Interchange Alternatives Comparison

Illinois Department of Transportation

	Category	Unit of Measure	Feasibility Study	SPUI	DDI	Roundabout
Purpose and Need Evaluation	Safety Improvements - Interchange vs. Intersection	N/A	May Reduce All Crashes by Up to 42%*			
	Traffic Operations Level of Service (LOS)	LOS	LOS C	LOS C	LOS C	LOS D
	Does this meet the City of Elgin Comprehensive Plan?	Yes / No	Yes	Yes	Yes	Yes

Legend	
Blue	Meets Purpose and Need
Gray	Does Not Meet

	Category	Unit of Measure	Feasibility Study	SPUI	DDI	Roundabout
Impact Evaluation	Impervious Roadway Area	Acres	34.73	32.06	31.50	32.42
	Number of New Bridges	Each	4	4	3	5
	Surface Area of New Bridges	Square Yards	5,680	5,310	3,480	5,520
	Wetland Impacts	Acres	0.025	0	0	0
	Number of Potential Full Displacement	Each	3	1	2	1
	Right-of-Way	Acres	24.46	4.51	5.63	3.86
	Anticipated Summerhill Park Impacts	Acres	2.87	0.25	0.45	0.53
	Area for Open Space	Less / Equal / More	Less	More	Less	More
	Accommodates Bike and Pedestrian Facilities	Yes / No	Yes	Yes	Yes	Yes
	Ease of Construction	Low / Medium / High	Low	High	Low	Medium
	Villa Street Access	Yes / No	Yes	Yes	Yes	Yes
	US 20 Westbound Access	Yes / No	Yes	Yes	Yes	Yes
	Overall Cost	$ / $$ / $$$	$$$	$$	$$	$$

Legend	
Dark Blue	Lower Impact
Light Blue	Neutral
Cyan	Higher Impact

*According to the Highway Safety Manual, a guidance document for incorporating quantitative safety analysis in the highway transportation project planning and development process, converting a four-leg at-grade intersection into a grade-separated interchange may have the following reductions in crashes:

-All crashes in the area of intersection – 42% reduction

-Injury related crashes in the area of intersection – 57% reduction

-Non-injury related crashes in the area of intersection – 36% reduction