

Skinny Streets Big Appetite Merging Innovation Along US 192

Will Hume, PE

Smith Siromaskul, PE

FC

US 192: PROJECT OVERVIEW

Project

Concept development of a 22-mile corridor that can implement a median running transitway

Constraints

- Minimum Right-of-way impacts (cannot just add lanes for the entire 22-miles)
- Implementation of the transitway cannot degrade general purpose traffic operations

Presentation

- 2040 full build options that follow address these specific locations:
 - SR 535
 - John Young
 - Shady Lane
- Full build uses concepts borrowed from other concepts:
 - Continuous flow intersections (CFIs), hook turns, quadrant roads, diverging diamond interchanges (DDIs)

US 192 CORRIDOR OVERVIEW

- Study segment: US 27 to Florida's Turnpike
- US 192 is a heavily congested corridor critical to the City of Kissimmee and Osceola County





EXISTING CONDITIONS - KISSIMMEE

- Undivided at major intersections
- Little room for additional turn lanes
- Existing capacity issues



East of Thacker



At John Young

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ADDING CAPACITY

- Ways to add capacity
 - Increase flow in set time
 - Add lanes Not possible due to ROW constrains
 - Increase flow by giving more time
 - Reduce phases
 - U turn based variants replace left and/or thrus with right turns and U turns
 - Superstreet, RCUT, J Turn, Michigan Left
 - All variations on the same theme
 - CFIs and DDIs displace/move left turns, eliminating the conflict with thru movement



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CONTINUOUS FLOW INTERSECTION (CFI)

- Distinguishing feature **displaced left turns**
- Lefts concurrent with thrus removes signal phase
- Note displaced left conflicts with right turn



FSS

Source: Google

SR 535 PARTIAL DDI/CFI



MEDIAN U-TURN (MUT)

• Minor street through movement is

allowed

- All left turns diverted
 - NB/SB turn right and U-Turn
 - EB/WB go thru and U-Turn



SHADY LANE - TWO-LEG CFI WITH MEDIAN U-TURNS

Option	Design Year Peak Hour (2040)	Maximum V/C	Level of Service	Delay (s)
No Build	AM	1.47	F	134.5
	PM	1.36	F	113.0
Build	AM	0.98	С	21.9
	PM	0.98	С	32.0

Innovative Elements

- Median U-Turns serve NB and WB left turns (MUT)
- Displaced left turns serve EB and SB Left (CFI)
- Bypass SB and WB Right turns (CFI)



HOOK TURNS - IT'S ABOUT MORE THAN JUST CARS

- Example from Tigard, OR on OR 99W
 - at 68th Street
- Turn left from right
- Left turn location driven by pedestrian



QUADRANT ROAD

Every left turn in this version goes through the quad road

- NB left goes thru, makes a left, and turns right
- SB left turns right and makes a left
- EB left makes two lefts
- WB left goes thru, makes two rights



JOHN YOUNG PARKWAY - QUADRANT CFI WITH HOOK TURN

Option	Design Year Peak Hour (2040)	Maximum V/C	Level of Service
No Build	AM	1.71	F
	PM	1.82	F
Build	AM	0.97	С
	PM	1.00	С

Innovative Elements

- Quadrant road serves EBL and WBL
- Signalized hook turn serves NBL
- Displaced left turn serves SBL (CFI)



FULL BUILD SUMMARY

- Full build option includes
 - Median busway for entire 22-mile corridor
 - Minimal Right-of-way impacts along the corridor
 - Combined innovative treatments/element in a new way using proven concepts to achieve project goals
 - Better operational performance than today along the entire corridor