Fern Valley Interchange: Interchange Design Options.

	Design Features	Traffic Operations	Pros	Cons
Interchange Options				
6-Lane Diamond with SE Loop	•	• Meets capacity standards at all key locations for the 20-year design period (using current comprehensive plan projections). • Allows for future growth beyond 20 years. • Queuing does not interfere with the interchange or Phoenix downtown couplet operations in the 20-year planning period. • Interchange would handle projected traffic until 2038.	• Removes northbound on movement from intersection • Easier to phase construction than other options • Allows for growth beyond the 20-year comp plan (but less than other interchange options)	• Northbound on/off ramps don't line up • Possible bike/pedestrian conflict with loop ramp • Increased right of way due to construction of loop ramp
SPUI (Single Point Urban Interchange), north of existing bridge	•	Same as 6-Lane Diamond with SE Loop, except: • Interchange would handle projected traffic until 2048 (plus an additional 8 years if the southbound/northbound off-ramp, right-turn intersections were signalized).	• Lowest v/c ratios • Only 1 signal required - improves traffic flow • Better signal spacing • Best at handling future growth beyond the 20-year comprehensive plan • Small footprint • Reduced right of way requirements	• Expensive • Difficult to phase construction
Crossing Diamond Interchange (CDI)	•	Same as 6-Lane Diamond with SE Loop, except: • Interchange would handle projected traffic until 2042.	• v/c ratios fall between 6-lane diamond and SPUI • Shortest traffic queues • Allows for future growth beyond 20 years • Smallest footprint • Reduced r/w impacts • Reduced signal phases minimizes delay	• New/unfamiliar interchange design • Requires drivers to cross to the left side of the road • Requires strict access management control