



Public Hearing | October 11, 2016

*East John Street/Old Monroe Road (S.R. 1009)
Improvements in Matthews, Stallings and Indian
Trail; STIP Project U-4714*

North Carolina Department of Transportation



Agenda

- **Purpose of the Hearing**
- **Project Development Process**
- **Project Overview**
- **Detailed Study Alternatives**
- **Project Elements**
- **Estimated Costs, Schedule and Impacts**
- **Right-of-Way Acquisition and Relocation Assistance**
- **Public Comment**



Purpose of this Public Hearing

- **Inform you about the Environmental Assessment (EA)**
- **Explain the Purpose and Need of the Project**
- **Present Overview of the Detailed Study Alternatives**
- **Get Your Input on the Alternatives**



Map and Document Review Locations

Copies of the EA and the Hearing Maps have been available at the following locations:

- **NCDOT Division 10 Office- Albemarle**
- **Town of Matthews Planning Department**
- **Town of Stallings Planning Department**
- **Town of Indian Trail Planning Department**
- **Project Website**

Will be available till November 11, 2016



How to Comment

Your Input is Vital !



All Comments, whether verbal or written, carry the same weight

Comment Period Ends November 11th



What is done with your input?

NCDOT will conduct an internal meeting in the weeks following the public input deadline . All comments received on or before November 11th will be discussed

At this meeting, NCDOT considers:

- Safety
- Human and natural environmental impacts
- Traffic service
- Costs, and
- Public comments



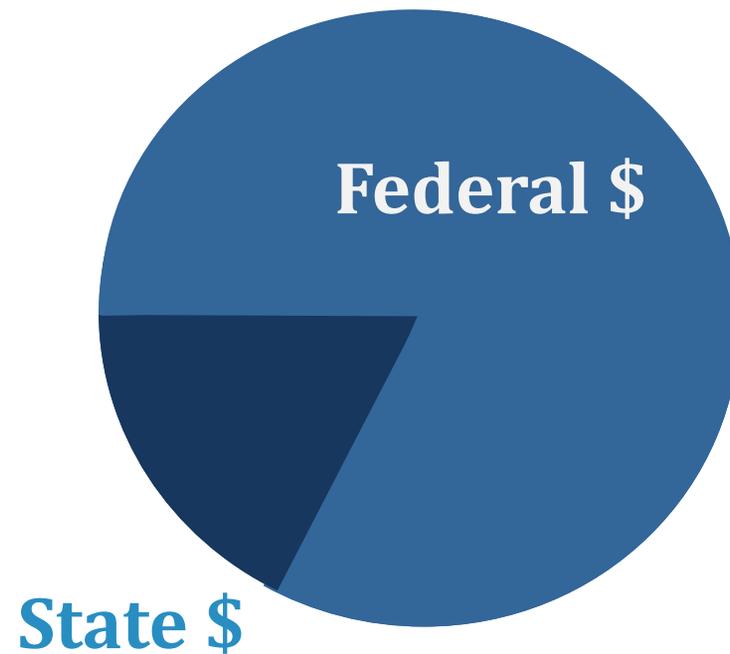
What is done with my input?

- **NCDOT will conduct an internal meeting in the weeks following this public hearing. All comments received on or before November 11th will be discussed.**
- **Preferred Alternative Finalized. The final environmental document: a Finding of No Significant Impact (FONSI) will be prepared and circulated to state and federal agencies.**
- **Develop Final Designs**
- **Begin Right-of-way Acquisition**
- **Begin Construction**

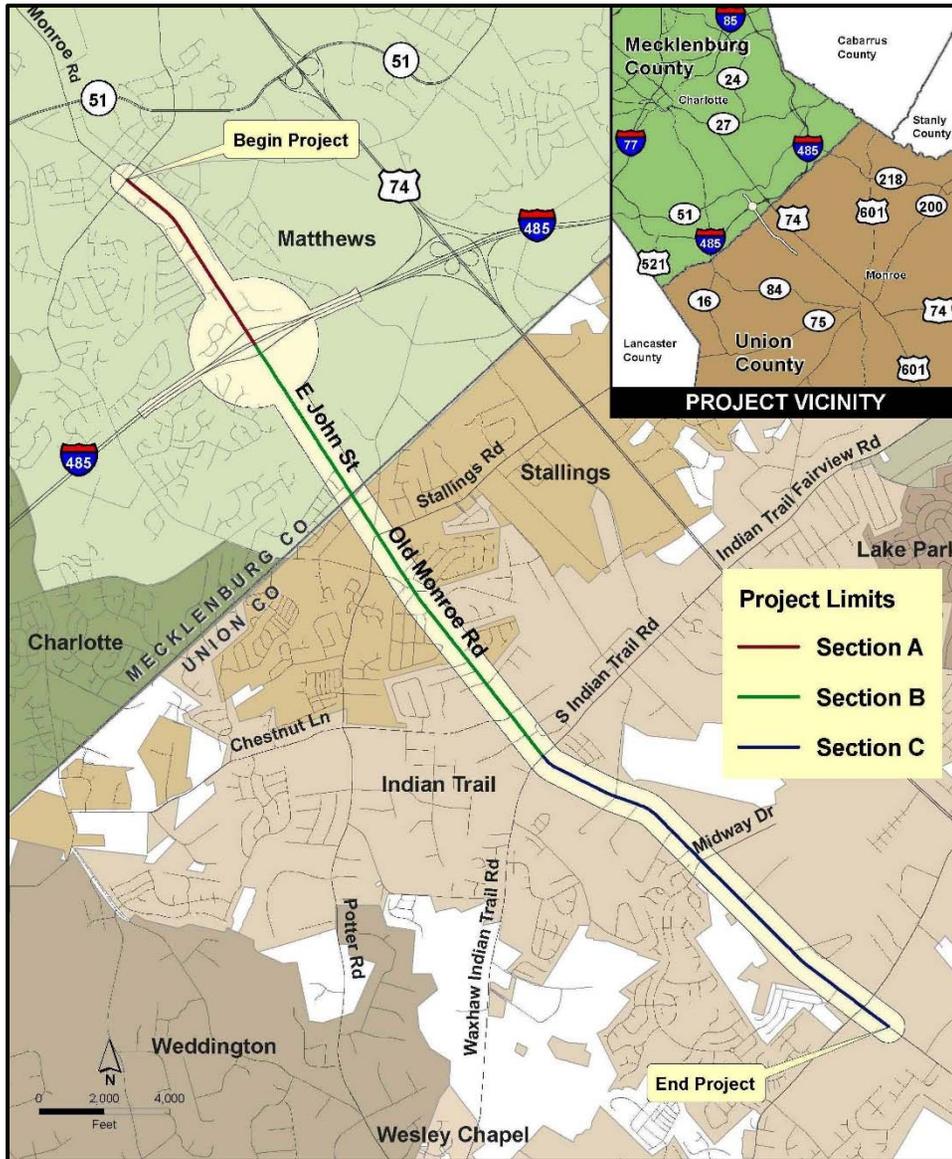


State-Federal Relationship

- Federal-Aid Highway Project
 - 80% Federal funds
 - 20% State funds



Project Location



- Section A - Trade St. to I-485
- Section B - I-485 to Waxhaw-Indian Trail Rd.
- Section C - Waxhaw-Indian Trail Rd. to Wesley Chapel-Stouts Rd.



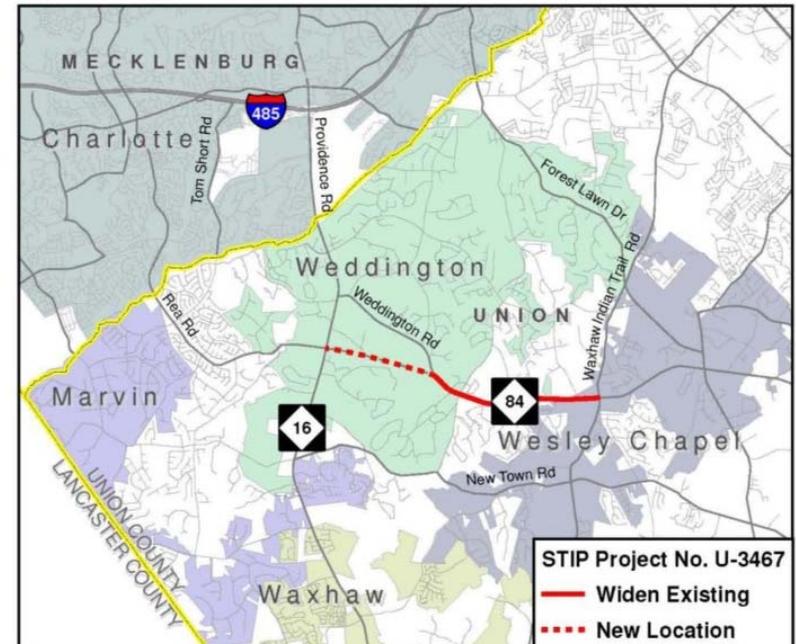
Purpose and Need of the Proposed Project

Purpose

The purpose of the project is to improve the mobility of E. John/Old Monroe Rd (S.R. 1009) and relieve congestion in the project study area.

Need

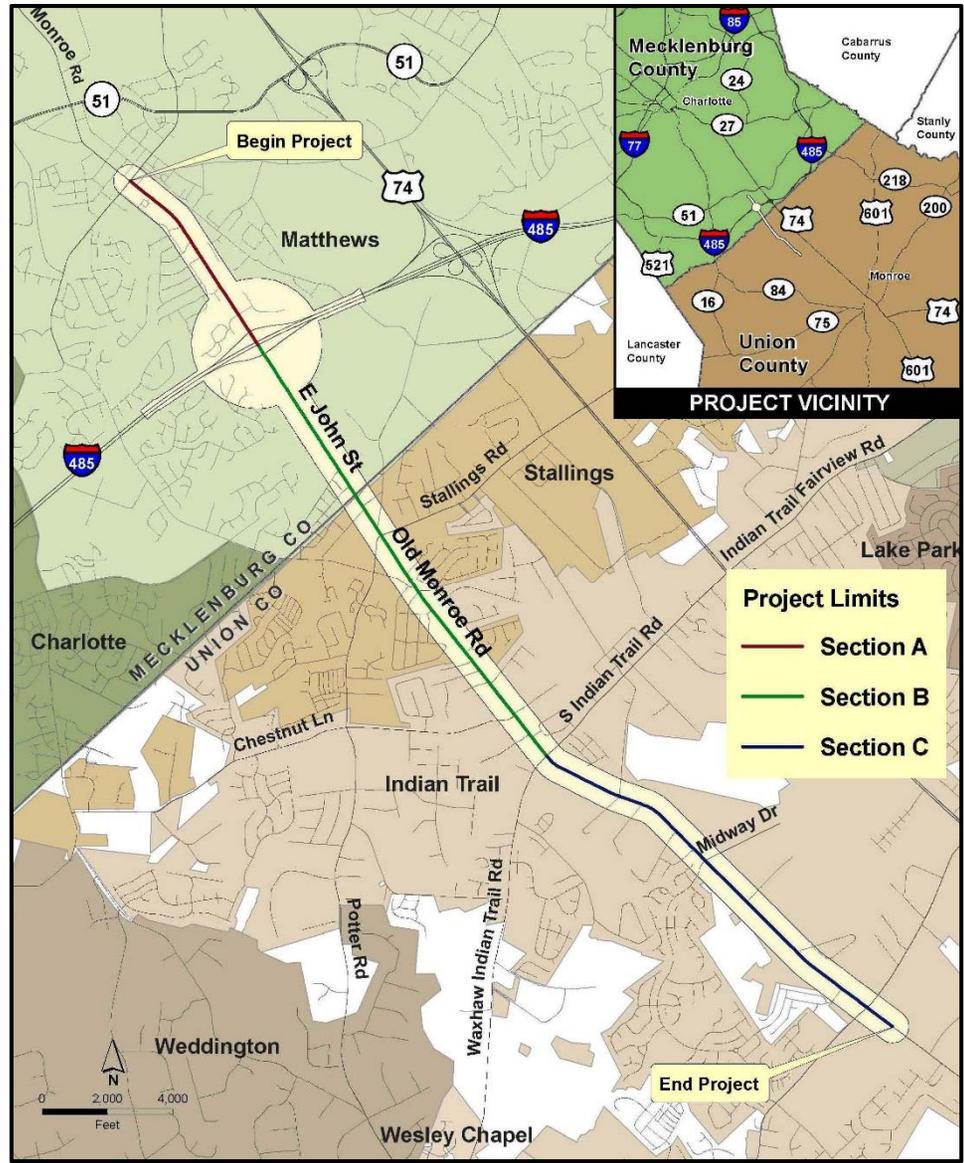
- Traffic volumes in 2035 are expected to exceed capacity on S.R. 1009 in the project area.
- Existing roadways do not adequately serve bike & pedestrian citizens.



Compatibility with Local Land Use and Transportation Plans

- Proposed Improvements are consistent with the long range transportation plans for the local Municipalities with the study area
- Local governments within the Charlotte Regional Transportation Planning Organization (CRTPO), as well as NCDOT, have included this project in their adopted plans





Project Development Process



Early 2013/ > Identified deficiencies to be addressed
Late 2013 and complete initial traffic analyses.

Aug. 2013 > **DESIGN CHARRETTE** – Identified concepts for screening and solicit feedback on key design features.

Jan. 2014 > **PUBLIC WORKSHOP** – Presented preliminary alternatives for feedback.

Mid 2014/ > Compared preliminary alternatives for
Late 2014 traffic operations, qualitative impacts, and public/local opinion.

Early 2015/ > Completed additional studies/impact
Late 2015 analyses in support of the Environmental Assessment (EA).

July 2016 > FHWA approved EA.

WE ARE
HERE ▶

Oct. 2016 > **PUBLIC HEARING** – Present preferred alternative.

Spring 2017 > Publish final environmental document for preferred alternative solution.

Post Spring > Develop final designs for the preferred
2017 alternative solution.

Early 2020 > Begin right-of-way acquisition.

After 2022 > Begin construction process.



Detailed Study Alternatives

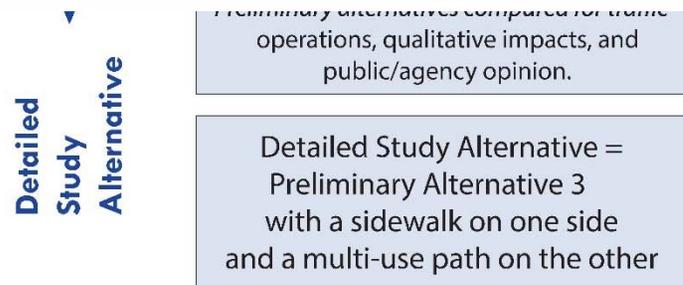
Roadway Options
varying bike/ped
accommodations

Intersection Options
• Traditional signalized

- Preliminary Alternative 1

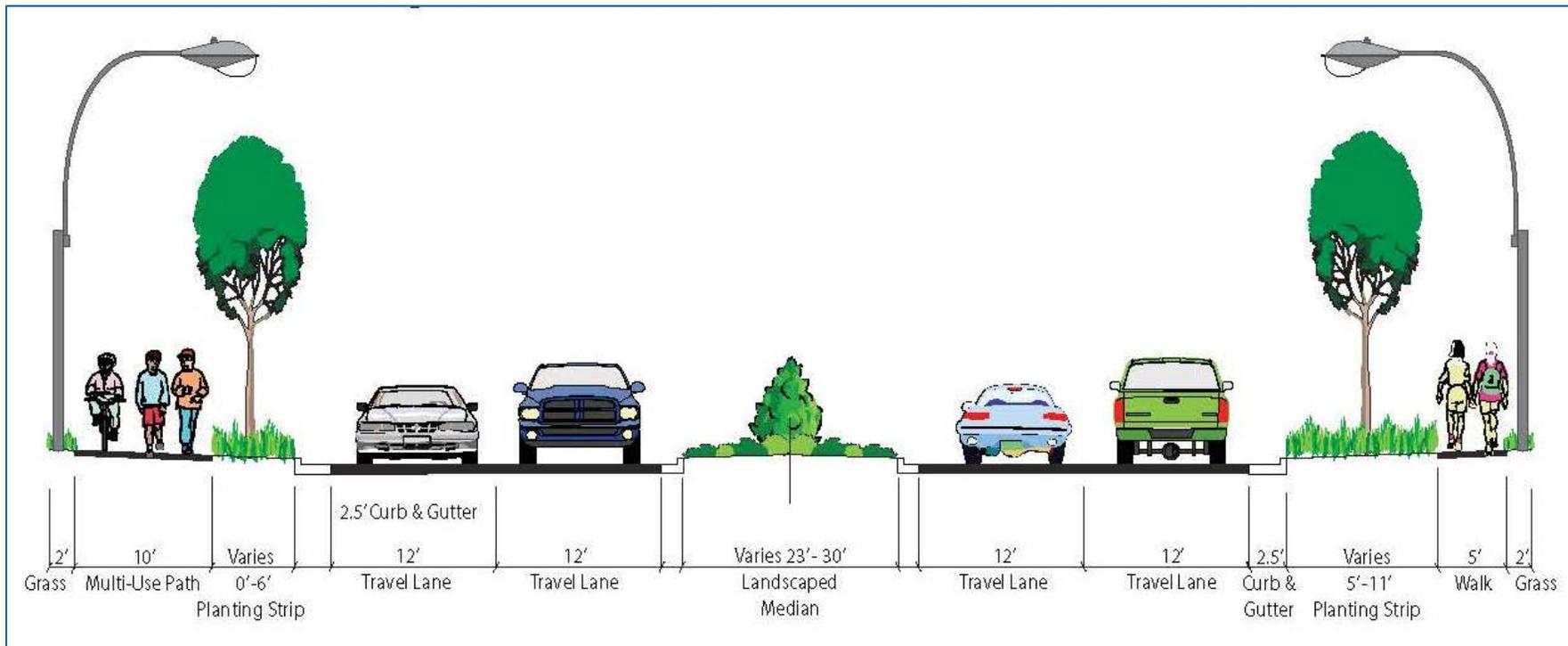
4-lane divided with traditional

Detailed Study Alternative =
Preliminary Alternative 3
with a sidewalk on one side
and a multi-use path on the other



Preferred DSA

- **4-lane median divided**
- **Includes superstreet intersections**
- **Bicycle and pedestrian accommodations**
- **Opportunity to enhance medians with landscaping**



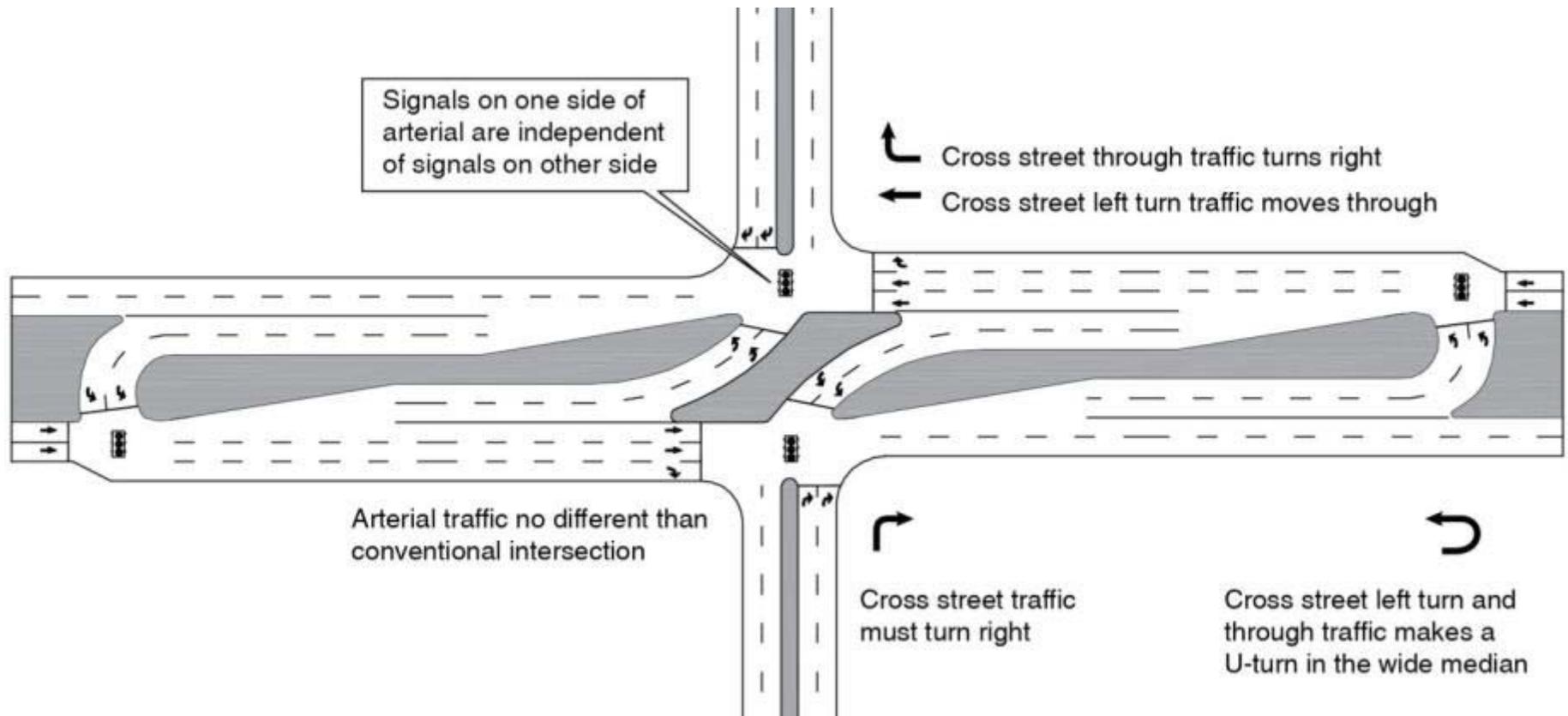
Best Fit Alignment

The alignment shown on the maps minimizes potential impacts to the environment such as community, natural, and cultural resources. Other factors considered in alignment placement included right of way and construction costs, potential residential and business relocations and opportunities for utilizing existing pavement.

Visualization



The Superstreet



*Other configurations possible based on site specific conditions.

FHWA uses the term RCUT (Restricted Crossing U-Turn)
Some states use the term “J-Turn”, or “Synchronized Street”



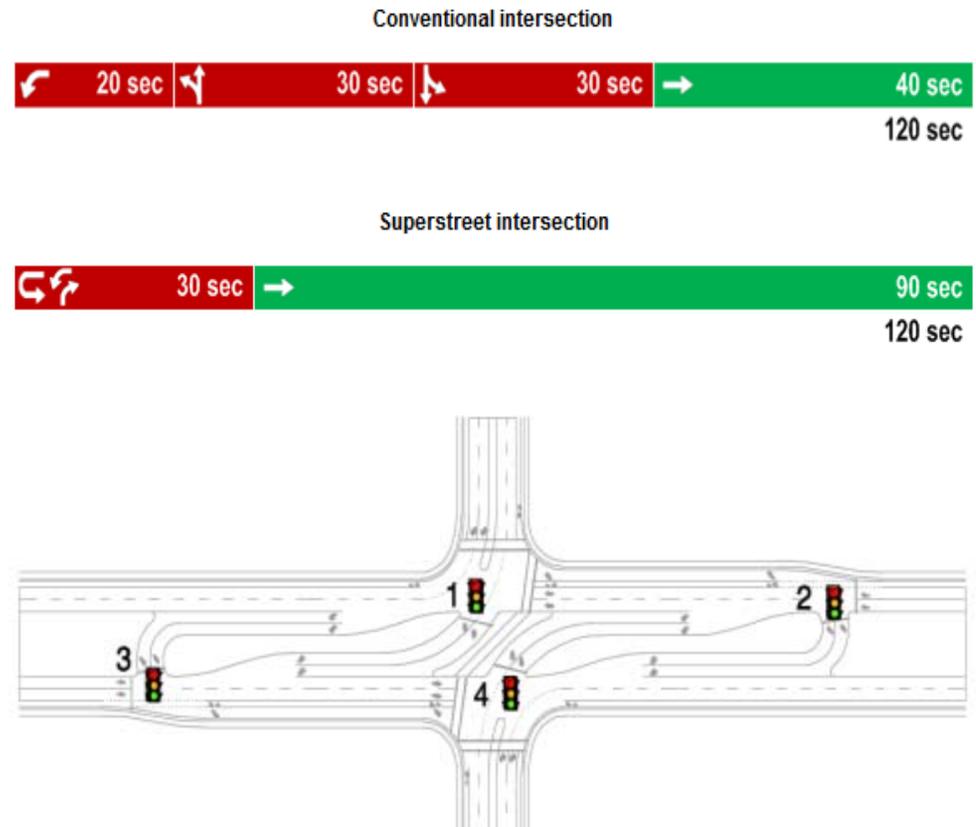
Superstreet - Left-Overs with Median U-turn

- Accommodates left-turns from major streets
- Minor through and left-turn movements from side streets are redirected via median U-turns
- Intersections may be controlled by stop/yield signs or by simple signals

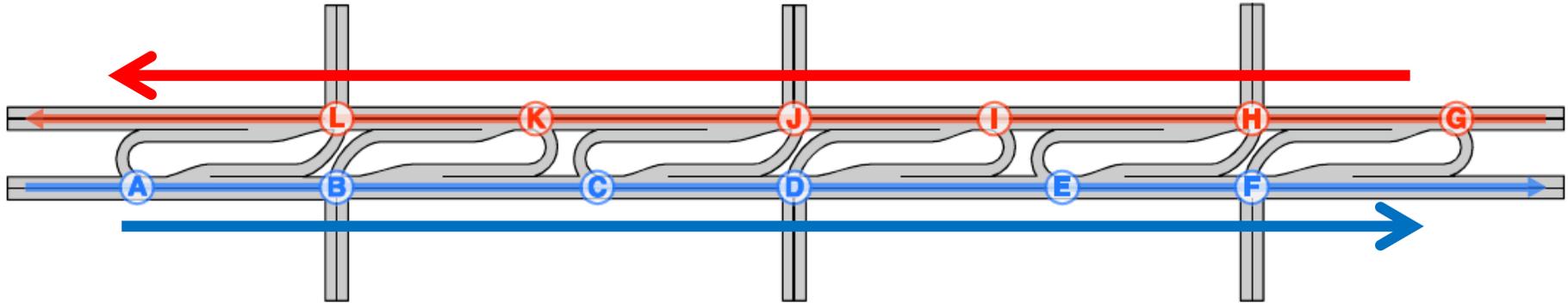


Signalized Superstreet Operation

- Signalized Superstreets typically operate with only two-phases allowing more green time for the major street through movements
- Shorter cycle lengths than comparable conventional intersections may be possible
- Shorter cycles reduces delay for most vehicles and for pedestrians
- Can have different cycle lengths for each direction on the major street
- High capacity - side street volume can exceed 20,000 AADT



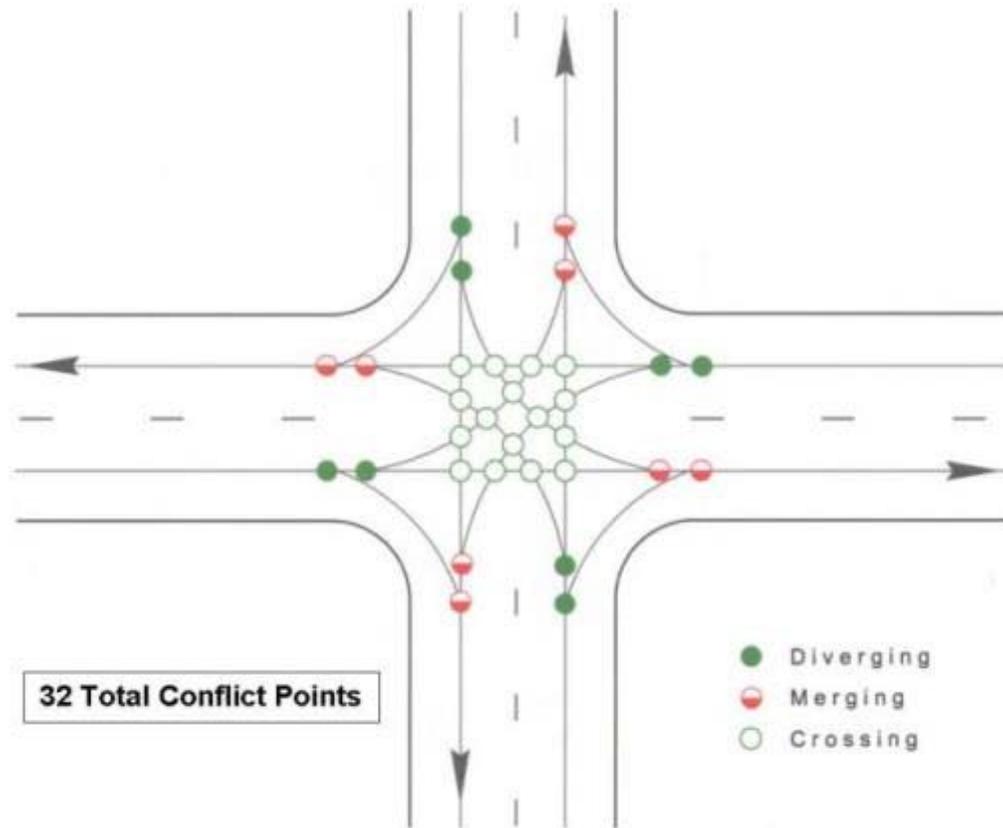
Superstreet Signal Progression



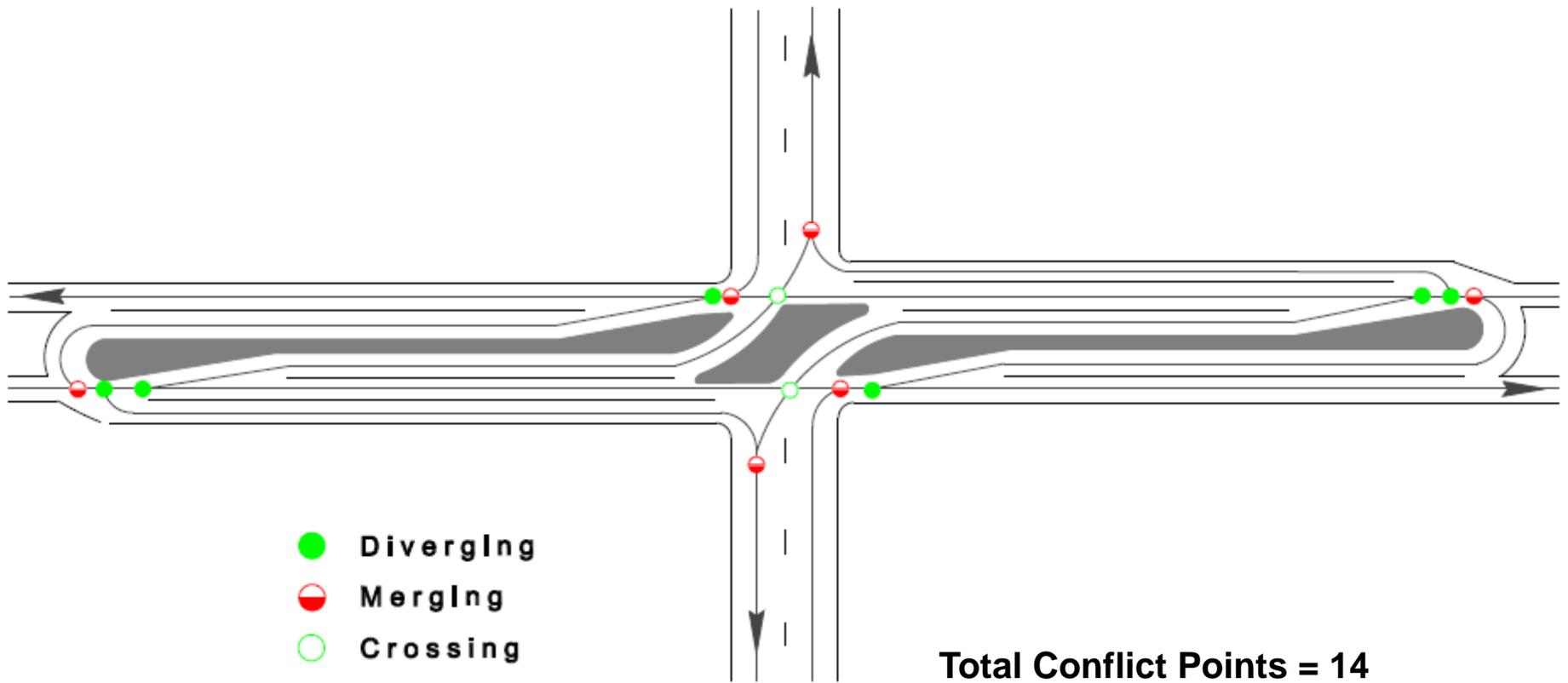
- Signals only affect one direction of main street travel
- One-Way Street – “Perfect” progression in both directions
- Maximized efficiency
- Effective at any speed or any signal spacing
- Can control speeds using progression – the progression speed can be adjusted by location, direction, time, day – drivers will adjust quickly
- No special signal equipment is needed



Conventional Intersection Conflict Points



Superstreet Conflict Points



Total Intersection Conflict Points

Conventional Intersection – **32**
16 Crossing Conflicts

Superstreet Intersection – **14**
2 Crossing Conflicts

Improved Safety



Safety Study of Signalized Superstreets

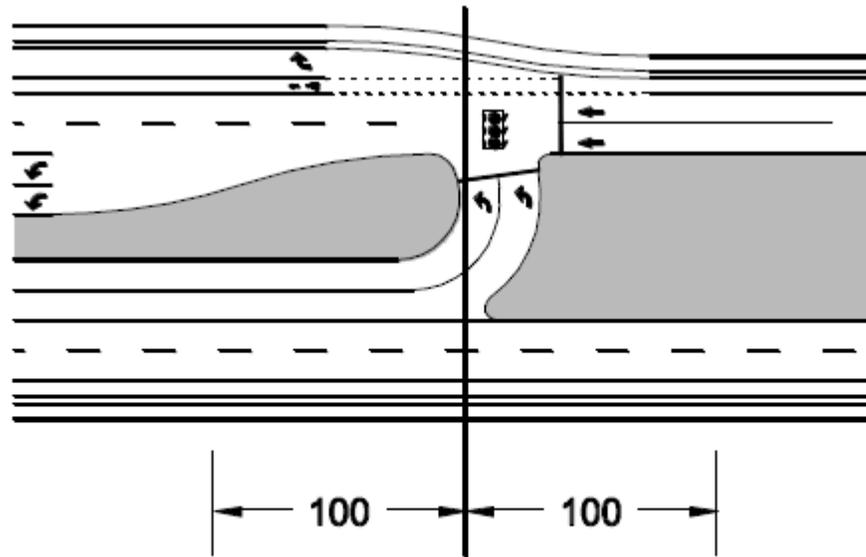
FHWA sponsored study, to be published 2016 - 11 treatment sites, good comparison sites

Sites	CMF All Crashes	CMF Injury Crashes
All AL	0.44	0.41
All OH	0.98	1.06
All TX	0.88	0.88
AL, NC, and OH	0.71	0.63
All	0.85 (SD = 0.16)	0.78 (SD = 0.20)



Superstreet Design and Operational Considerations

- Easy to navigate
- Superstreet configuration provides superb access to businesses and side streets
- Locate U-turn bulbs away from driveways, streams or other features



**Generally avoid access points
for 100 feet on either side of the
entrance to a U-turn crossover.**



Superstreet U-turn Footprint

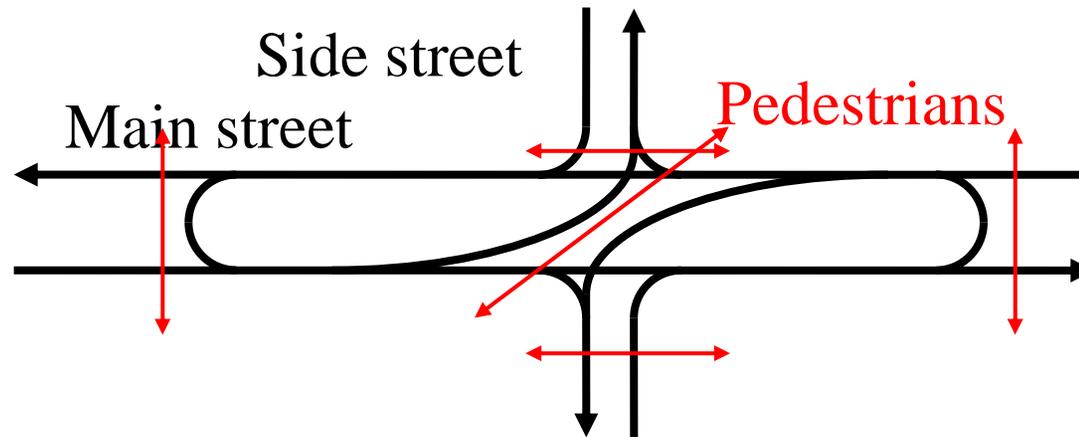
- Does not need large ROW
- Minimum median width of 23-30' to accommodate turn lanes.
- U-turn bulbs (loons) sized to accommodate design vehicle. Not all locations need to handle largest vehicles



Superstreet Intersections



Pedestrians



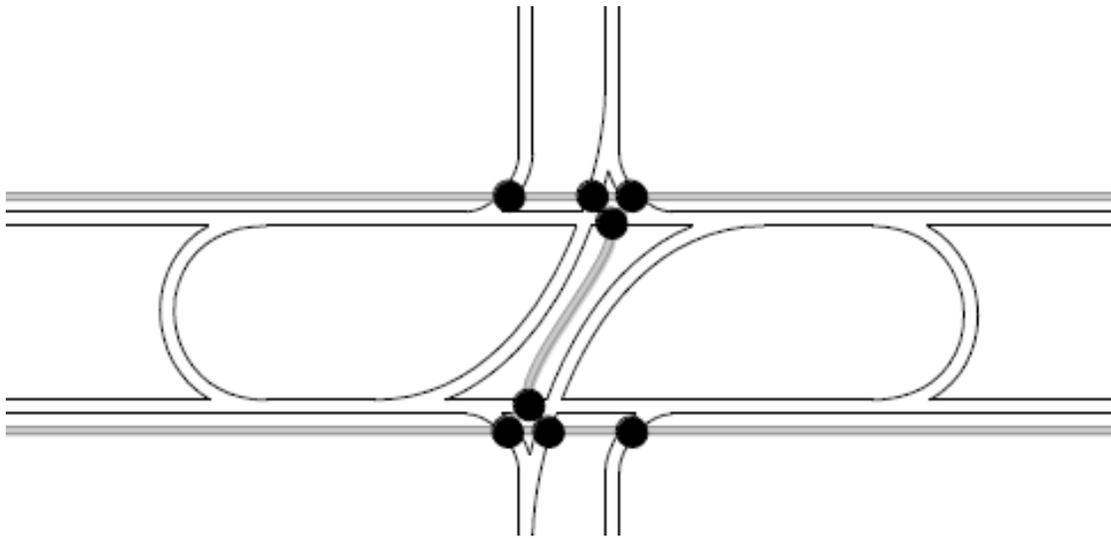
- Safe, controlled
- Conflict points reduced from 24 to 12 (8 if only considering main intersection)
- Typically two-stage crossing
- How to get pedestrians to understand?
- Midblock signalized crosswalk anywhere



Pedestrian-Vehicle Conflict Points

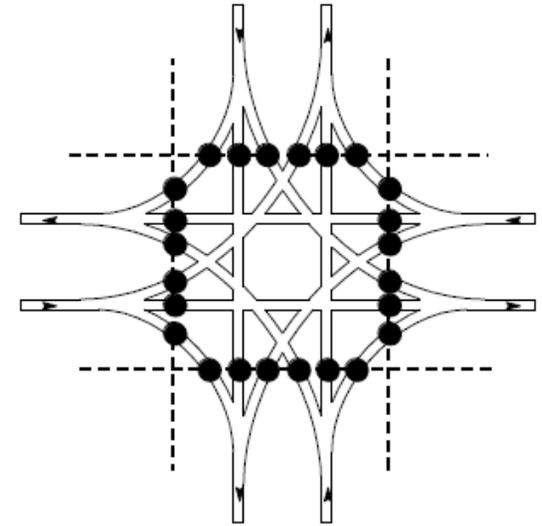
Superstreet Intersection

8 Conflict Points

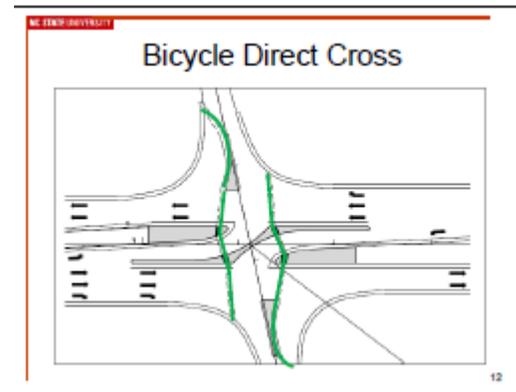
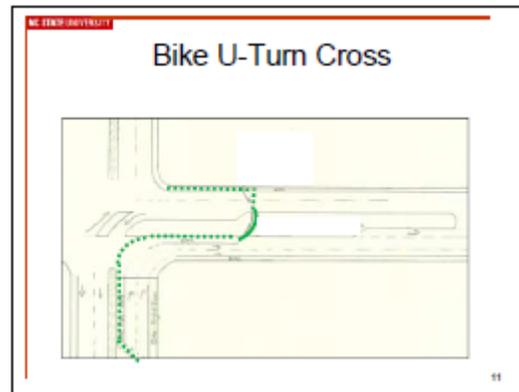
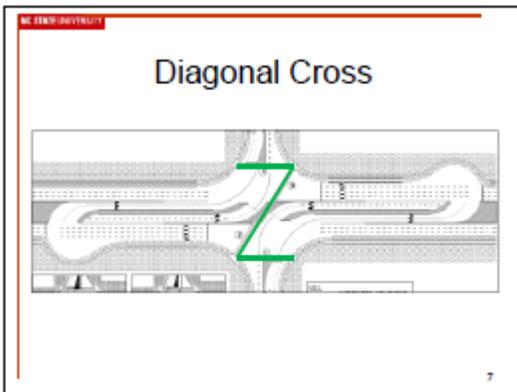
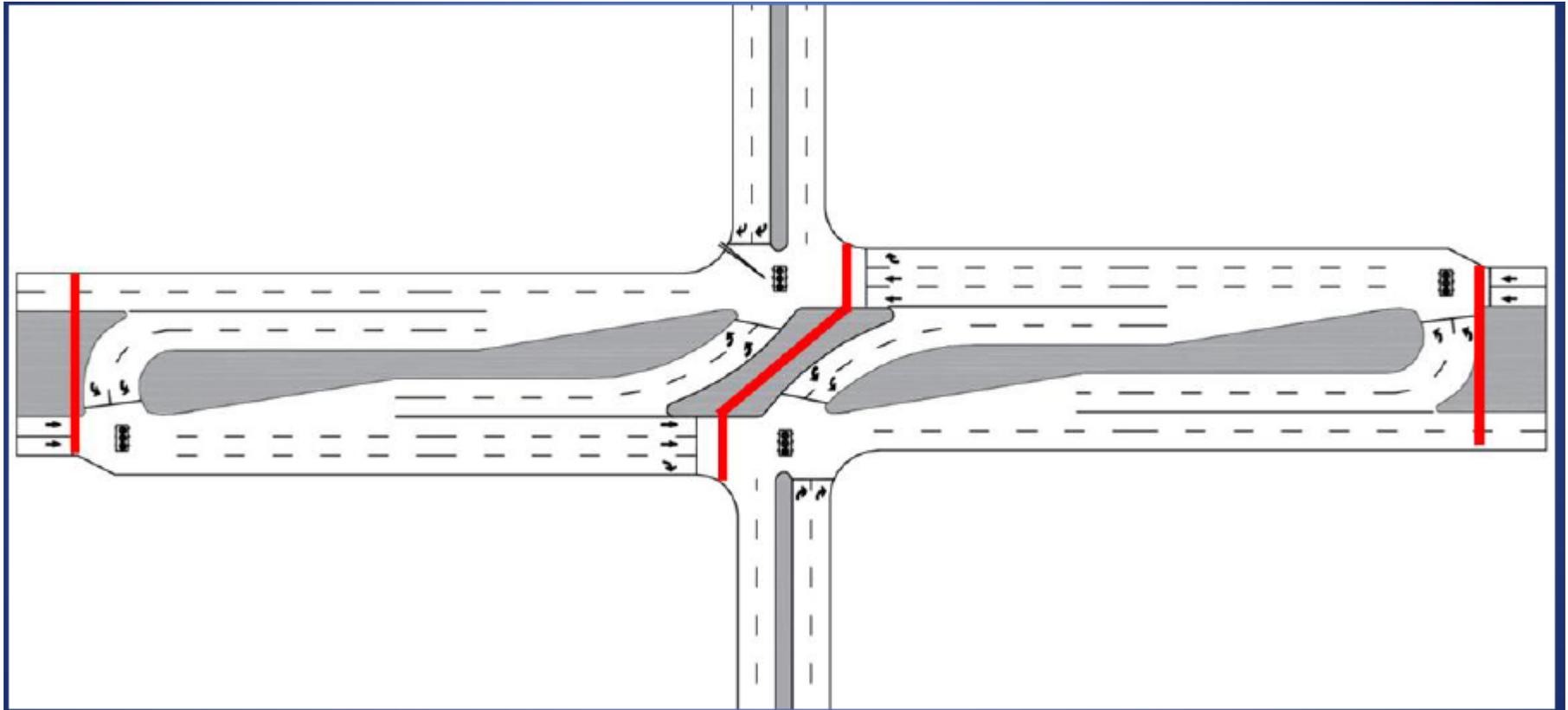


Conventional Intersection

24 Conflict Points



Pedestrian Crossing Configuration



Pedestrian Crossing Configuration



Pedestrian Crossing Configuration



Signalized Superstreet in operation near San Antonio, TX



Traditional Intersection – Pedestrian Crossing



Single phase crossing ~125 ft.
= 36 seconds crossing time



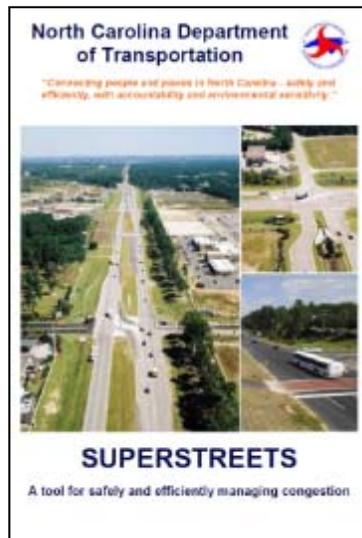
Superstreet Intersection – Pedestrian Crossing



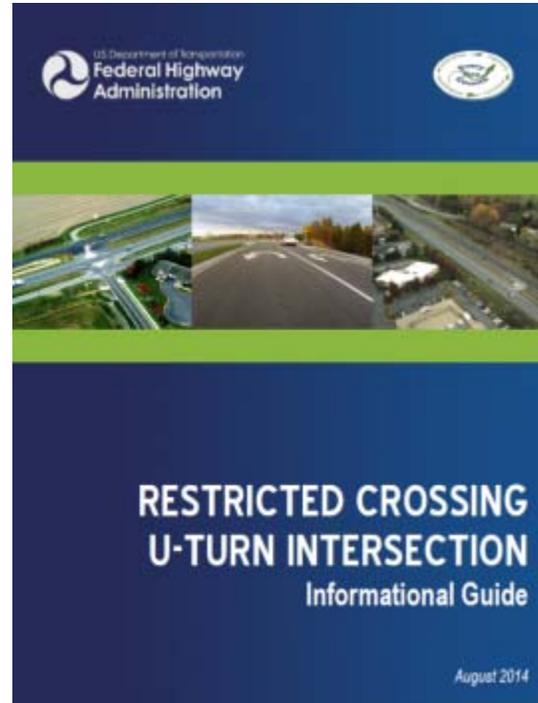
Superstreet Public Information Material



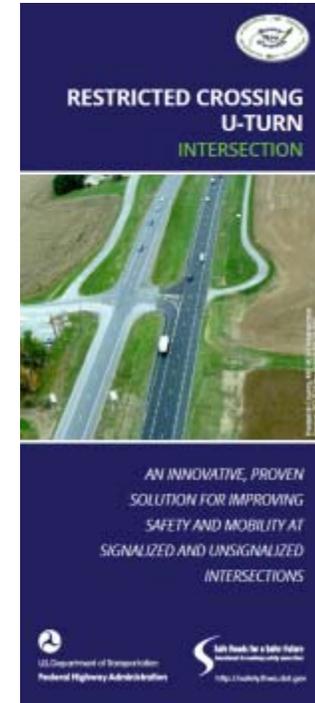
NCDOT Presentations



NCDOT Brochure



FHWA Brochures/Informational Guides

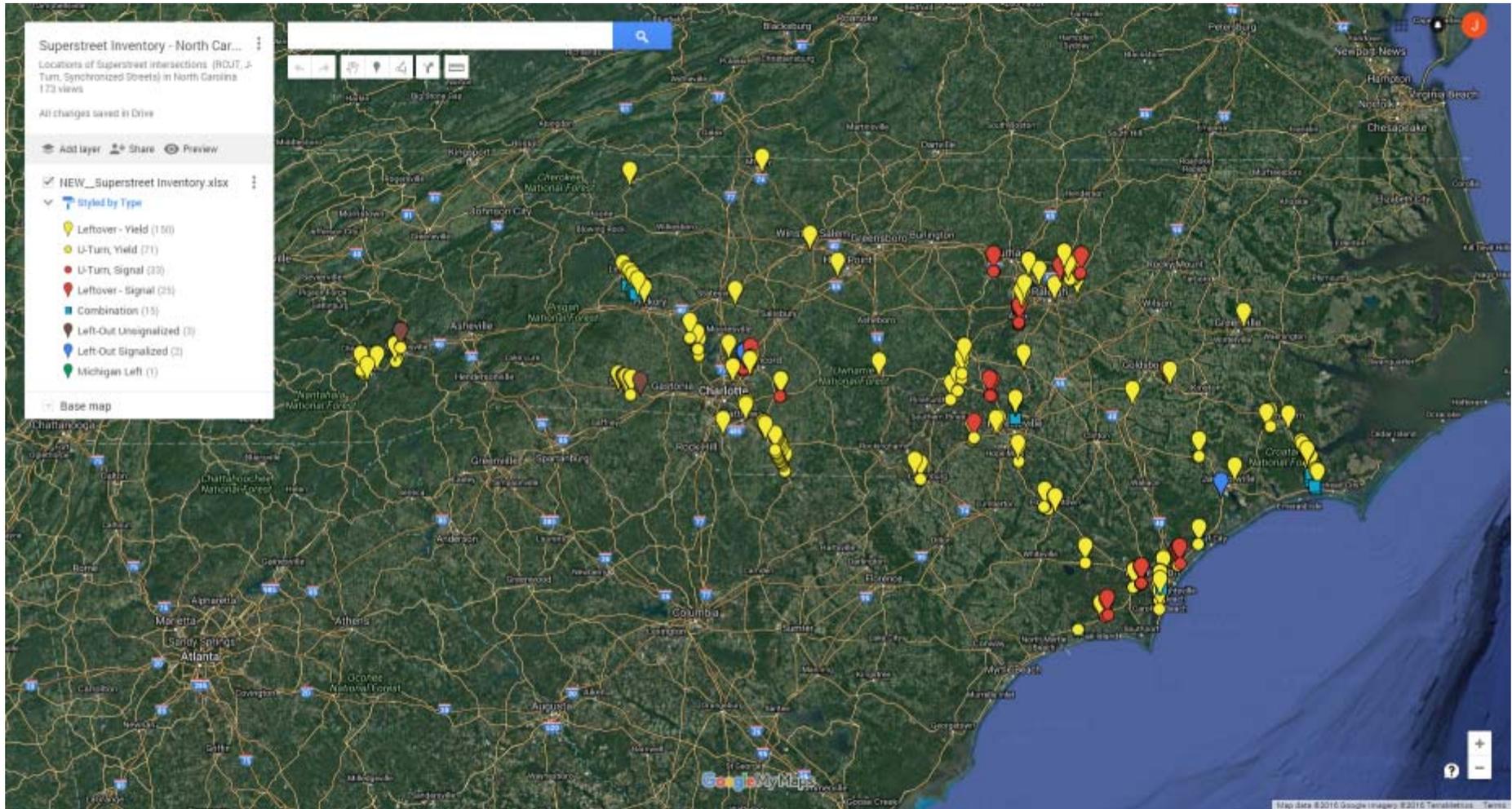


Superstreets in North Carolina

- Selected Existing Locations
 - US 15/501 in Chapel Hill, Orange County (Signalized)
 - US 17 in Pender & New Hanover Counties (Signalized)
 - US 17 in Leland, Brunswick County (Signalized)
 - NC 87 in Harnett County (Signalized)
 - NC 55 Holly Springs (Signalized)
 - NC 24/27 in Locust (Signalized)
 - Poplar Tent Road, Cabarrus County (Signalized)
 - US 401 Rolesville Wake County
 - Over 60 TIP Projects throughout the state (In planning/design/construction)



Superstreet – North Carolina Locations



Potential Environmental Impacts

Impact Category	Preferred Alternative	Proposed Mitigation
Human Environment Impacts:		
Residential Relocations (Minorities)	45 (25 tenants)	Relocation Assistance, Relocation Moving Payments, and Relocation Replacement Housing Payments or Rent Supplement.
Business Relocations	13 (12 tenants)	Relocation Assistance, Relocation Moving Payments, and Relocation Replacement Housing Payments or Rent Supplement.
Cultural Resources (Adverse Effect determined)	Minor property impacts to the Matthews Presbyterian Church.	Impacts will continue to be minimized to the extent feasible during final design.



Public Hearing Map Legend

LEGEND	
	BUILDINGS
	EXISTING RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	PROPOSED EASEMENTS (DRAINAGE, CONSTRUCTION, AND UTILITY)
	EXISTING ROADWAY
	EXISTING ROADWAY TO BE REMOVED
	EXISTING ROADWAY TO BE RESURFACED
	PROPOSED ROADWAY
	TEMPORARY ROADWAY / DETOURS
	FUTURE ROADWAY
	PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER
	EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE RETAINED
	EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
	FUTURE STRUCTURES, ISLAND, CURB AND GUTTER
	LAKES, RIVER, STREAMS AND PONDS
	RAILROAD RIGHT OF WAY
	EXISTING UTILITY EASEMENT
	CEMETERIES
	PROPOSED CONTROL OF ACCESS
	EXISTING CONTROL OF ACCESS
	PRESENT ADT FUTURE ADT
	PROPERTY LINES
	NOISE STUDY AREA
	EXISTING TRAFFIC SIGNAL
	PROPOSED TRAFFIC SIGNAL
	HISTORIC PROPERTY BOUNDARY
	WETLAND LIMITS BOUNDARY



Projects Estimated Costs and Schedule

Implementation Phase	Preferred Alternative	Schedule
Right-of-Way Acquisition	\$48,000,000	2020
Begin Construction	\$38,500,000	2022
Total	\$87,500,000	

Right-of-Way Acquisition and Relocation Assistance

NCDOT's Policy is to:

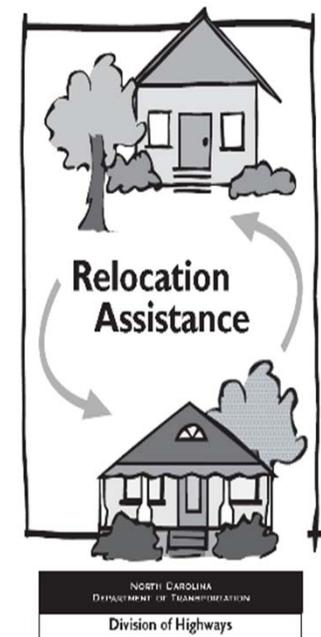
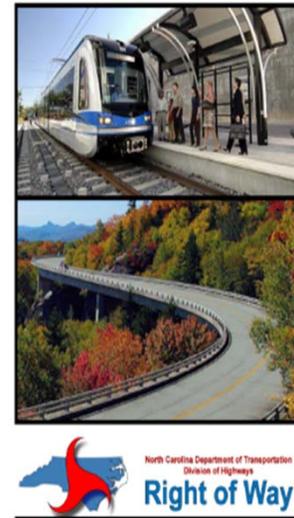
Contact affected property owners and conduct property appraisal

- Treat all owners and tenants equally
- Fully explain the owner's rights
- Provide fair market value for the best use of the property
- Provide relocation advisory assistance

Relocation Assistance

If your business or residence is to be acquired as part of the project, additional assistance in the form of advice and compensation is available

The Real Estate Acquisition Process Brochure



Public Comments

Comments must be received by
November 11th, 2016



Thank You!!

