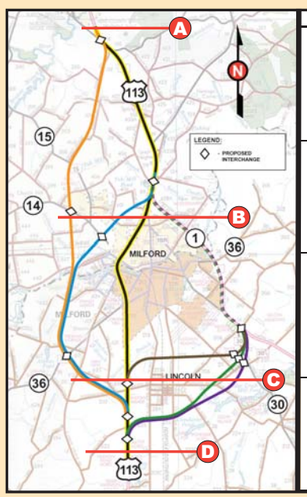
113 US 113 North / South Study

Traffic Forecasting

Future traffic volumes have been projected by the US 113 Project Team using Delaware's Regional Travel Model

- It covers the entire State of Delaware and Maryland's Eastern Shore, two-thirds of the Delmarva Peninsula
- During 2006, DelDOT completely updated this model:
  - Incorporated the latest approved Population & Employment Projections (from WILMAPCO)
  - Updated external volumes (MD, PA, NJ)
  - Calibrated to the most recent traffic counts from 2005
  - Incorporated the latest Mode Choice Model Data (DTC)
  - Incorporated a new toll model (for I-95 & SR 1)
- Traffic volumes were projected for an average summer Saturday in 2030

Delaware's Regional Travel Model



Traffic Volumes

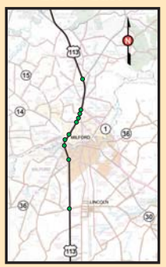
		Alternative	Existing US 113	New Roadway	SR 1
A		2003 Base	59,000 - 60,000		
	2030	No-Build	107,000 - 108,000		
		Yellow	119,000		
		Orange	118,000		
		Blue	114,000 - 115,000		
		Green	108,000		
		Purple	108,000		
		Brown	105,000 - 106,000		
B		Alternative	Existing US 113	New Roadway	SR 1
		2003 Base	24,000 - 35,000		36,000 - 40,000
	2030	No-Build	43,000 - 57,000		63,000 - 68,000
		Yellow		61,000 - 77,000	58,000
		Orange	11,000 - 25,000	55,000 - 59,000	55,000
		Blue	13,000 - 28,000	48,000 - 56,000	56,000
		Green	15,000 - 30,000		94,000 - 102,000
		Purple	15,000 - 30,000		94,000 - 102,000
		Brown	14,000 - 30,000		92,000 - 98,000
C		Alternative	Existing US 113	New Roadway	SR 1
		2003 Base	28,000 - 34,000		37,000
	2030	No-Build	50,000 - 59,000		63,000
		Yellow		68,000 - 76,000	58,000
		Orange	18,000 - 27,000	55,000 - 59,000	55,000
		Blue	17,000 - 26,000	48,000 - 56,000	56,000
		Green	22,000 - 31,000	42,000 - 46,000	63,000 - 64,000
		Purple	22,000 - 31,000	42,000 - 46,000	63,000 - 64,000
		Brown	26,000 - 33,000	42,000 - 49,000	60,000 - 61,000
D		Alternative	Existing US 113	New Roadway	SR 1
		2003 Base	27,000		
	2030	No-Build	55,000 - 56,000		
		Yellow	71,000 - 72,000		
		Blue	73,000 - 74,000		
		Orange	74,000 - 78,000		
		Green	62,000		
		Purple	62,000		
		Brown	61,000 - 62,000		

Analysis

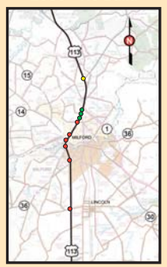
- Key intersections were analyzed using the peak travel hour of an average Summer Saturday to determine operational performance, shown as "Level of Service" (LOS)
- What is "Level of Service"?
  - A grading system for evaluating traffic operations.
  - Grades range from A (best) to F (worst).
  - Influenced by traffic volumes, truck percentages, roadway characteristics, signal characteristics, etc.
- Currently, there are 10 signalized intersections on US 113 in the Milford Project area, all of which operate acceptably
- By 2030, with no improvements (No Build), only three will still operate acceptably.
- With improvements to US 113 (any of the colored alternatives) <u>all</u> of the signals will operate acceptably

Alternative		# of Signals on Existing US 113	# of Signals operating at LOS A - D	# of Signals operating at LOS E - F
2003 Base		10	10	0
2030	No-Build	9	3	6
	Yellow	0		
	Orange	9	9	0
	Blue	9	9	0
	Green	9	9	0
	Purple	9	9	0
	Brown	8	8	0

2003 - Base



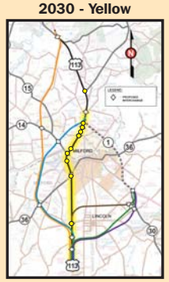
2030 - No Build



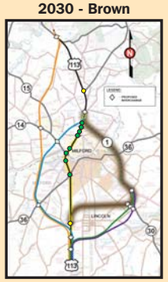
Legend

- Acceptable Operation
- Unacceptable Operation
- Signal Removed

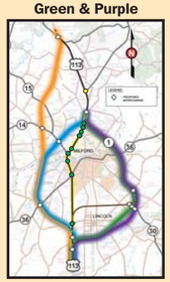
2030 - Yellow



2030 - Brown



2030 - Orange, Blue, Green & Purple



Travel Time Impacts

- Travel times were determined for each of the alternatives, for both existing US 113 and on the new alignments.
- Then travel times were compared to the Base Year (2003) travel times on US 113.

RETAINED ALTERNATIVES		US 113 Travel Times * (minutes)			
		On Existing US 113**		On New Alignment	
		Total Time	Change in Time (vs. Base Year 2003)	Total Time	Change in Time (vs. Base Year 2003)
Base Year 2003		13			
2030	NO-BUILD	22	+ 9		
	YELLOW			7	- 6
	ORANGE	12	- 1	11 ***	- 2
	BLUE	11	- 2	8	- 5
	GREEN	13	+ 0	9	- 4
	PURPLE	13	+ 0	9	- 4
	BROWN	11	- 2	9	- 4

* Average of Northbound and Southbound
** Between Tub Mill Pond Road and Clendaniel Road
*** Between Clapham Road and Clendaniel Road

- Travel time will nearly double by 2030 with no improvements made (No-Build).
- All Build scenarios will improve or maintain existing travel time along US 113 and decrease travel time for travelers bypassing Milford.

Traffic Characteristics

- A travel survey conducted on a Summer Saturday in 2003 found that approximately 70% of the traffic on US 113 near the SR 1 junction in Milford began and ended their trips north of Frederica, Delaware and ended in Georgetown or points south.
- This survey indicates that the majority of traffic on US 113 in Milford is "through" traffic.
- The regional model was used to determine the amount of "local" and "through" traffic that would remain on US 113 through Milford for each alternative
  - "Local" Traffic: trips that either Begin or End in Milford
  - "Through" Traffic: Trips that neither begin or end in Milford, remaining on the US 113 corridor
- All of the Alternatives, except Yellow, have significant impact on the traffic composition of US 113 through Milford, greatly reducing the amount of through traffic on existing roadways.

Alternatives		Local Traffic	Through Traffic
2003 - Baseline		30 %	70%
2030	No-Build	22 %	78 %
	Yellow	15 %	85 %
	Orange	97 %	3 %
	Blue	99 %	1 %
	Green	97 %	3 %
	Purple	97 %	3 %
	Brown	85 %	15 %