

Celina and Prosper Joint Council Meeting

August 19, 2014

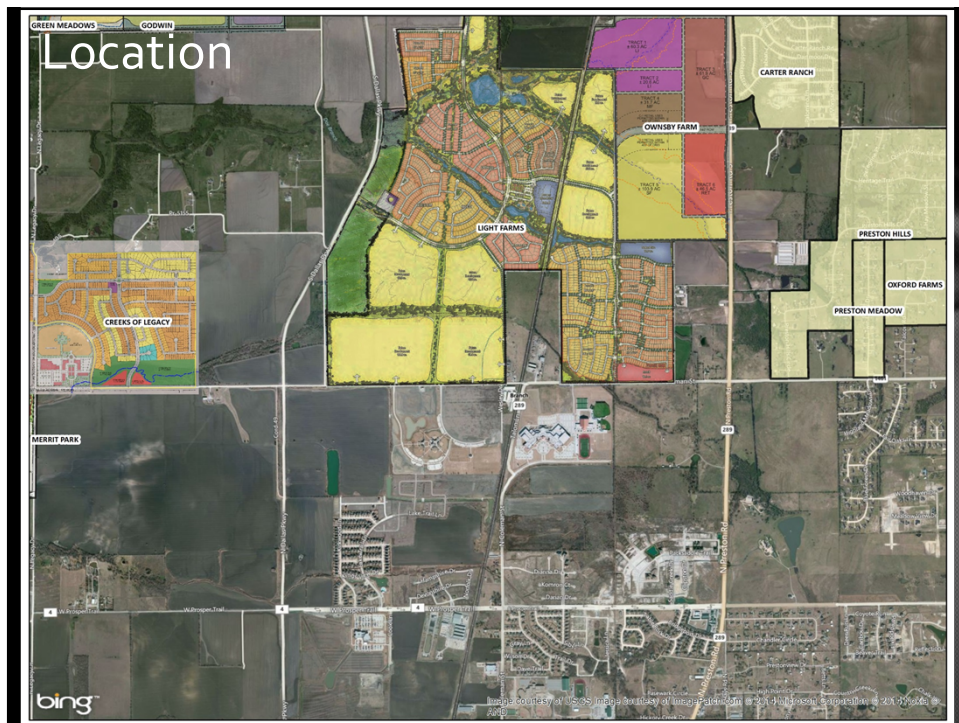
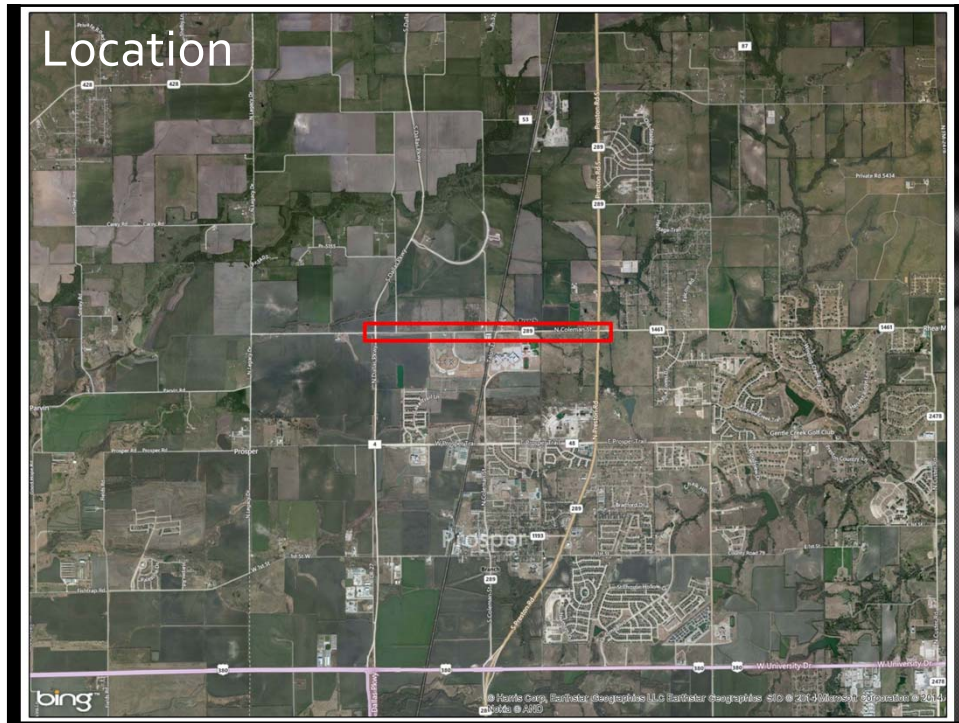
Collin County



Frontier Parkway

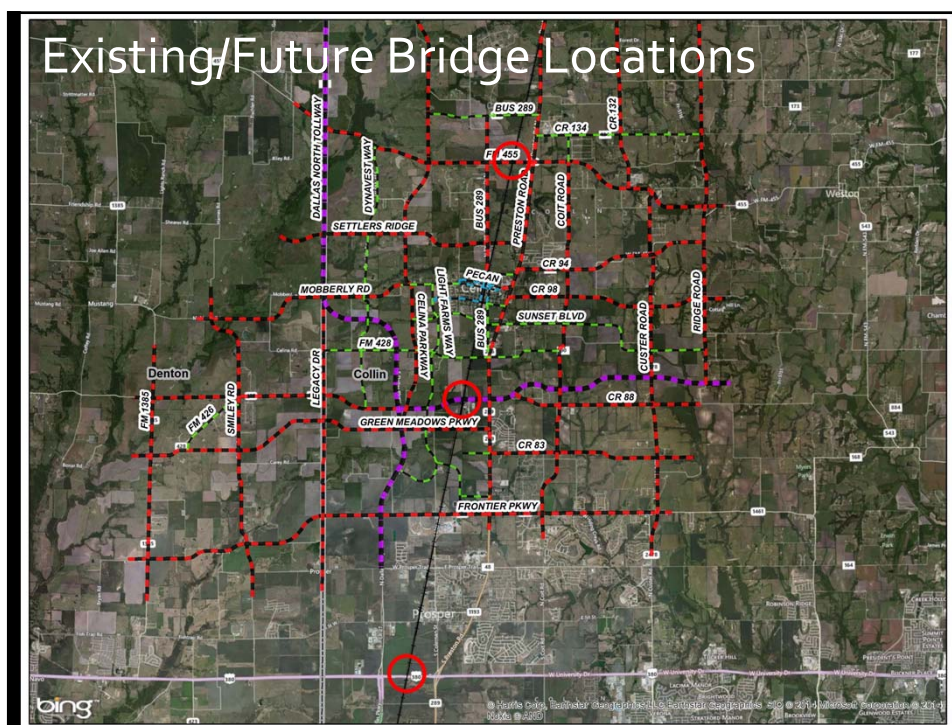
Items for Discussion

- Location
- Immediate Needs
- Existing/Future Bridge Locations
- Bridge Schematic
- County Road 51
- NCTCOG Warrant Analysis
- Development Philosophy
- Commercial Areas near Railroads

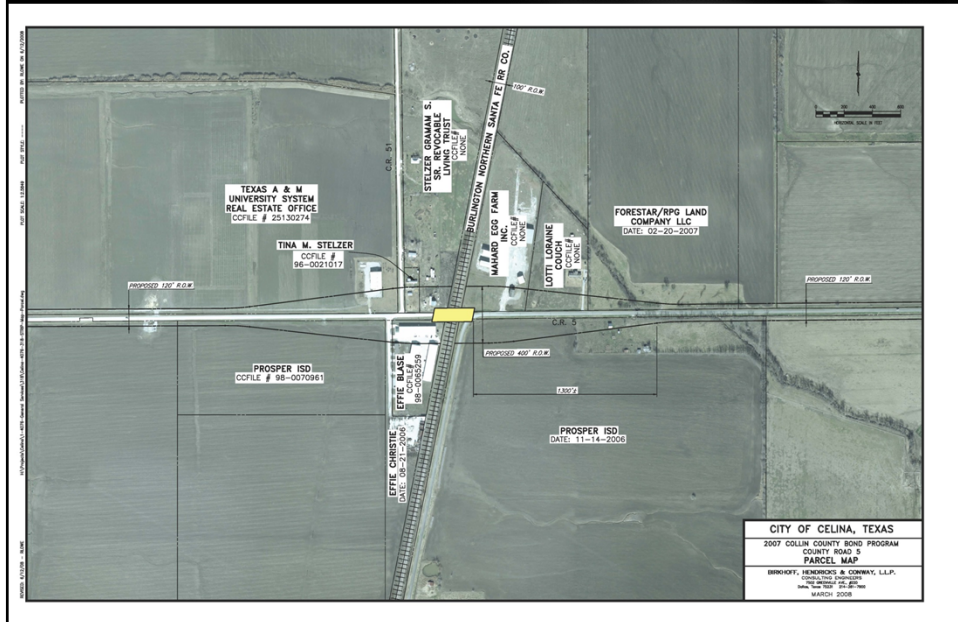


Immediate Needs

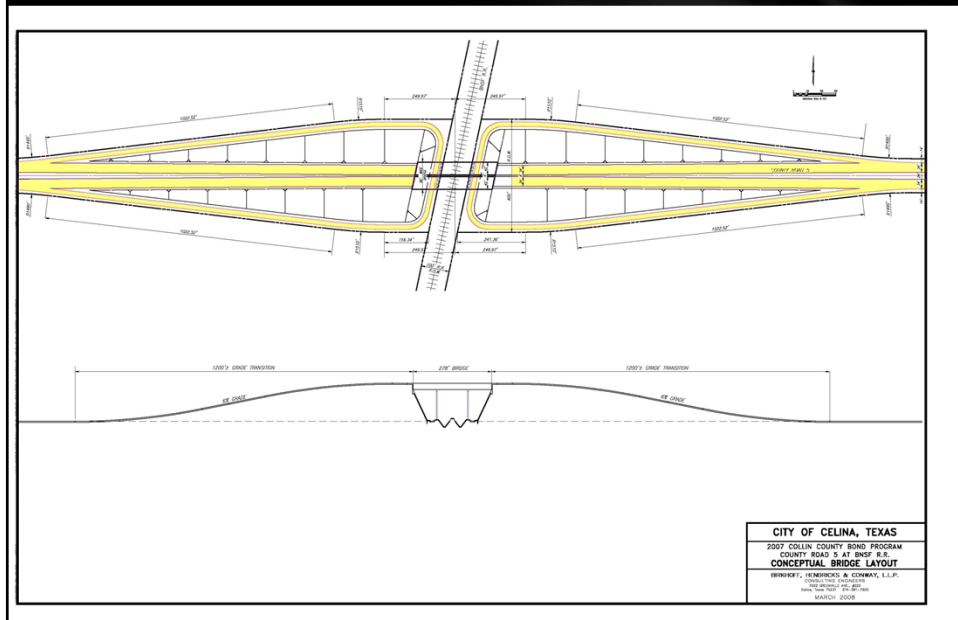
- Frontier is in horrible condition
- Improved access to Prosper Schools – High School and new Light Farms Elementary
- Improved access to North Dallas Tollway
- Light Farms Phase 3 is under construction
- Frontier West of the Tollway is under design



Schematic



Schematic



County Road 51

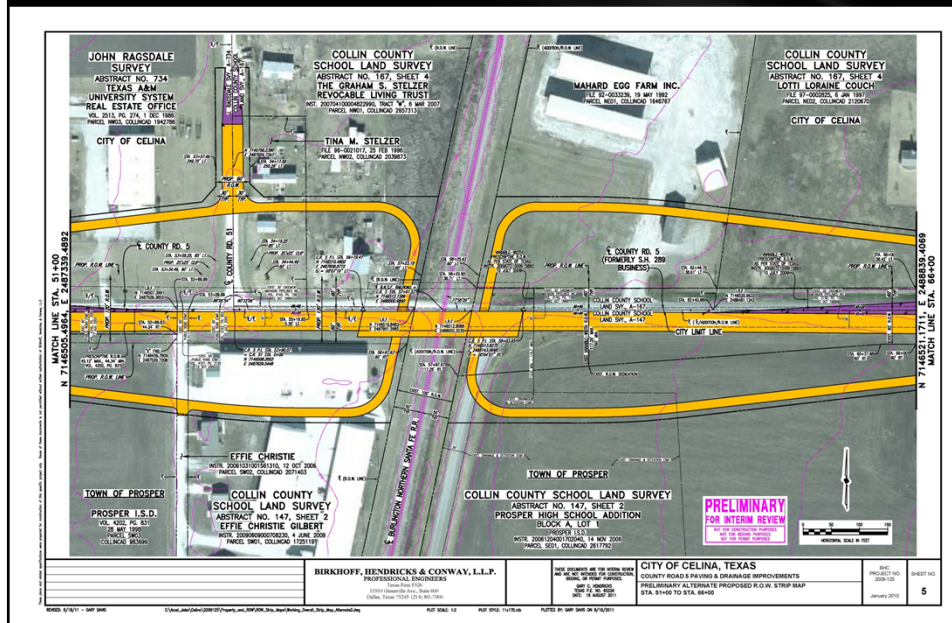
- Joint project with Collin County
- Under Construction
- Scheduled to be complete on October 31, 2014
- Designed to be main entry into Light Farms from Frontier Parkway
- Total Cost is about \$1.6 M

County Road 51

Impacts on County Road 51 with the Bridge

- Fiscal impact to Collin County on money spent by Light Farms
- Light Farms loses main entry point
- Complicated connection for CR 51 from Frontier

County Road 51



NCTCOG Warrant Analysis

- Met with NCTCOG staff, County staff, Prosper staff and Celina staff in December 2013 to go over preliminary warrant results
- Prosper provided updated traffic numbers for warrant analysis
- Collin and NCTCOG met with Celina and Prosper staffs independently to go over updated warrant results
- As of the May 22, 2014 NCTCOG Warrant Analysis, the bridge is not warranted through 2035

NCTCOG Warrant Analysis

Grade Separation Warrant Analysis Frontier Parkway at BNSF Railroad May 22, 2014

The determination regarding whether a roadway should or should not be constructed as a grade separation from a railroad at their intersection is accomplished using an industry standard warrant analysis. The criteria used for railroad-highway intersection analysis is established by the U.S. Department of Transportation, Federal Highway Administration in the *Railroad-Highway Grade Crossing Handbook*. Should any of the following criteria be met, grade separation is warranted.

A. Highway-railroad crossings should be considered for grade separation when one or more of the following conditions exist:

	Condition	Measure	Amount	Meets Criteria?	
				Yes	No
1	Designated Interstate Highway				X
2	Full controlled access				X
3	Posted speed limit	>70 mph	Unknown		X
4	Forecast traffic (rural)	AADT >250,000	12,869		X
5	Train Speed	>110 mph	49 mph		X
6	Trains per day	>100 trains	11		X
7	Passenger trains (rural)	>30 trains per day	0		X
8	Crossing exposure (rural)	Formula >250,000	143,559		X
9	Passenger train crossing exposure (rural)	Formula >200,000	0		X
10	Accident frequency	>0.5	0.0099		X
11	Vehicle Delay	>40 hours per day	4.4		X

¹ Passenger train service is not identified in the Mobility 2035 – 2013 Update

B. Highway-rail grade crossings should be considered for grade separation across the railroad right of way whenever the cost of grade separation can be economically justified based on fully allocated lifecycle costs and one or more of the following conditions exist:

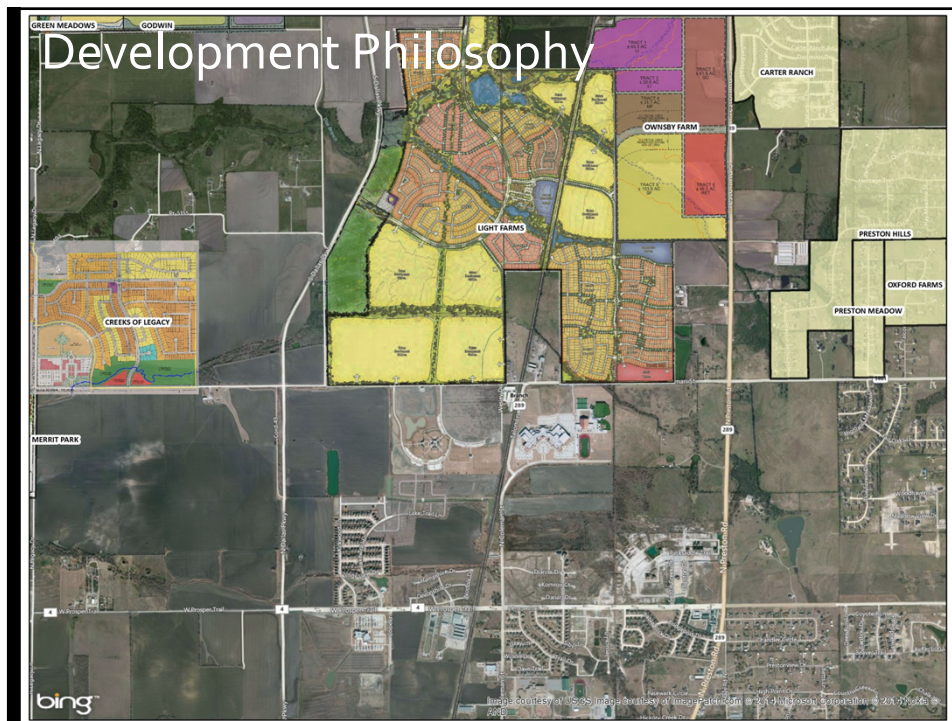
	Condition	Measure	Amount	Meets Criteria?	
				Yes	No
1	Designated Interstate Highway				X
2	Partial controlled access				X
3	Posted speed limit	>55 mph	Unknown		X
4	Forecast traffic (rural)	AADT >25,000	12,869		X
5	Train Speed	>100 mph	49 mph		X
6	Trains per day	>75 trains	11		X
7	Passenger trains (rural)	>12 trains per day	0		X
8	Crossing exposure (rural)	Formula >125,000	143,559	X	
9	Passenger train crossing exposure (rural)	Formula >100,000	0		X
10	Accident frequency	>0.2	0.0099		X
11	Vehicle Delay	>30 hours per day	4.4		X
12	10% below LOS design level	LOS			X

¹ Passenger train service is not identified in the Mobility 2035 – 2013 Update

C. Highway-highway intersections may also require grade separation under certain conditions. Based on previous analysis by the North Central Texas Council of Governments, intersections with a total vehicle forecast of greater than 60,000 Average Annual Daily Traffic may meet the need to be grade separated.

	Condition	Measure	Amount	Meets Criteria?	
				Yes	No
1	Total intersection volume	>60,000 vehicles	12,869		X

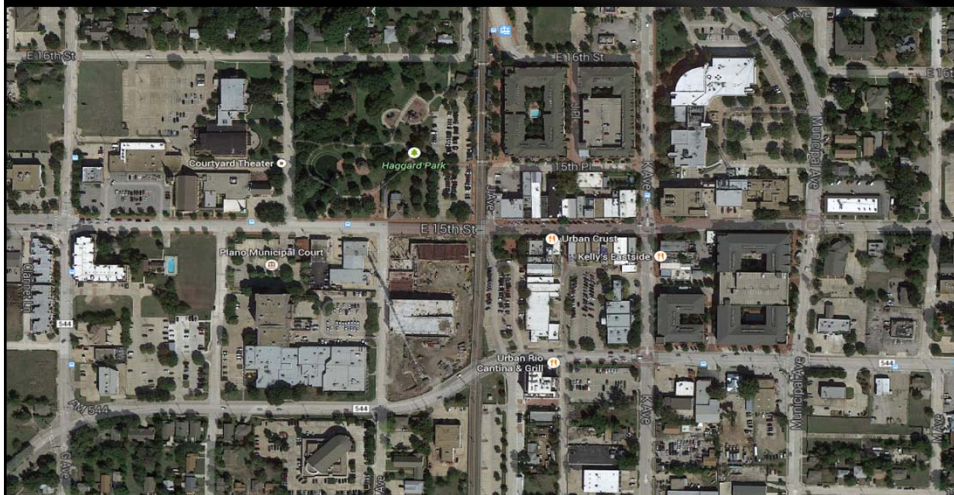
Based on the analysis contained in the above tables, a grade separation at the subject intersection is not warranted.



Commercial Areas near Railroads

- Plano at 15th Street
- State Farm at Railroad and George Bush
- Mockingbird Station
- Keller Springs Rd., Carrollton
- Addison Circle
- Plano Parkway and Central Expressway
- Murphy at FM 544
- Wylie at FM 544
- Wylie at TX 78 & 544

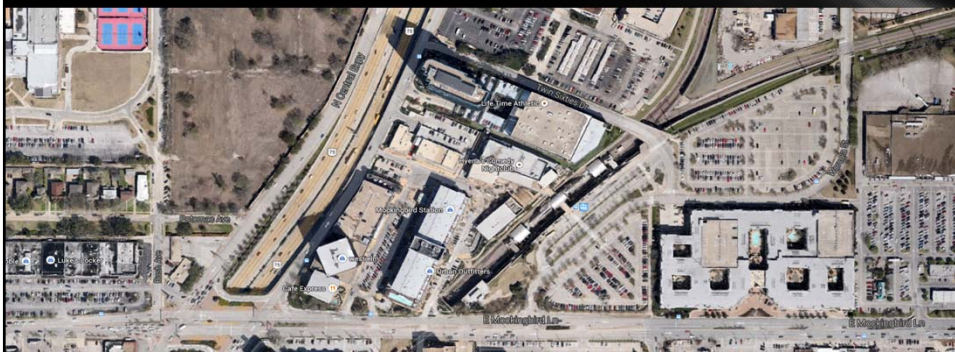
Plano at 15th Street



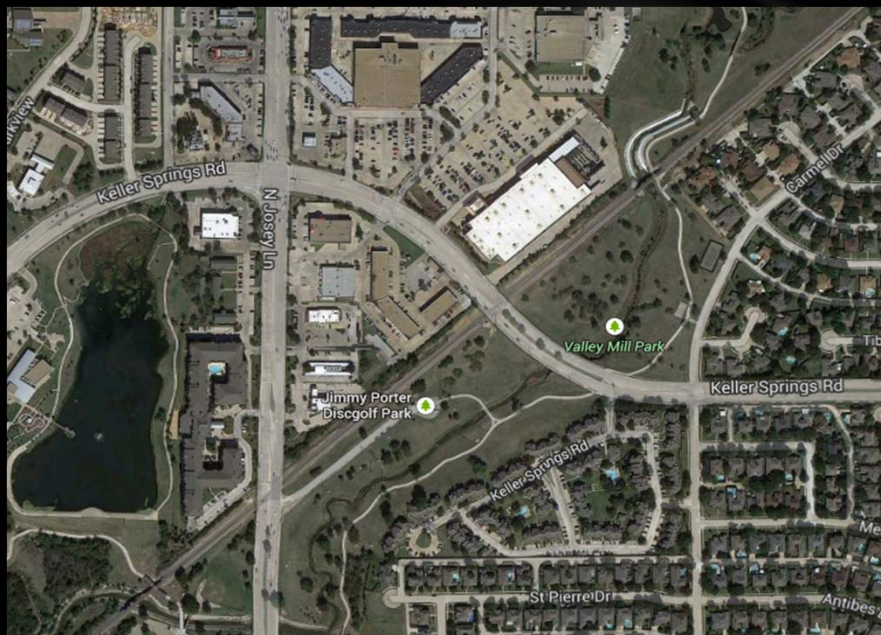
State Farm at Railroad and George Bush



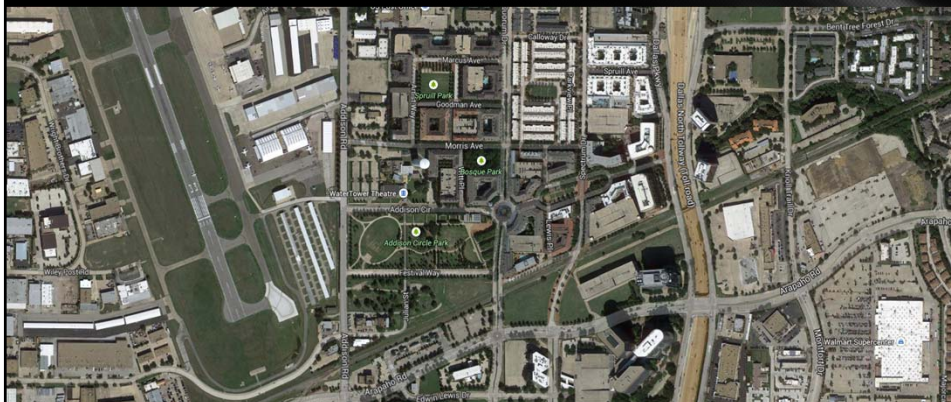
Mockingbird Station



Keller Springs Rd., Carrollton



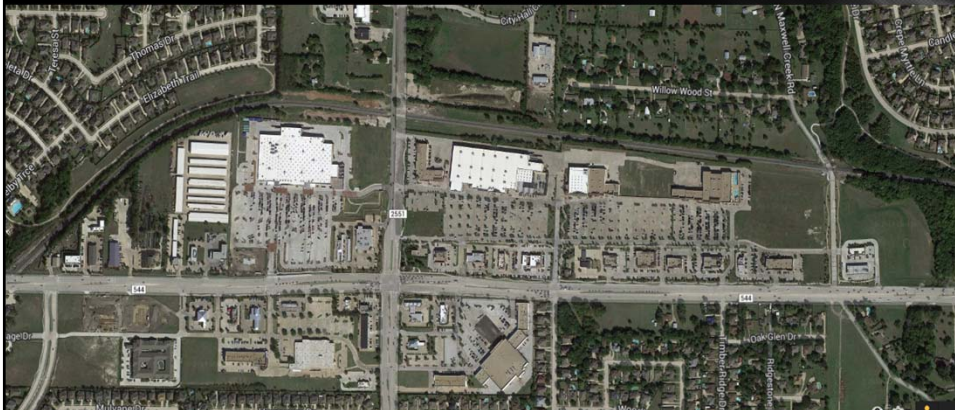
Addison Circle



Plano Parkway and Central Expressway



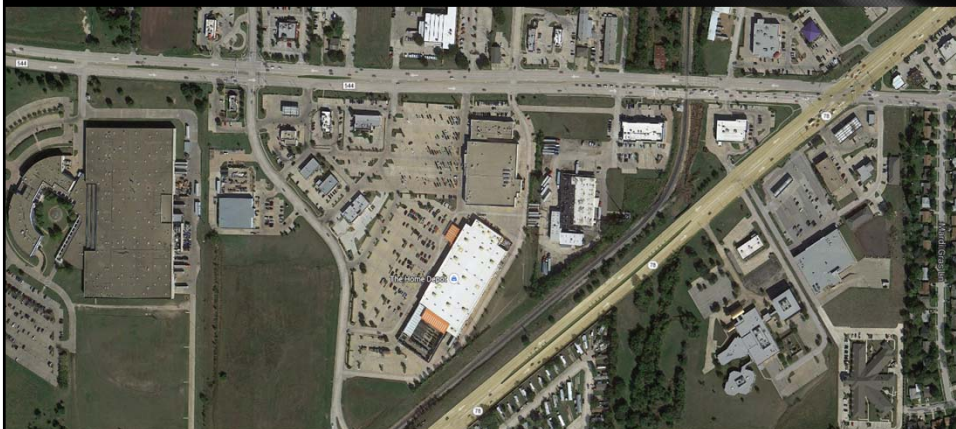
Murphy at FM 544



Wylie at FM544



Wylie at TX 78 & 544





Questions?