

# INTERCHANGE OPTIONS SOUTH OF SUMMIT BRIDGE - [ SR 15 / SR 896 ]

301

## Interchange South of Summit Bridge

What is being done to improve the sharp curve and the traffic signal on the curve south of Summit Bridge?

Both at-grade intersections and grade-separated interchanges have been evaluated:

- Existing signalized intersection of US 301 / SR 896 and Bethel Church Road is located on a sharp curve at the base of Summit Bridge. This location has a history of serious accidents:
  - Accidents between 9/99 and 10/04
  - Resulting in 54 injuries and 3 fatalities



"What are the advantages and disadvantages of providing local access to/from the Spur?"

### Advantages

- Provides access for local residents
- Would keep speeds lower on Spur Road, closer to a true parkway concept
- Would reduce traffic on the section of Choptank Road north of Churchtown Road compared to spur options with no local access

### Disadvantages

- May accelerate or encourage further development along roadways with access to the spur in both Delaware and Maryland (Old Schoolhouse Road, Churchtown Road and Bethel Church Road)
- Provides more toll free connectivity to the spur for Westtown, Southridge, and other Middletown communities west of US 301, increasing volumes on southern Choptank Road. About 1,900 vpd are projected to use Old Schoolhouse Road to access Spur, rather than Levels Road (toll).
- Potential safety issues – intersection vs. free flowing traffic
- Potential noise issues – braking, stopping and starting at intersections

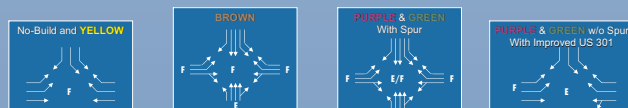
	Overall North of Summit Bridge	Spur (North of Summit Bridge)	Overall South of Old Schoolhouse	Spur (South of Old Schoolhouse)
Existing (2002)	5,495	-	5,100	-
No Build (2010)	22,500	-	13,200	-
Build + Spur (No Build)	1,300	22,200	4,800	22,200
Build + Spur (Full Build)	1,300	27,500	9,300	25,000

\* Green + Spur used as example, Purple + spur provides similar results

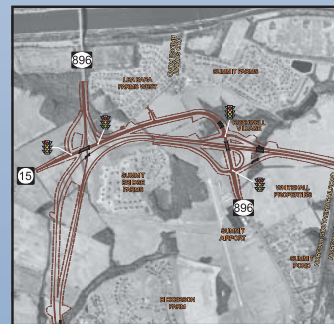
"Would an at-grade intersection work at the south end of Summit Bridge (US 301/SR 896/SR 15)?"

No

- All at-grade intersection options fail (LOS E with LOS F)
- Traffic safety would continue to be an issue



YELLOW



BROWN NORTH



BROWN SOUTH

## YELLOW

### Description

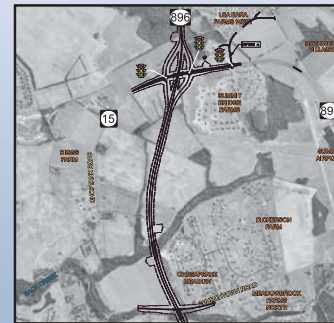
- Provides Loop ramp for Southbound SR 896

### Advantages

- Eliminates existing SR 896 sharp curve/traffic signal
- Slows traffic down by using ramp movements

### Disadvantages

- Traffic volume near capacity on single-lane loop ramp (year 2030) – likely requires two-lane loop
- Loop ramp constraints may not alleviate safety concerns – speed of southbound vehicles coming off Summit Bridge onto loop ramp – driver expectation



PURPLE + Spur and GREEN + Spur

## PURPLE and GREEN + Spur Option 1

### Description

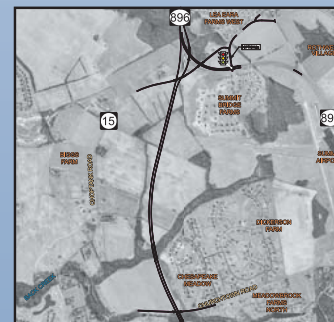
- Provides a "full diamond" interchange with free-flow from Summit Bridge to the Spur

### Advantages

- Eliminates the existing SR 896 sharp curve/traffic signal
- Diamond interchange ramp would act as buffer between Spur Road and Summit Bridge Farms
- Provides full vehicular access in all directions for local communities

### Disadvantages

- Requires heaviest local traffic movements (SB & NB SR 896) to use signalized intersections
- Interchange is adjacent to Summit Bridge Farms community



PURPLE + Spur and GREEN + Spur

## PURPLE and GREEN + Spur Option 2 (New)

### Description

- Provides a directional "Y" interchange between SR 896 and Spur
- Grade separates SR 15 over the Spur Road and SR 896
- Improves the sharp curve on SR 896 to current design standards and eliminates the traffic signal on the curve

## BROWN NORTH & SOUTH

### Description

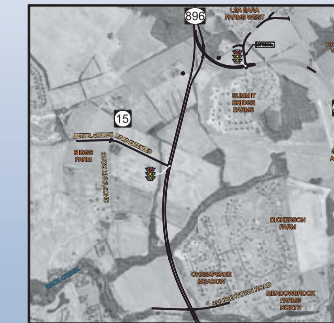
- Provides "Half-diamond" with north-serving ramps for local SR 896 traffic and free flow for US 301 from Summit Bridge on to New US 301

### Advantages

- Eliminates existing SR 896 sharp curve/traffic signal

### Disadvantages

- Requires heaviest local traffic movements (SB & NB SR 896) to use a signalized intersection
- Results in backups in AM, NB double right turn has 800' queue; in PM, SB double left turn has 300' queue
- Relocates SR 896 closer to Lea Earra Farms and has direct impact on proposed Rothwell Village (Brown North)



PURPLE + Spur and GREEN + Spur

## PURPLE and GREEN + Spur Option 3 (New)

### Description

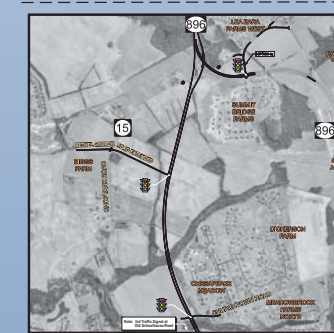
- Provides a directional "Y" interchange between Spur and SR 896
- Improves the sharp curve on SR 896 to current design standards and eliminates the signalized intersection on the curve
- Relocates access from SR 15 to SR 896 (on sharp curve) to an east-west extension of Bethel Church Road from Choptank Road to the Spur Road

### Advantages

- Maintains free flow of heaviest local movements (NB + SB SR 896) at the "Y" interchange
- Improves the existing sharp curve on SR 896 and eliminates the traffic signal on the curve
- Locates directional "Y" interchange farther away from Summit Bridge Farms than Option 1

### Disadvantages

- Northbound Spur Road is elevated, adjacent to Summit Bridge Farms community
- Does not provide direct local access (Summit Bridge Farms, Lea Earra Farms & Summit Farms) to and from the south, on the Spur



PURPLE + Spur and GREEN + Spur

## PURPLE and GREEN + Spur Option 4 (New)

### Description

- Same as Option 3, plus
- May accelerate or encourage further development along roadways with access to the spur in both Delaware and Maryland (Old Schoolhouse Road, Churchtown Road and Bethel Church Road)

- Provides more toll free connectivity to the spur for Westtown, Southridge, and other Middletown communities west of US 301, increasing volumes on southern Choptank Road. About 1,900 vpd are projected to use Old Schoolhouse Road to access Spur, rather than Levels Road (toll).

- Potential safety issues – intersection vs. free flowing traffic
- Potential noise issues – braking, stopping and starting at intersections

### Description

- Same as Option 3, plus provides local access at Churchtown Road and Old Schoolhouse Road
- Requires traffic signals at the two additional intersections along the spur

### Advantages

- Same as Option 3, plus
- Provides access for local residents
- Would keep speeds lower on Spur Road, closer to a true parkway concept
- Would reduce traffic on the section of Choptank Road north of Churchtown Road compared to spur options with no local access

### Disadvantages

- Creates circuitous access for SR 15 traffic west of SR 896 seeking access to SR 896 (via Bethel Church Road (adjacent to Lea Earra Farms) and Old Summit Bridge Road)
- Results in 6,200 and 6,900 vehicles per day on Bethel Church Road and Old Summit Bridge Road (east of existing US 301/SR 896)
- Requires minor modification of existing SR 896 / Old Summit Bridge Road intersection
- Increased construction costs (number of structures)
- The northbound Spur Road is elevated, adjacent to Summit Bridge Farms and Lea Earra Farms communities

### Advantages

- Improves the existing SR 896 sharp curve and removes the traffic signal on the curve
- Maintains free flow of heaviest local movements (NB + SB SR 896) at the interchange
- Directional "Y" interchange is farther away from Summit Bridge Farms than Option 1