



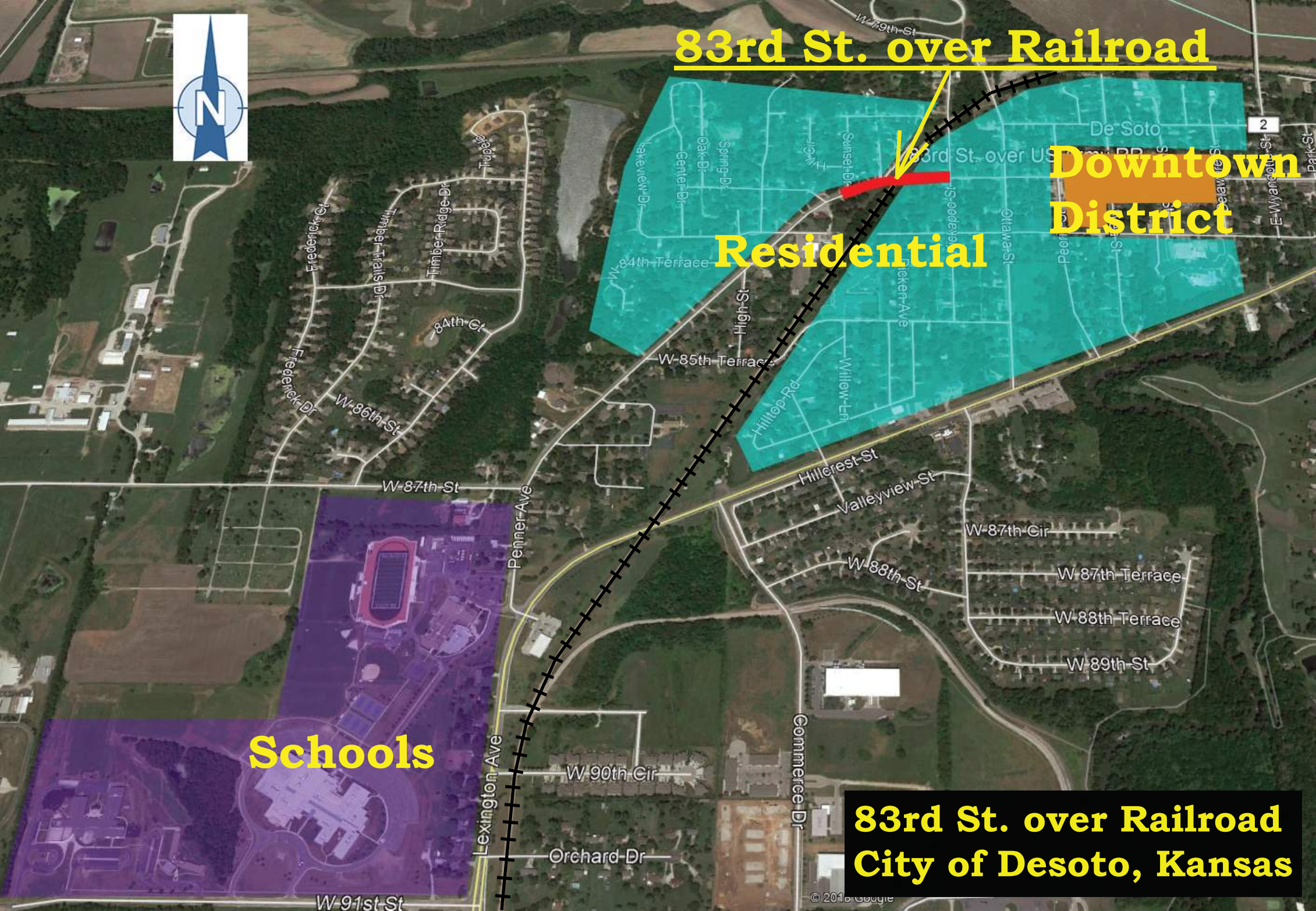
83rd St. over Railroad

Downtown District

Residential

Schools

**83rd St. over Railroad
City of Desoto, Kansas**





83rd Street looking west. Pedestrian using the non-sidewalk side of the bridge due to poor sidewalk condition and insufficient lane + shoulder width for the bus to pass safely by him.



83rd Street looking west. Steps at either end of sidewalk on bridge discourage the use of the sidewalk and prevents wheelchair access.



View of the north bridge fascia. Concrete under 2007 guardrail retrofit continue to deteriorate and loose concrete anchorage.



View of underside of bridge deck. Continued deterioration if not repaired or replaced will cause the load rating to decrease potentially preventing Emergency Services from using bridge.

**De Soto, Kansas
2017 Biennial Bridge Inspection**

Opinion of Probable Bridge Replacement Cost

Bridge Number: E.47-16.5

**Designed by: MAH
Date: 4/4/2017**

General Information:

Structure is functionally obsolete due to narrow roadway width for high traffic volume and inadequate underclearances. Existing bridge has only 18.25' vertical underclearance to rail. Typical BNSF criteria says new bridge should provide min. 23.50' vertical underclearance.
 Anticipated Bridge Length = 110'; Proposed Bridge Width = (2 lanes) x 12' + 2 x (4' clear) + 1 x (6' sidewalk) + 2 x (1' barrier) = 40'
 Use single span steel beam bridge, which has a thinner beam depth vs. prestressed concrete beams.
 New profile grade may be about 9 ft. higher than existing profile grade to accommodate increased vertical clearance and longer beams.

Construction Costs:

Removal	Comment	Unit	Cost / Unit	Number of Units	Total Cost
Demolition of Existing Bridge	80' x 31'	SF	\$12.00	2,480	\$29,760
Remove Existing Pavement	1,000' x 24' x .83'	CY	\$70.00	450	\$31,500
Bridge	Comment	Unit	Cost / Unit	Number of Units	Total Cost
Steel Beam Bridge	110' x 40'	SF	\$135.00	4,400	\$594,000
Bridge Approach Slab	13' x 40' x 2	SY	\$250.00	115	\$28,750
Roadway	Comment	Unit	Cost / Unit	Number of Units	Total Cost
Grading	assume 400' of grading on each appr.	Sta.	\$50,000.00	8	\$400,000
MSE Walls	need MSE walls on both approaches due to raising grade on 83rd St.	SF	\$60.00	10,500	\$630,000
Paving	assume 800' of paving on 83rd St + 200' of paving on Ista & Cherokee St.	SY	\$60.00	2,700	\$162,000

Subtotal	\$1,876,000
Mobilization (Est. 10%)	\$187,600
Contingency (Est. 25%)	\$515,900
CONSTRUCTION TOTAL:	\$2,579,500
Engineering (Design)	\$335,000
Constr. Engineering (Est. 15%)	\$387,000
Right of Way Acquisition	*
Utility Relocations	*
TOTAL PROJECT COST:	*

* It is likely that Right of Way/Easements and Utility Relocations will be required for the replacement bridge, but it is too early in the process to anticipate what these cost might be.

NOTE: Opinions of the probable repair/replacement costs are prepared at a "program level" and are for use by the bridge owner for general budgeting purposes. Probable costs are not prepared at a "project level"; these probable costs are not based on detailed surveys, quantity calculations, hydraulic studies or design and should not be interpreted as such. These costs do not include right of way, utility relocations, or permitting that might also be associated with the replacement or repairs. Further studies would be required at a "project level" to determine the repair or replacement cost for a specific structure.