SECTION 4 Context Sensitive Solutions

4.1 Introduction

In the past, cities, counties and other jurisdictions used a hierarchical system to classify the roadways based upon their functionality within the roadway hierarchy. The higher the roadway is ranked in the hierarchy, the greater the mobility and the lower the accessibility.

In this traditional approach of roadway classification, one street type was available for each classification type, reducing the ability for flexibility in the design of the roadway. However, in recent years, the traditional approach to roadway design has begun to change into a system with more flexible guidelines, basing the design of the street on the surrounding land use, also known as the context. This new approach is known as Context Sensitive Design.

In order to accurately plan for future roadways, both the existing roadway network and the surrounding context must be considered. Detailed descriptions of Georgetown's classification system were included in Chapter 2, but a brief overview is provided below as well. Each of these classifications is described thoroughly in Georgetown's UDC.

4.2 Background

The FHWA defines CSS as:

"A collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility, and

An approach that considers the total context within which a transportation improvement project will exist."

In reviewing this definition, it is evident that the implementation of CSS not only addresses the roadway design process but also reinforces land use planning objectives. The primary goal of CSS is the incorporation of both land use and roadway functions into the overall design of new roadways and/or the re-design of existing roadways. The implementation of CSS allows both the City and real estate development professionals an opportunity to account for the interaction between land and the roadway itself.

CSS enables the flexibility to consider alternative solutions that when used in conjunction with traditional roadway design can benefit a broad range of stakeholders, while recognizing the fiscal constraints of the City of Georgetown.

CSS maintains safety and mobility as priorities, yet recognizes that these are achieved in varying degrees with alternative solutions. Utilizing the CSS philosophy, design professionals determine which safe solution best fits given the site's conditions and context. CSS is about making good engineering and planning decisions. The decision as to how to best balance competing values remains the responsibility of design professionals. As always, it is a requirement to properly justify and document all design exceptions.

CSS promotes a collaborative, interdisciplinary decision making process that balances the many needs of diverse stakeholders and offers flexibility in the application of design controls, guidelines, and criteria, resulting in facilities that are safe and effective for all users regardless of the mode of travel they choose. The basic principles of CSS include:

- Balance safety, mobility, community and environmental goals in all projects
- Involve the public and stakeholders early and continuously throughout the planning and project development process
- Use an interdisciplinary team tailored to project needs
- Address all modes of travel
- Apply flexibility inherent in design standards
- Incorporate aesthetics as an integral part of good design

The following outline offers guidelines for planning a CSS network.

- The system of multimodal thoroughfares may be organized by context zones, functional classifications and thoroughfare types.
- Every major thoroughfare should be designed to serve transit and pedestrians, as well as private and commercial vehicles.

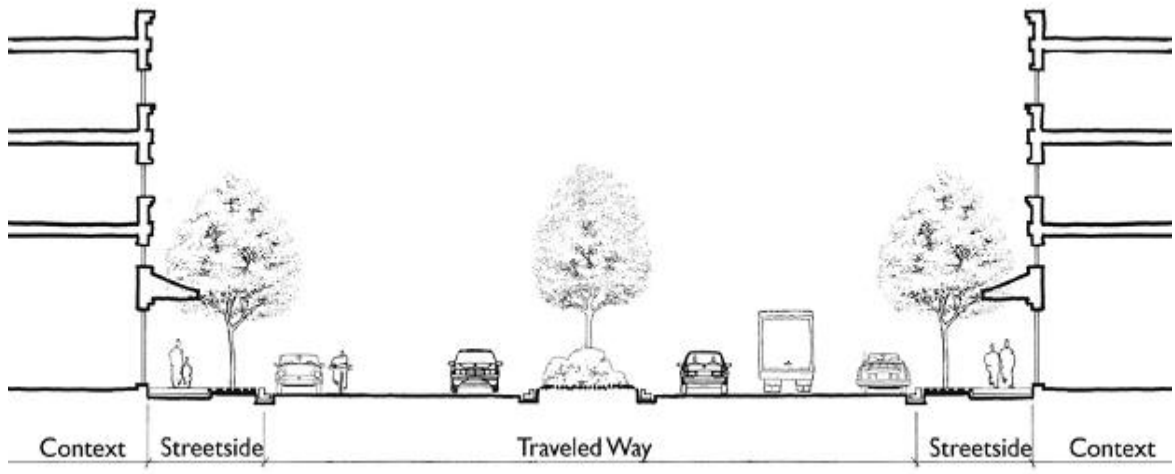
- Design networks that concentrate longer distance through movements on limited access and arterial thoroughfares.
- Transit networks should focus on and take advantage of built or planned transit-oriented developments.
- Planning for right-of-way should consider needs based on network performance measures that are multi-modal and that allow capacity and level-of-service to be considered in conjunction with other measures, both quantitative and qualitative.
- Thoroughfare connectivity or street shall be based on residential and commercial density. For instance, local street block lengths should be 350' to 500' in higher density mixed use areas as opposed to 600' to 1000' in suburban areas.

CSS can affect all design elements; therefore, project costs may increase, decrease, or be unchanged as compared to the traditional design approach. Cost issues must be addressed during project development, as is the case with all technical and environmental constraints. The CSS approach does not imply that there will always be unanimity among stakeholders, nor does it eliminate the City's responsibility to exercise engineering judgment in balancing trade-offs.

Without adoption and support of CSS principles by agencies (for example policies, procedures, standards and programs) it will be challenging and difficult to apply CSS in either a transportation planning process or improvement project. If a regional long-range transportation plan or local corridor plan has not incorporated a process that considers CSS, it may limit the range of options and the best overall solution. For example, changing the functional classification of a roadway to be more compatible with its surrounding should be considered at the level of the long-range transportation plan so that the change can be evaluated within the context of the entire network. Without a large-scale evaluation and adoption of the change in a plan, it will be difficult to change the functional classification at the project development stage, even if conditions justify the change.

4.3 Basic Design Concept

The safe and efficient movement of multimodal traffic is achieved through the effective use of three travel realms, which together, comprise a single right-of-way; Context Realm, Travel Realm, and the Pedestrian/Streetside Realm. The anatomy of a street, detailing each of the realms, is shown in **Figure 4-1**.



Source: Kimley-Horn and Associates, Inc. and Digital Media Productions as published in the ITE publication, *Design Walkable Urban Thoroughfares: A Context Sensitive Approach.*

Figure 4-1: The Anatomy of a Street

Although the realms operate to serve a single purpose, each realm maintains a unique function that ensures the safe and efficient movement of traffic.

The Travelway Realm is most commonly referred to as the street. It represents the public right-of-way that extends from curb to curb and allows for the transport of more general traffic including cars, trucks, transit, and bicycles. Medians, transit stops, parking, and temporary stops, such as loading zones, may also be found in the Travel Way Realm.

The Streetside or Pedestrian Realm is most commonly identified as the sidewalk which parallels the street. However, this area is not limited to the sidewalk and is inclusive of all areas between the curb and building interface. Planting buffers, furnishings, signs, shelters, bicycle parking and other pedestrian amenities are located in this realm.

The Context Realm identifies those properties (private or public) that are adjacent to the public right-of-way and may include residential homes, businesses, offices, and educational

facilities, among others. The locations of these establishments are universal and range in placement from more urbanized to suburban context. These elements determine the overall character of the roadway in terms of type, scale and other modifications required of the adjacent travel way and pedestrian realm.

CSS may be applied to all street types, but focus on streets that play the most significant role in the local transportation network and that offer the greatest multi-modal opportunities – arterials and collectors.

4.4 Transitions

How certain transportation amenities, such as roadways, sidewalks, bicycle lanes and transit, etc., transition from one street type to the next must be understood to ensure the successful utilization of the entire R.O.W. Transitions are required to accommodate street width limitations and include the modified progression of traffic through traditional street functional classification system as defined above. Transitions may include traditional geometric design changes such as smooth tapers where the number of lanes and speed limit change. Based on surrounding context, transitions within a CSS Network extend beyond geometric changes and include multi-modal considerations as well as visual cues to the change in context. Transitions such as these can emphasize pedestrian priority, special districts or corridor or even roadway functional classification. Transitions should, as with all other aspects of the context sensitive design, be guided by the principles found in the American Association of State Highway and Transportation Officials "Green Book," Geometric Design of Highways and Streets, the Manual on Uniform Traffic Control Devices and other approved design guides.

4.5 Proposed Functional Classification System

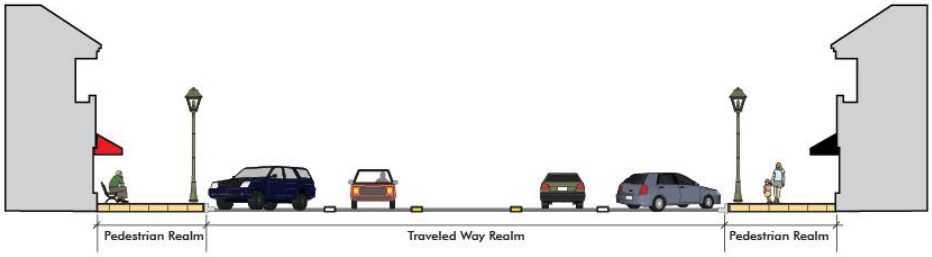
There are no recommended changes to the City of Georgetown's existing functional classification system that were presented in Chapter 2. There are however, alternatives that are presented and discussed within this chapter including the introduction of Context Sensitive Solutions.

4.6 Georgetown CSS Efforts

In an attempt to allow for more transportation flexibility that takes into account the form of adjacent land uses as opposed to just roadway functional classification, the City of Georgetown has begun planning for the development and implementation of CSS solutions within the City and its ETJ including the Downtown Master plan, which incorporates CSS considerations. Through the adoption of the OTP, the City may revise the existing roadway standards to include CSS options. While individuals can still adhere to the traditional design standards, the CSS options presented on the following pages present a unique way of planning for future roadway growth and development.

The CSS Contexts can be applied to both arterial and collector streets. While the street classification remains the same, the differences lie in the Pedestrian Realm and Travel Way Realm. This allows the greatest flexibility in the use of Context Sensitive Solutions in relation to the surrounding land uses as well as roadway user needs.

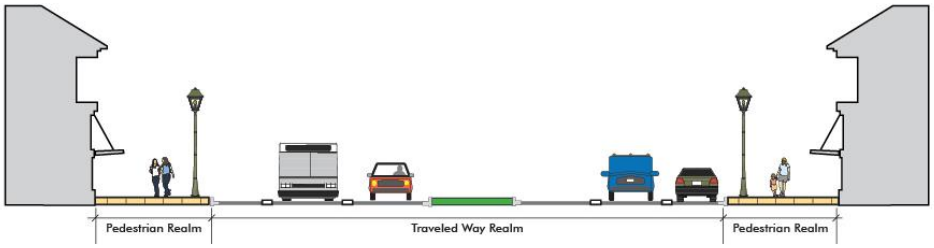
Main Street Context



Pedestrian Realm	Arterial	Collector
Building Setback (minimum)[1]	10 ft	10 ft
Minimum Sidewalk Width	6 ft	8 ft
Pedestrian Buffer[2]	4 ft Tree Well	6 ft Tree Well
Traveled Way Realm		
Number of Through Lanes	4	2-4
Lane Width[3]	11 - 12 ft	10 - 12 ft
On-Street Parking (optional)[4]	Angled / 18 ft	Angled / 18 ft
Bike Lanes (optional)[5]	5 - 6 ft	5 - 6 ft
Medians (optional)[6]	12 - 24 ft	15 - 24 ft
Right of Way (maximum)	100 ft	100 ft
Expected ADT	>24,000	>2,500
Design Speed (mph)	35 - 45	30 - 35

(1) Minimum setback is defined as the edge of ROW to the building. ROW does not include building setback.
(2) In suburban locations buffer is typically fitted with landscaping such as grass, in urban locations pedestrian buffers can have tree wells. Pedestrian buffer includes width needed for the curb.
(3) Lane width begin at the face of curb. If street is part of an emergency route, 11' minimum is recommended.
(4) When combined with bike lanes parallel parking can be 8', but 9' is preferred if ROW permits.
(5) Bike lanes can be 5' when combined with on-street parking, and 6' without adjacent on-street parking. Minimum width is 5' as per COG Bike Plan.
(6) Median for 2 lane option can be a two-way left turn lane if desired.
(5) No medians or center turn lanes are possible for on minor collectors.

Mixed Use Context



Pedestrian Realm	Arterial	Collector
Building Setback (minimum)[1]	10 ft	10 ft
Minimum Sidewalk Width	10 ft	8 ft
Pedestrian Buffer[2]	6 ft Tree Well	6 ft Tree Well
Traveled Way Realm		
Number of Through Lanes	4	2-4
Lane Width[3]	11 - 12 ft	10 - 11 ft
On-Street Parking (optional)[4]	Parallel / 8 - 9 ft	Parallel / 8 - 9 ft
Bike Lanes (optional)[5]	5 - 6 ft	5 - 6 ft
Medians[6]	12-24 ft	Optional 15-24 ft
Right of Way (maximum)	100 ft	100 ft
Expected ADT	>24,000	>2,500
Design Speed (mph)	35 - 45	30 - 35

(1) Minimum setback is defined as the edge of ROW to the building. ROW does not include building setback.
(2) In suburban locations buffer is typically fitted with landscaping such as grass, in urban locations pedestrian buffers can have tree wells. Pedestrian buffer includes width needed for the curb.
(3) Lane width begin at the face of curb. If street is part of an emergency route, 11' minimum is recommended.
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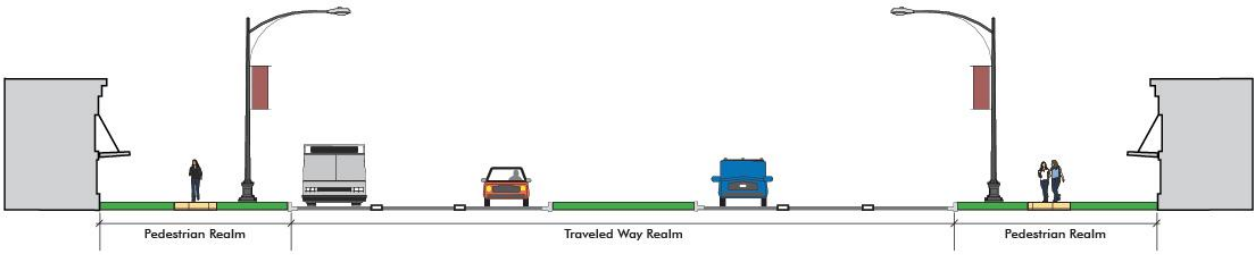
(5) Bike lanes can be 5' when combined with on-street parking, and 6' without adjacent on-street parking. Minimum width is 5' as per COG Bike Plan.
(6) Median for 2 lane option can be a two-way left turn lane if desired.

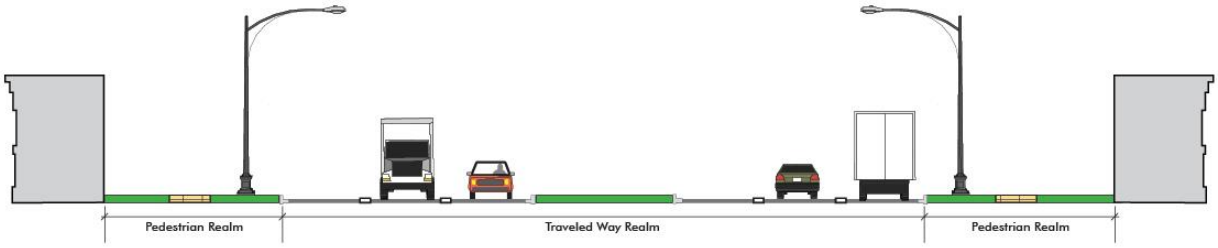
Commercial Context



Pedestrian Realm	Arterial	Collector
Building Setback (minimum)[1]	5 ft	5 ft
Minimum Sidewalk Width	6 ft	6 ft
Pedestrian Buffer[2]	8 ft Planting Strip	6-8 ft Planting Strip
Traveled Way Realm		
Number of Through Lanes	4 - 6	2 - 4
Lane Width[3]	11 - 12 ft	10 - 12 ft
On-Street Parking (optional)[4]	Parallel / 8 - 9 ft	Parallel / 8 - 9 ft
Bike Lanes (optional)[5]	5 - 6 ft	5 - 6 ft
Medians[6]	12 - 24 ft	Optional 15 - 24 ft
Right of Way (maximum)	120 ft	100 ft
Expected ADT	>24,000	>2,500
Design Speed (mph)	35 - 45	30 - 35

(1) Minimum setback is defined as the edge of ROW to the building. ROW does not include building setback.
(2) In suburban locations buffer is typically fitted with landscaping such as grass, in urban locations pedestrian buffers can have tree wells. Pedestrian buffer includes width needed for the curb.
(3) Lane width begin at the face of curb. If street is part of an emergency route, 11' minimum is recommended.
(4) When combined with bike lanes parallel parking can be 8', but 9' is preferred if ROW permits.
(5) Bike lanes can be 5' when combined with on-street parking, and 6' without adjacent on-street parking. Minimum width is 5' as per COG Bike Plan.
(6) Median for 2 lane option can be a two-way left turn lane if desired.

Industrial Context



Pedestrian Realm	Arterial	Collector
Building Setback (minimum)[1]	20 ft	20 ft
Minimum Sidewalk Width	4 ft	4 ft
Pedestrian Buffer[2]	4 ft Planting Strip	4 ft Planting Strip
Traveled Way Realm		
Number of Through Lanes	4 - 6	2 - 4
Lane Width[3]	12 - 14 ft	12 - 14 ft
On-Street Parking (optional)[4]	N/A	N/A
Bike Lanes (optional)[5]	5 - 6 ft	5 - 6 ft
Medians[6]	12 - 24 ft	Optional 15 - 24 ft
Right of Way (maximum)	120 ft	100 ft
Expected ADT	>24,000	>2,500
Design Speed (mph)	35 - 45	30 - 35

(1) Minimum setback is defined as the edge of ROW to the building. ROW does not include building setback.
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(6) Median for 2 lane option can be a two-way left turn lane if desired.

Recommended Projects for CSS Design Consideration

Roadway	Functional Classification	Limits	Context Addressed	Purpose
DB Wood Rd	Major Arterial	Cedar Breaks Rd to Williams Dr	Commercial	
Williams Dr.	Major Arterial	NB FR Rd to Lakeway Dr	Mixed Use	Williams Dr. Gateway
Riverbend Dr.	Residential Collector	Mesquite Ln to Northwest Blvd	Mixed Use	
Park Ln.	Residential Collector	Williams Dr to E. Central Dr.	Mixed Use	Williams Dr. Gateway
Wolf Ranch Pkwy	Minor Arterial	Rivery Blvd to SH 29	Mixed Use	
N. Austin Ave	Major Arterial	San Gabriel Village to Williams Dr.	Commercial	Williams Dr. Gateway
S. Austin Ave	Major Arterial	Leander Rd to 18th St	Mixed Use	
Rock St	Local Collector	HWY 29 to 2nd St	Commercial	Downtown Master Plan
Main St	Local Collector	HWY 29 to 2nd St	Mixed Use	Downtown Master Plan

4.7 Next Steps

City funded and managed projects as well as those roadway projects receiving development incentives should include Contect Sensitive Solution as the primary design criteria unless, at the discretion of the Transportation Services Director, traditional roadway designs are acceptable.