

# Power Transmission Lines in the Trinity River Corridor Overview

Trinity River Corridor Project  
Committee

March 4, 2008



# Purpose

- Provide overview of existing power transmission line issues in the Trinity River Corridor

# Background

- Oncor Electric Delivery plans to install a new 345kV power transmission line from West Levee Switching Station to Norwood Switching Station
- With major investments planned for the Trinity River Corridor, the City has rethought its position regarding allowing power transmission lines in the corridor
- City and Oncor worked cooperatively to avoid routing this new line along the levees of the Trinity River
- Oncor has future, long-term needs for new transmission lines through the Cedars area
- City would like to relocate or underground existing power transmission lines along the Trinity River

# Background

(continued)

- Trinity River Corridor Project Committee and City Council have been briefed on issues related to power transmission lines in the Trinity Corridor
  - December 1, 2003
  - January 20, 2004
  - January 21, 2004
  - February 4, 2004 (Funding Options)
  - December 6, 2004
  - October 17, 2005 (Funding Options)

# Key City Council Actions

- On March 3, 2004 City Council approved locally preferred route for West Levee Norwood transmission line
- On April 14, 2004 City Council authorized a Memorandum of Understanding between the City and Oncor
  - stated that the two entities anticipate and desire to continue to work towards mutually agreeable and beneficial solutions to address issues concerning power transmission lines in the Trinity River Corridor
- On May 23, 2007 City Council authorized an agreement with Oncor permitting the escrow of \$4.5M in City funds to pay for the City's 25% share of the incremental cost to underground a portion of the West Levee Norwood transmission line

# Review of Issues

# Levels of Discussion

- Location of power transmission lines in the corridor presented in two levels of discussion
  - **Near-Term Issues**
    - Issue #1: Installation of Oncor's new West Levee Norwood transmission line
    - Issues #2 & 3: Existing transmission lines along East Levee and crossing the Trinity River Corridor near the future Margaret Hunt Hill Bridge
  - **Long-Term Issues**
    - Issue #4: Location of future transmission lines in the Cedars Area
    - Issues #5 & 6: Existing transmission lines along segments of both Trinity River Levees East of Margaret Hunt Hill Signature Bridge

# Power Transmission Lines Reference Map

## Near-Term Issues

## Long-Term Issues

**Norwood Switching Station**

**ISSUE #1:** Installation of West Levee Norwood 345 kV Line - along median of Irving Boulevard, crossing Trinity River aerially, east of Sylvan Bridge

**ISSUE #2a:** Consolidate existing aerial lines along East Levee to Irving Boulevard

**ISSUE #2b:** Relocate existing aerial lines along East Levee to Industrial Boulevard

Trinity River

**East Levee Switching Station**

**ISSUE #1:** Installation of West Levee Norwood 345 kV Line - underground segment along Canada Drive, from Sylvan to West Levee Switching Station

**ISSUE #5:** East Levee: Convert Existing Aerial Lines to Underground

**ISSUE #3:** Convert Existing Aerial Lines to Underground

CBD

**Vicinity of Future Dallas South Network Substation**

**West Levee Switching Station**

**ISSUE #6:** West Levee: Convert Existing Aerial Lines to Underground

**ISSUE #4:** Consider future Underground segment adjacent to Pegasus Project

**Future Margaret Hunt Hill Signature Bridge**

New Transmission Line



Existing Transmission Lines



Future Transmission Line



**Future IH-30 Signature Bridge**

**West Network Substation**

**Industrial Blvd. Switching Station**

# Summary of Near-Term Issues

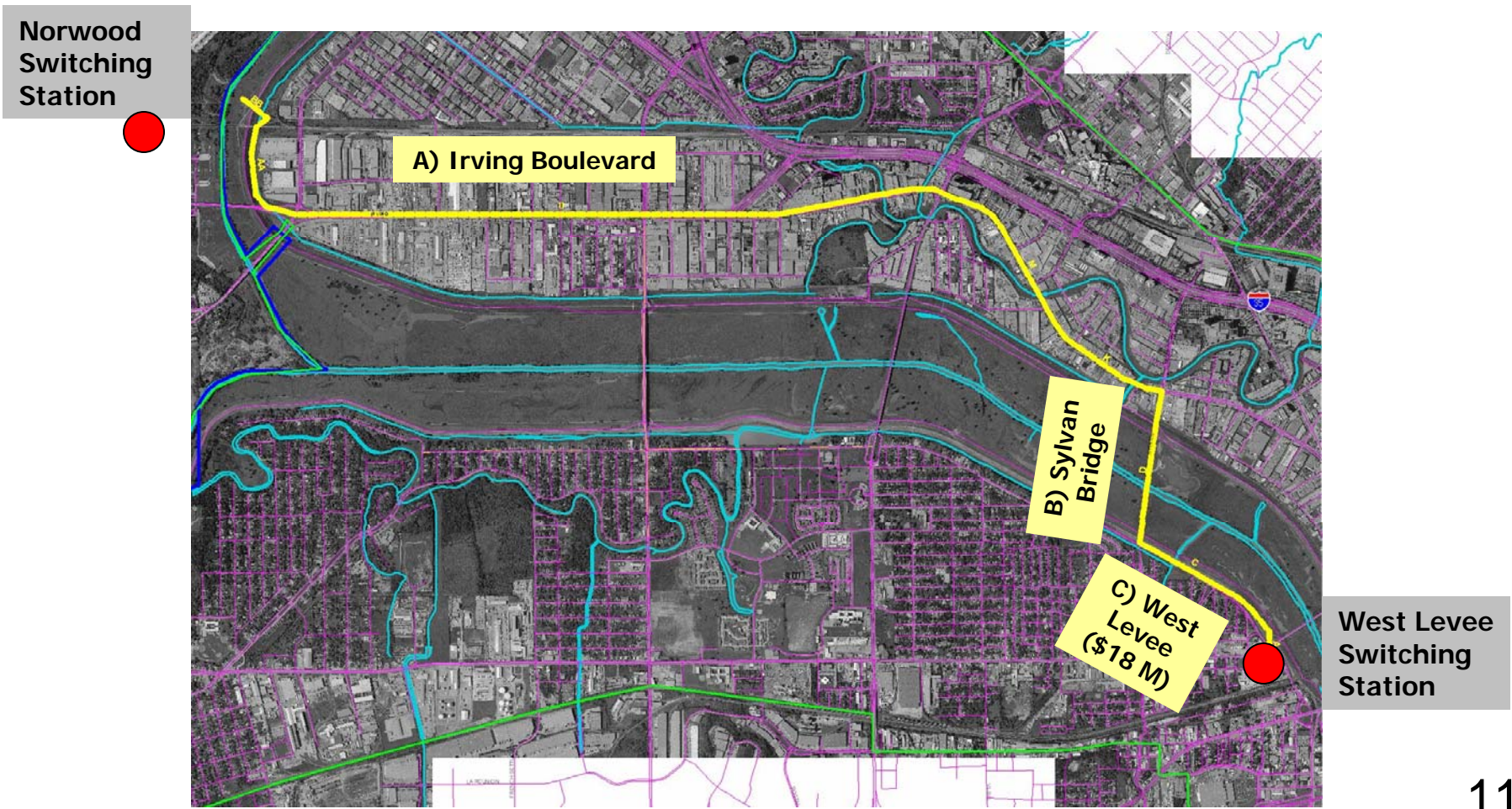
Issue	Estimated Cost	Year
<b>Near-Term Issue #1: West Levee Norwood Transmission Line</b>		
<ul style="list-style-type: none"> <li>Underground segment of proposed new line below Canada Dr. from West Levee Switching Station to Sylvan; Overhead segment from Sylvan along Irving Blvd. to Irving</li> </ul>	\$18.0 Million (City's share: \$4.5M)	2008 - 2009
<b>Near-Term Issue #2: Relocation along East Levee</b>		
<ul style="list-style-type: none"> <li>Consolidate existing aerial lines along East Levee with new West Levee Norwood line along median of Irving Blvd.</li> </ul>	\$ 3.2 Million	2009
<b>Near-Term Issue #3: Conversion of Existing Lines Across the River near Margaret Hunt Hill Bridge</b>		
<ul style="list-style-type: none"> <li>Underground existing lines between switching stations, upstream from future MHH Bridge</li> </ul>	\$28.2 Million	TBD
<b>Sub-total Near-Term Issues # 1, 2, 3</b>	<b>\$49.4 Million</b>	

# Summary of Long-Term Issues

Issue	Estimated Cost	Year
<b>Long-Term Issue #4: Proposed Lines to future Dallas South Network Substation (along Pegasus Project)</b>		
<ul style="list-style-type: none"> <li>Underground proposed lines from approximately UPRR to future Dallas South Network Substation</li> </ul>	\$ TBD	After 2014
<b>Long-Term Issue #5: Relocation of Existing Lines along East Levee</b>		
<ul style="list-style-type: none"> <li>Underground existing lines along East Levee</li> </ul>	\$26.3 Million	TBD
<b>Long-Term Issue #6: Relocation of Existing Lines along West Levee</b>		
<ul style="list-style-type: none"> <li>Underground existing lines from West Levee Switching Station to approximately halfway between IH-35 and Corinth</li> </ul>	\$ 56.0 Million	TBD
<b>Sub-total Long-Term Issues #4, 5, 6</b>	<b>\$82.3 Million</b>	<b>TBD</b>
<b>Total – All Issues</b>	<b>\$131.7+ Million</b>	

# Issue #1 Map

## West Levee Norwood Transmission Line



# Issue #1

## West Levee Norwood Transmission Line

- In June 2007, the Public Utility Commission of Texas (PUCT) approved West Levee Norwood Transmission Line along the locally preferred route using:
  - A. Aerial structures along median of Irving Boulevard from Regal Row to Sylvan
  - B. Aerial structures across the Trinity River, east of Sylvan Bridge to near the West Levee and Canada Drive
  - C. Underground along West Levee of Trinity River (below Canada Drive) from Sylvan to West Levee Switching Station



Sylvan Bridge looking south

# Issue #1

## West Levee Norwood Transmission Line

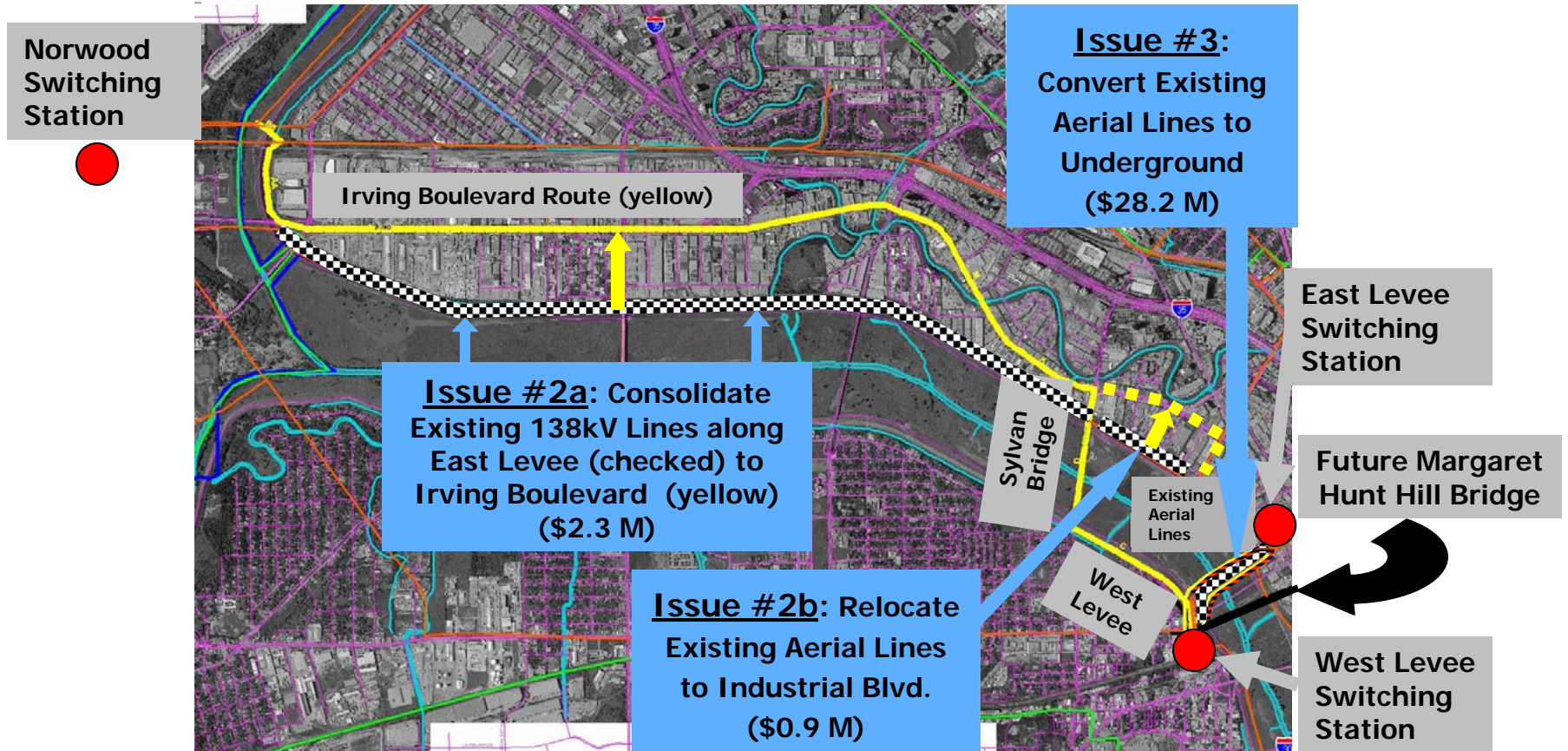
- Favorable PUCT approval was the outcome of Oncor and City of Dallas working in cooperation over several years to determine the best routing for the transmission line
  - Avoids routing the new transmission line along the levees of the Trinity River
  - Provides for underground installation below Canada Drive from West Levee switching station to Sylvan Avenue
    - City pays 25 percent of incremental underground installation cost (\$4.5M)
    - PUCT allowed remaining \$13.5M in incremental underground installation cost to be “uplifted” to the system-wide transmission rate
  - Creates opportunity to consolidate existing 138 kV transmission lines along the East Levee from Continental Avenue with the new transmission line
    - Estimated future City cost: \$3.2M

# West Levee Norwood Transmission Line Route Leads to Issue #2

- Alignment of new power transmission lines along Irving Boulevard (Issue #1) offers the opportunity to consolidate existing 138 kV lines currently along the East Levee
  - **Issue #2**: Existing lines could be relocated and consolidated to “underhang” the West Levee Norwood line on the same tapered steel structures along Irving Boulevard
  - **Estimated (in 2005) Cost: approximately \$3.2 Million**
  - **Would be installed at the cost of the City**
    - **Cost to relocate existing lines borne by requestor**

# Issues #2 & 3 Map

## Relocation of Existing Transmission Lines



## Issue #3: Conversion of Existing Lines Across the River

- Conversion of existing aerial lines crossing the river to underground, from West Levee Switching Station to East Levee Switching Station
  - Would improve sight lines near the future Margaret Hunt Hill Signature Bridge
  - Installation of underground lines would be located upstream from Continental
  - Location is at narrow point of floodway
    - Under Trinity River and levees
    - Directional drilling from outside levee to outside levee
  - **Estimated Cost: \$28.2 M**
  - **Would be installed at the cost of the City**

# Issue #4 Map

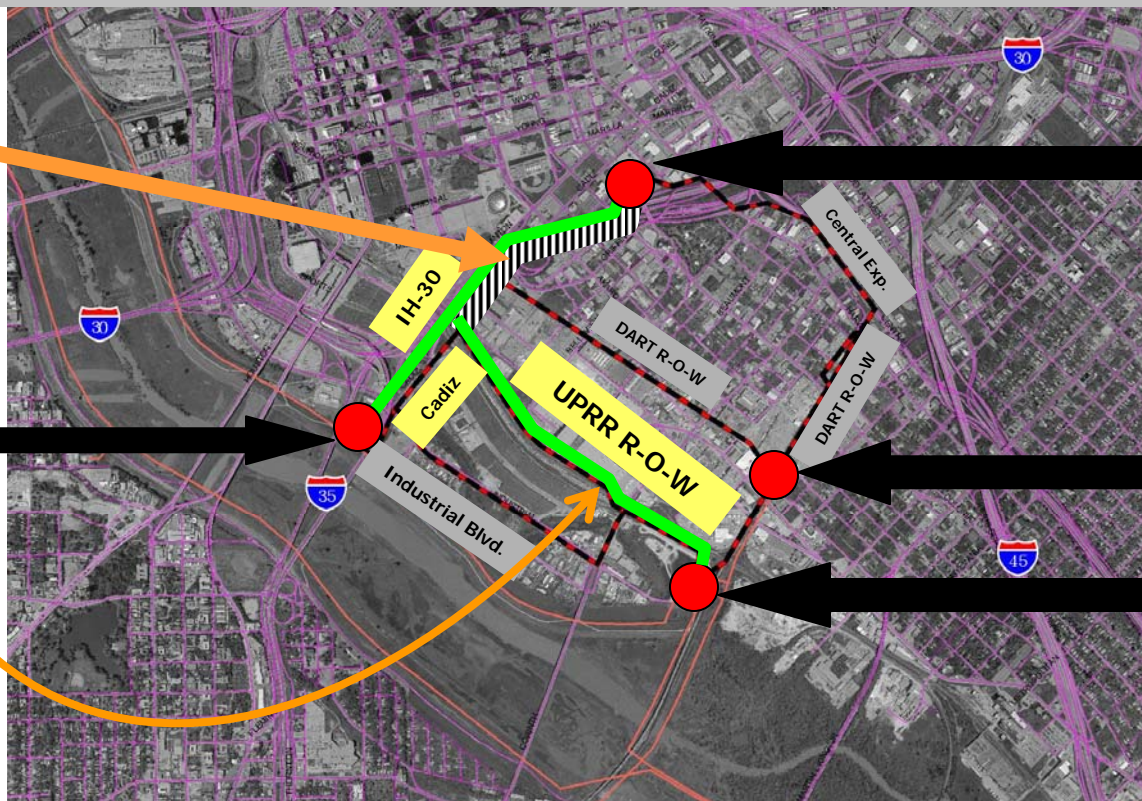
## Potential Future Dallas South Network Substation

Route segment options shown in red/black

**Issue #4:**  
Consider future Underground segment adjacent to Pegasus Project (\$TBD)

West Network Substation

**Issue #4:**  
Staff's Preferred Routes (indicated in green)



Proposed Dallas South Network Substation (General vicinity)

Wall Street Substation

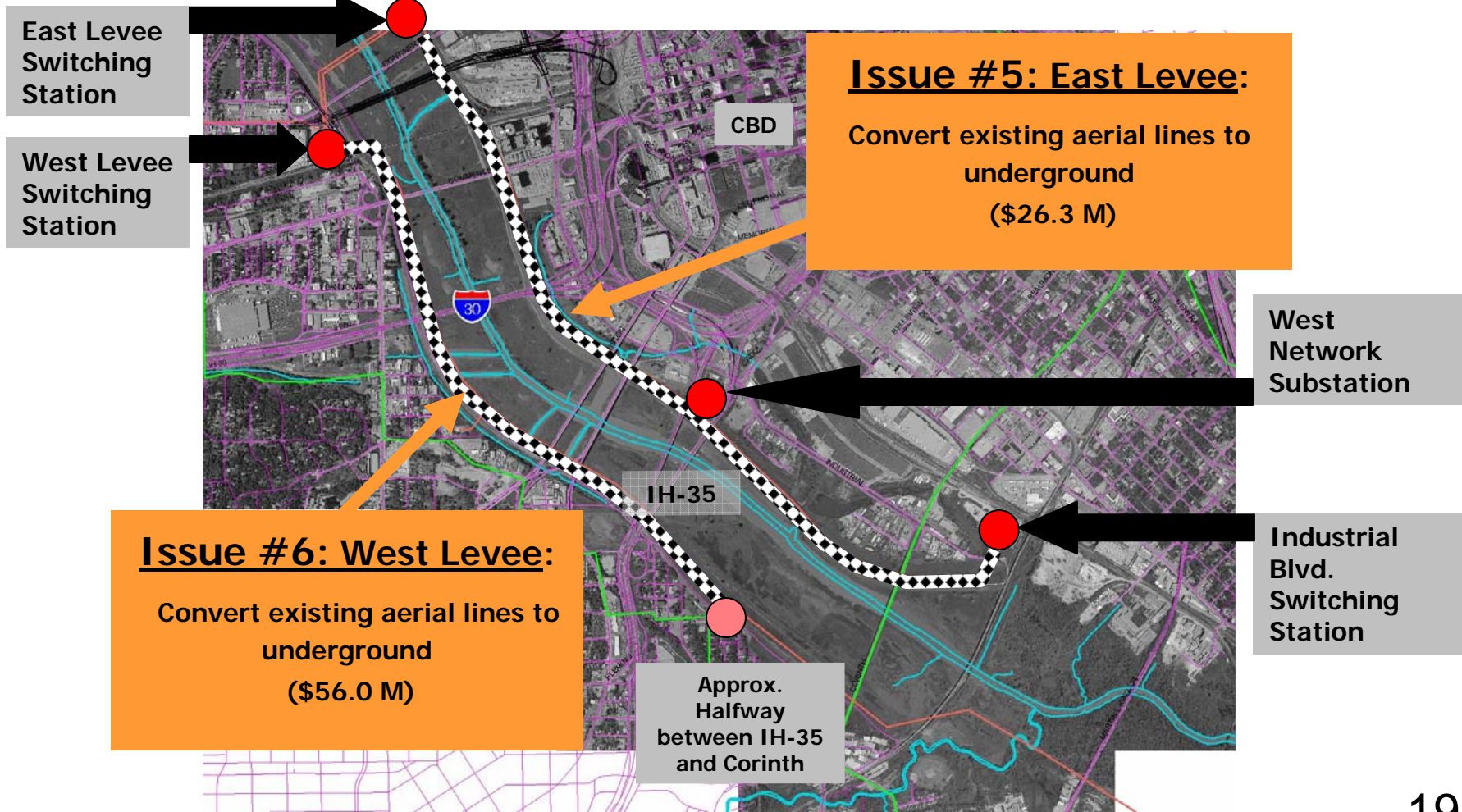
Industrial Blvd. Switching Station

## Issue #4: Future Dallas South Network Substation

- Oncor has long-term future plans for a proposed Dallas South Network Substation (after 2014) in the vicinity of the Cedars Area
- Staff's initial route preference
  - Along UPRR R-O-W to Cadiz/IH-30, and
  - From West Network Substation to Proposed Dallas South Network Substation along Cadiz/IH-30
    - Consider underground segment adjacent to Pegasus Project, from approximately UPRR to future Dallas South Network Substation
    - **Estimated Cost: \$TBD, dependent on site location**
    - **Potential to negotiate installation of underground conduit as Pegasus Project cost**

# Issues #5 & 6 Map

## Conversion of Existing Transmission Lines



## Issue #5 – Relocation of Existing Lines Along East Levee

- Additionally, options were evaluated for relocation of existing transmission lines along the levees
  - **Issue #5: East Levee**
    - Between East Levee Switching Station and West Network Substation near IH-35 and IH-30
    - Between West Network Substation and Industrial Boulevard Switching Station
  - Potential exists to replace aerial line with underground line
  - **Estimated Cost: \$26.3 M**
  - **Would be installed at the cost of the City**

# Issue #6 – Relocation of Existing Lines Along West Levee

## – Issue #6: West Levee

- Between West Levee Switching Station and approximately halfway between IH-35 and Corinth
- Potential exists to replace aerial lines with underground lines
- Aerial relocation of the lines to another location not practical
  - Oncor considered alternative routes prior to placing these lines along the levees
- **Estimated Cost: \$ 56.3 M**
  - Assumes route is located outside the levee
  - Does not assume any potential right-of-way cost
- **Would be installed at the cost of the City**