

Modern Streetcar Design in Texas

Climbing the Learning Curve



January 30, 2010
Presented by:

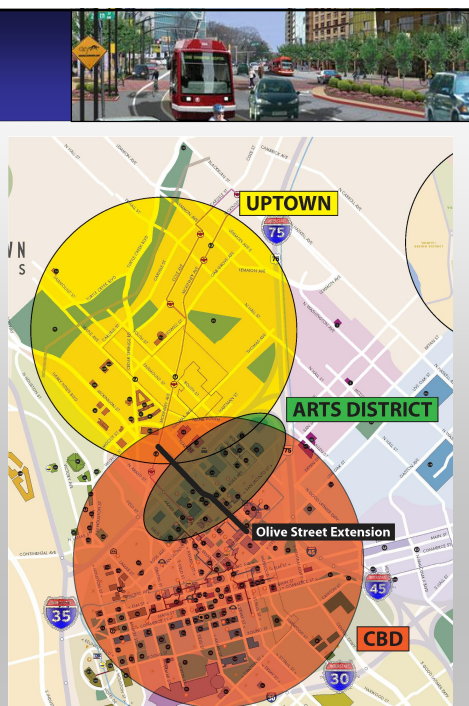
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Dallas Modern Streetcar

- **Olive Street**
 - McKinney to Bryan
- **Districts**
 - Uptown
 - Arts District
 - CBD



Where Does the Modern Streetcar Exist?



Seattle, WA



Tacoma, WA



Portland, OR

Dallas Arts District



• Landmarks

- Winspear Opera House
- Wyle Theatre
- Nasher Sculpture Center
- Meyerson Symphony Center



Deck Park

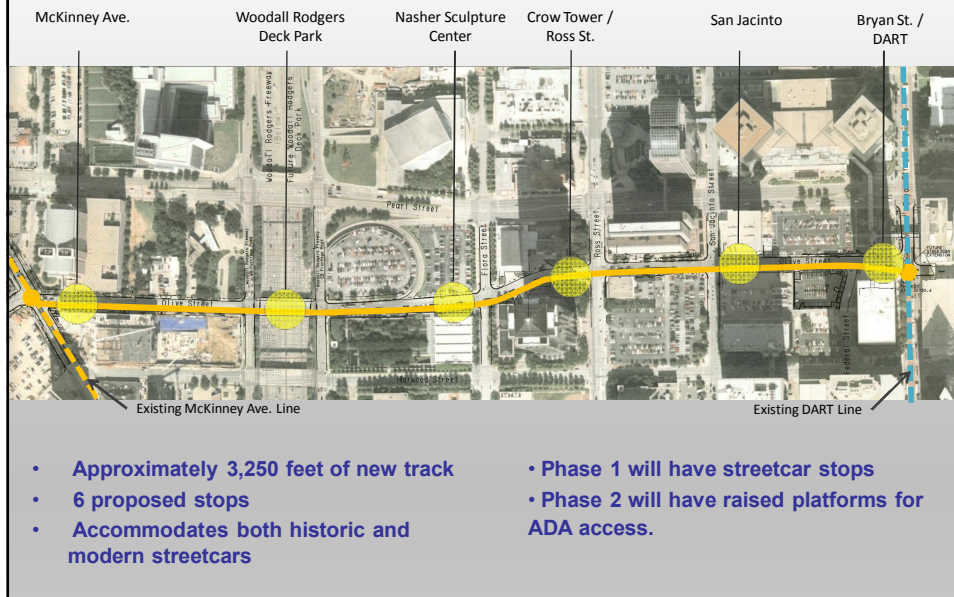


- **5.2 Acre Park**
 - Will span over Woodall Rodgers Freeway, connecting the Arts District and Downtown with Uptown and Victory Park
 - Public / Private partnership
 - Currently under construction
- **The Woodall Rodgers Park Foundation is conducting a \$105 million campaign to design, build, program, and operate.**

Olive Street Extension



Proposed Initial Project

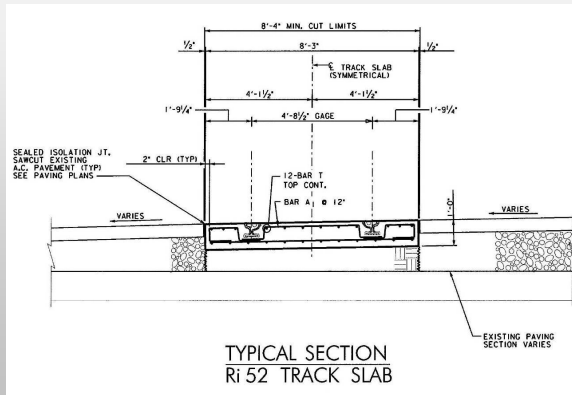


Design Considerations



- Design Intent
- Track Slab
- Typical Section
- H&V Alignment – Existing vs. Proposed
- Valley Gutters & Track Drains
- Special Paving Elements
- Rail: Tee vs. Girder
- System Elements
- Existing Bridges
- Private Utility Coordination

Design Intent



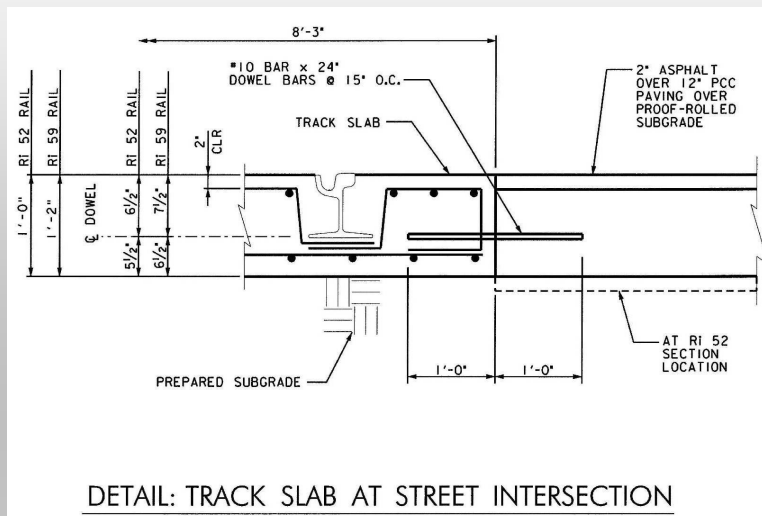
• Minimize Impacts

- Limited Excavation
- Pavement Removal: 1 lane
- Utility Relocation

Track Slab



• Track Slab - Spans 10 feet



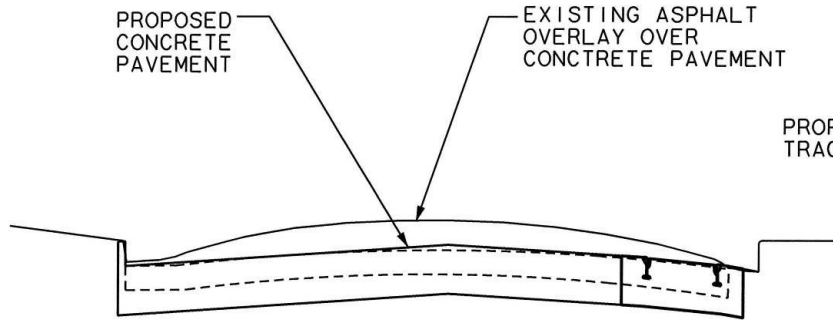
Typical Section



PROPOSED
CONCRETE
PAVEMENT

EXISTING ASPHALT
OVERLAY OVER
CONCRETE PAVEMENT

PROPOSED
TRACK SLAB



TYPICAL SECTION
McKINNEY AVENUE TO WOODALL RODGERS FREEWAY

Olive Street at San Jacinto



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H&V Alignments



Valley Gutters & Track Drains



Valley Gutters & Track Drains



Special Paving Elements



Special Paving Elements



Image provided by WRT

Tee Rail vs. Girder Rail



• Tee Rail



Girder Rail



Tee Rail vs. Girder Rail



Image showing difference in gap width between "Tee" Rail and "Girder" Rail

Images provided by LTK Engineers

System Elements



- **Physical elements of the electrical system that provide power to the streetcar:**
 - Overhead Contact System (OCS) – foundations, poles and contact wires
 - Traction Power Substation (TPSS)
- **Major elements of the train control system:**
 - Powered turn-outs
 - Controller cabinets
 - Signals

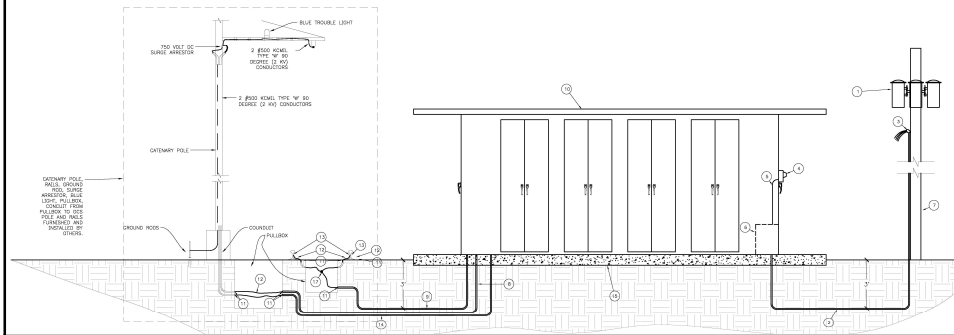


OCS Pole



TPSS Site



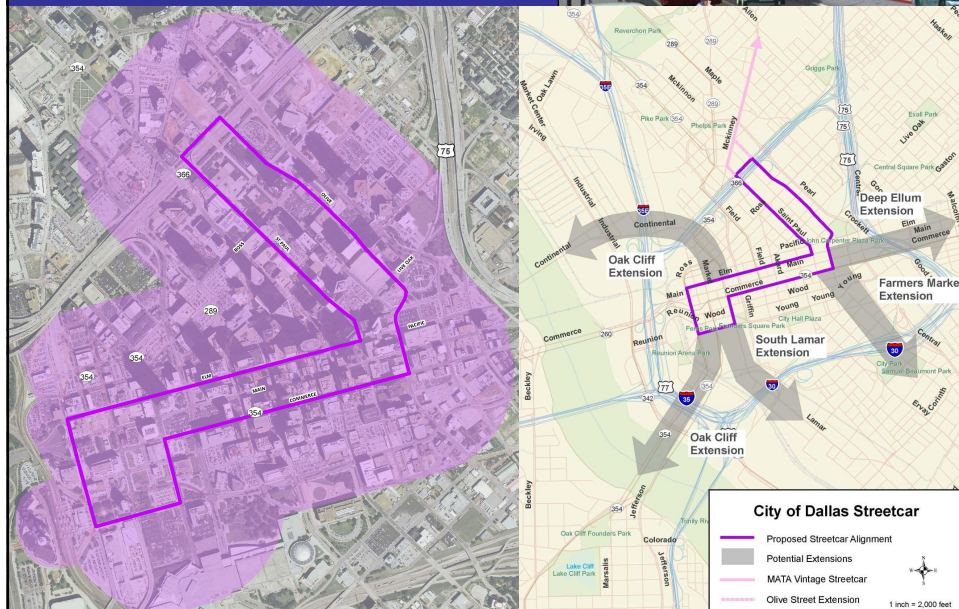


Summary



- Stakeholder coordination
- Paving improvements beyond the track slab
- Restrictions related to bridges and structures
- Profile differences between rail and street
- Additional drainage requirements
- Special paving elements
- Traction Power Substation Location
- Type of rail

Modern Streetcar Plan for CBD



QUESTIONS?

