

Zoso & Associates



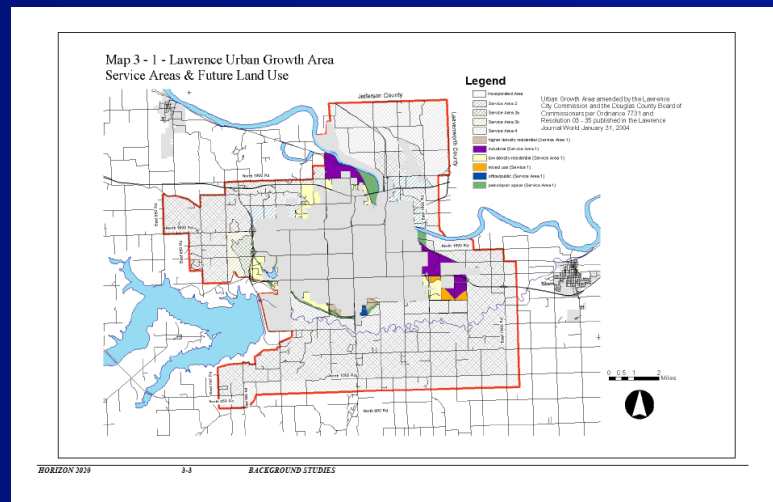
Designing Transportation
Solutions for almost a month...

Why???



- Major Congestion at Haskell and 31st.
- Not signalized
- Primary Cross town route for south side of Lawrence
- Limited Access to 23rd St.

Future Lawrence



- Map of future land plans
- Growth of south Lawrence
- Need south Lawrence Major Arterial

Source: HORIZON 2020 Steering Committee.

Design Aim



- Picture of 31st and Ousdahl Rd.
- 4 lane Major Arterial
- Middle Turn Lane
- Sidewalk

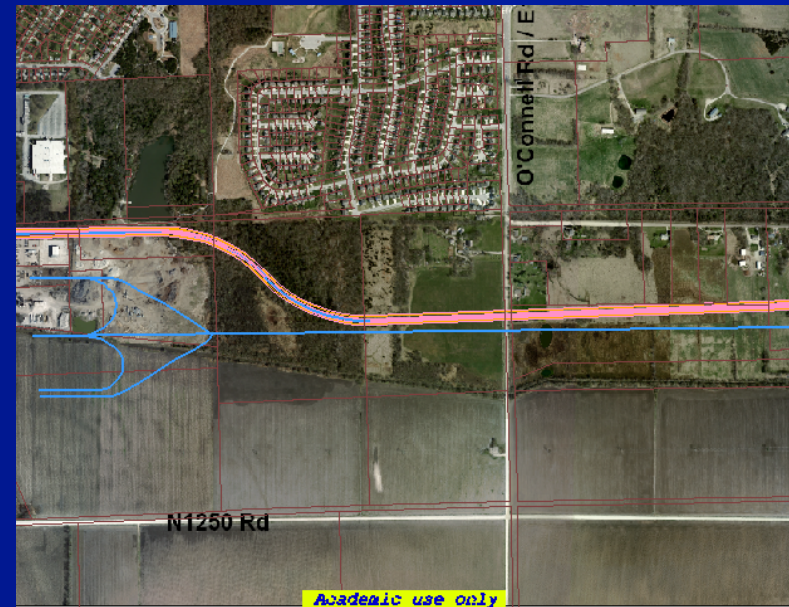
Proposed 31st Extension

- Avoid Large Hill
- Avoid Homes
- Design Speed 45mph



The Proposed SLT (32 St. Alignment)

- Will probably share R/W with the SLT project.
- 31st Alignment allows for the SLT.



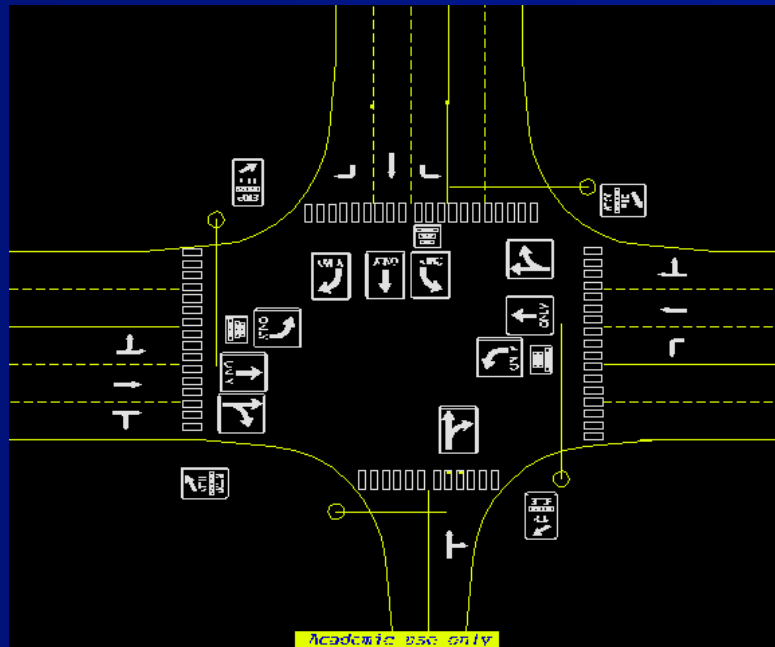
Pavement Design

- Pavement 9 inches Concrete
- Used TranSystems report for existing and future traffic flows
- Used PCA method
- Assumed AASHTO soil type of A-7-6, assumed subgrade 150 lb/in^3
- 6 inch untreated subbase

Need For Signals

- Extrapolated Hourly Traffic Volumes for future
 - 31st and Haskell exceeds volume warrant
 - Franklin and O'Connell Do not exceed
- Franklin and O'Connell intersections uncertainty
 - TransSystems' Traffic model very basic
 - Franklin St. has no current numbers

Intersection of Haskell and 31st St.



- Design Vehicle Single Axle Truck
 - Haskell & 31st only north/south, WB-50 Traffic
 - WB can utilize two lanes in town
 - Choose Design Vehicles Single Axle Truck
 - Curb edge – 40' R, 2' offset, 10:1 Taper

Sight Distance Requirements

- All intersections use Case III Requirements
 - Crossing 31st Single Axle Truck
 - Left 590' – 890' Right
 - Turning Left
 - Left 780' – Right 1290'
 - Requirements
 - Left 1210' – Right 1290'

Friendly to Environment



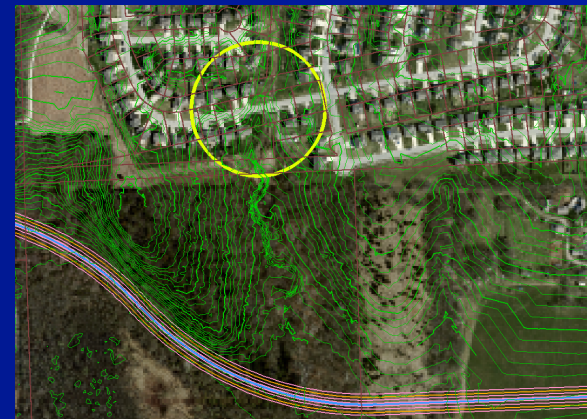
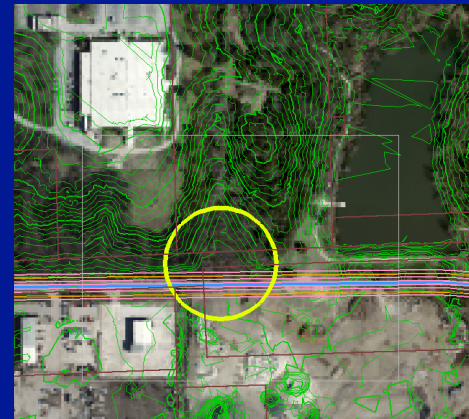
Drainage

- Multiple existing drainage features.
- Will tie existing drainage features in under proposed extension.
- Inlets on vertical sag curves
- Tie into existing Storm System
 - Know what will be needed considering future development.

Drainage Issues

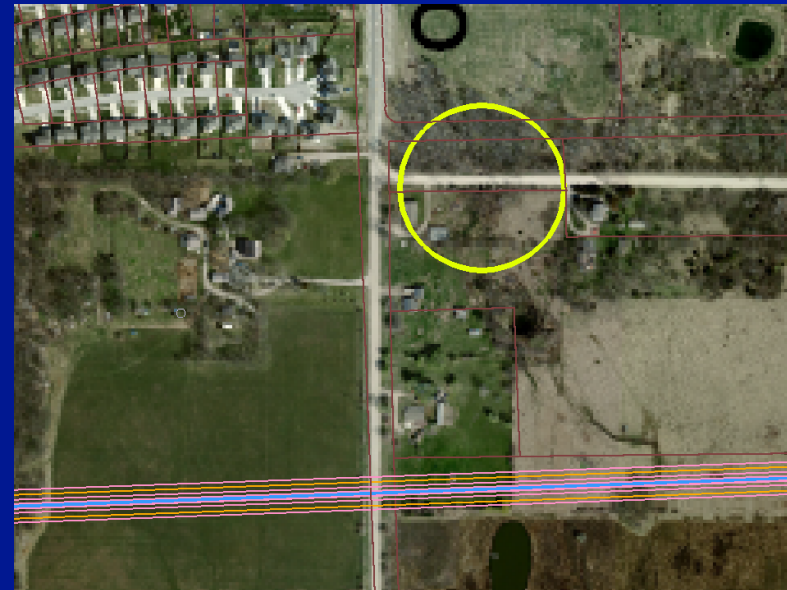
- 24 inch CMP
- Outflows to creek
- 1500 feet east of Haskell and 31st.

- 2 – 36 inch CMP



Continue Drainage...

- 3 by 5 foot box
- Will use same box under 31st St. Extension
- Close to O'Connell



Overview of cost

- Fill
 - 23,201 cubic yards
- Cut
 - 6670 cubic yards
- Concrete
 - 16,956 cubic yards
- R/W
 - \$500,000

THE BOTTOM LINE

- Right of way estimated cost \$500 thousand
 - estimated from Douglas County appraisal website
- Project cost \$5.6 million
 - Estimate from KDOT bid tabs index from their website. Based off a similar project.
- Total \$6.1 million