



Dallas to Houston High-Speed Rail Environmental Impact Statement

NCTCOG Regional GIS Meeting

May 15, 2018

The Project

- 240-mile high-speed passenger rail between Dallas and Houston
- Bullet train technology – N700 Tokaido Shinkansen
- 90-minute travel time with speeds up to 205 mph
- “Closed” railroad system (dedicated to HSR)
- Terminal stations in Dallas and Houston with plans for an intermediate station in Grimes County
- Privately funded

The Players

Applicant



**TEXAS
CENTRAL
RAILWAY**
AMERICA'S BULLET TRAIN



Federal Lead



U.S. Department
of Transportation
**Federal Railroad
Administration**

Contractors



The Federal Action

- FRA must approve system safety
- Rule of Particular Applicability (RPA)
 - No HSR regulations currently exist in US
 - Will describe how system will be regulated
- Project will require approvals from numerous federal agencies
 - FRA
 - FHWA
 - USFWS
 - USACE
 - EPA
 - FTA
- Thus, NEPA applies

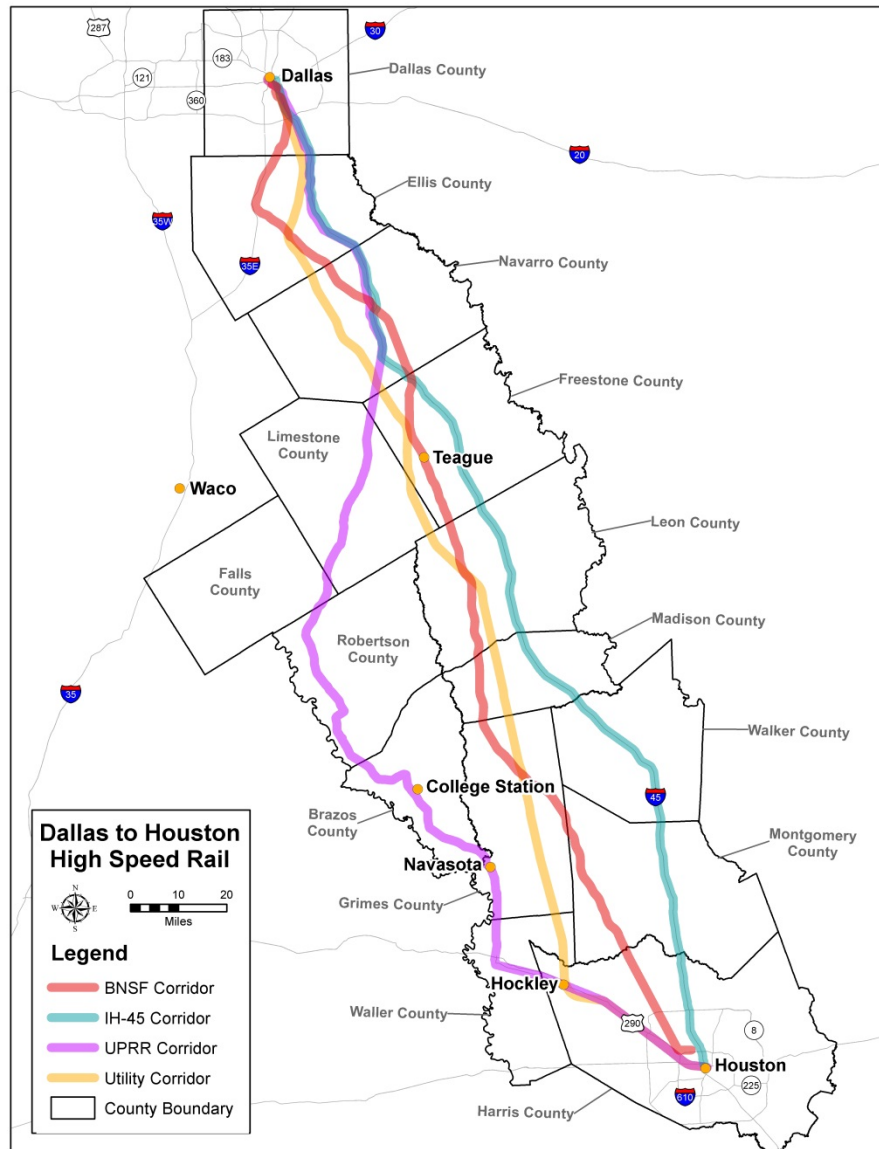
Status of the Project

- Began our work in June 2014
- Scoping – October/December 2014
- Alternatives Analysis – 2015
- Development of Draft – 2016
- Release of Draft EIS – December 22, 2017
- Public Hearings – January/February 2018

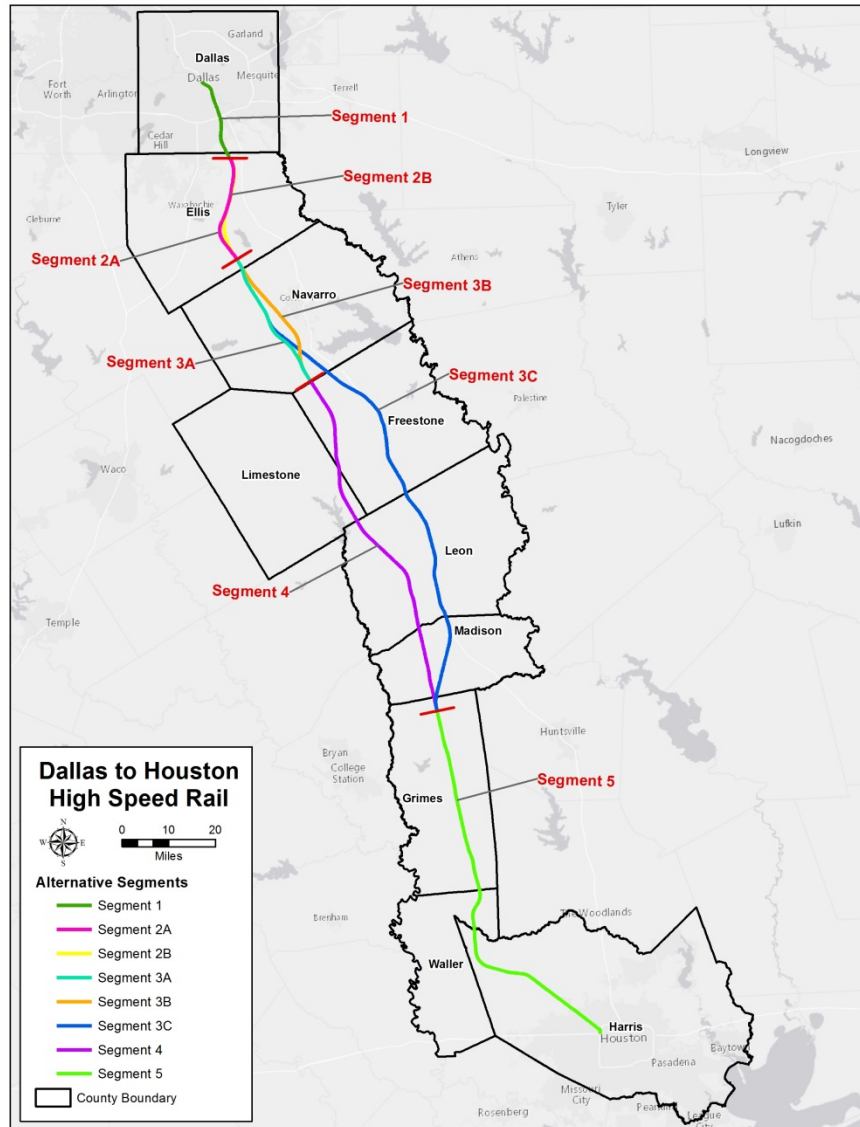
Current & Future Activities

- Review and response to comments
- Evaluation of any engineering refinements
- Inclusion of additional analyses
- Draft Programmatic Agreement
- Finalize Mitigation Program
- Develop and publish Final EIS
- Record of Decision
- Post-ROD actions

Preliminary Corridors



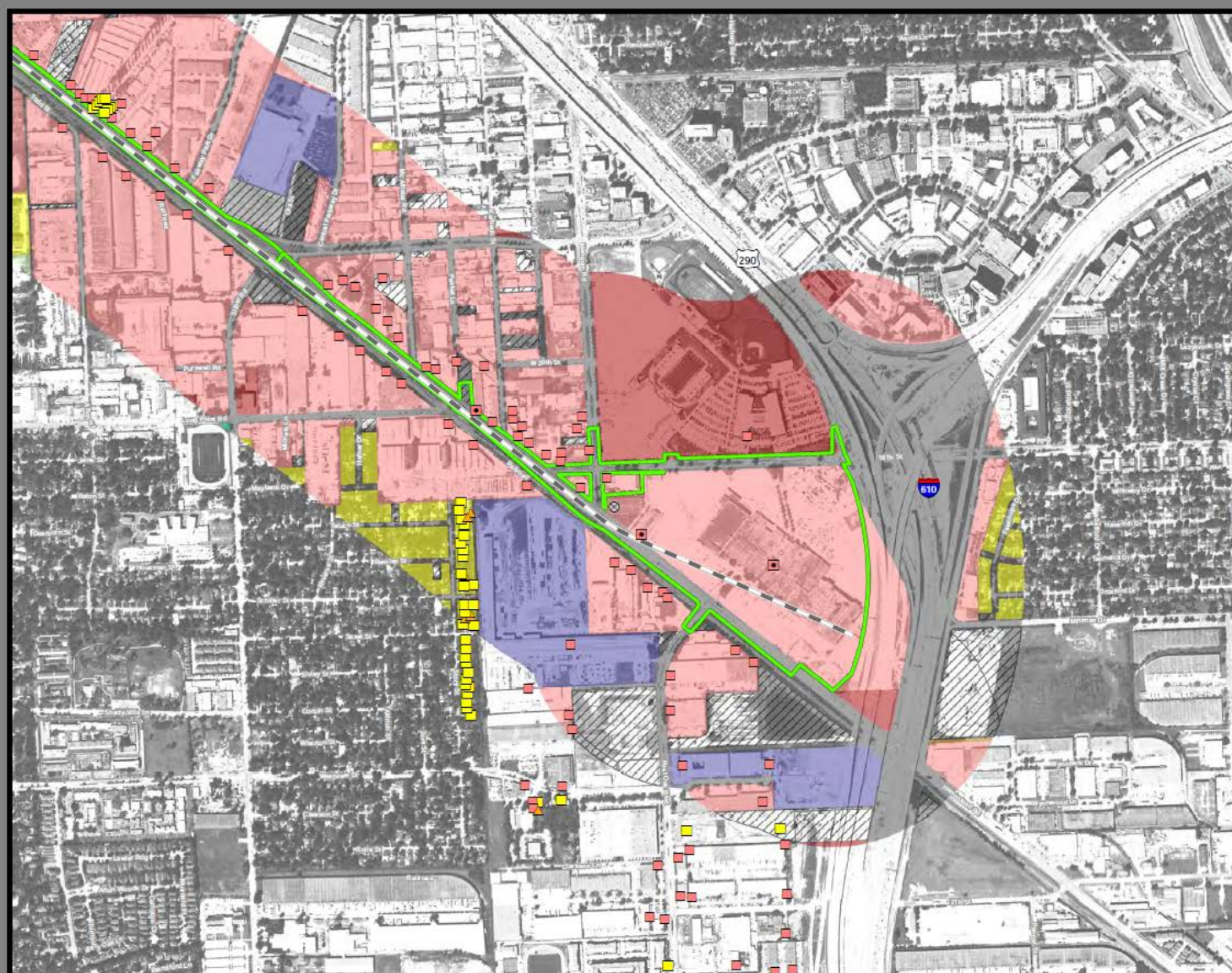
EIS Corridors



GIS Data Collection

- Water Quality
 - Public Water Supply
 - Groundwater Wells
 - Impaired Waters
 - Watersheds
 - Subwatersheds
 - Major Aquifers
 - Minor Aquifers
 - Municipal Setting Designations
 - Dams
- Noise & Vibration
 - Noise Measurement & Impact Sites
 - Vibration Measurement & Impact Sites
- HAZMAT
 - TCEQ Sites
- Natural Resources/T&E
 - EMST Vegetation
 - T&E Habitat Modeling
 - T&E EO Records
 - Wildlife Crossings
 - Habitat Fragmentation
- Waters of the U.S.
 - NHD Streams & Water Bodies
 - NWI Wetlands
 - Field-Collected Features
 - Hydric Soils
- Floodplain
 - FEMA 100-Year Floodplain
 - Groundwater Conservation Districts
 - Highly Erodible Soils
- Energy & Utilities
 - Oil & Gas Pipelines & Wells
 - Electric Transmission Lines
 - Utility Crossings
- Aesthetics & Visual
 - Landscape Units
 - Key View Points
- Transportation
 - Existing Traffic Counts
 - Projected Traffic Counts
 - Railroads
 - Roads
 - On-Road Trails
 - Airstrips
- Land Use
 - Land Use
 - Structures
 - Conservation Easements
- Socioeconomic
 - Places of Worship
 - Museums
 - Amusement Parks
 - Property Boundaries
 - Tax Roll Tables
- Recreation
 - Recreation Sites
 - Off-Street Trails
 - Parks
- Safety & Security
 - Fall Hazards
 - Police Departments
 - Fire Stations
 - Fire Service Areas
 - EMS Service Areas
 - Hospitals
 - Prisons
 - Schools
 - Natural Hazards
- Environmental Justice
 - Census Block Groups
 - ACS 5-Year Demographics
- Cultural Resources
 - Historical Resource Structures & Sites
 - Isolated Finds
 - Previous Surveys
 - TARL Sites
 - Cemeteries
 - State Historic Sites
 - Evaluation Mapping Units
- Soils & Geology
 - Geology
 - STATSGO Soils
 - SSURGO Soils
 - Prime Farmland Soils
 - Faults
 - Mines
 - Earthquakes

Land Use Map Book



Dallas to Houston High-Speed Rail Project
 Land Use
 Segment 5, Northwest Mail Terminal Option
 Sheet 255 of 257

Legend

Track Configuration

- Viaduct
- Embankment
- Cut

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Structures

- Agriculture
- Barn / Shed
- Commercial
- Commercial within LOD
- Community Facility
- Community Facility within LOD
- Cultural Resources
- Oil / Gas
- Residential
- Residential within LOD
- Transportation
- Unknown Structure
- Utility

Jurisdictional Boundaries

- County Boundary
- City Boundary
- USACE Barrow Lake
- Fort Buggy SP

Land Use

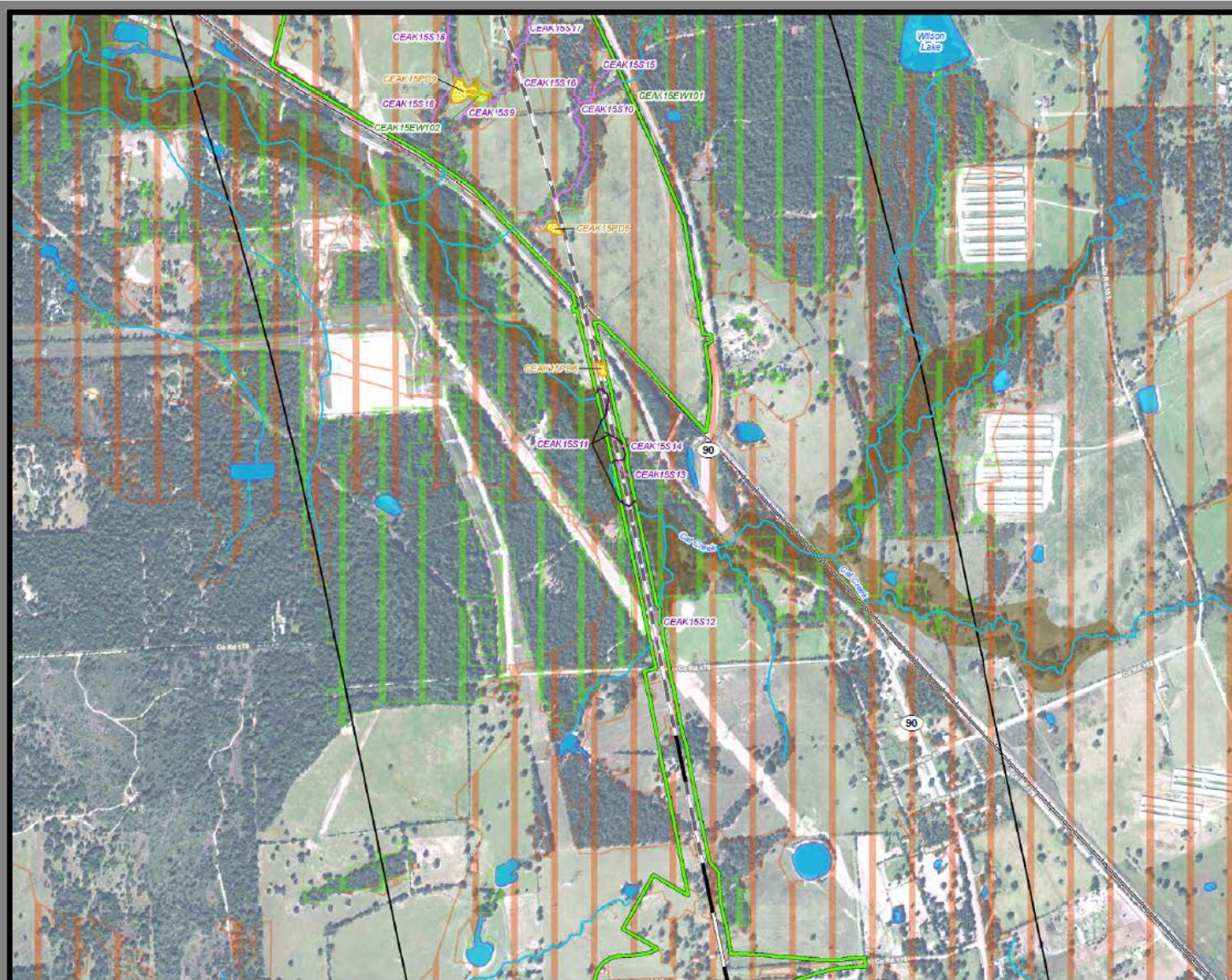
- Agriculture
- Civic
- Commercial
- Forested Area
- Industrial
- Park
- Residential
- Rural
- Transportation
- Unclassified
- Utility
- Vacant
- Water Feature

*Inaccuracies in the original county appraisal district property data may result in misalignment with aerial imagery.
 *City structures within 200 feet of the LOD were evaluated for analysis purposes. Land use is only displayed within a quarter mile of the LOD.
 Data Sources: County/City Boundaries - TxDOT 2013; Land Use - Respective County Appraisal Districts (2011, 2015, 2016), CLS (2017).
 Aerial Imagery: USDA NAIP 2014



A

Natural Resources Map Book



Dallas to Houston High-Speed Rail Project
Natural Resources
Segment 5
Sheet 208 of 257

Legend

<ul style="list-style-type: none"> Limit of Disturbance <ul style="list-style-type: none"> Segment 1 Segment 2A Segment 2B Segment 3A Segment 3B Segment 3C Segment 4 Segment 5 Trunk Configuration <ul style="list-style-type: none"> Viaduct Embankment Cut Half Mile Buffer City Boundary County Boundary Railroad Municipal Setting Designation (MSD) <ul style="list-style-type: none"> Houston Toad Large-Patched Sand Verberia Navasota Ladies'-resses Endangered Species Threatened Species U.S. Army Corps of Engineers (USACE) Project Area <ul style="list-style-type: none"> Watershed (HUC 12) Boundary Public Water Supply Groundwater Well Potential Habitat <ul style="list-style-type: none"> Houston Toad Large-Patched Sand Verberia Navasota Ladies'-resses Endangered Species Threatened Species U.S. Army Corps of Engineers (USACE) Project Area <ul style="list-style-type: none"> Watershed (HUC 12) Boundary Public Water Supply Groundwater Well 	<ul style="list-style-type: none"> Impaired Waters with Total Maximum Daily Load (TMDL) Impaired Waters Federal Emergency Management Agency (FEMA) Flood Zone <ul style="list-style-type: none"> A - 1% AE - 1% AO - 1% X - 0.2% Field-Collected Data <ul style="list-style-type: none"> Perennial Stream/River Intermittent Stream/River Ephemeral Stream/River Other Stream/River Lake/Pond Emergent Wetland Forested Wetland Scrub/Shrub Wetland National Hydrography Dataset (NHD) <ul style="list-style-type: none"> Perennial Stream/River Intermittent Stream/River Artificial Stream/Canal Lake/Pond Reservoir Swamp/Marsh National Wetlands Inventory (NWI) <ul style="list-style-type: none"> Freshwater Emergent Wetland Freshwater Forested/Shrub Wetland Other
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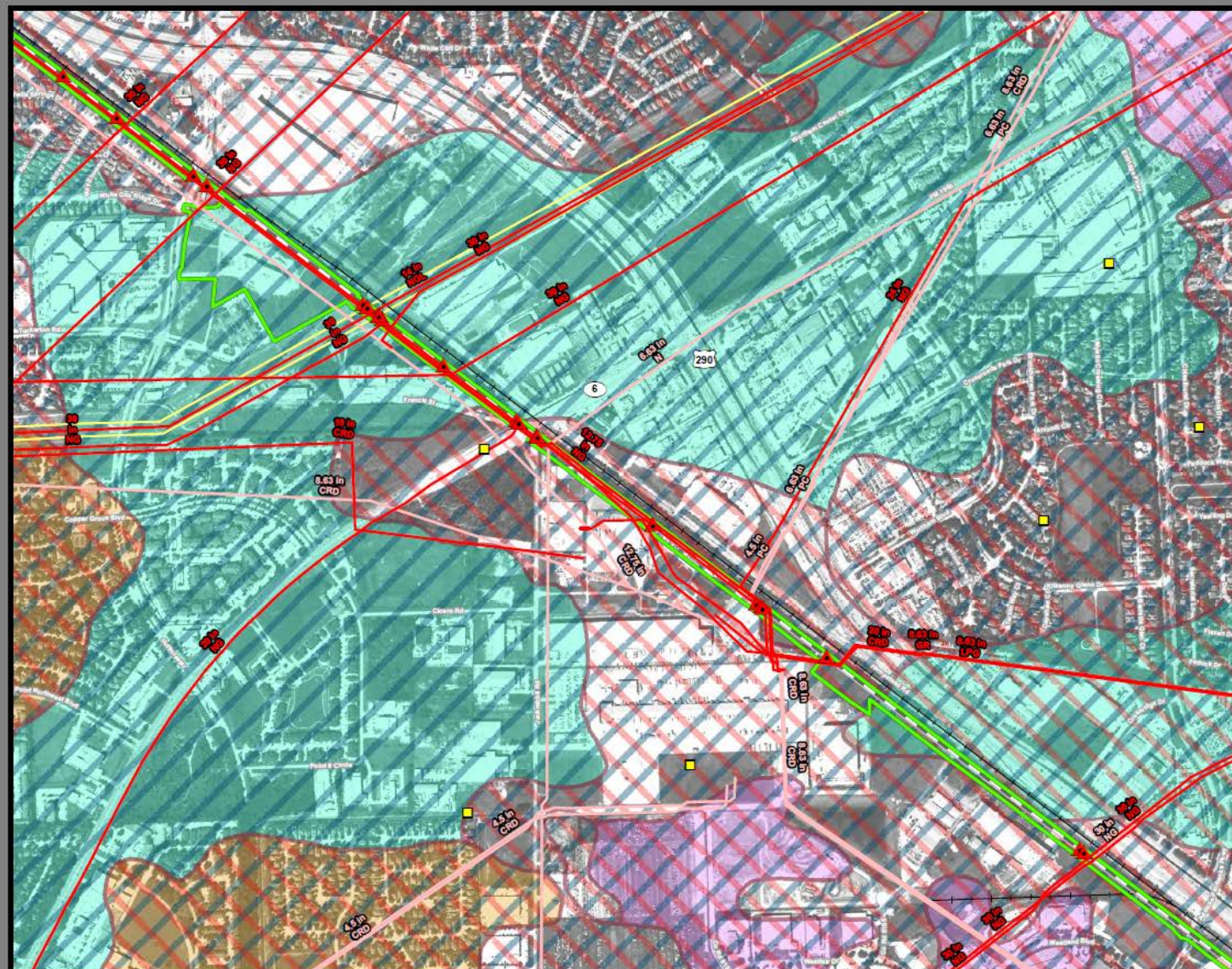
Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA Floodplains.

Data sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TIGOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2016; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - FWSO; TMDL; Element of Occurrence Records (EOR) 2017; ESRI World Street Map; Aerial Imagery - USDA NARS 2014.



A

Mineral Resources Map Book



Dallas to Houston
High-Speed Rail Project
Mineral and Utility Resources
Segment 5
Sheet 247 of 257

Legend

- | | |
|------------------------------|----------------------------------|
| Limits of Disturbance | Utilities |
| Segment 1 | Mine |
| Segment 2A | Utility Crossing |
| Segment 2B | Electric Transmission Line |
| Segment 3A | Oil/Gas Wells |
| Segment 3B | Vertical |
| Segment 3C | Directional: Surface |
| Segment 4 | Directional: Bottom |
| Segment 5 | Directional Well Lines |
| Track Configuration | Oil/Gas Pipelines |
| Viaduct | Active |
| Embankment | Abandoned |
| County Boundary | Soils |
| Railroad | Highly Erodible |
| Faults | Hydic |
| | Prime Farmland |
| | Farmland of Statewide Importance |
| | Prime Farmland If Drained |

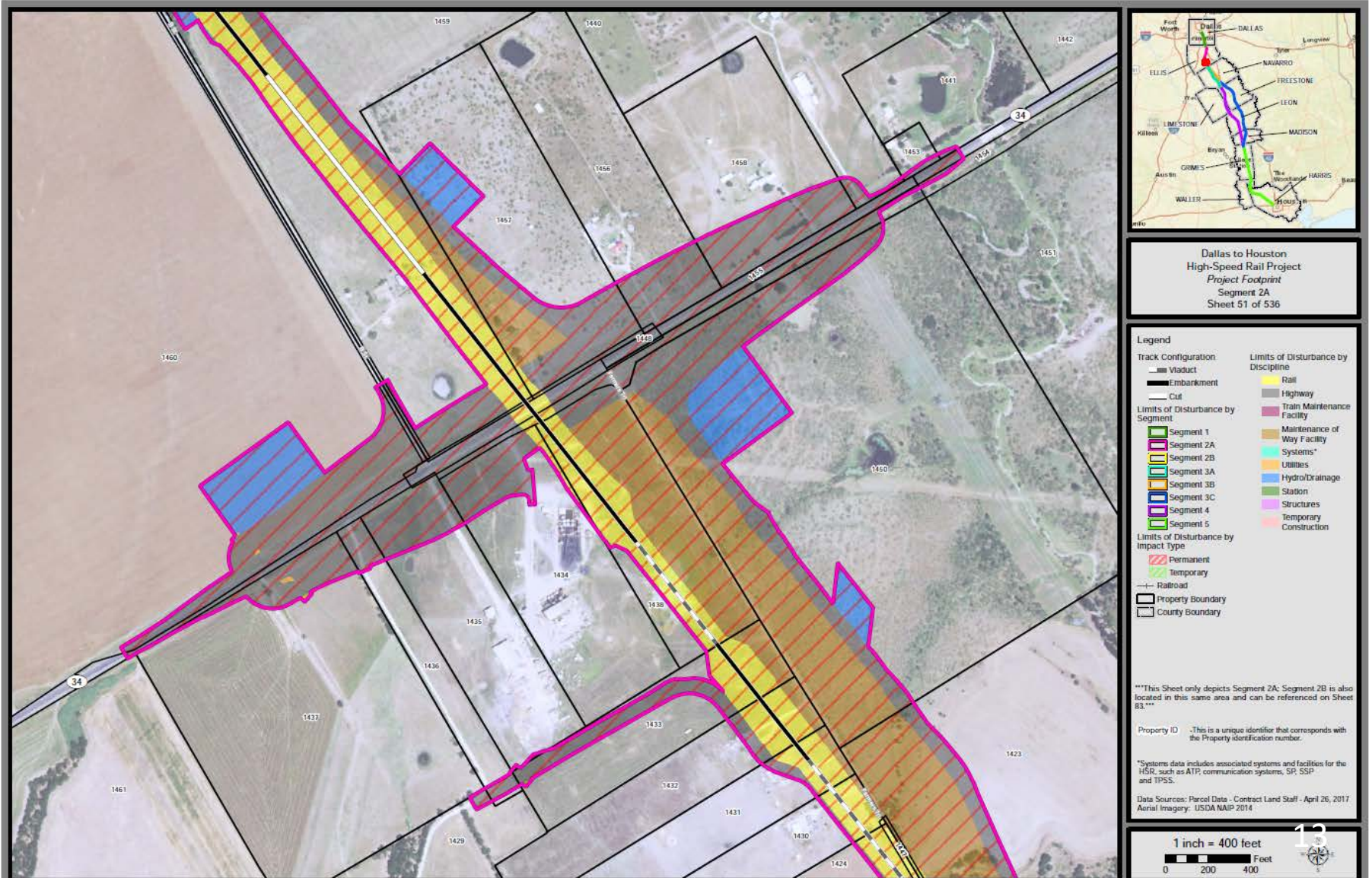
Abbreviated Pipeline Labels:
 CRD - Crude Oil; EP - Ethane/Propane; EMT - Empty; GUD - Gasoline/Unleaded Fuel/Gasoline; GS - Gasoline Regular; LGS - Liquefied Petroleum Gas; N - Nitrogen; NG - Natural Gas; NQ-FWG - Natural Gas FWD; NGL - Natural Gas Liquid; PC - Propylene Chem;
 R-LPG - Raw LPG; RPP - Refined Petroleum Products; RPPD - Refined Products; Y-NGL - Y-Grade NGL; Y-P - Y-Grade Products

Data Sources: Faults - UT Bureau of Economic Geology; Soil Data - USGS/NRCS SSURGO 2016; Mines - USGS 2003; Electric Transmission Lines - Platts 2013; Oil/Gas Wells, Pipelines - Texas Railroad Commission 2015; Roads, Railroads - TxDOT 2015; Utility Crossings - ARUP 2017; ESRI Street Map
 Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
 0 200 400 800 Feet

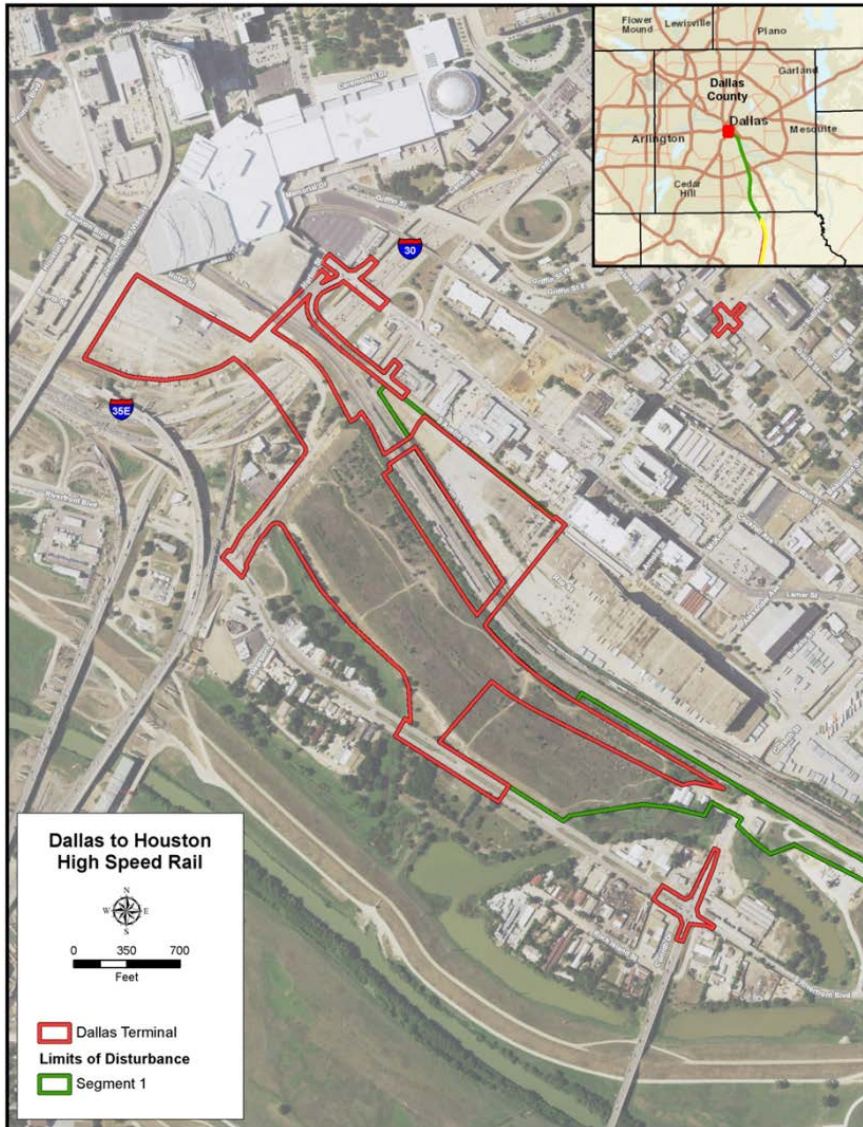


Project Footprint Map Book



A

Dallas Station



Dallas Station



Houston Station



Public Meetings



Corsicana



Mexia

Public Meetings



Public Meetings



Houston



Navasota

Typical Challenges

- Agency-to-agency coordination
- Data collection/management
- Engaging the public
 - Expectations of the general public regarding the public involvement process
 - Level of knowledge and understanding

Unique Challenges

- Overall scope of project
- Federal agency vs. applicant
- FRA's organizational structure and location
- New technology and the Rule of Particular Applicability
- Breaking ground on privately led pursuits
- Organized opposition

GIS Challenges

- Combining county/regional data sources
- Design file challenges
- QA/QC process
- Information sharing with resource leads
- 2,500 pages of maps

