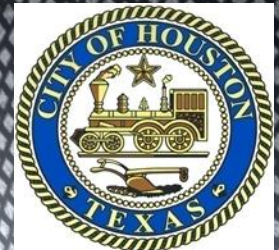


City of Houston

Transportation, Technology & Infrastructure Committee

Chapters 6, 10 & 12 Infrastructure Design Manual

May 14, 2015





FY15 Review Activities

Chapter 6 – Utility Locations

Chapter 10 – Street Paving Design Requirements

Chapter 12 – Street Cut Requirements

STEPS/MILESTONES	
Posting/Opening of Review	September 1, 2013
Input received	November 15, 2013
Input Analyzed	November 2013 – December 2013
Issues Considered	January 2014 – March 2015
Proposed Revisions Posted for Comment	March 15, 2015 – April 30, 2015
Consideration of Comments	March 15, 2015 – June 30, 2015
Final Changes Promulgated	July 1, 2015

PARTICIPATION		
Initial Comments	38 Respondents	75 Items for Review
Proposed Revision Comments	18 Respondents	88 Items for Review
ACEC and HCA are ex-officio members of sub-committee		

Chapter 6 - Utility Locations

Primary Change

No Utilities on COH Bridges without approval of City Engineer and Bridge Maintenance Office.

DRAFT



Chapter 12 – Street Cut Requirements

Primary Change

Construction documents shall require that one lane of traffic be open at all times with a flagman and work zone signage at both ends of the construction

Unless otherwise provided on an approved traffic control plan



Chapter 10 – Street Paving Design Requirements

Primary Changes

- Increased Design Life for Pavement
- Inclusion of Complete Streets Executive Order
- Further Development of Bicycle Facility Requirements



Chapter 10 – Street Paving Design Requirements

What affects pavement life?

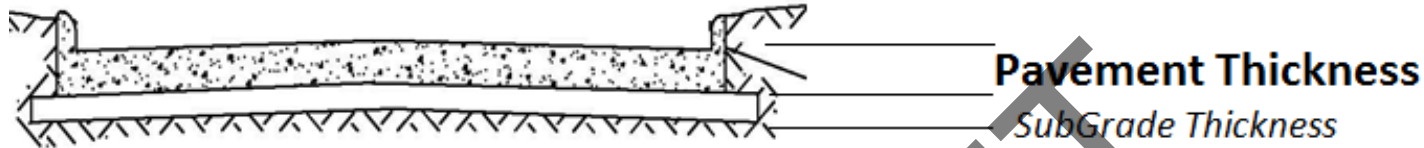
- **Pavement life is influenced by many factors**:**
 - Vehicle loading (axle loads, tire pressure, gross vehicle weight [GVW]),
 - Traffic volume and mix
 - Environmental conditions
 - Topography,
 - Subgrade condition
 - Initial pavement design and construction practices
 - Maintenance activity
 - Pavement age

** American Public Works Association PotHole Fact Sheet 2015



Chapter 10 – Street Paving Design Requirements

Increased Design Life



Street Type	Existing Minimums		Proposed Minimums	
	Pavement Thickness	SubGrade Thickness	Pavement Thickness	SubGrade Thickness*
Neighborhood	6-inch	6-inch	6-inch	6 or 8-inch
Collector	7-inch	6-inch	9-inch	6 or 8-inch
Thoroughfare	8-inch	8-inch	11-inch	8-inch

* Considers differences for granular or clay soils



Chapter 10 – Street Paving Design Requirements

Roadway Infrastructure Construction 2010 -2015

	Developer Constructed (mi)	% of Total Constructed	City Supported Construction (mi)	% of Total Constructed	Total Constructed (mi)	Total Roadway Miles
Local	17	23 %	56	77 %	73	5,217
Collector/ Thoroughfare	2	4 %	47	96 %	49	759

- 50-year Paving Design Life

- Based on estimated number of vehicle loadings over that time span
- Impacts to Pavement Design Thickness and subgrade requirements
- No Change for Residential streets for pavement thickness
- Estimated increased project cost (Typical Collector or Thoroughfare CIP Project): 4-6 %
 < Offset by Reduction in standard travel lanes and associated roadway pavement >



Chapter 10 – Street Paving Design Requirements

■ **Design Considerations**

- Context of adjacent land uses and connectivity with adjacent streets
- Design Speeds
- Design Vehicles
- Geometrics (Lane Widths, Curb Radii, Curve Radii and Pavement Super-elevation)
- Corner Clips
- Intersection Sight Distance
- Details for Design of Roundabouts



Chapter 10 – Street Paving Design Requirements

	Desirable	Minimum
Travel Lane Widths	11 feet	11 feet
Pedestrian Realm (back of Curb to ROW)	15 feet	10 feet
Sidewalks	> 5 feet	5/6 Feet
Sidewalks at RR Crossings	6 Feet	6 Feet



Chapter 10 – Street Paving Design Requirements

- Reduce Congestion by Managing Conflict Movements

- ❖ **Divided Roadways**

- Median Opening Locations
 - Turning movements
 - Vehicle Stacking

- ❖ **Left Turn Lanes**

- Required at all signalized approaches
 - Considerations for dual left turn lanes



Chapter 10 – Street Paving Design Requirements

Bicycle Considerations

	Desirable	Minimum
<i>Travel Lane Widths</i>	11 feet	11 feet
Shared Bike Lanes	14 feet	14 feet
On Street Dedicated Bike Lane	6 feet	5 feet



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Questions?

