City of Dallas Sustainable Design Initiatives

North Central Texas Council of Governments

Sustainable Public Right-of-Way Committee

April 26, 2016

City of Dallas

Overview

- Urban Design Initiative
- iSWM
- Complete Streets
- Design Manual Update

Urban Design Initiative: Connected City

- **Challenge for urban design strategies** to connect Downtown Dallas and the Trinity River
- International competition sought bold solutions from professional designers, students and citizens to guide future development
- The complexity of factors converging in this part of Dallas can be catalysts for compelling, innovative, and precedent setting design proposals
- Aimed to inspire new strategies for overcoming the voids often created by urban infrastructure

Connected City Outcome

- 6 main ideas:

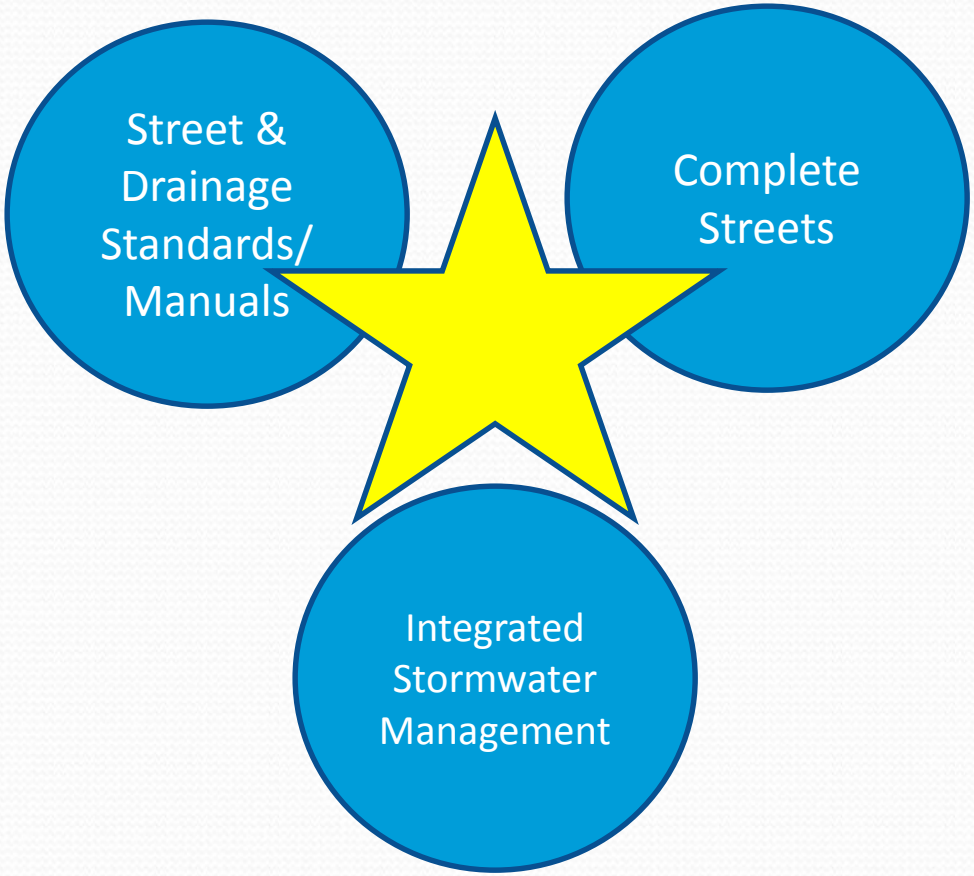
1. **Construct a Grid-Green system** of streets and landscapes to reinforce adjacent areas while defining three new, district neighborhoods
2. **Activate public lands** as entrepreneurial urban forests and farms
3. **Transform the Old River**, utilizing natural and engineered solutions, into an ecological spine of public spaces, improved flood control and functioning ecosystem
4. **Develop along two datums**, the downtown/levee top and historic prairie, to overcome topographical barriers
5. Disrupt perception by **illuminating the Old River** through an artist installation and public engagement
6. **Build transportation systems** in support of local and regional interests

EPA – Technical Assistance Grant

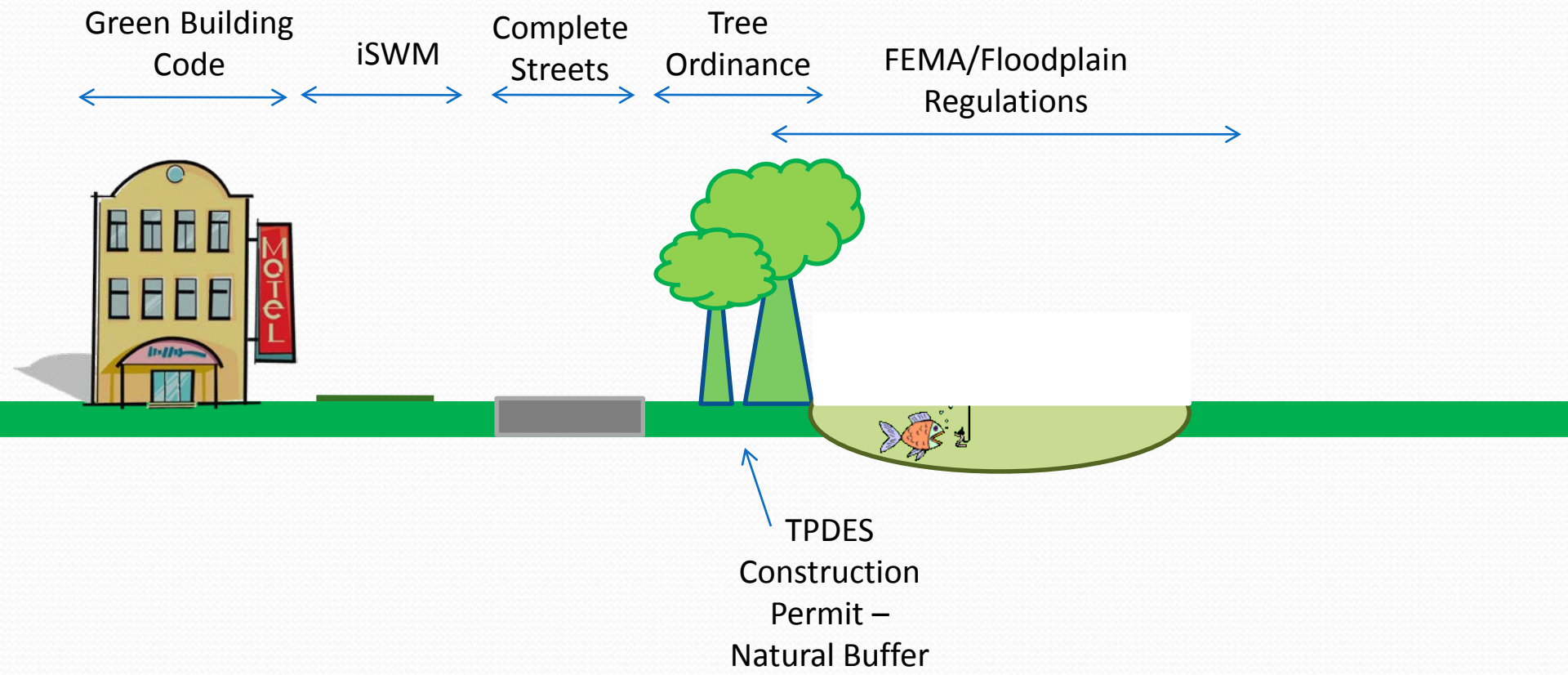
Major Findings:

- Good start
- Multiple departments implementing good, but uncoordinated efforts
- Documentation limited
- Maintenance/construction staff un-enlightened to new design requirements

Urban Design Initiative



Field of Influence: Connectivity and Green Infrastructure Opportunities



Integrated Stormwater Management: Background

- iSWM is a comprehensive storm water management design manual for North Central Texas developed by NCTCOG and more than 60 participating public entities, including the City of Dallas
  - The iSWM manual (regional) was approved by City Council in December 2009 for voluntary use
- iSWM addresses water quantity and quality
- The iSWM approach provides:
  - flood protection
  - streambank erosion protection
  - water quality protection approaches for development and redevelopment

Integrated Stormwater Management: Background

- iSWM (or Low Impact Development – LID) has received much attention as impervious surfaces continue to grow, exasperating flood prone areas and affecting water quality
- Many communities across the country have implemented or are considering implementing iSWM or LID standards
- EPA is anticipated to expand the federal stormwater regulations, establishing more rigorous controls….

✓ EO 11990 establishes Higher Standards for floodplains AND that Green infrastructure can be used to offset additional storage requirements

Integrated Stormwater Management: Background

- iSWM's focus: "fit the project to the natural storm water system, not the storm water system to the project"
- Think up front in design → iSWM as new norm rather than thinking first of traditional inlet/pipe system
- iSWM includes water quality and quantity (flow) protection criteria that can be met by:
  - On-site storm water controls
  - Off-site regional initiatives, as available
  - Use of site design practices (preserve natural areas, floodplain, riparian buffers, etc.)

A bioswale and permeable concrete are used for stormwater management and to enhance neighborhood aesthetics (Source: Abby Hall, US EPA)

iSWM use in Dallas

- A handful of projects have used iSWM in Dallas.

  As examples,
  - Urban Reserve
  - Omni Hotel
  - Perot Museum
  - Bush Library
  - Sylvan 30
  - And several roadway projects…

Design Aspects of iSWM

- iSWM techniques are consistent with current methods that require assessmenet of existing drainage system up/downstream of project
- *Relevant for private and public development sites as well as public rights of way*
  - Complete Streets initiative provides the opportunity to incorporate many of the iSWM design concepts into standard street profiles

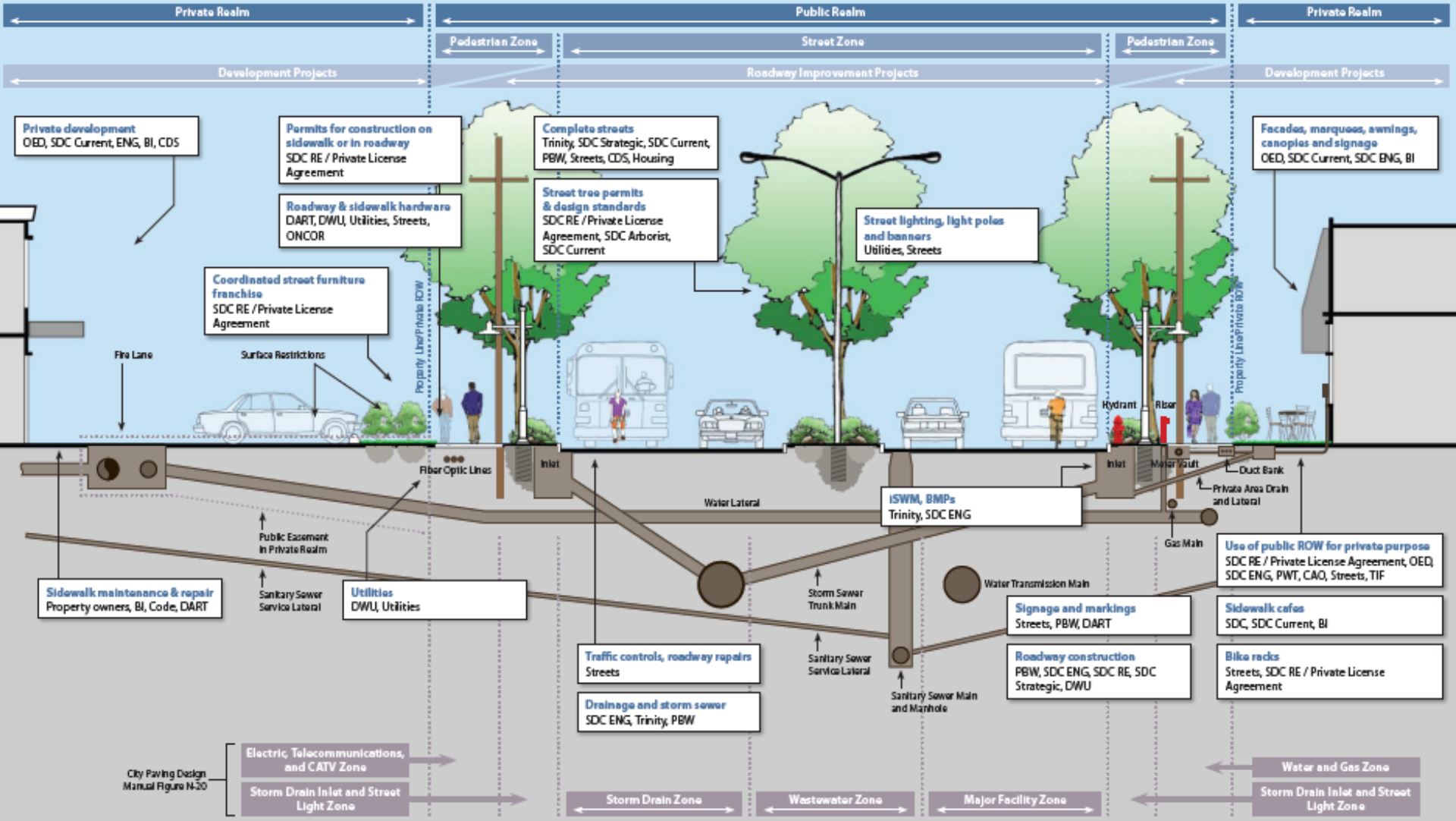
The old way of thinking – deliver water to storm inlet as quickly as possible and do not nourish nearby trees

www.lowimpactdevelopment.org

Complete Street Goals

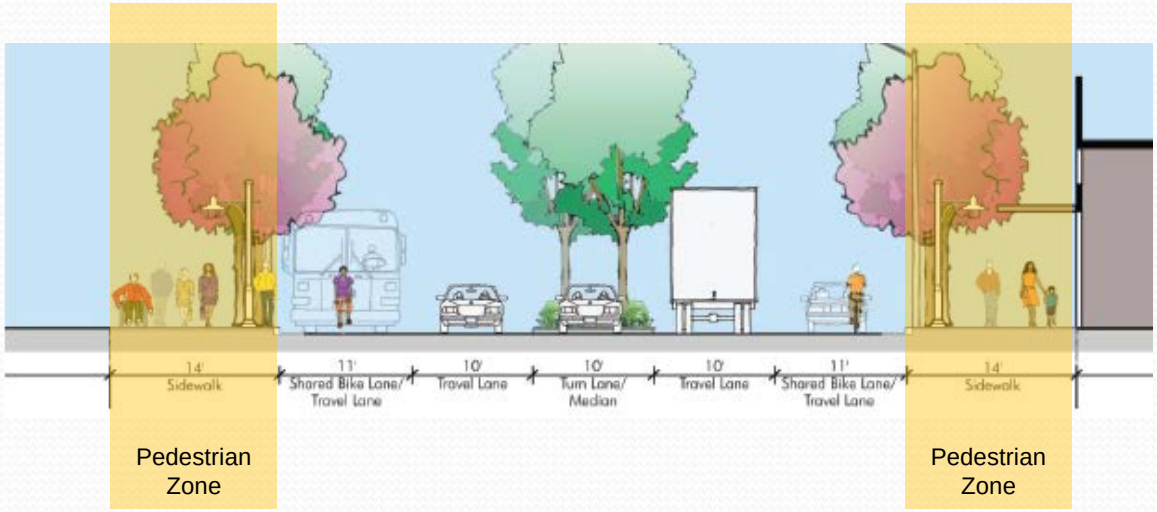
- Multimodal Transportation: Design streets for all users - pedestrians, bicycles, transit, automobiles
- Context Sensitive Design: Design streets to suit different contexts
- Enhanced Public Realm: Design streets as multi-purpose public spaces, not just as traffic conduits
- Green Streets: Environmentally sustainable street design solutions

Complex Agency Roles on City Streets



Pedestrian Zone Design Guidelines

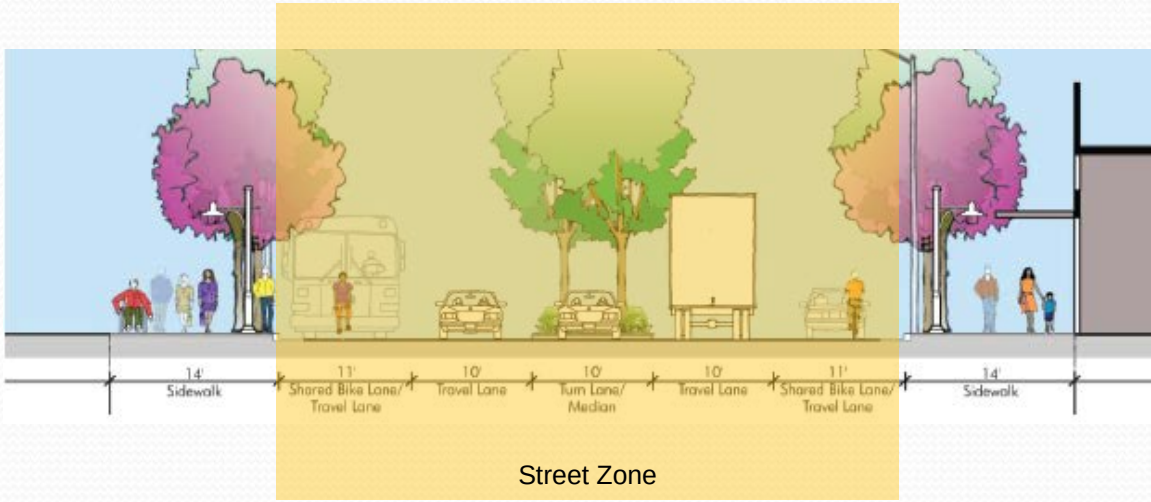
- Design guidelines for a variety of elements between the street curb and the building face
- Street Furniture
  - Seating
  - Bike racks / shelters
  - Bollards
  - Recycling/garbage bins
  - Newspaper racks
- Transit Stops
- Driveways
- Urban Open Space
  - Plazas, pocket parks, parklets
  - Sidewalk cafes



- Pedestrian lighting
- Informational Kiosks
- Wayfinding and signage

Street Zone Design Guidelines

- Design guidelines for a elements in the street between the curbs
  - Safe speeds
  - Couplets
  - Slip streets
  - Shared streets
  - Bikeways
  - On-street parking
  - Transit lanes
  - Road diets
  - Chicanes



  - Speed tables
  - Medians/islands
  - Paving treatment
  - Street lighting

Complete Street Projects History

2006 Bond Program

Complete Street

Conversion Projects

- Greenville Avenue
- Bishop Street
- Herbert Street
- Congo Street
- Locust Street
- Elm Street
- Bexar Street

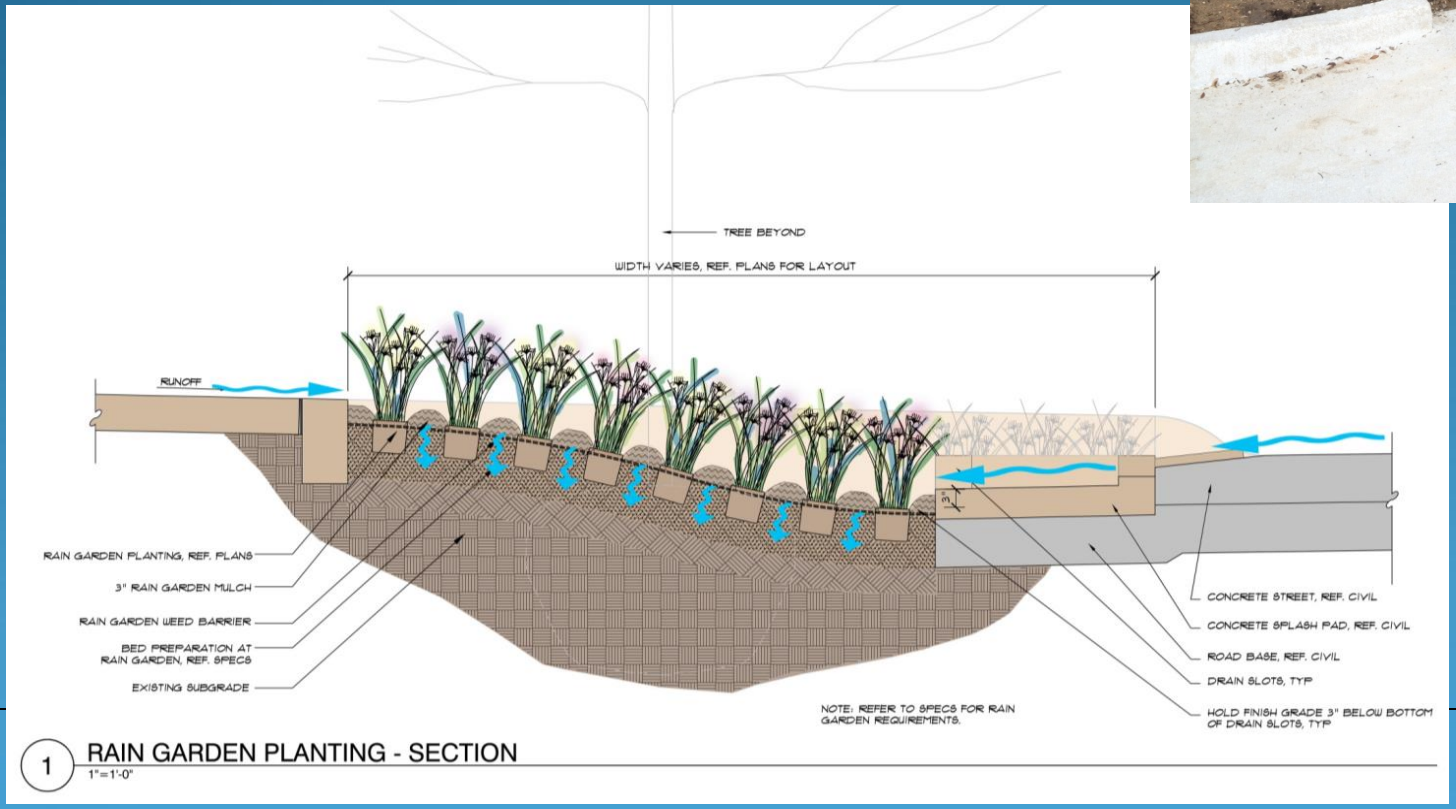
Complete Street - Congo Street Project Pre-construction

Complete Street – Congo Street Project
Post-construction

Permeable pavement
in recessed parking areas

Bioswale and
landscaping

Complete Street -
Elm Street in Deep Ellum

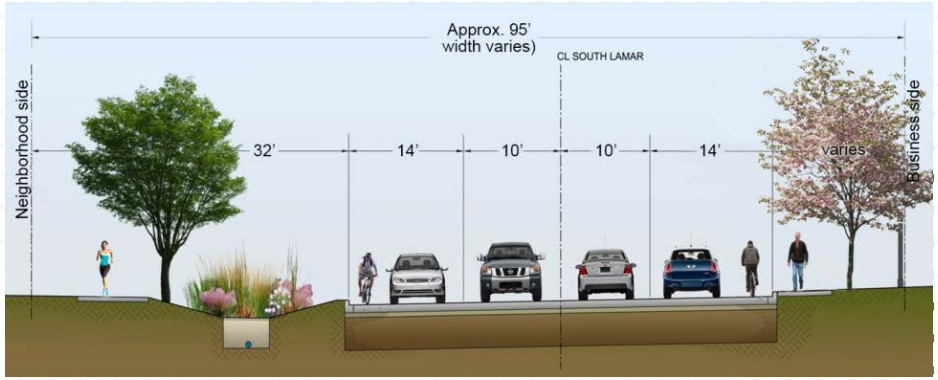


Complete Streets funded in 2012 Bond Program

Bishop from Jefferson to 8th	$3,061,300
Cedar Springs Ave from Douglas to Oak Lawn	$1,304,100
Davis Street from Beckley to Hampton	$979,600
Grand from R.B. Cullum to Good Latimer	$2,449,000
Greenville Ave Retail Areas	$820,400
Greenville from Belmont to Bell and from Alta to Ross	$3,673,500
Henderson St from US 75 to Ross Ave	$1,312,100
Jefferson Blvd from Crawford to Van Buren	$1,469,400
Knox from Katy Trail to US 75	$734,700
South Lamar from IH 45 to Hatcher	$4,898,000
Main St from Good Latimer to Exposition	$734,700
Meadowcreek Drive - Arapaho to Campbell (ped & traffic calming)	$271,800
MLK from R.B. Cullum to S.M. Wright	$468,900

Status of 2012 Bond program projects

- South Lamar:
  - 2012 LID Design Competition project site
  - Freese & Nichols, winner of the Design Competition, has design contract
  - Design anticipated to be complete December 2014; Construction award late spring 2015



Both renderings:
S. Lamar

- Knox:
  - First public meeting completed
  - Concept development in progress
  - Next Steps: Meet with PID; Complete concepts by mid-August

- Cedar Springs:
  - First public meeting completed
  - Concept development near completion
  - Next Steps: City Council briefing of concepts and second public meeting in August/September

- Henderson:
  - Planning first public meeting
  - Review of design based on 2012 community charrette

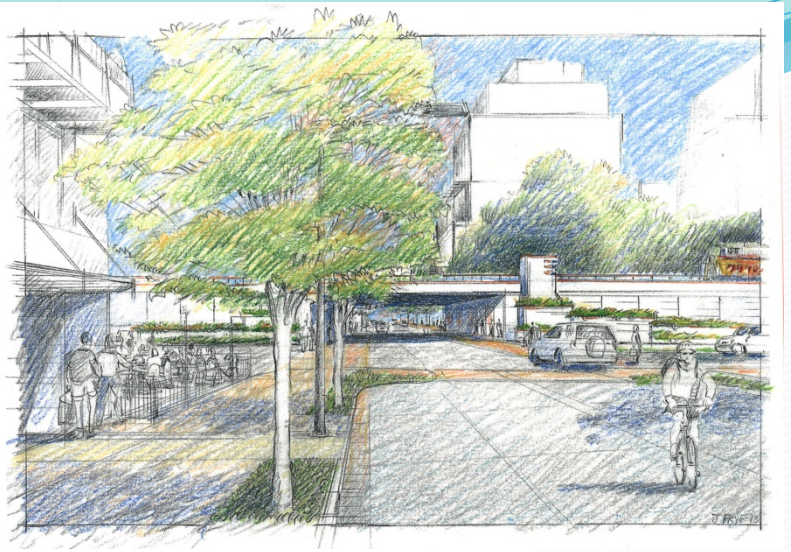
Street & Drainage Standards

- iSWM & urban design methods used, but not iSWM tables and checklists
- Designers struggling with two manuals
- Additional Tree Ordinance, Development Ordinance & Floodplain Ordinance Updates
- Traditional Design Manuals in use from 1993/1998
- In reality, likely from 1978 with “new” cover

Street & Drainage Manual Update

- Incorporate Input from Operations/Construction staff
- Update Environmental & Permit Compliance
- Update Technical Approach
- *FULLY INTEGRATE* iSWM and Complete Streets into the Street & Drainage Manuals so it becomes easy to do, and part of “normal” design process.

Super-Complete Street Projects Funded in 2012 Bond Program



West Dallas Gateway

- $34 million budget
- Eliminate a gap in 3 W. Dallas roads located at active RR line
- Goals: improved connectivity, safety (emergency response), beautification, multi-modal access, quality of life
- Challenges: maintaining active RR operation, constructing 3 underpasses

Houston Street Viaduct

- $12 million budget
- Major structural repairs and coordination with the simultaneous Street Car project
- Goals: accommodate the structural needs of the bridge for the introduction of the Street Car as well as the other users

Questions and Discussion

Thank You!!!

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