FORT WORTH®

Monthly Developer/Consultant Process Training

Planning and Development Department

Access Management & Collector Street Network Planning Policies

Session 6

August 8, 2018

Agenda

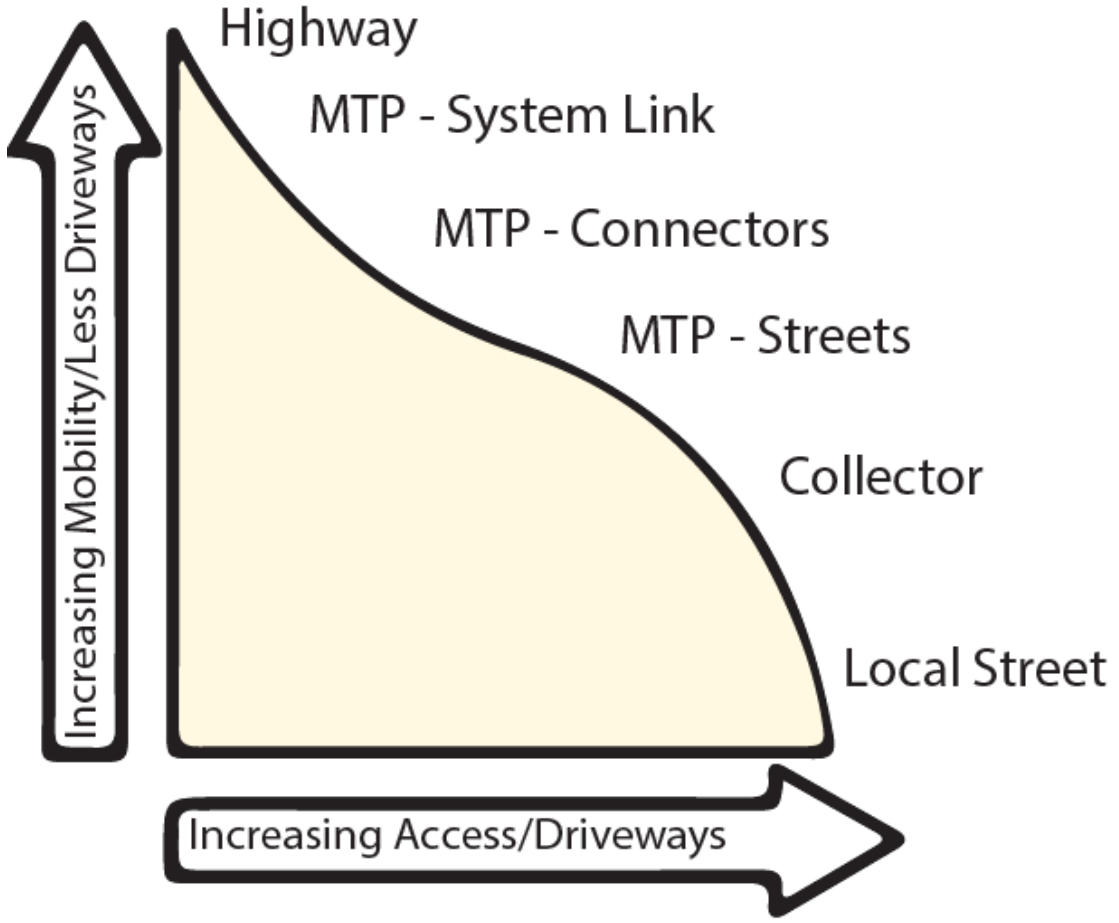
- Access management basics
  - Access Management Policy
- Collector Network Planning basics
  - Subdivision Ordinance Amendment
- Discussion

Access Management Policy Overview

M&C Adoption: June 5, 2018
Effective date: August 1, 2018

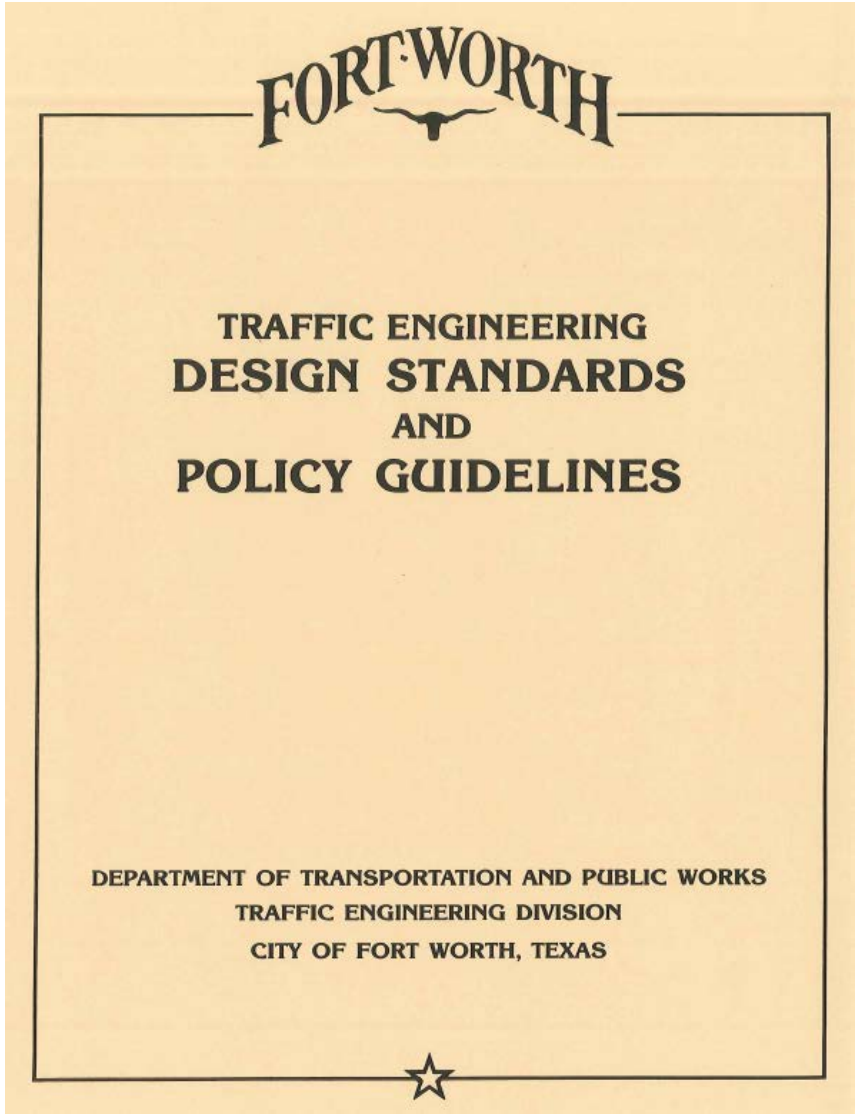
What is Access Management

- The provision of vehicular **access to** land **development** in a manner that preserves the safety and efficiency of the transportation system.
- Policies guide the location, spacing, and operation of:
  - Intersections
  - Driveways
  - Median Openings
  - Street spacing



Why an Access Management policy?

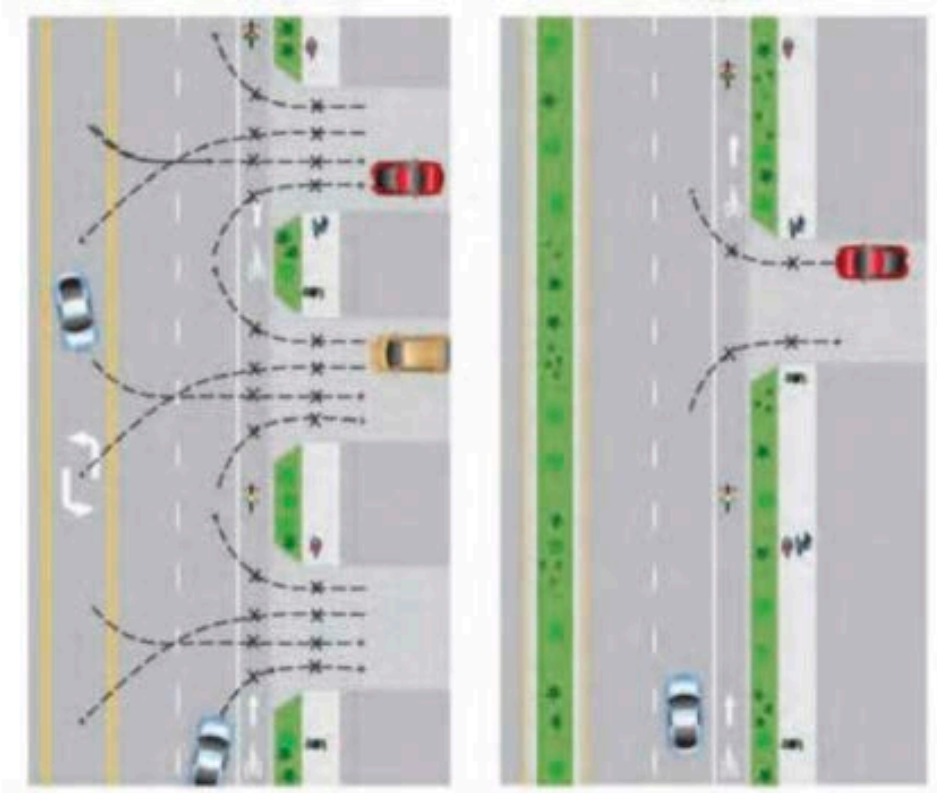
- Fort Worth did not have a comprehensive Access Management Policy.
  - Previous standards were incomplete and out of date
- AM Policy was second phase of MTP Update;
  - Effective access management supports adopted goals of MTP



Benefits of Access Management

Improved safety and operation of the street network:

- FHWA proven safety countermeasure
- Protect capacity on thoroughfare network
- Reduced travel time and delay
- Positive economic impact



Fewer driveways spaced further apart allow for more orderly merging of traffic and presents fewer challenges to drivers.

Access Management Policy: Spacing Requirements

			Updated		New		Unchanged
Street Type	*MTP Target Speed (mph)†*	*MTP Range of Through Lanes*	**D** Driveway – Driveway Spacing (ft)	**I** Intersection – Driveway Spacing (ft)	**S** Signalized Intersection Spacing (ft)	**C** Cross Street Spacing (ft)	**M** Median Opening Spacing (ft)
System Link	*35 to 45*	*4 to 6*	300	300	1,320	1,000-1,320*	500 - 800
Commercial Connector	*30 to 35*	*2 to 6*	250	250	1,000	660-1,000*	500 - 800
Neighborhood Connector	*30 to 35*	*2 to 6*	200	250	1,000	660-1,000*	500 - 800
Commerce / Mixed-Use St	*25*	*2 to 4*	150	150	600-1,320*	300-660*	NA
Activity Street	*25*	*2 to 4*	100**	100**	400-800*	300-660*	NA***
Collector Streets****	*25 to 30*	*2*	100‡	100	NA	250	NA
Local Streets****	*25*	*2*	75‡	75	NA	250	NA

† Target speed is defined in the MTP as the recommended design speed
* Refer to guidelines for a discussion regarding allowable minimums and desirable maximums
‡ This does not apply to residential driveways
** New driveways on Activity Streets are only allowed if there is not access from a lower class roadway
*** Median treatments and openings for Activity Streets must be examined on a project- and context-specific basis
**** Collector/Local Streets: Values shown are for guidance only; closer spacing may be permitted at the discretion of the City Traffic Engineer

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Access Manag
Spacing Requi

www.fortworthtexas.gov/mtp

Street Type	MTP Target Speed (mph)†	M Median Opening Spacing (ft)
System Link	35 to 4	500 - 800
Commercial Connector	30 to 3	500 - 800
Neighborhood Connector	30 to 3	500 - 800
Commerce / Mixed-Use St	25	NA
A	5	NA***
C	3	NA
L	5	NA

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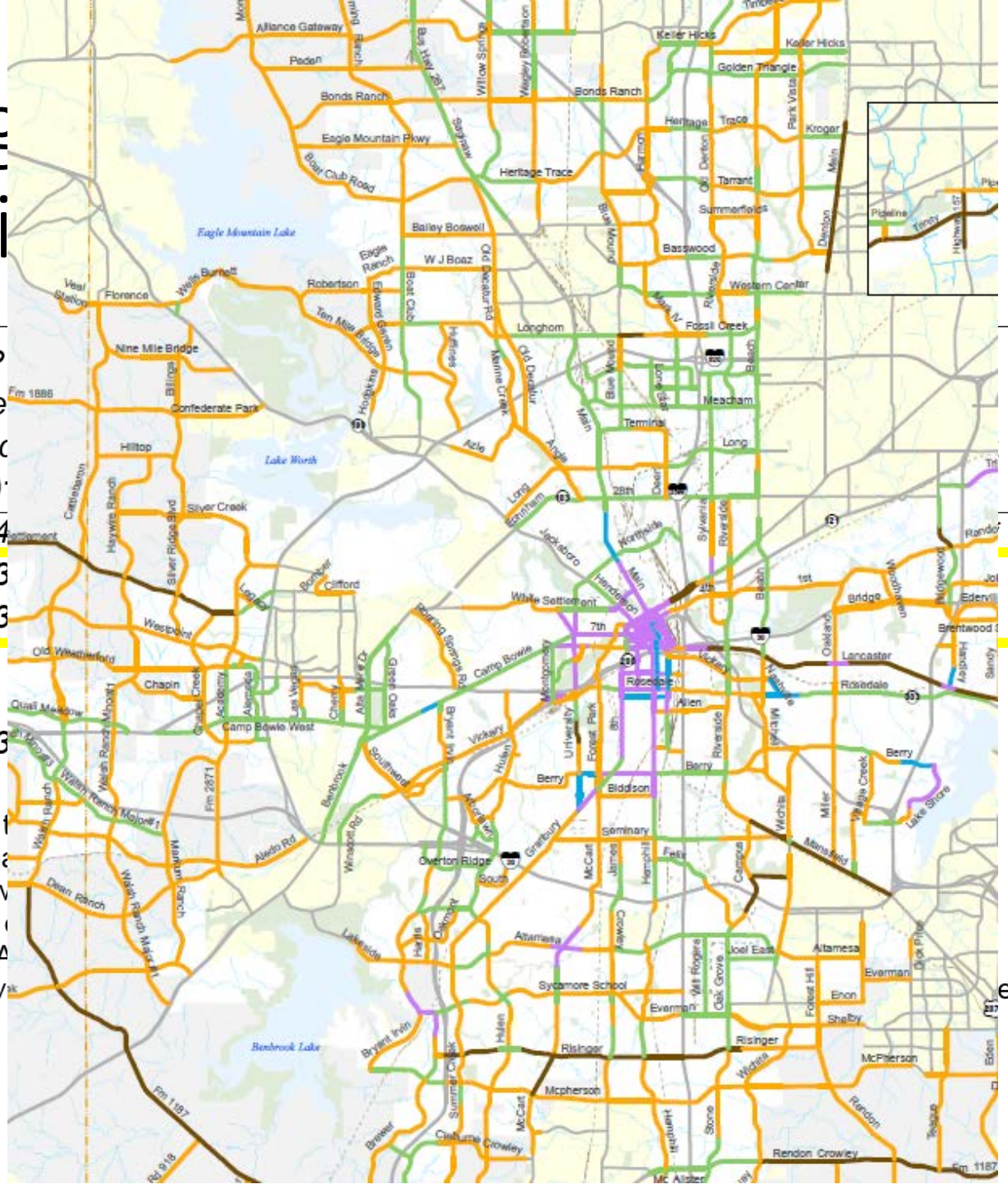

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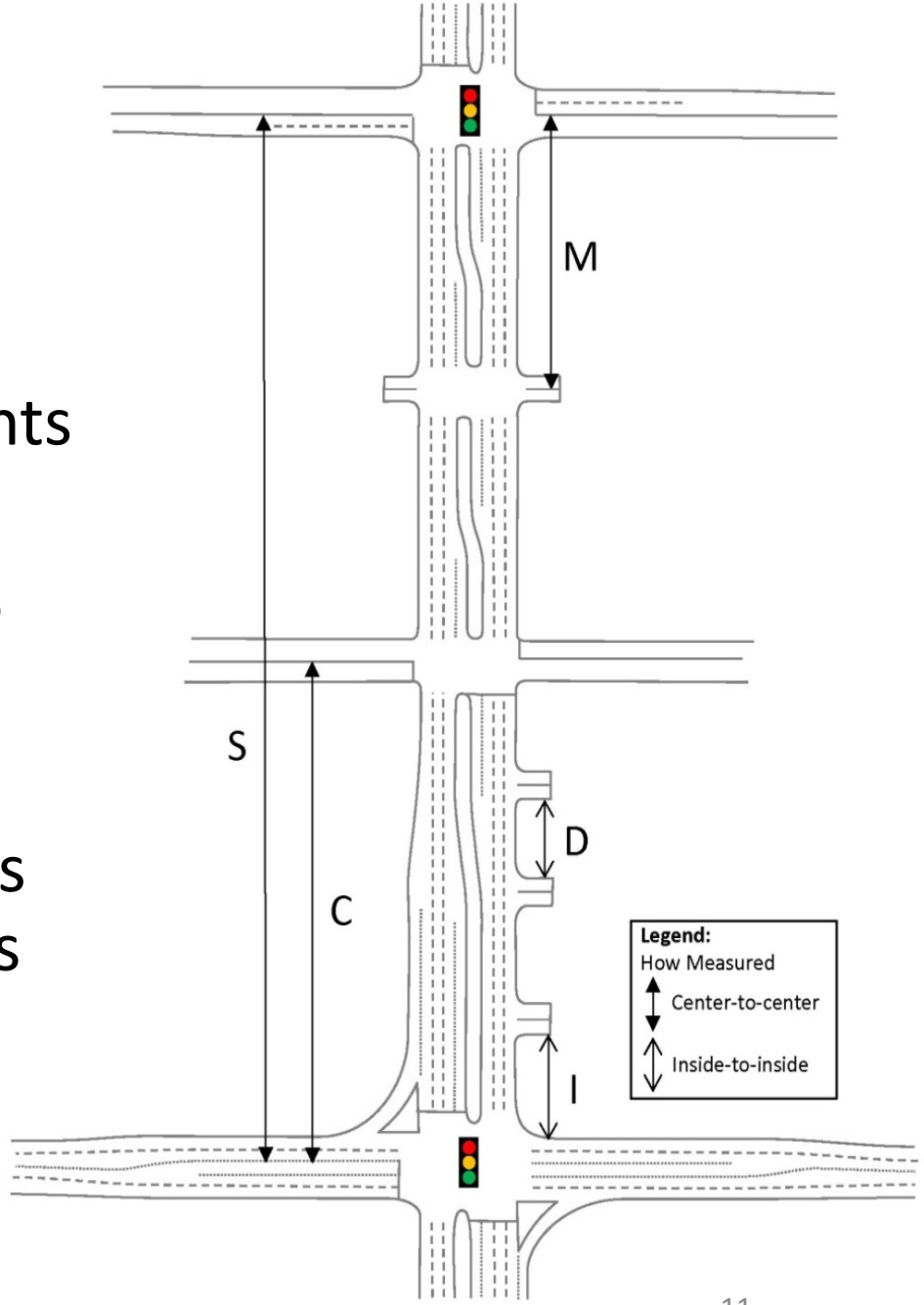
Access Management Policy: Spacing Requirements

- Connection spacing measured between endpoints shown in figure (center-center or edge to edge)
- Minimum spacing distances are not intended to set the number of access points for a property frontage
- Low volume streets may be treated as driveways for spacing calculations under certain conditions
  - Projected ADT on street is 500 or less
  - Main street volume is 20,000 or less
  - Main street has fewer than 6 lanes
  - Not System Link street type



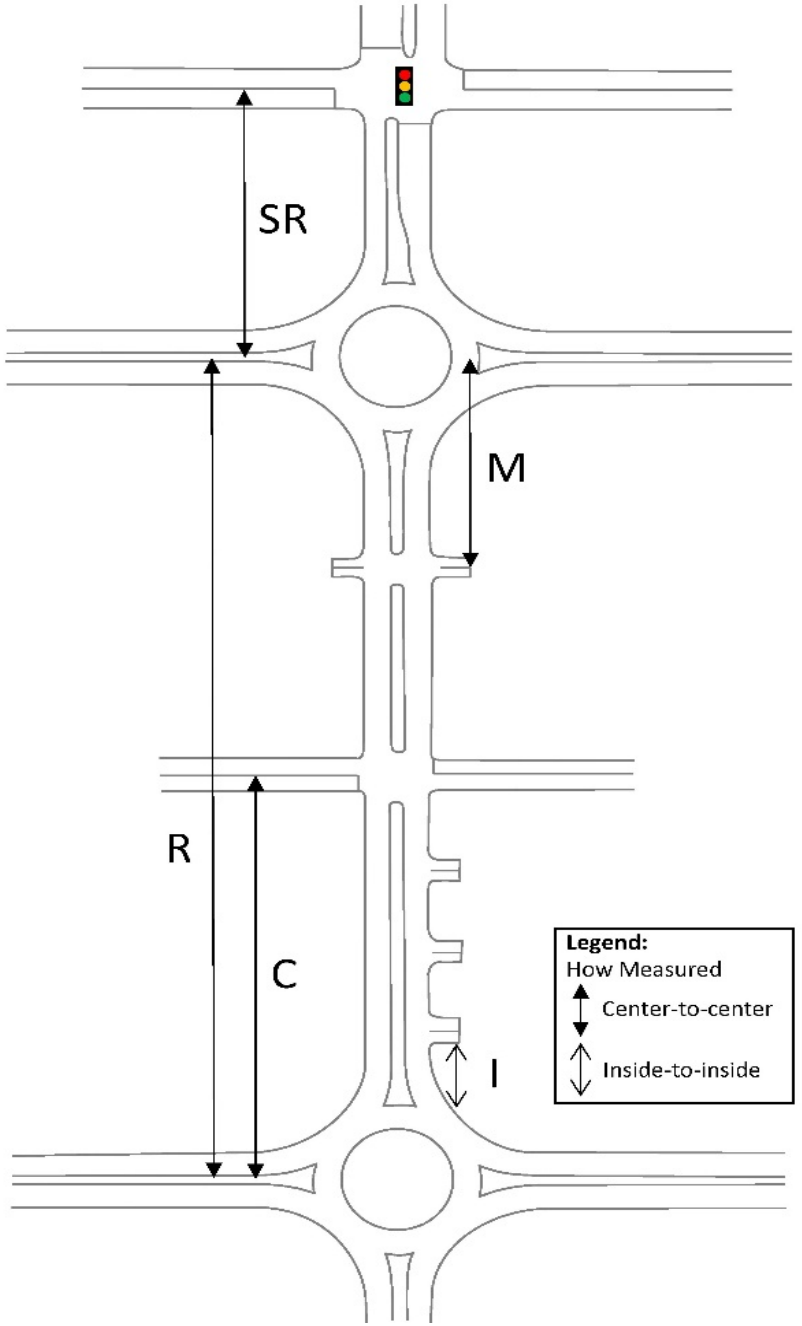
Access Management Policy: Roundabout Guidelines

- Guidelines included where roundabouts used
- Traffic study required

Figure 3.2: Minimum Street and Access Connection Spacing with Roundabouts

Street Type	*MTP Target Speed (mph)†*	*MTP Range of Through Lanes*	**I** Roundabout – Driveway Spacing (ft)	**R** Roundabout-Roundabout Spacing (ft)	**C** Street Spacing (ft)	**M** Median Opening Spacing (ft)	**SR** Signal – Roundabout Spacing (ft)
System Link	*35 to 45*	*4 to 6*	300	660-1,320*	1,000-1,320*	500 - 800	1,000-1,320*
Commercial Connector	*30 to 35*	*2 to 6*	250	660-1,000*	660-1,000*	↓	660-1,000*
Neighborhood Connector	*30 to 35*	*2 to 6*	250	660-1,000*	660-1,000*		660-1,000*
Commerce / Mixed-Use St	*25*	*2 to 4*	150	300-660*	300-660*	300-800	300-660*
Activity Street	*25*	*2 to 4*	100**	300-660*	300-660*	300-800	300-660*
Collector Streets	*25 to 30*	*2*	100	250	250	NA	250
Local Streets	*25*	*2*	75	250	250	NA	250

† Target speed is defined in the MTP as the recommended design speed
* Refer to text discussion regarding allowable minimums and desirable maximums
** New driveways on Activity Streets are only allowed if there is not access from a lower class roadway
Note: *The distances in this table are initial guidelines. Lower values may be acceptable. For all proposed roundabouts, where a driveway (I) is to be constructed within 300 ft or where a connection (R, C, M, SR) is to be constructed within 1,000 feet, a traffic study must be completed to show that the roundabout, driveway, and/or access connection will function acceptably after full-build out plus five years.*



Access Management Policy: Left-Turn Lane Requirements

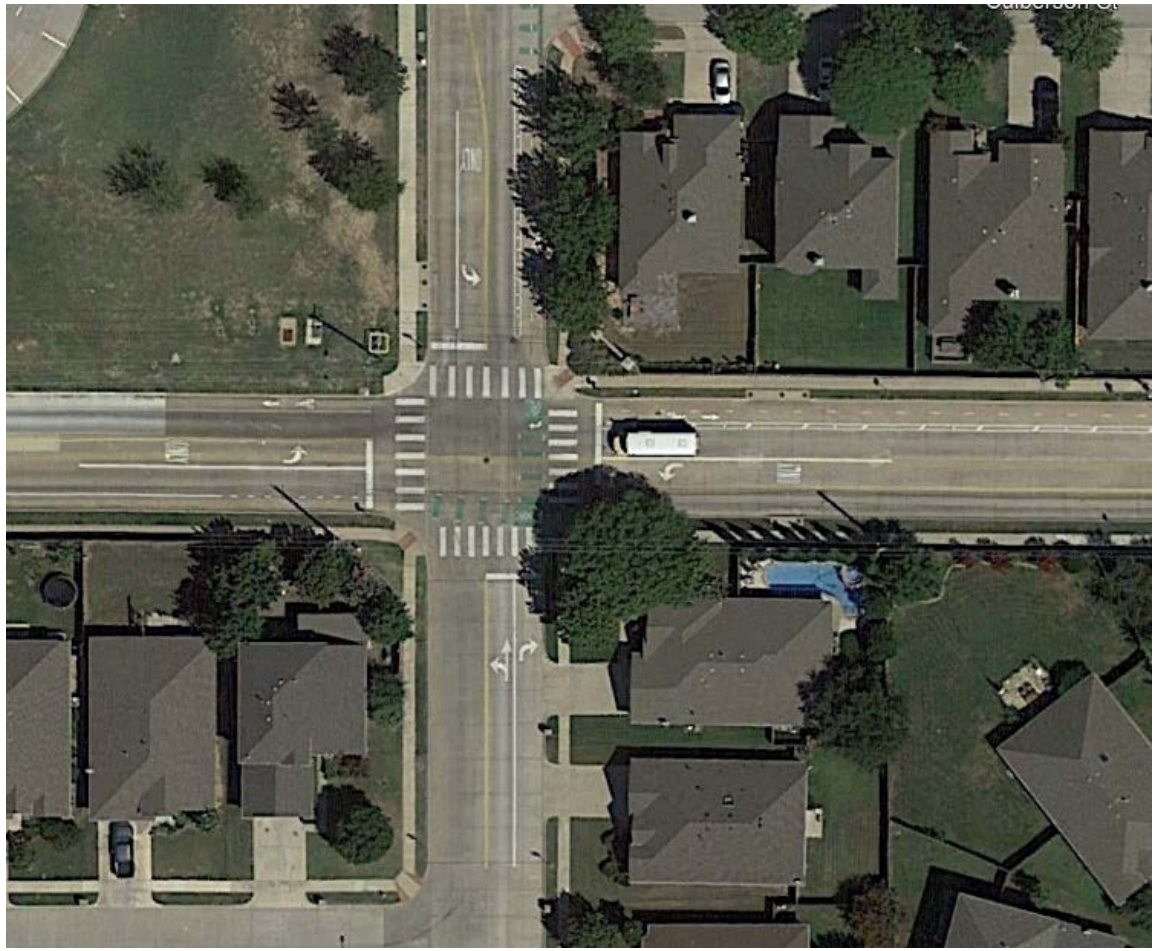
Left turn lanes to be provided (consistent with median opening spacing requirements):

- **Along thoroughfares** at all new driveways or street intersections where left turns are allowed
- **Along thoroughfares, streets, and driveways** on all approaches to signalized (*or future signalized*) intersections
- **Along street/driveway approaches** to System Links and Connectors (ADT of 1000 or greater)
- **At all median openings** that allow left turns

Access Management Policy: Left-Turn Lane Requirements (cont…)

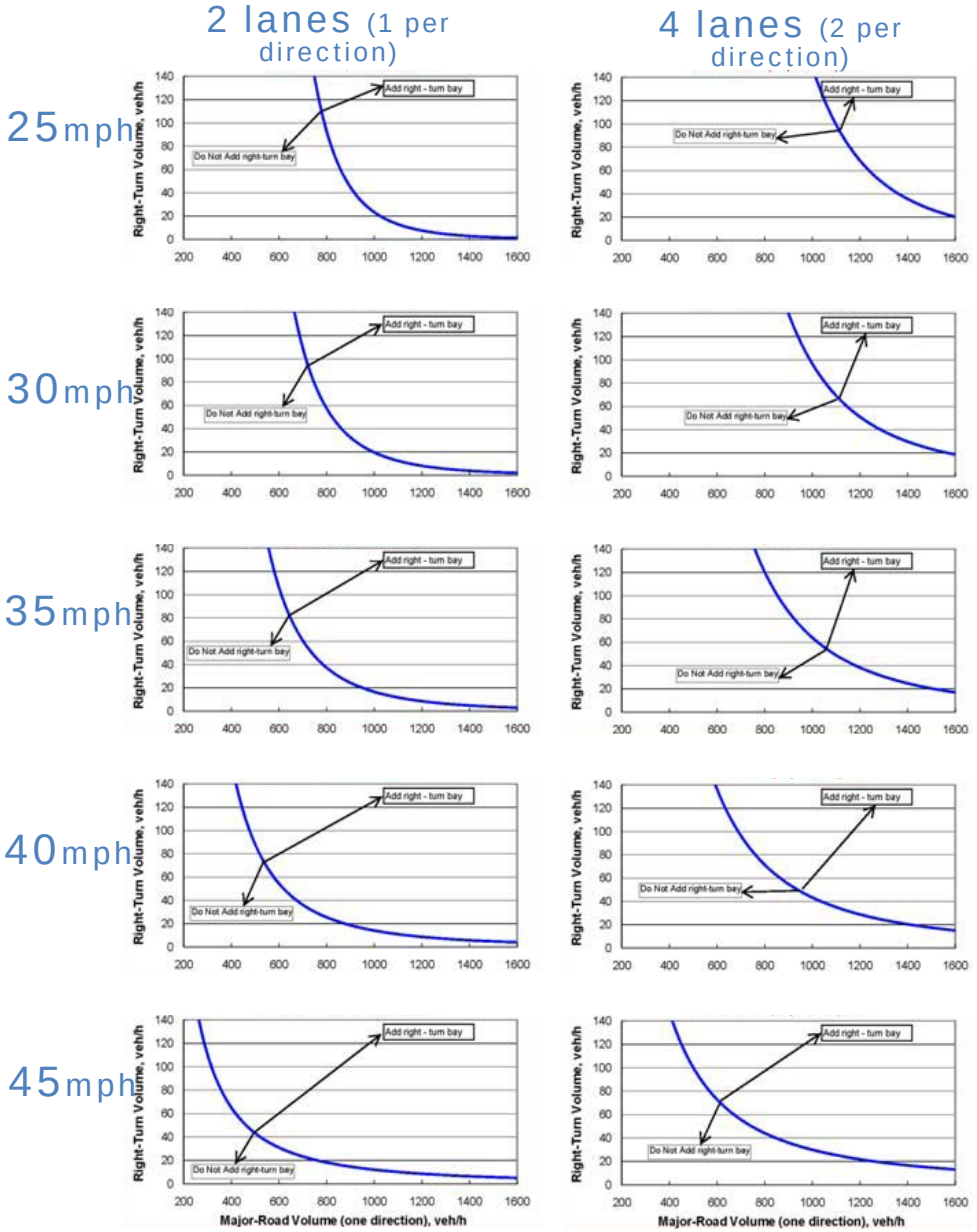
Left turn lanes to be provided:

- **On collector streets** at intersections serving non-residential or high-density residential
- When an engineering study indicates a **safety, access or traffic operations need**
- Continuous TWLTL may be used where MTP designates or where otherwise permitted
- New left turn lanes in wide medians must be designed to provide offset left turns



Access Management Policy: Right-Turn Lane Requirements

- **Un-signalized** intersections' RTL requirement based on <u>posted speed and turning volumes</u>
- **Signalized** intersections' RTL requirement based on posted speed and turning volumes, <u>plus operational and safety analysis</u>



Source: Facilities Development Manual, Chapter 11, Section 25: Intersections at Grade, Wisconsin Department of Transportation, 2017. http://wisconsindot.gov/rdwy/fdm/fd-11-25.pdf

The graphs used in the Wisconsin report were developed based on NCHRP Report 457. http://onlinepubs.trb.org/onlinepubs/nchrp/esg/esg.pdf

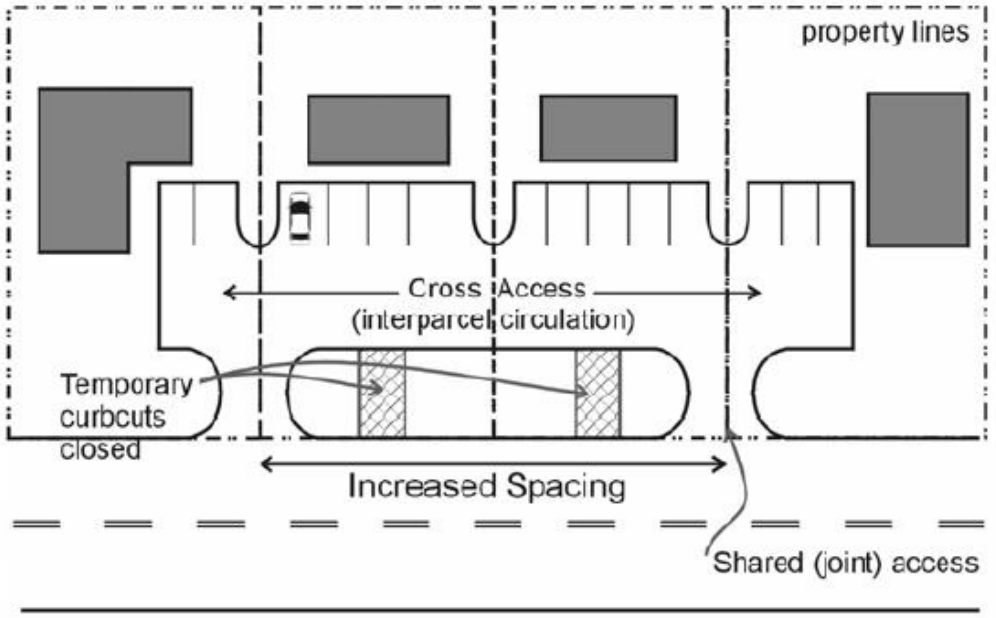
Access Management Policy: Joint and Cross Access

- Joint Use and Cross Access are methods of allowing adjacent developments to share driveways
- **Joint Use** is where two adjacent property owners share a driveway along their common property line
- **Cross Access** is where traffic moves between adjacent properties without re-entering the public roadway and allows vehicles to easily circulate between businesses

Access Management Policy: Joint and Cross-Access: Individual Developments

- Required when individual developments cannot meet spacing standards
- Adjoining parcels that could reasonably share must share access
- Smaller development sites may be required to stub easement for future continuation
- May be waived if incompatible uses or physical constraints exist

Figure 7.1: Shared Access between Commercial Sites



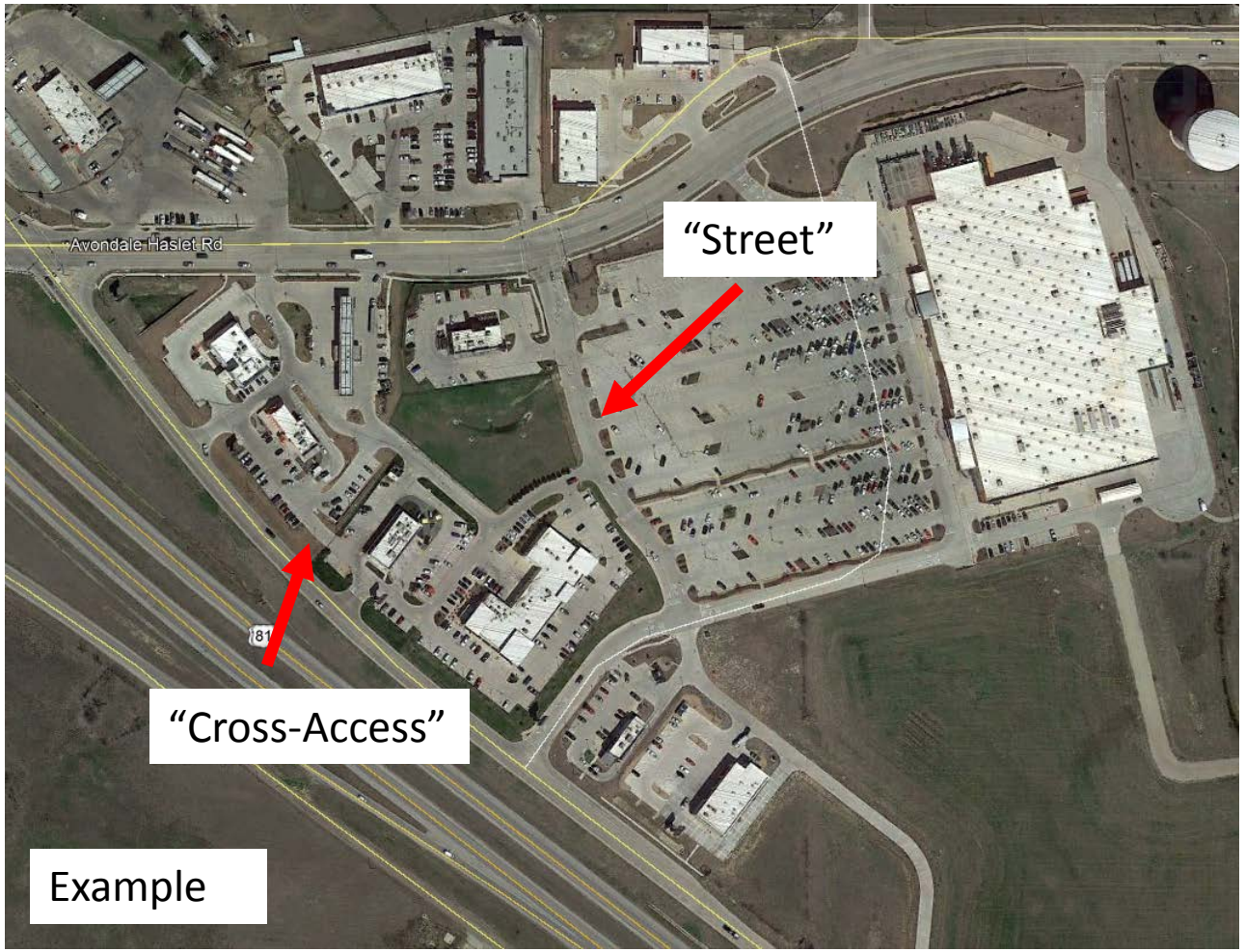
Cross-access can be at the front, side, or rear of a property, depending on site design, location of parking, drive aisles, and public streets

Access Management Policy: Joint and Cross Access – Multiple Building Site Developments

- Number of **connections based on minimum number needed** for access, not maximum available for development frontage based on traffic study
- Direct outparcel **access from interior** roadways
- Abutting properties with different ownership/not part of development plan must use Joint/Cross Access

Access Management Policy: Joint and Cross Access – Multiple Building Site Developments

- Private access easements may be allowed when certain conditions are met
- Adjoining commercial/office and major traffic generators must provide cross access and accessible pedestrian connections
- If cross-access/public access easement is intended to function as a driveway/fire lane it can be constructed as a driveway



Access Management Policy: Infill Development and Non-Conforming Access

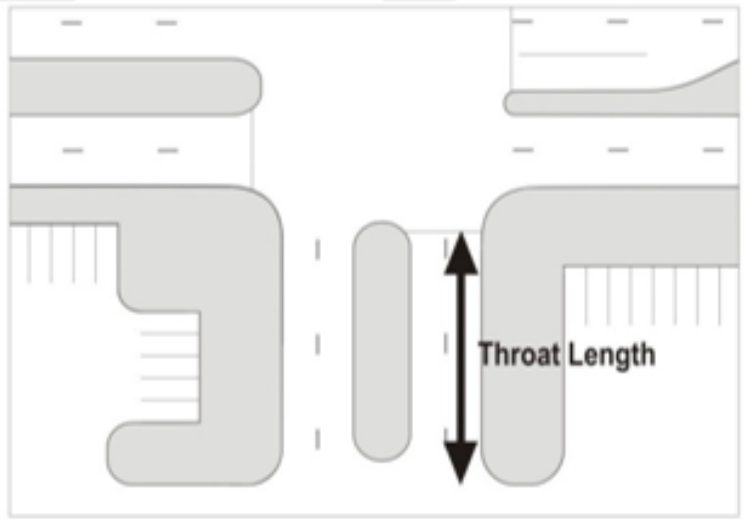
- Existing access is “grandfathered”, but may be brought into compliance in the following circumstances when:
  - An existing roadway with non-conforming access is modified
  - New access connection is requested or required
  - Plat/replat is required
  - Change of use increases traffic from immediately preceding use by 10 times
  - Existing access presents a public safety concern
- ***Opportunity for a discussion*** about Access Management goals and safety

Access Management Policy: Driveway Connection Geometry

Throat length minimizes or eliminates the condition where inbound traffic queues onto a public street:

- **Requirements vary** by driveway volume/ adjacent street type including variations for low volume and high volume driveways.
- Greater than 400 vph in peak (two-way) requires traffic impact study
- Policy does not include driveway design

Figure 7.1: Driveway Throat Length*



**Note: The Fort Worth Traffic Engineering Design Standards and Policy Guidelines document is the source for design details on driveways including widths, radii, angles, slopes, etc.*

Access Management Policy: Exception/Waiver Process

- Policy includes an **administrative process** for modifying or waiving spacing requirements
- **Engineering study may be required** to support spacing modifications, outright waivers

Spacing Modifications

- 10% or 100 feet: Traffic Engineer may reduce connection, median opening, signal, and roadway spacing requirement
- Over 10% or 100 feet: Transportation and Public Works Director may approve
- TPW Director decision may be appealed to the City Manager's Office

Nonconforming Waivers

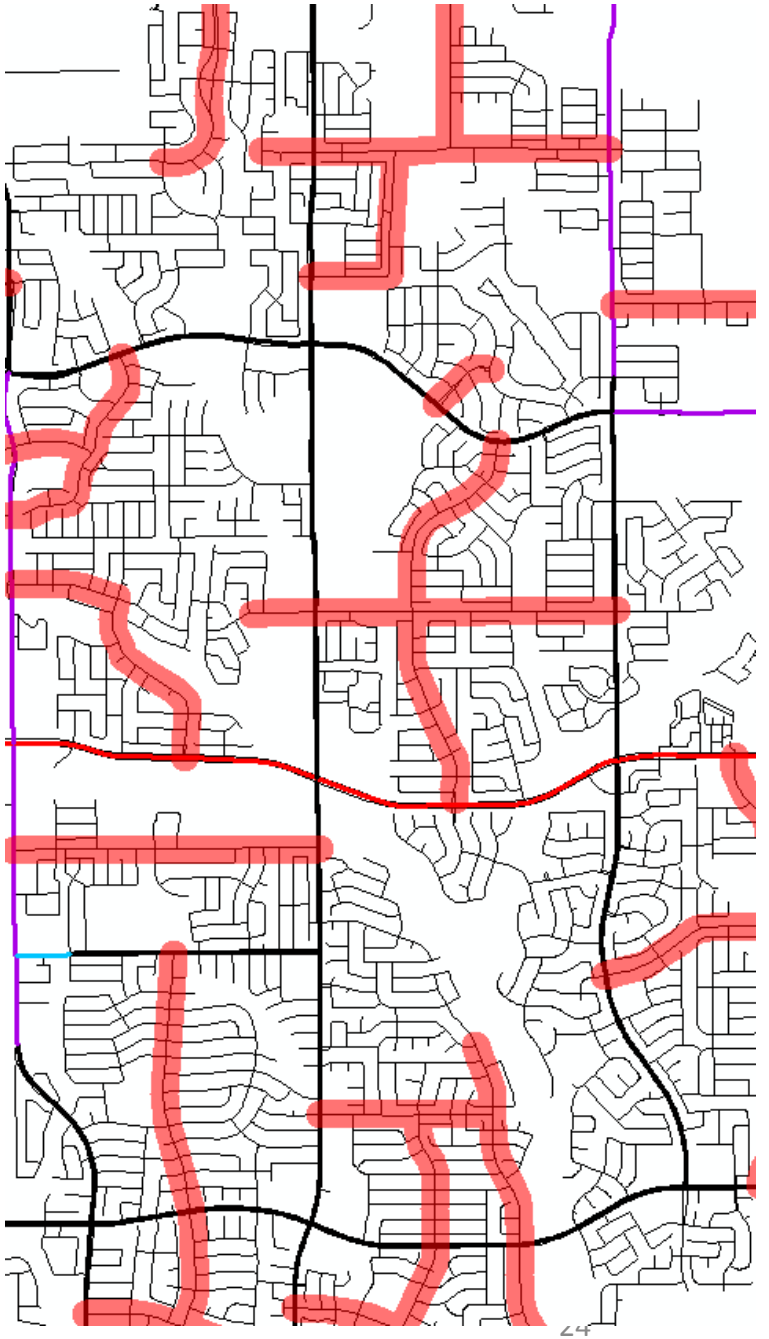
- City Traffic Engineer can waive spacing requirements under certain circumstances

Subdivision Ordinance Amendment Overview

M&C Adoption: June 5, 2018
Effective date: August 1, 2018

Subdivision Ordinance Amendment: Why Collector Network Planning?

- Protect capacity of thoroughfares
- Better emergency response times and service delivery
- Improve access
- Support mobility
  - Ideal corridors for people walking, biking, or using transit



Existing Collectors

Collector Network Planning: Guiding Principles

- Promote street connectivity
- Discourage cut-through traffic
- Design streets to reflect context
- Discourage mixing of incompatible land uses
- Minimize intrusion of non-residential traffic into residential areas
- Serves both residential and non-residential land uses

Subdivision Ordinance Amendment: Design and Configuration

- Collector design is a careful balance between providing direct connectivity and attracting no more traffic than is appropriate.
- Provide access, but discourage cut through and long distance traffic
- Support/reflect surrounding land use (context sensitive)
- Applies to new and expired preliminary plats and final minor plats

	Residential areas		
	A. With fronting single-family homes*	**B. No fronting single-family homes**	**C. Non-residential / mixed-use areas**
Typical trip length	≤ ½ mile	≤ 1mile	up to 2 miles
Upper limit daily traffic volume (both directions)	2,000	5,000	10,000
Applicable design features to promote these characteristics (see text)	Curvilinear design; traffic-calming treatments	Roundabouts; discontinuities	Curvilinear design; roundabouts
On-street parking	Required	Allowed but not required	Allowed but not required

** Collectors without fronting homes are preferred.*

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	Residential areas		C. Non-residential / mixed-use areas
	A. With fronting single-family homes*	B. No fronting single-family homes	
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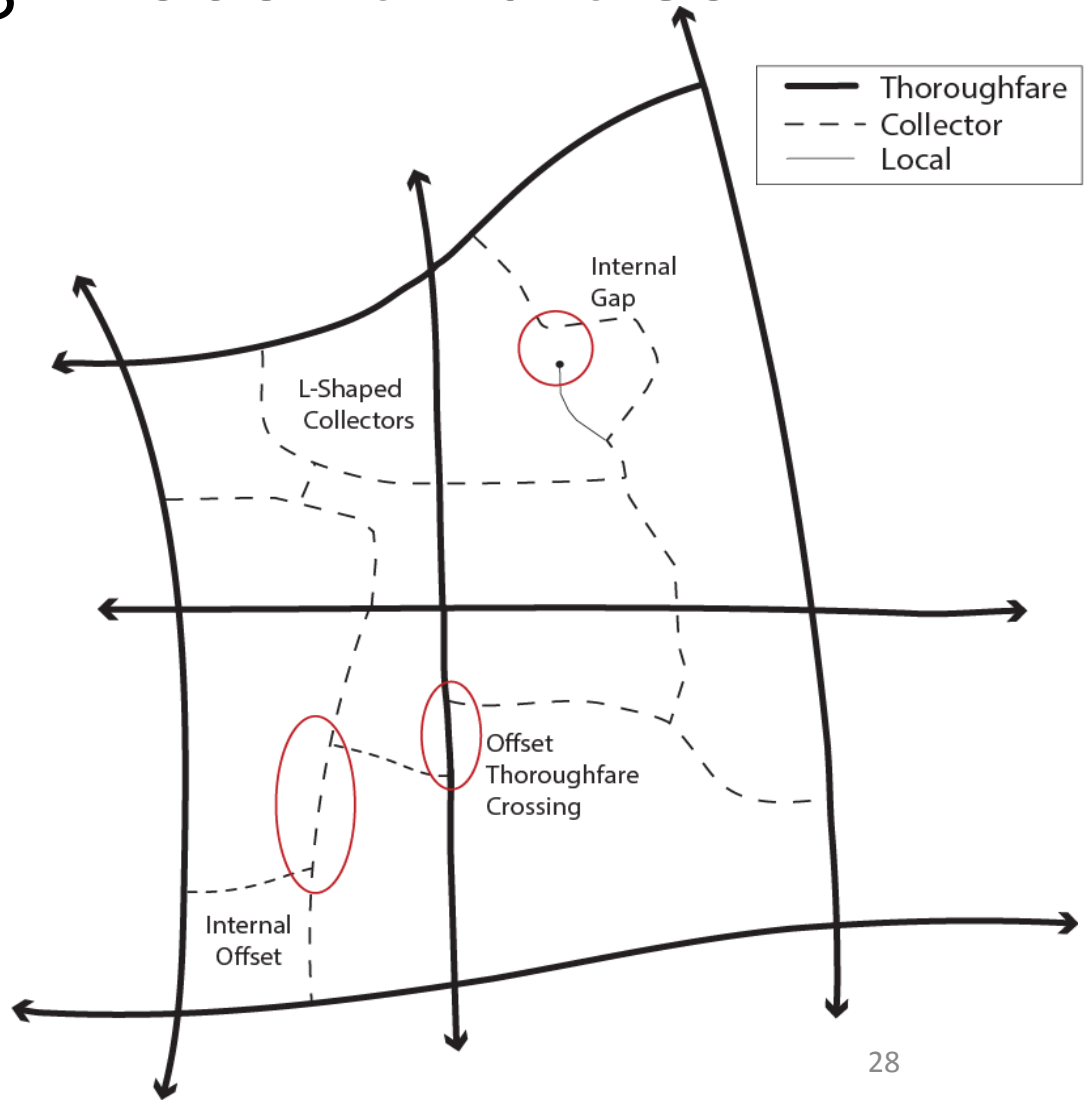
** Collectors without fronting homes are preferred.*

Collector Width Ranges				
	Standard		Industrial	
	Minimum	Maximum	Minimum	Maximum
Automobile Lane no adjacent parking adjacent to parking	 10 11	 11 11	 12 12	 12 12
Bike Lane no adjacent parking adjacent to parking	 5 8	 6 8	 NA NA	 NA NA
Parking	7.5	8	8	8
Buffer Zone	3.5	NA	3.5	NA
Sidewalk	5	6	NA	NA
Sidepath	10	12	10	12

From Fort Worth Master Thoroughfare Plan

Subdivision Ordinance Amendment: Collector Network Planning Discontinuities

- Discontinuities make access unnecessarily difficult for local traffic
- Only for cases that design approaches will not be adequate to discourage cut-through traffic
- Traffic engineering analysis required
- Offset thoroughfare crossings require a CPC waiver



Subdivision Ordinance Amendment: Collector Network Planning Spacing

- Collectors to only terminate at a thoroughfare or other collector
  - Exceptions for:
    - Stubs that are planned to continue with future development
    - Topographic considerations
    - Incompatible land uses

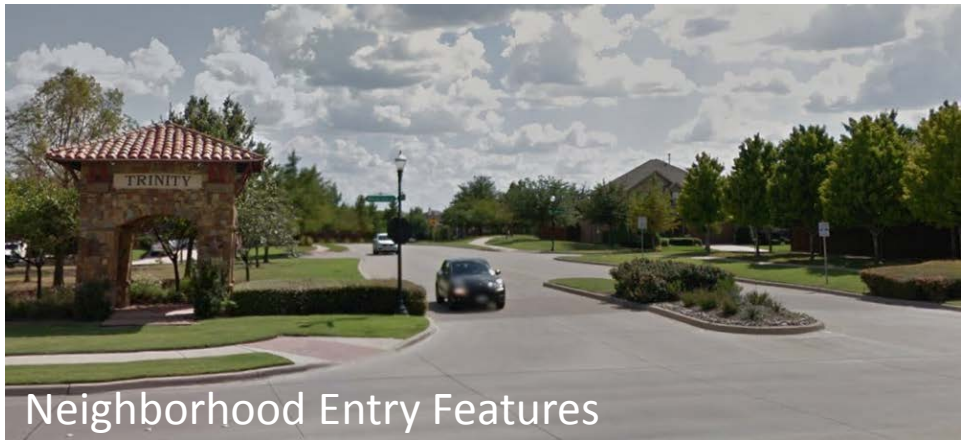
Collector Network Spacing

Land Use		Dwelling Units/Acre	Access Function	Desired Maximum Spacing between Collector Intersections along a Thoroughfare (feet)
Residential	Rural	< 2	N.A.	N.A.
	Suburban	2-4	High	1,500 – 3,000
	Urban	>4	High	750 – 1,500
Non-Residential and Mixed-Use		n.a.	Medium	750 – 1,500

Subdivision Ordinance Amendment: Collector Network Planning

Design approaches can be incorporated to help discourage cut through traffic:

- Proper subdivision design
- Curvilinear streets
- Neighborhood entry features
- Traffic calming measures such as mini-roundabouts and raised islands

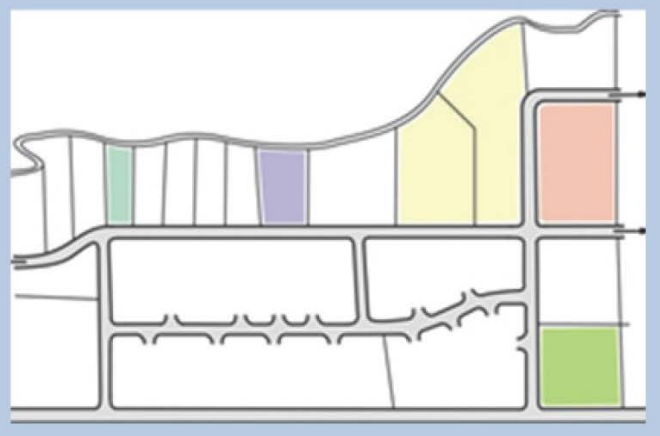


Neighborhood Entry Features

Mini-Roundabout

Subdivision layout

Designing the network to achieve the desired balance between speeds and traffic flows



Subdivision Ordinance Amendment: Waivers

- City Traffic Engineer may administratively modify spacing requirements within 10% or 100 feet where it is impractical to meet the standards
- City Plan Commission waivers may be granted if site is constrained or offset collectors are proposed

Subdivision Ordinance Amendment: Collector Network Planning Applicability

- Approved **Concept Plans**
  - Concept plans not required to show collector network
- Approved **Preliminary Plats**
  - **Active:** Dedicated collector network honored
  - **Expired:** Collector network compliance required
- Approved **Final Plats**
  - Dedicated collector network honored
- New Preliminary and Final Plats
  - Collector network compliance required

CITY OF FORT WORTH
COLLECTOR STREET PLANNING

WHAT ARE COLLECTORS? The "tributaries" of the local transportation network, collectors provide critical connections throughout the network and bridge the gap between local streets and the thoroughfares of a community.

BENEFITS
- Promote street connectivity
- Provide connections between thoroughfares
- Connect adjacent neighborhoods
- Facilitate efficient dispersion of traffic
- Provide opportunities for bicycling and walking
- Promote reasonable street spacing
- Anticipate/facilitate effective future street connections

TYPICAL CONTEXT

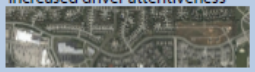
Collector design in Fort Worth is a careful balance between providing direct connectivity and attracting no more traffic than is appropriate.

	Residential areas		Non-residential / mixed-use areas
	With fronting single-family homes*	No fronting single-family homes	
Typical trip length	≤ ½ mile	≤ 1mile	up to 2 miles
Upper limit daily traffic volume (both directions)	2,000	5,000	10,000
On-street parking	Required	Allowed but not required	Allowed but not required

** Collectors without fronting homes are preferred.*

DESIGN APPROACHES Design features must strongly encourage speeds of 25 mph or less and should provide visual cues to drivers that the street is not intended for long-distance trips. Several techniques that can be considered:

Curvilinear street design
Promoting low speed and increased driver attentiveness



Traffic calming measures
Additive design features to slow traffic (roundabouts, on-street parking, etc.)

Neighborhood entry features
Visually discouraging cut-through traffic by identifying as a neighborhood street

Subdivision layout
Designing the network to achieve the desired balance between speeds and traffic flows

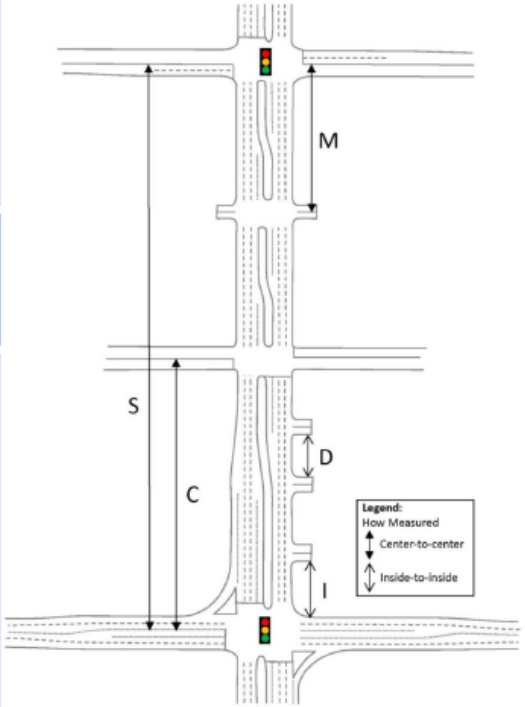
Network discontinuities
Designing offsets, gaps, and L-shaped streets to discourage cut-through (not first preference)

CITY OF FORT WORTH
ACCESS MANAGEMENT GUIDELINES

ACCESS MANAGEMENT The purpose of access management is to provide vehicular access to land development in a manner that preserves the safety and efficiency of the transportation system. (TRB, 2003) This balance between access and traffic flow/safety is accomplished by guiding the location, spacing, design, and operation of intersections, driveways, median openings, and street connections to a roadway.

BENEFITS include fewer crashes, increased roadway capacity, reduced travel time, reduced delay, and lower fuel consumption and emissions. Access management has also been shown to have an overall positive economic impact on business.

ACCESS SPACING
- The table below and figure to the right show the basic access spacing requirements
- Spacing varies by street type (from the MTP)
- For constrained sites, the City Traffic Engineer can reduce the requirements by up to 10%
- Many low volume streets can be treated as driveways if they meet specific criteria
- Roundabouts are a viable alternative to signals and have separate initial guidelines
- Traffic studies may be needed for roundabouts to determine the minimum spacing.
- Traffic studies can also be used to propose variations to the minimum spacing.



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* Refer to guidelines for a discussion regarding allowable minimums and desirable maximums
‡ This does not apply to residential driveways
** New driveways on Activity Streets are only allowed if there is not access from a lower class roadway
*** Median treatments and openings for Activity Streets must be examined on a project- and context-specific basis
**** Collector/Local Streets: Values shown are for guidance only; closer spacing may be permitted at the discretion of the City Traffic Engineer

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Questions/Comments