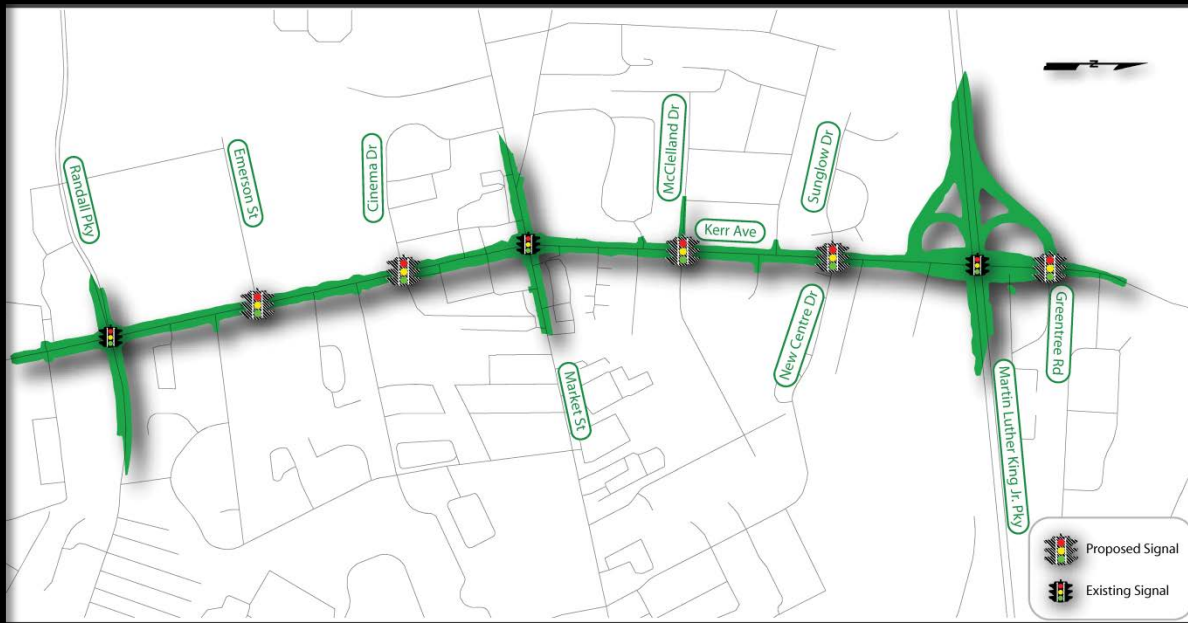


North Carolina's First Dual Quadrant Roadway Intersection



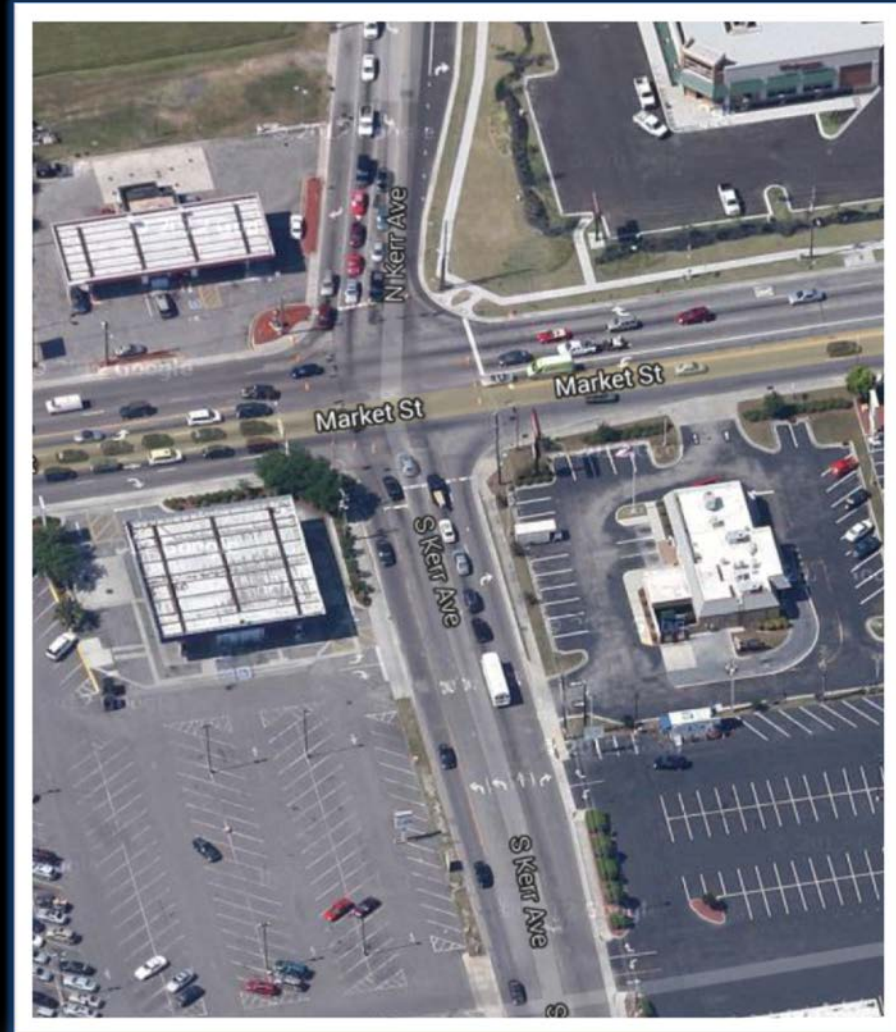
PRESENTED TO: **NCAMPO 2014 Conference**

PRESENTED BY
VHB + **Martin/Alexiou/Bryson**
Joining Forces

May 15, 2014

Market Street at Kerr Avenue

- High Traffic Volume
 - 45,000+ vpd on Market Street (2035)
 - 25,000+ vpd on Kerr Avenue (2035)
- High crash frequency
 - ~100 crashes in 3 years
 - Angle most prominent type followed by left-turns and rear ends
- Poor operations even with widening (LOS E/F), however interchange not feasible



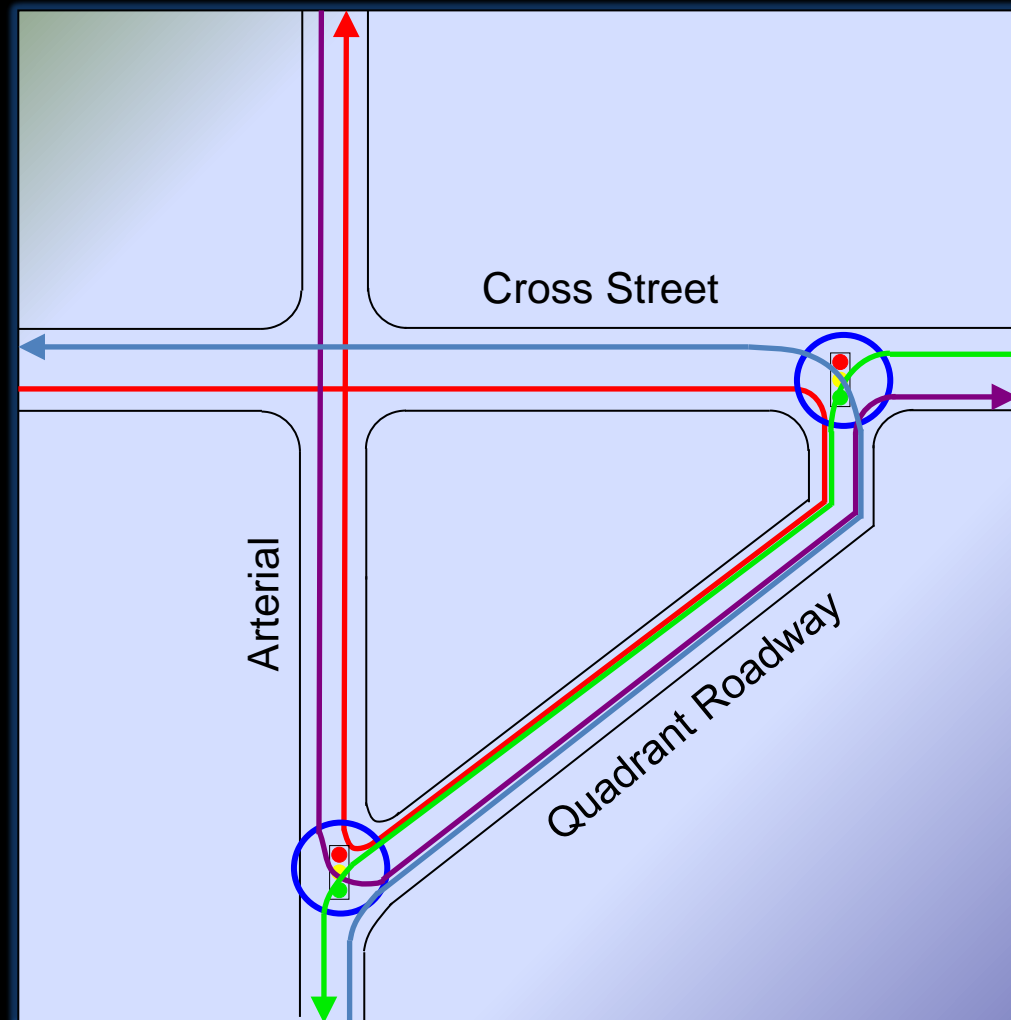
Quadrant Intersection Concept

Concept

- Eliminates left-turn movements from central intersection and redirects them to an adjacent quadrant roadway

Advantages

- Reduces number of signal phases, improving efficiency
- Eliminates left-turn lanes
- Reduces number of conflict points



Left-turns Through a Quadrant

“Corner Cut”

- Left
- Left

“Jughandle”

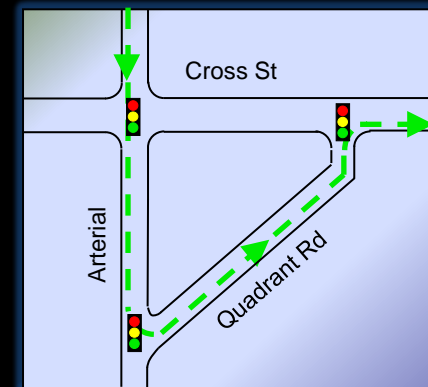
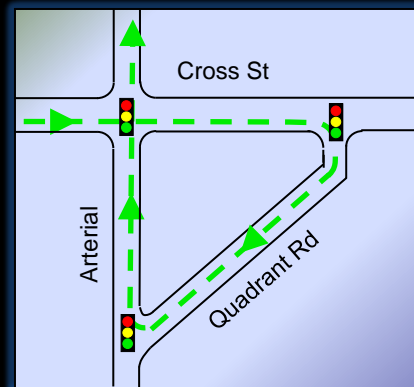
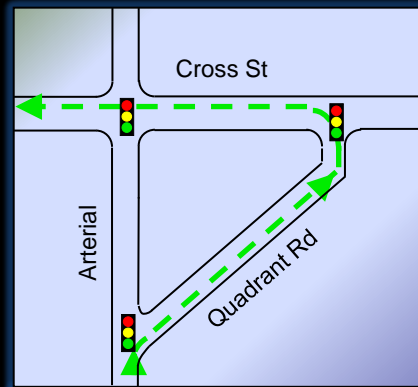
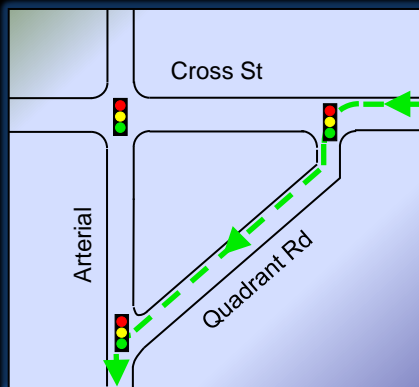
- Right
- Left
- Thru

“Loop”

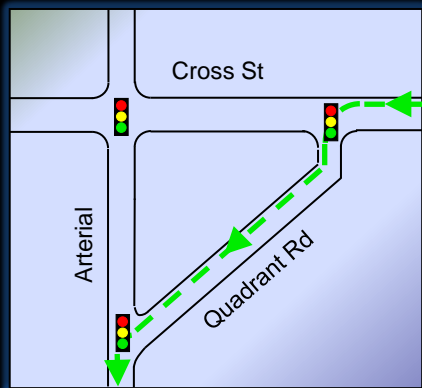
- Thru
- Right
- Right
- Thru

“Reverse Jug”

- Thru
- Left
- Right



Left-turns Through a Quadrant

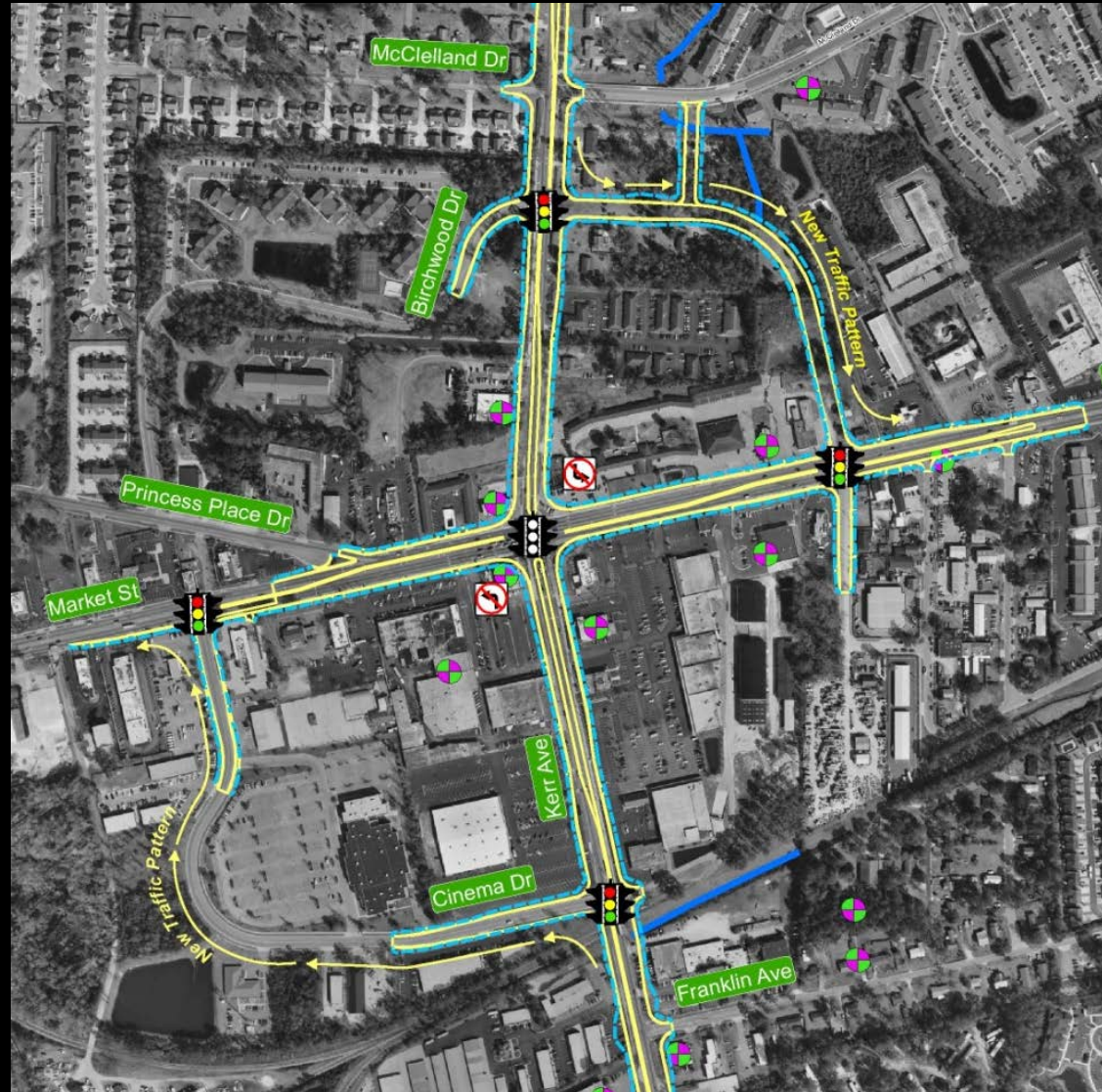


“Corner Cut”

- Shortest Distance
- Avoids center intersection
- Driver acceptance

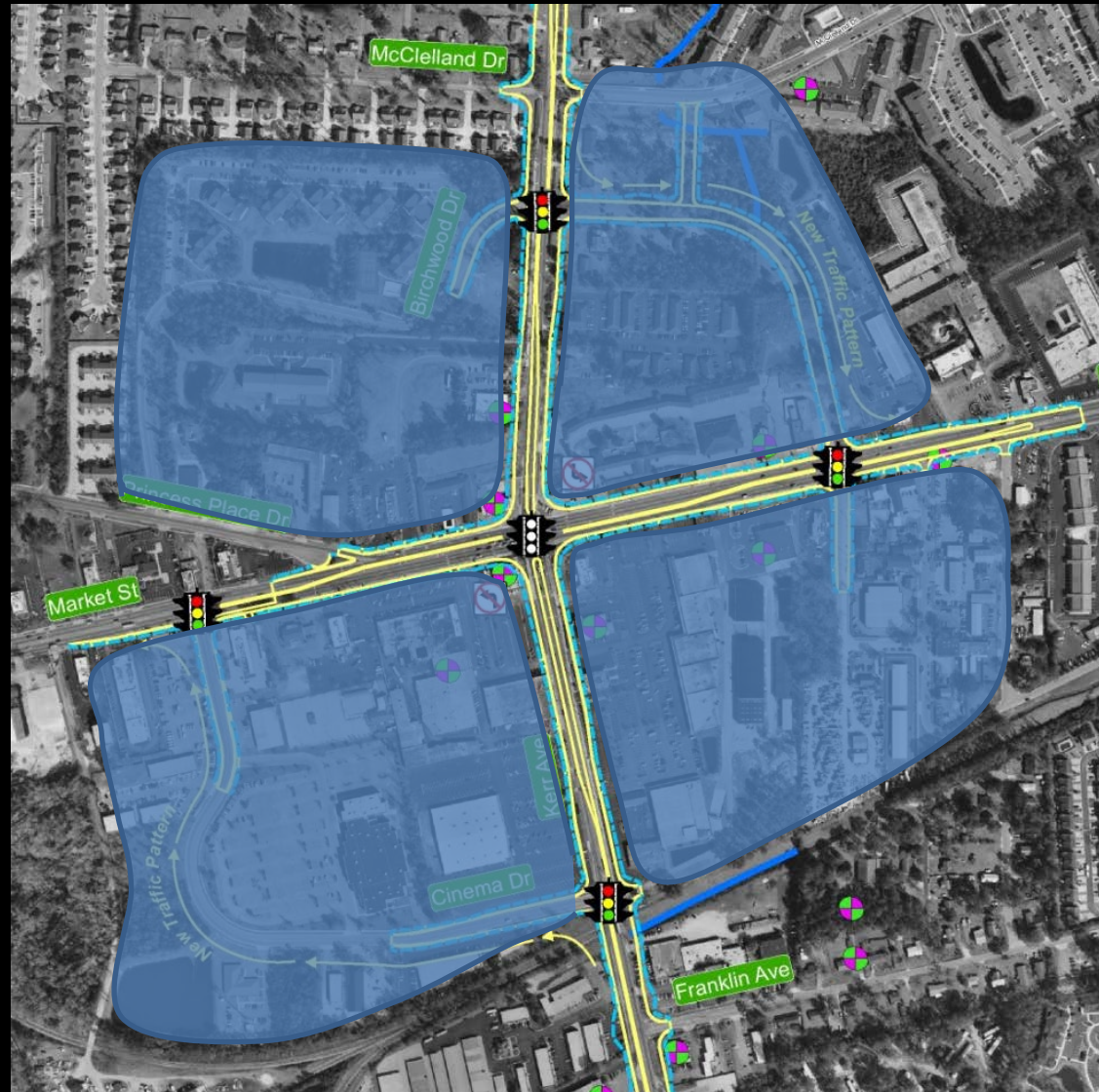
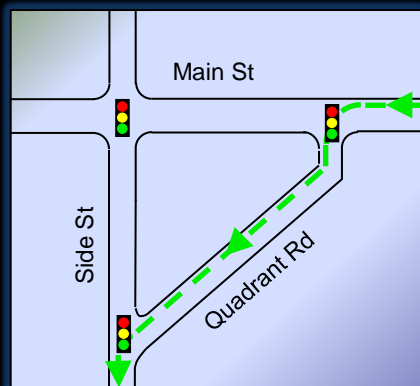
Market Street at Kerr Avenue Quadrant Concept “Cutting the Corner”

- Eliminates two of the four left-turns
- Northbound left-turns shifted to Cinema Drive
- Southbound left-turns shifted to new facility



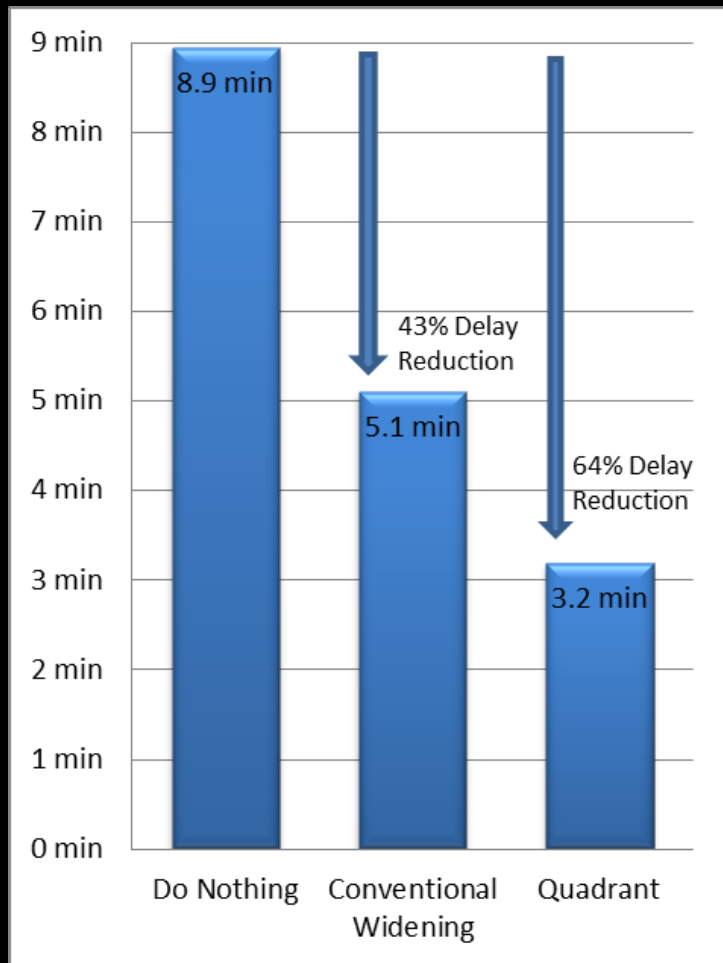
Market Street at Kerr Avenue Quadrant Concept “Cutting the Corner”

- Improved access to all four quadrants
- Opportunities for redevelopment
- Space for landscaped median along Kerr Avenue

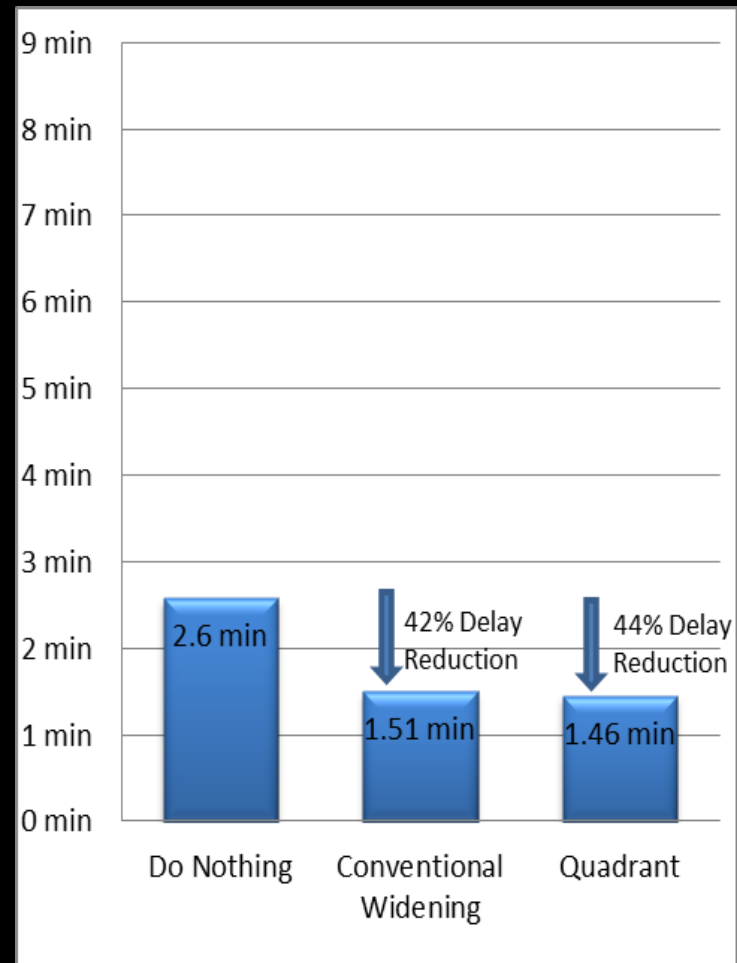


Operational Advantages

Delay During Typical Peak



Delay During Typical Off-Peak





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