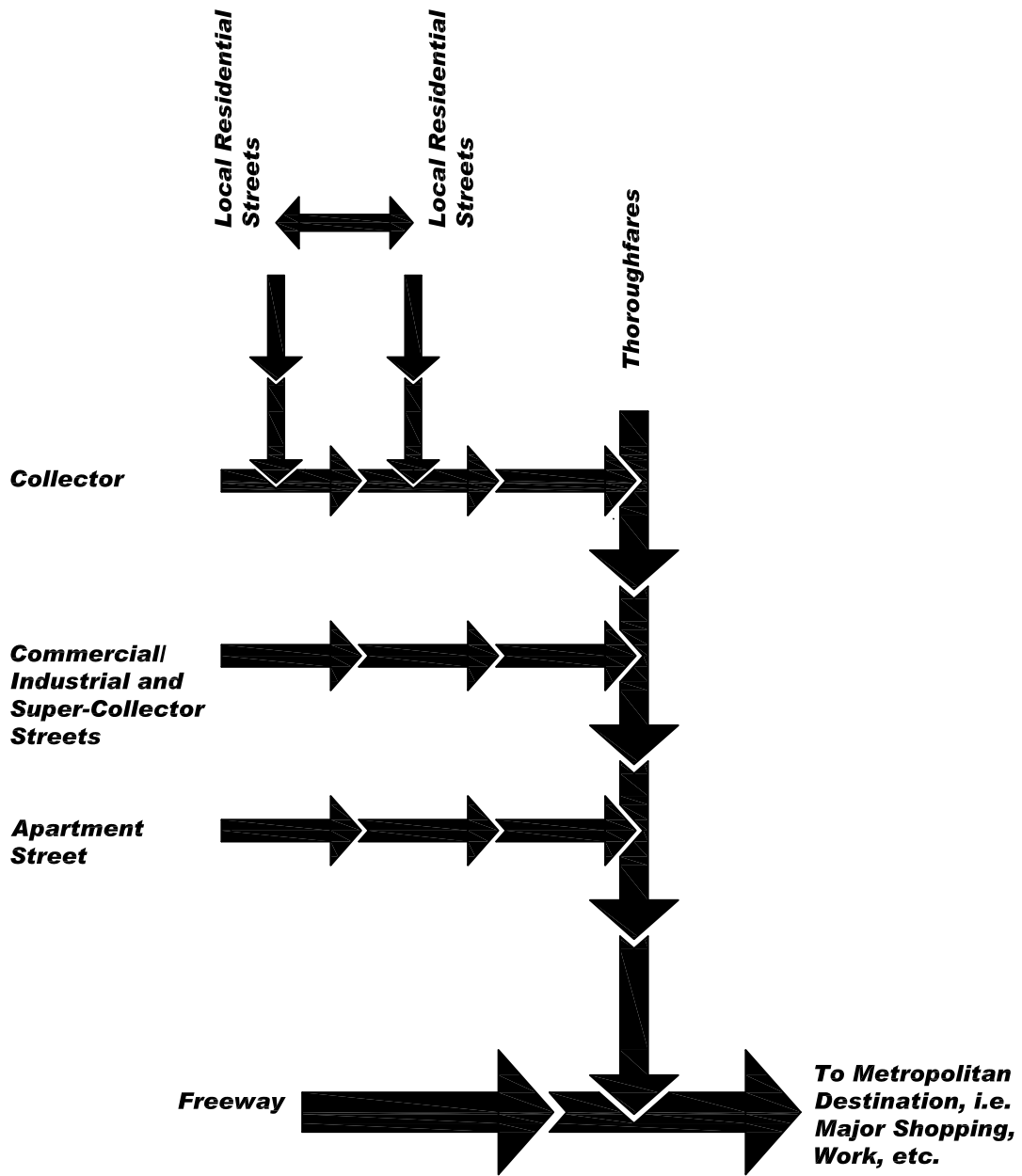


Figure 2
Street Functions

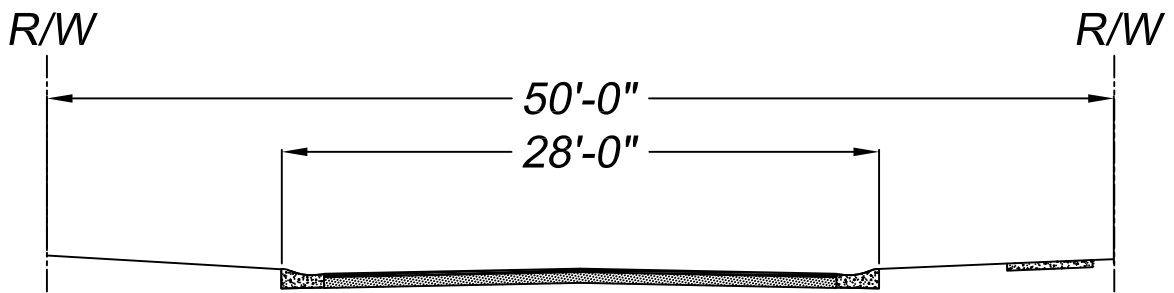


Figure 3
Typical Roadway Section - Residential Street

(2008 Edition)

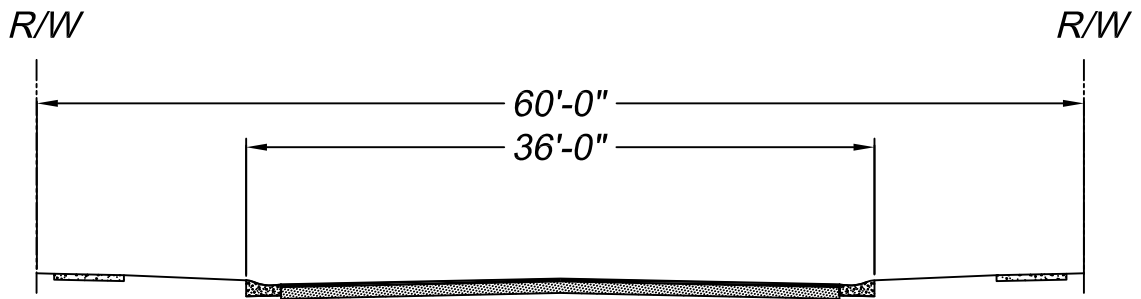
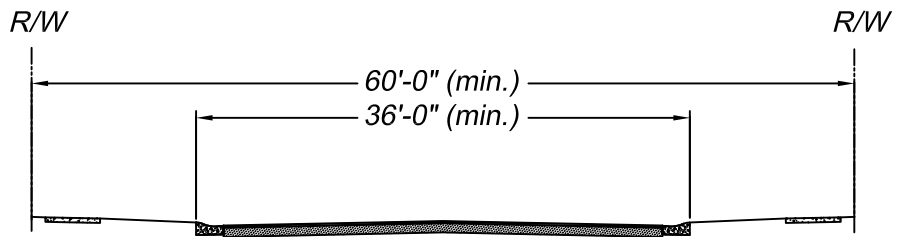


Figure 4
COLLECTOR & APARTMENT STREETS (2-LANE SECTION)
(2008 Edition)



COMMERCIAL & INDUSTRIAL STREETS (2-LANE SECTION)

(2008 Edition)

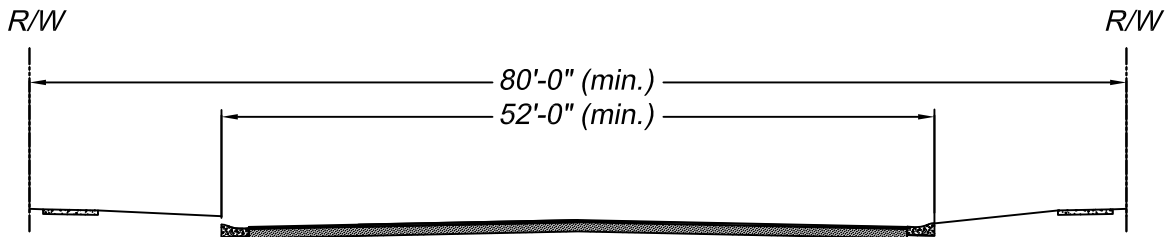
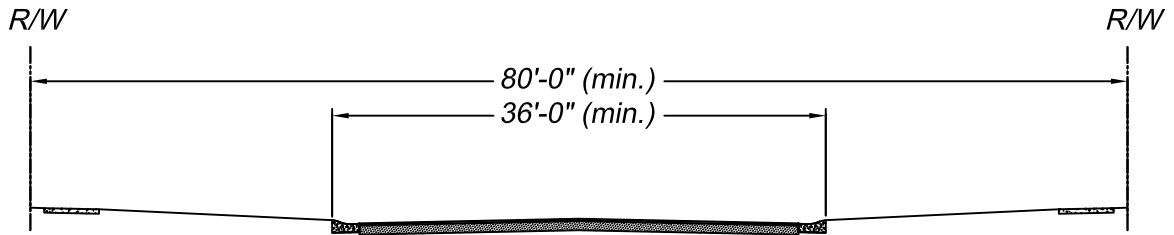


Figure 5
COMMERCIAL & INDUSTRIAL STREETS (4-LANE SECTION)

(2008 Edition)



SUPER-COLLECTOR STREET (2-LANE SECTION)

(2008 Edition)

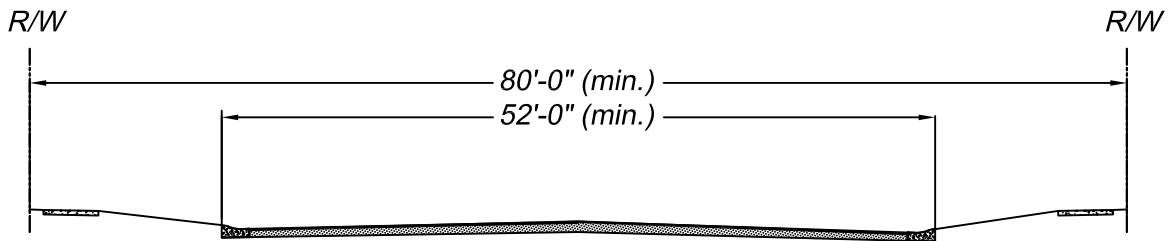
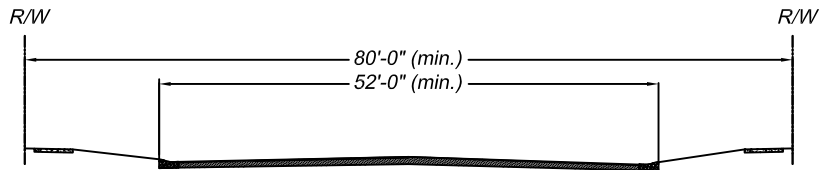
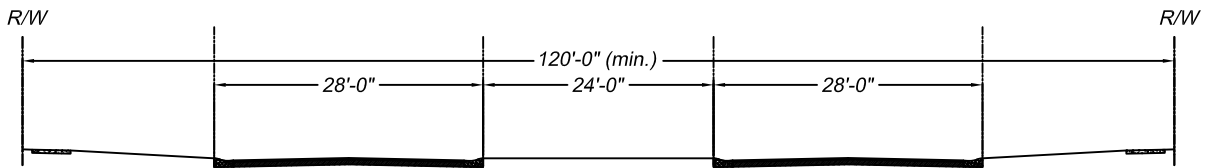


Figure 6
SUPER-COLLECTOR STREET (4-LANE SECTION)

(2008 Edition)



Thoroughfare (4 Lane Undivided Section)
(2008 Edition)



Thoroughfare (4-Lane Divided Section)
(2008 Edition)

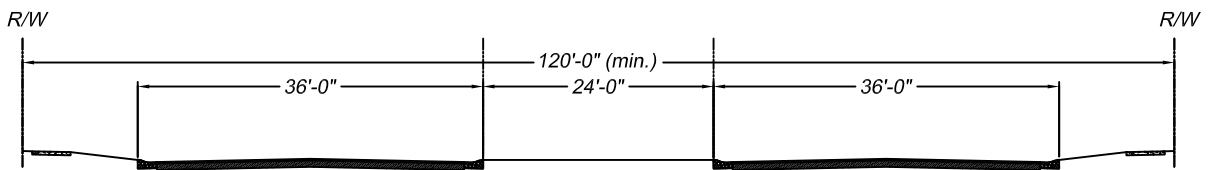


Figure 7
Thoroughfare (6-Lane Divided Section)
(2008 Edition)

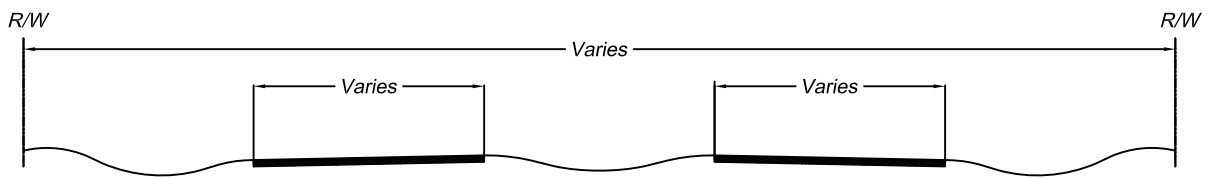


Figure 8
Freeway
(2008 Edition)