US301, MARYLAND STATE LINE TO SR1

SOUTHERN NEW CASTLE COUNTY TRANSPORTATION MANAGEMENT TEAM

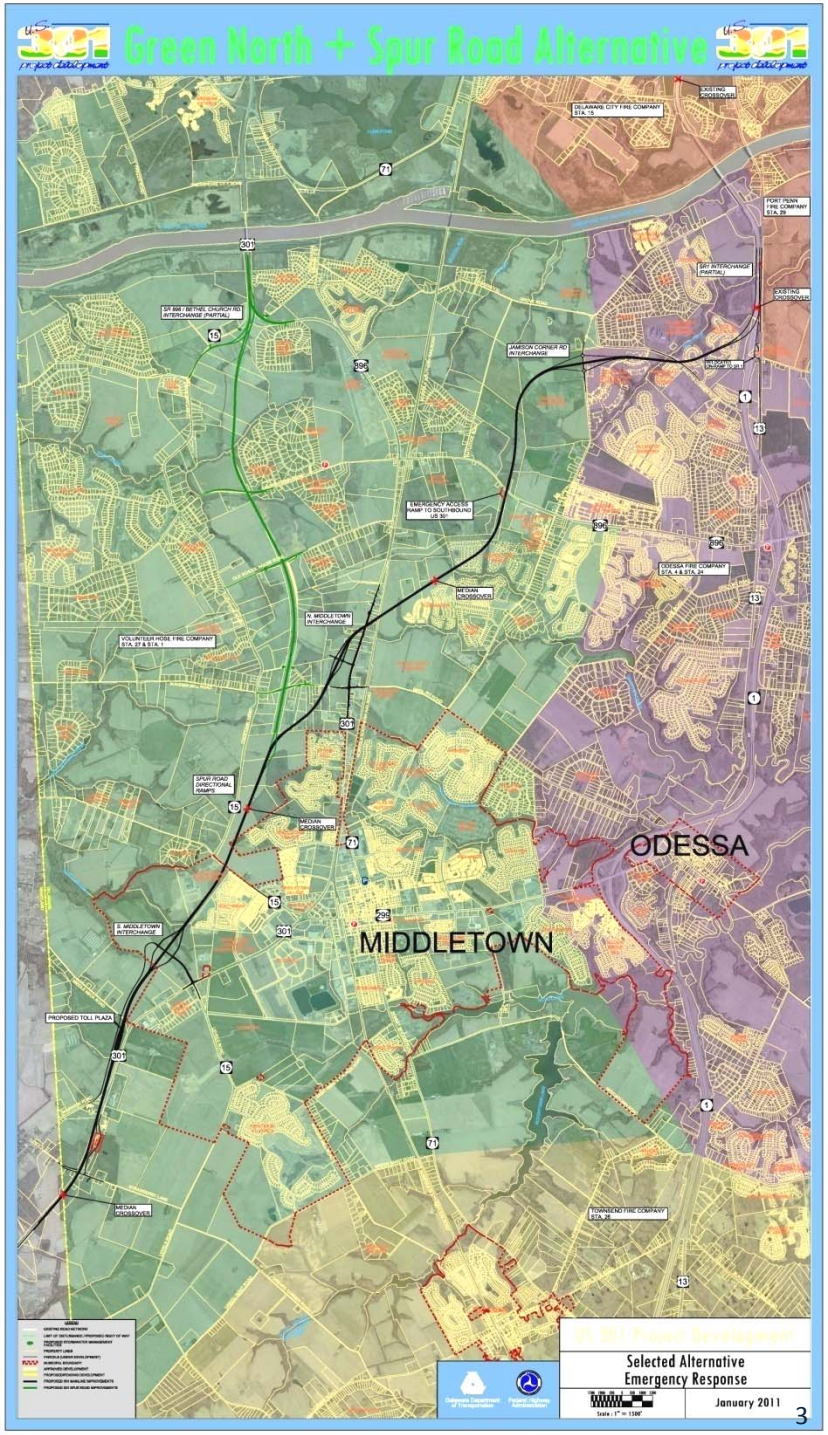
February 8, 2011

AGENDA

- Project Overview
- Emergency Access Proposed Mainline Configuration
- Construction Phasing Concerns
- Individual Construction Contracts
- Current Schedule
- Construction Detour Routes

Project Overview

- US301 MAINLINE
  - 13± MILES
  - INTERCHANGES:
    - SOUTH MIDDLETOWN
    - SPUR ROAD (Partial North Serving Only Ramps)
    - NORTH MIDDLETOWN
    - JAMISON CORNER ROAD
    - SR1 (Partial North Serving Only Ramps)
    - RELOCATE US13 TO NB SR1 RAMP to PORT PENN RD.
- US301 SPUR ROAD
  - 4± MILES
- SR896/BETHEL CHURCH ROAD INTERCHANGE



PROPOSED EMERGENCY ACCESS

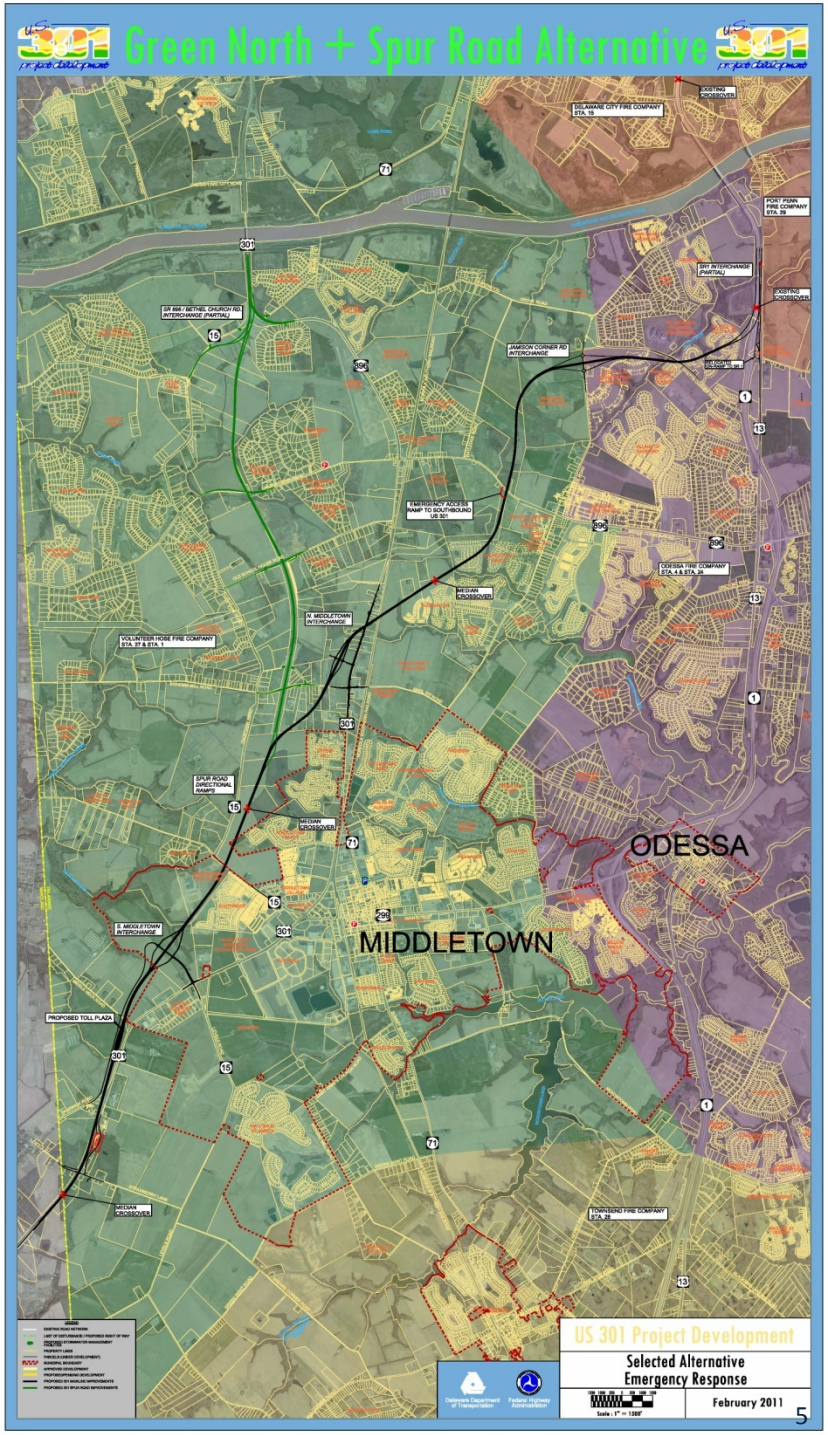
- **Justified Following Guidelines in AASHTO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS & STREETS"**

To avoid extreme adverse travel for emergency and law-enforcement vehicles, emergency crossovers on rural freeways are normally provided where interchange spacing exceeds 5 miles. Between interchanges, emergency crossovers are spaced at 3 to 4 mile intervals. Maintenance crossovers may be needed at one or both ends of interchange facilities, depending on interchange type, for the purpose of snow removal and at other locations to facilitate maintenance operations. Maintenance or emergency crossovers generally should not be located closer than 1,500 ft. to the end of a speed-change taper of a ramp or to any structure. Crossovers should be located only where above-minimum stopping sight distance is provided and preferably should not be located on superelevated curves.

- **Guidelines Provide Balance Between Safety, Costs & Need for Emergency Access**

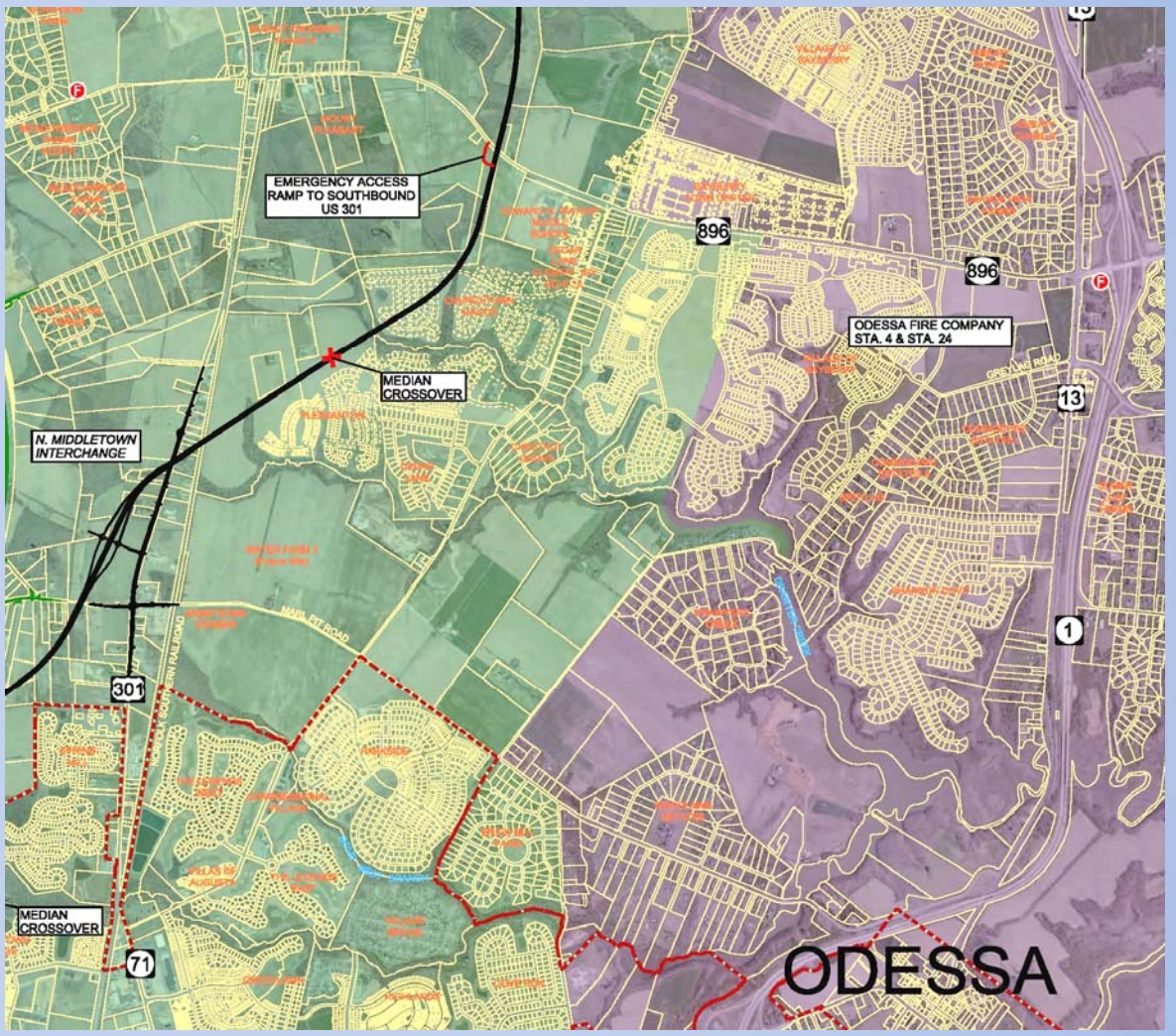
PROPOSED EMERGENCY ACCESS

DISTANCES		
FROM	**TO**	**MILES**
SASSAFRAS ROAD, MD	XOVER AT MD LINE	2.5
XOVER AT MD LINE	S. MIDDLETOWN INTERCHANGE	2.5
S. MIDDLETOWN	N. MIDDLETOWN INTERCHANGE	3.2 (XOVER PROPOSED @ 1.5 MILES)
N. MIDDLETOWN	JAMISON CORNER INTERCHANGE	3.9 (XOVER PROPOSED @ 1.22 MILES)
JAMISON CORNER	US301 RAMP SPLIT AT SR1	1.5
US301 NB AT RAMP SPLIT	SR1 NORTHBOUND	0.8
SR1 NORTHBOUND	SR1 EXISTING MEDIAN XOVER	1.7



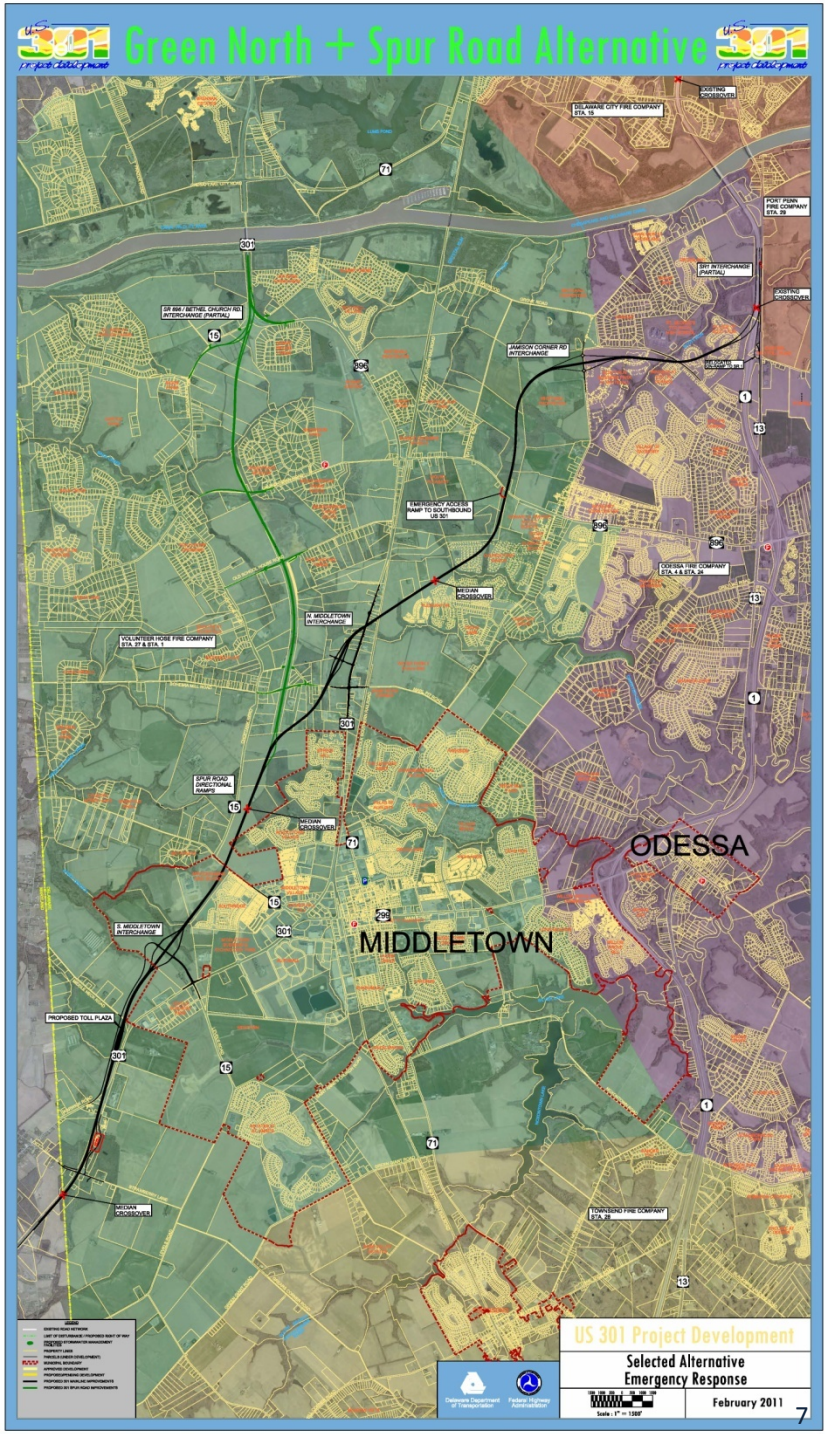
PROPOSED EMERGENCY ACCESS

- **EMERGENCY ACCESS RAMP**
  - ON SOUTH SIDE SR 896
  - ACCESS TO SB US301
  - MEDIAN CROSSOVER 1.0 MILES TO SOUTH
    - Allows Safe Merge
  - OPTICOM CONTROLLED
  - SIMILAR TO SR1 EMERGENCY ACCESS RAMPS
  - 4% GRADE (Compare to 5% at SR1/SR42 & 8% at SR1/New Discovery Rd)



PROPOSED EMERGENCY ACCESS

- EMERGENCY ACCESS SUMMARY
  - 13± US301 MAINLINE
  - 3 FULL INTERCHANGES
  - 1 EMERGENCY ACCESS RAMP
  - 3 MEDIAN CROSSOVERS
  - EMERGENCY ACCESS RAMP AT BUNKER HILL ROAD NOT FEASIBLE
    - ADVERSE EFFECTS TO HISTORIC RESOURCE (NEPA Regulations)



CONSTRUCTION CONTRACTS

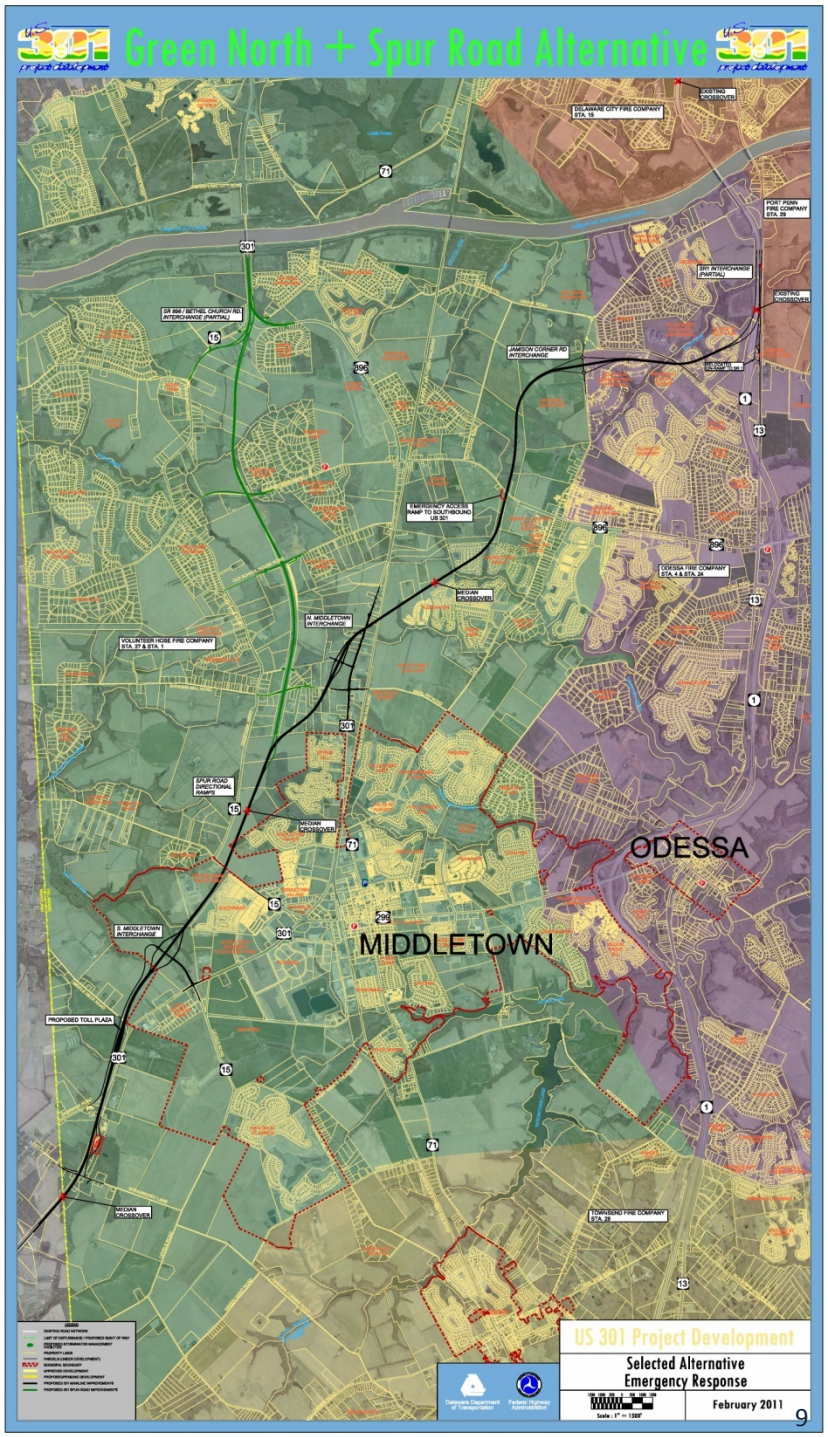
Current Concept: 13 contracts (2010)

Current Concept	
Contracts	**Description**
1A	US 301 SR 896 to SR 1
1C	US 301, Norfolk Southern RR to SR 896
1B	US 301 & SR 1 Interchange
1D	US 13 and Port Penn Rd Intersection
2A	US 301, Levels Road to Summit Bridge Rd
2B	US 301, Bridge over Norfolk Southern RR (Bridge over NSRR)
2C	Business US 301, Armstrong Corner Rd to US 301 Overpass
2D	US 301 Highway Maintenance Facility
2E	US 301 Park & Ride Facility at New/ Existing US 301
3	US 301, Maryland State Line to Levels Rd
4A	SR 896 and Bethel Church Rd Interchange
4B	US 301 Spur Road, US 301 to Churchtown Rd
4C	Spur, New US 301 to S. of Churchtown Rd
13	

CONSTRUCTION PHASING ISSUES

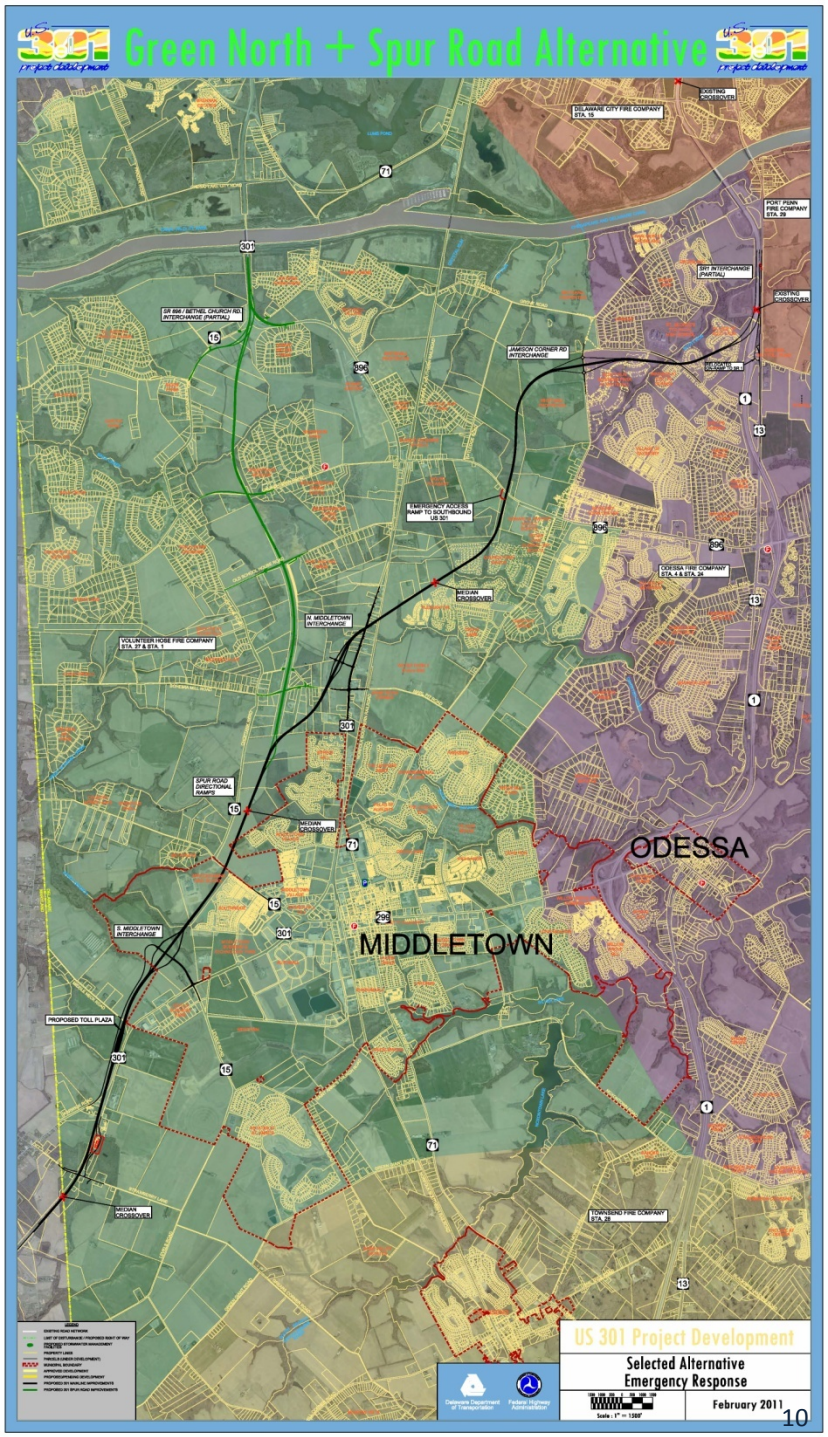
- **TRANSPORTATION MANAGEMENT PLAN FOR EACH CONTRACT**
  - Analyzes Impacts on Traffic
  - Considers Emergency Response
  - Identifies Needed Improvements, Time Restrictions, Etc.
  - Coordination with DelDOT TMC
  - School Districts, DART and Police/Emergency Services Coordination
  - Contingency Plans

- **EVALUATION OF ALL US301 PROJECTS & OTHER AREA PROJECTS**
  - Schedules/TMP'S



CONSTRUCTION PHASING ISSUES

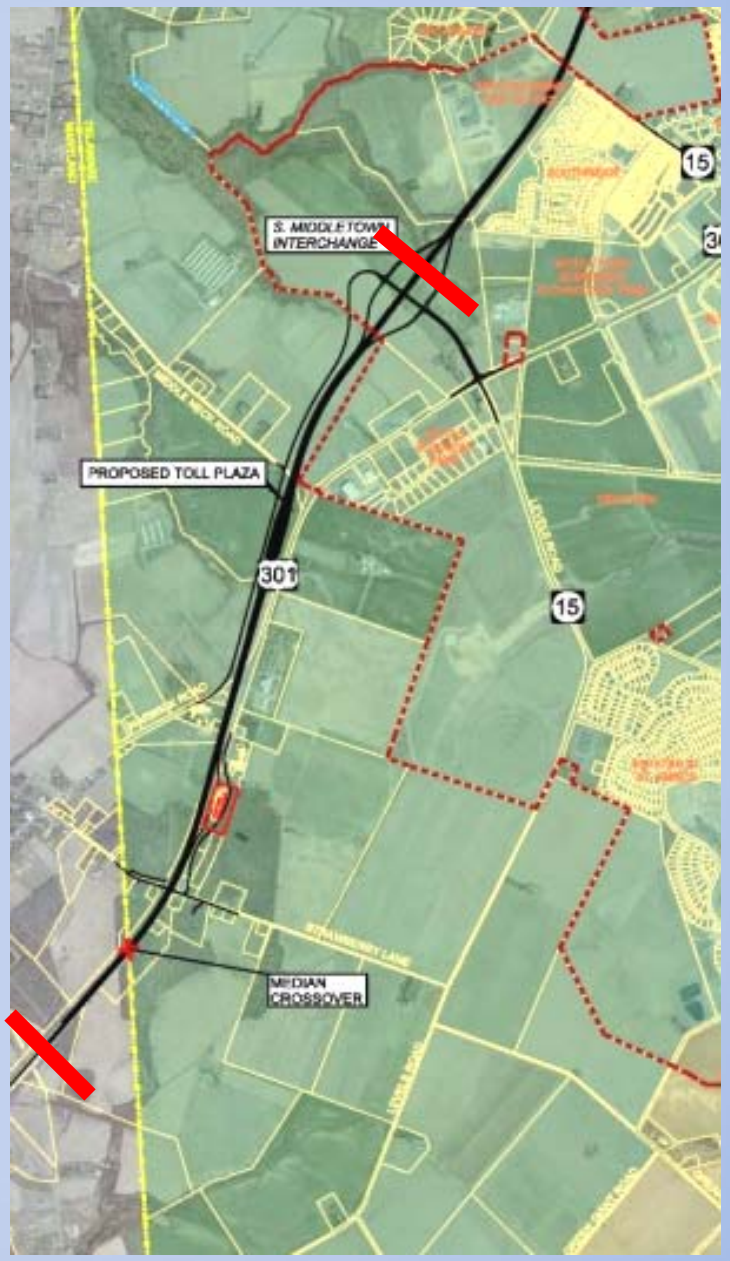
- UTILITY RELOCATIONS
- EARTHWORK MOVEMENT
  - Mostly Along US301 Alignment
  - Road Crossings/Flaggers
  - Some On Existing Roads
- LANE REDUCTIONS
  - Off Peak Hours As Possible
- BRIDGE BEAM ERECTION
  - Night Time Rolling Road Blocks
  - Detours If Unavoidable Due to Beam Erection Time



US 301 Mainline Contract 3

State Contract No. T200811301

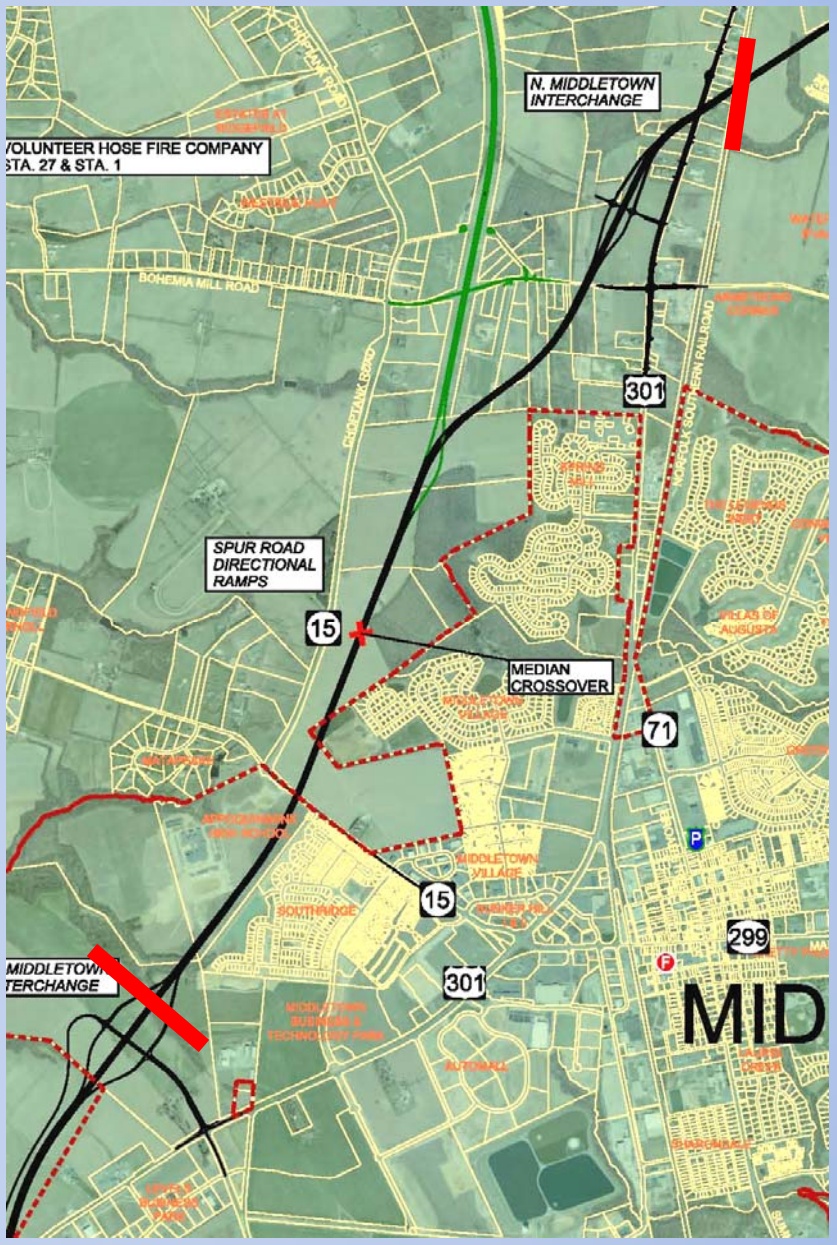
- **US 301, Maryland State Line to Levels Road**
  - **Roadways (4-lanes: 3.0 miles)**
    - Ramps to/from weigh station
    - Warwick Road Relocated (1.7 miles)
    - Strawberry Lane (0.4 miles)
    - Strawberry Lane to existing 301 connector (0.6 miles)
    - Levels - existing 301 to interchange (0.5 miles)
  - **Toll Facilities**
    - Mainline Toll Facility
    - Toll Administration Building
  - **Current Schedule**
    - Adv. Fall 2011
    - Begin Constr. Spring 2012
  - **CONSTRUCTION PHASING ISSUES**
    - Strawberry Lane Closed-Detours
    - Middleneck Road Closed-Detour
    - Warwick Road Relocated to North. Warwick Road stays open except for Tie-In Work-Detour
    - Lane Restrictions on US301 at Levels Road
    - Temporary Tie Between Existing US301 & New US301
    - DP&L Electric Feed to Middletown: Relocation Outage



US 301 Mainline Contract 2A

State Contract No. T200911303

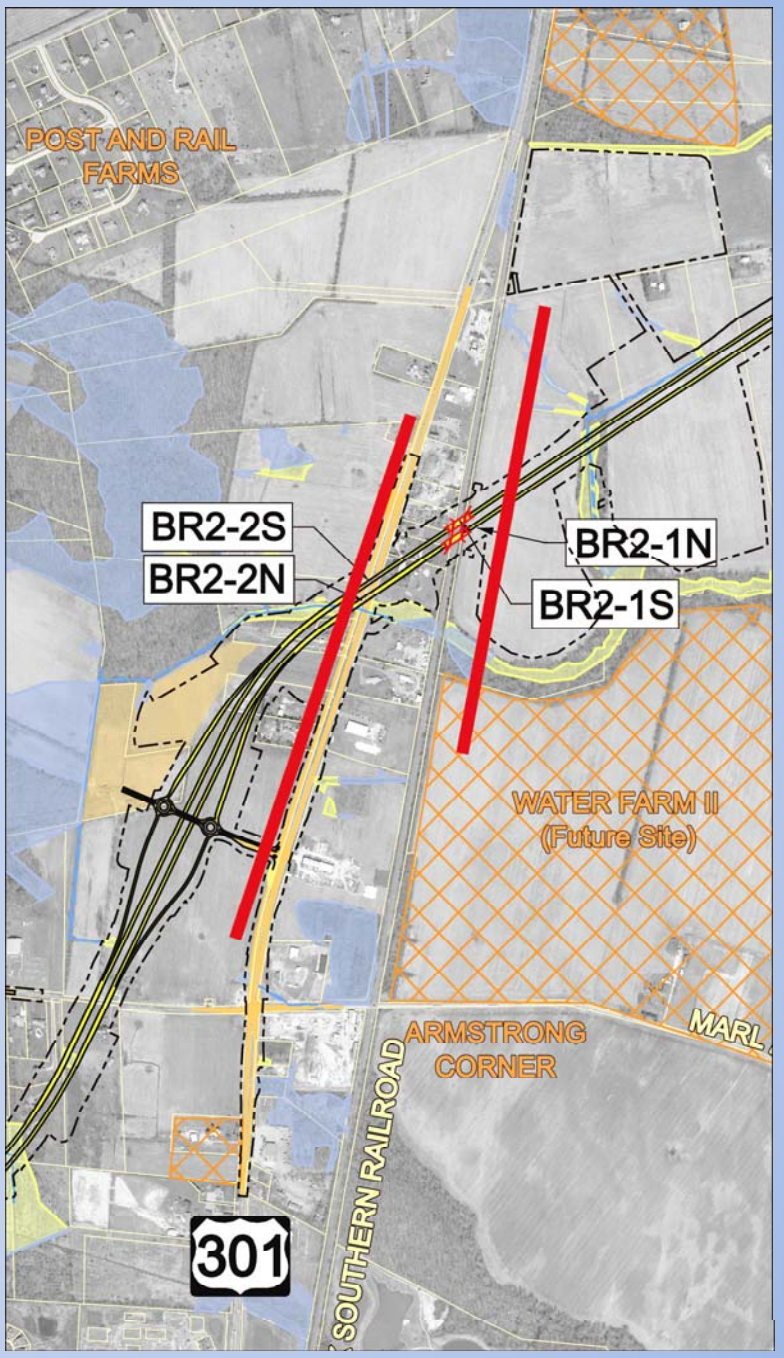
- **US 301, Levels Road to Norfolk Southern Railroad**
  - **Roadways (4-lanes: 3.5 miles)**
    - » **Bunker Hill Road (0.5 miles)**
    - » **Diamond Connector Road (0.25 miles)**
- **Current Schedule**
  - **Adv: Fall 2011**
  - **Begin Constr: Spring 2012**
- **CONSTRUCTION PHASING ISSUES**
  - **Bunker Hill Road**
    - **Temporary Run-Around During Bridge Construction**
    - **Lane Restrictions for Tie-ins**
  - **Armstrong Corner Road Beam Erection**
  - **Summit Bridge Road Lane Restrictions**
  - **Major Earthwork Movement from South to North**



MAINLINE CONTRACT 2B

State Contract No. T200911304

- **US 301, Bridges over Business US 301 and Norfolk Southern Railroad**
  - **Structures**
    - » **US 301 over Business US 301 (2) (BR2-2)**
    - » **US 301 over NSRR (2) (BR2-1)**
  - **Current Schedule**
    - **Adv. Fall 2012**
    - **Begin Constr. Spring 2013**
- **CONSTRUCTION PHASING ISSUES**
  - **Summit Bridge Road**
    - **Beam Erection**
    - **Lane Restrictions**
    - **Contractor Access**



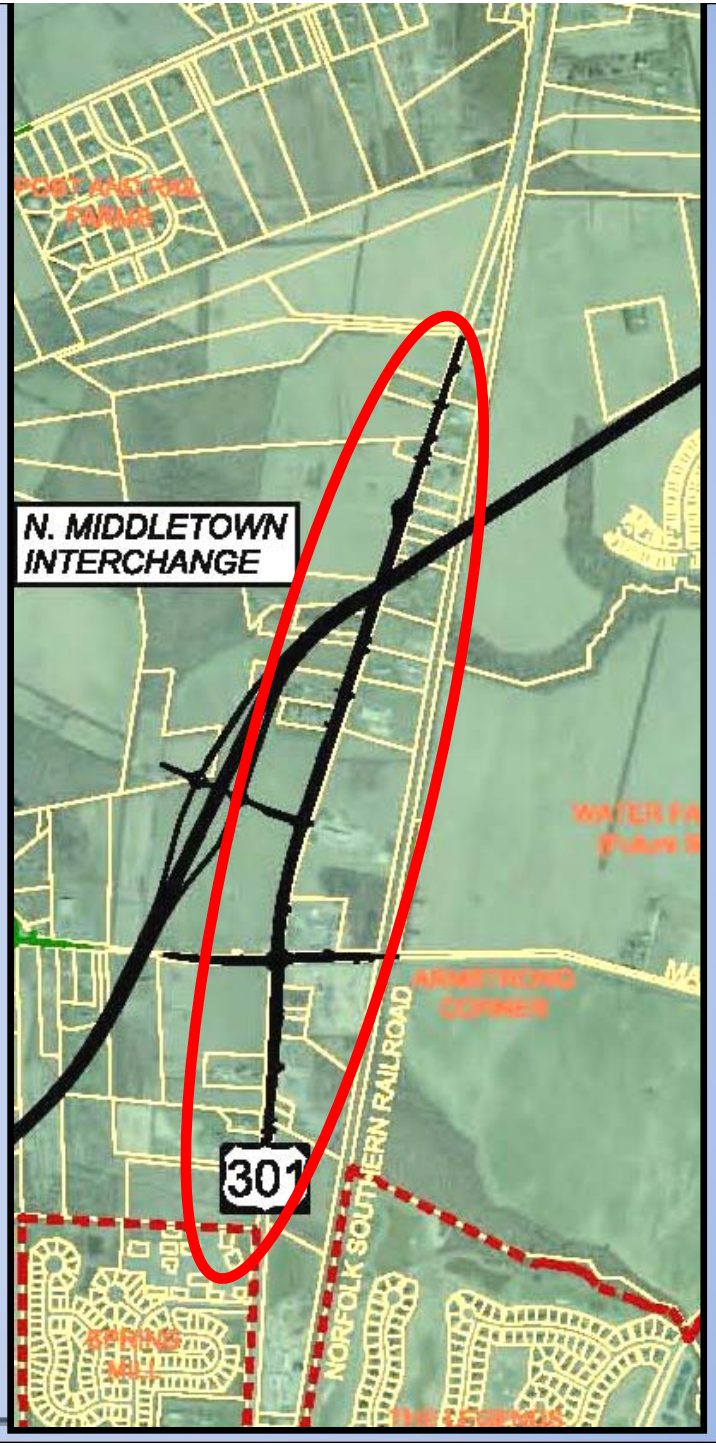
MAINLINE CONTRACT 2C

State Contract No. T201011301

- **Business US 301, Armstrong Corner Rd to US 301 Overpass**
  - **Business 301 (1.4 miles)**
    - » **2 lanes to 4 with a 20' median**
  - **Other local road improvements**
    - » **Expansion of Business 301/Armstrong Corner Rd/Marl Pit Rd intersection, Including widening of Armstrong Corner Rd (0.1 mile) and Marl Pit Rd (0.2 miles)**

- **Current Schedule**
  - **Adv: Summer 2012**
  - **Begin Constr: Fall 2012**

- **CONSTRUCTION PHASING ISSUES**
  - **Summit Bridge Road**
    - **Lane Shifts for Culvert Crossing**
    - **Other Lane Restrictions**
  - **Armstrong Corner Road & Marl Pit Road**
    - **Lane Restrictions**



US 301 Mainline Contracts

2D & 2E

State Contract No's. TBD

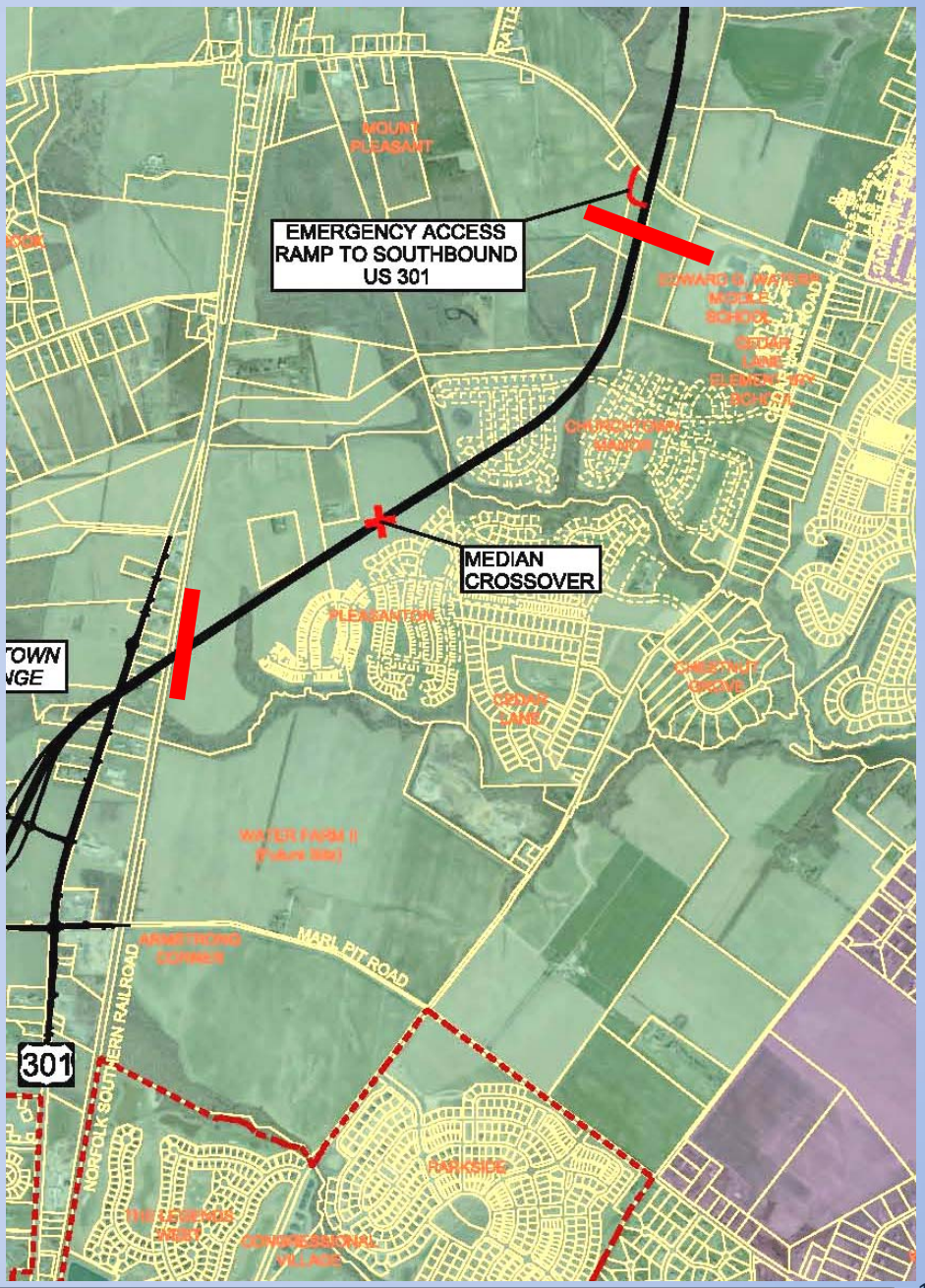
- **2D: US 301 Highway Maintenance Facility and 2E: US 301 Park & Ride Facility at US 301 N. Middletown Interchange**
  - **Current Schedule**
    - **TBD**

- **CONSTRUCTION PHASING ISSUES**
  - **Only Contractor Access**

US 301 Mainline Contract 1C

State Contract No. T200911301

- **US 301, Norfolk Southern Railroad to SR 896**
  - **Roadways (1.7 miles)**
    - » **4 – lanes**
  - **Current Schedule**
    - **Adv: Fall 2011**
    - **Begin Constr: Spring 2012**
- **CONSTRUCTION PHASING ISSUES**
  - **Contractor Access**



US 301 Mainline Contract 1A

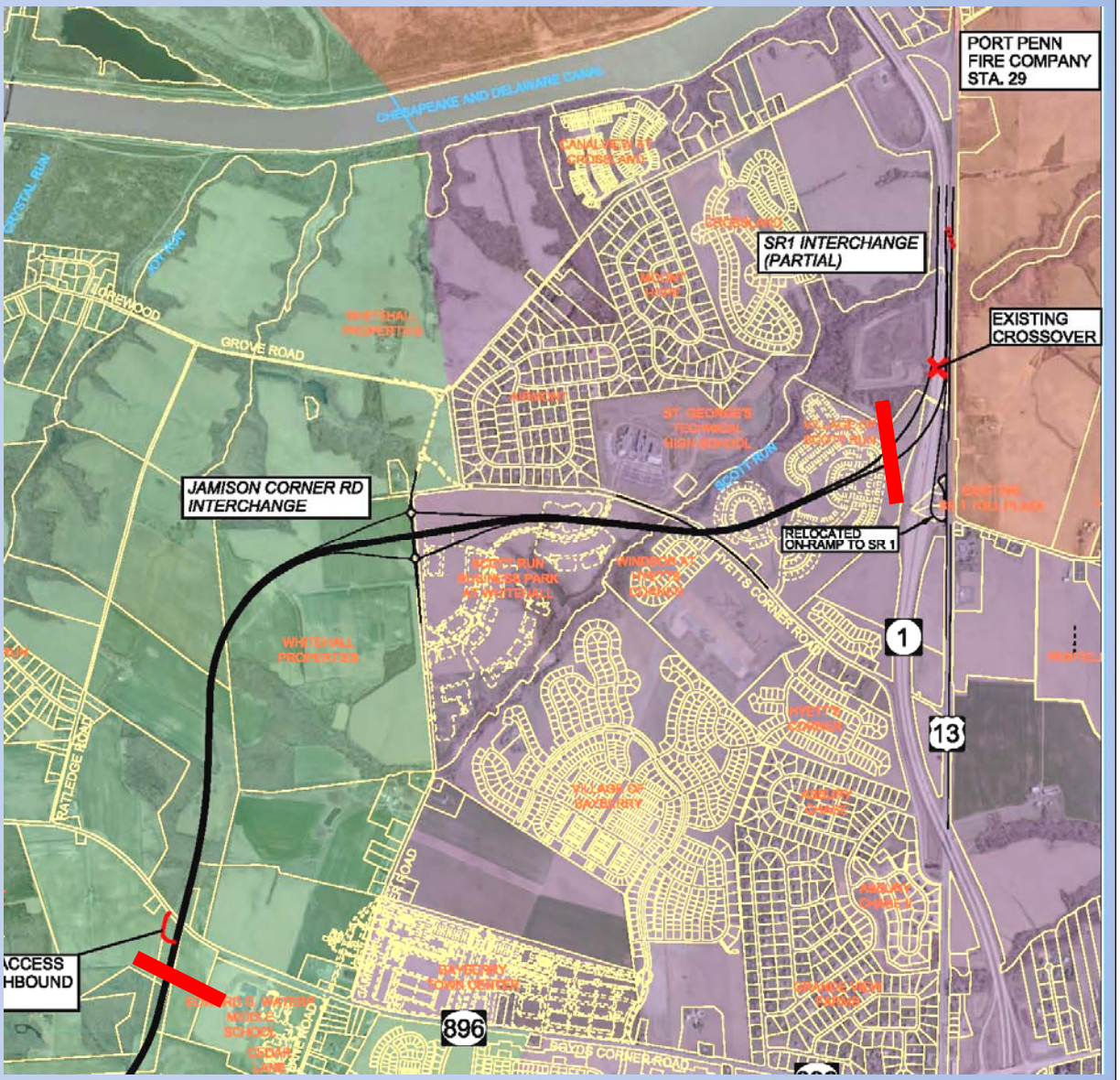
State Contract No. T200911308

- **US 301, SR 896 to SR 1**
  - Roadways (US 301- 3.1 miles)
    - » Jamison Corner Road
    - » Hyetts Corner Road

- **Current Schedule**
  - Adv: Fall 2011
  - Begin Constr: Spring 2012

CONSTRUCTION PHASING ISSUES

- SR896
  - Earthwork Movement
  - Beam Erection
  - Lane Restrictions
- Jamison Corner Road/Hyetts Corner Road
  - Separate Projects to North & South Completed
  - Temporary Run Around on Jamison Corner Road
  - Close Hyetts Corner Road
  - Maintain Access to School

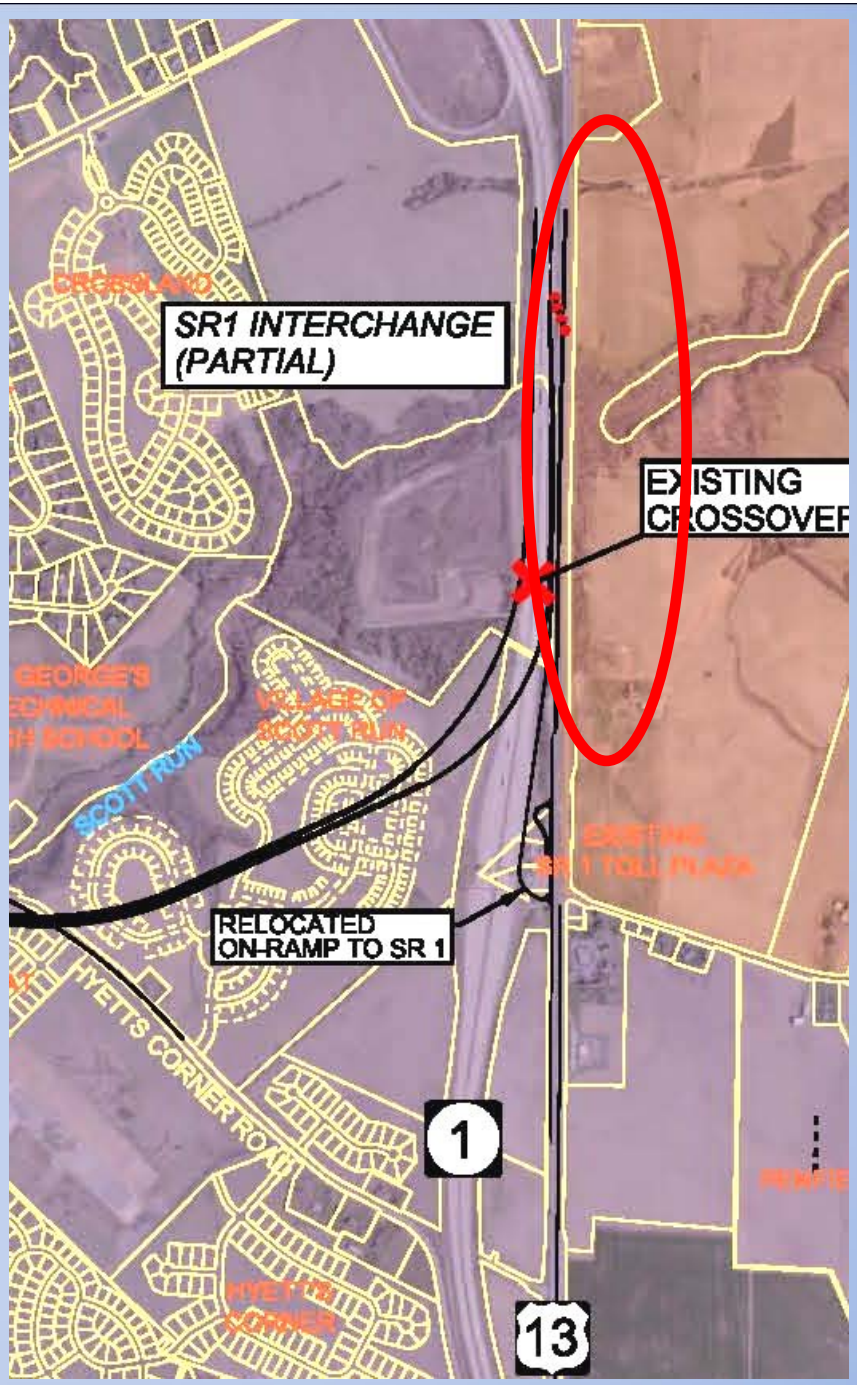


MAINLINE CONTRACT 1B

State Contract No. T200911302

❖ US 301 & SR 1 Interchange

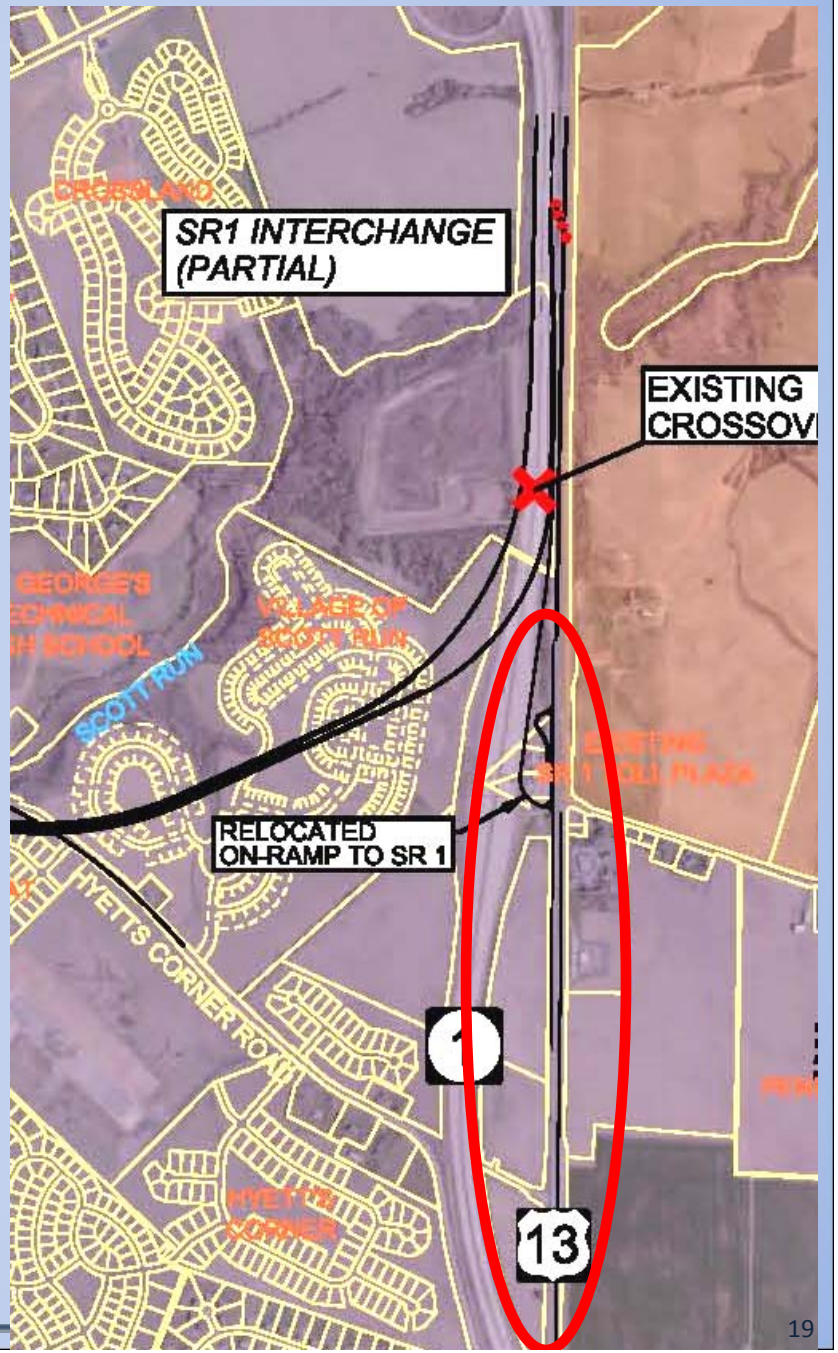
- **Roadways (0.8 miles NB US 301 & 0.5 miles SB US 301)**
  - » SR 1 SB widening (0.3 miles)
  - » US 13 SB partial realignment (0.5 miles)
  - » Relocate US 13 to NB SR 1 Ramp (0.3 miles)
- **Current Schedule**
  - Adv: Fall 2011
  - Begin Constr: Spring 2012
- **CONSTRUCTION PHASING**
  - SR1
    - Lane Restrictions
    - Flyover Beam Erection
  - US13
    - Lane Restrictions
  - US13 to NB SR1 Ramp
    - Maintain Traffic



US 301 Mainline Contract 1D

State Contract No. T201011302

- ❖ US 13 and Port Penn Rd Intersection
  - ▪ Roadways
    - » Local Road Improvements
      - US 13 NB left turn lane (0.9 miles)
      - US 13 SB 3rd lane widening (0.6 miles)
      - US 13 to US 301 NB (SR 1 NB) Ramp in Contract 1B (0.3 miles)
    - » Port Penn Road (0.1 miles)
  - Current Schedule
    - Adv: Winter 2012
    - Begin Constr. Summer 2012
- CONSTRUCTION PHASING ISSUES
  - SR1 & US13 Lane Restrictions
  - Relocate Access to Toll Plaza From US13
  - Eliminate Access to Toll Plaza from SR1



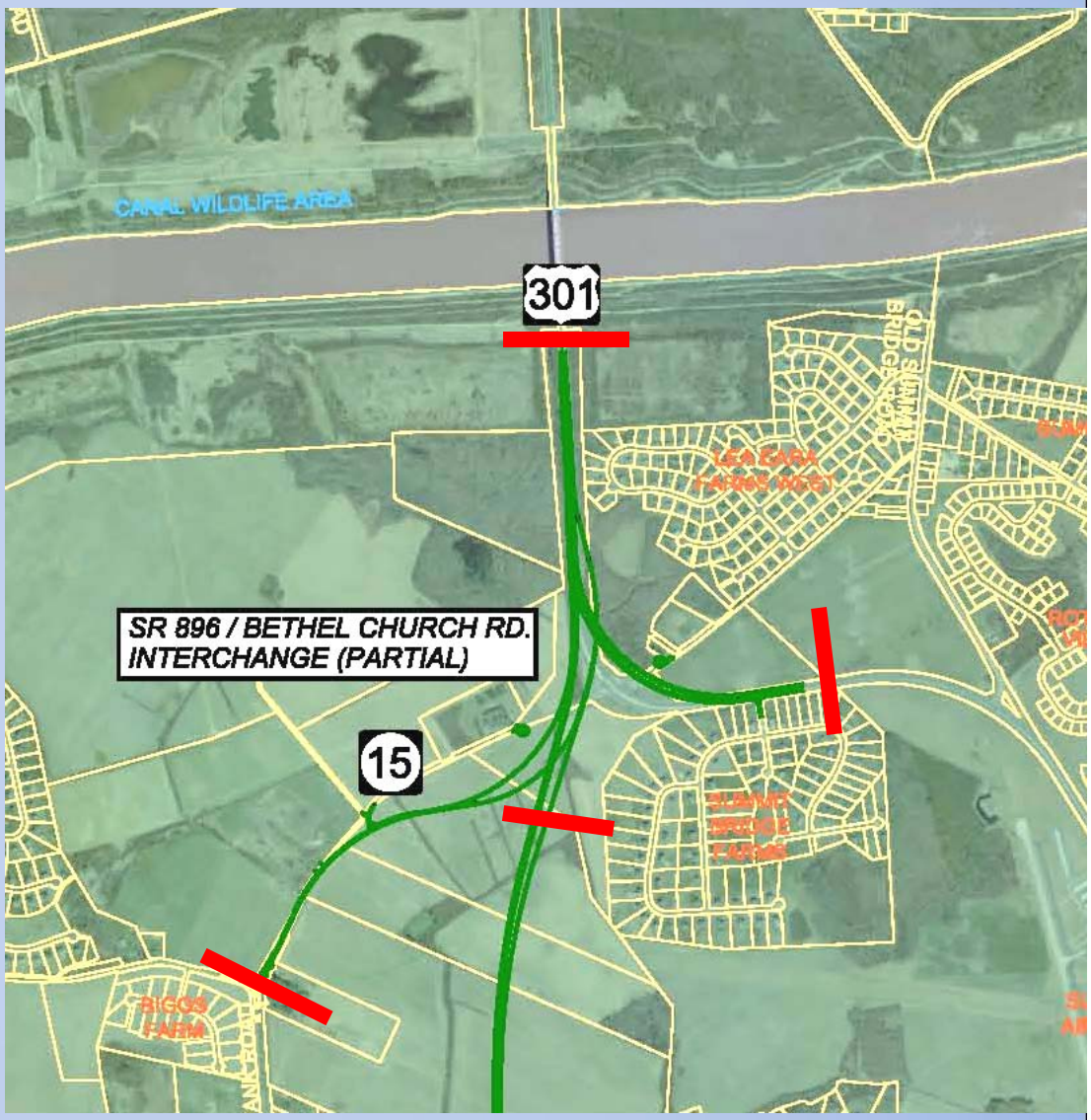
SR 896 and Bethel Church Rd Interchange Contract 4A

State Contract No. T200911305

- **SR 896 and Bethel Church Rd Interchange**
  - **Roadways (2.9 miles)**
    - » **Improve Sharp Curve/Remove Signal South of Summit Bridge**
  - **Current Schedule**
    - **Adv: Fall 2012**
    - **Begin Constr: Spring 2013**

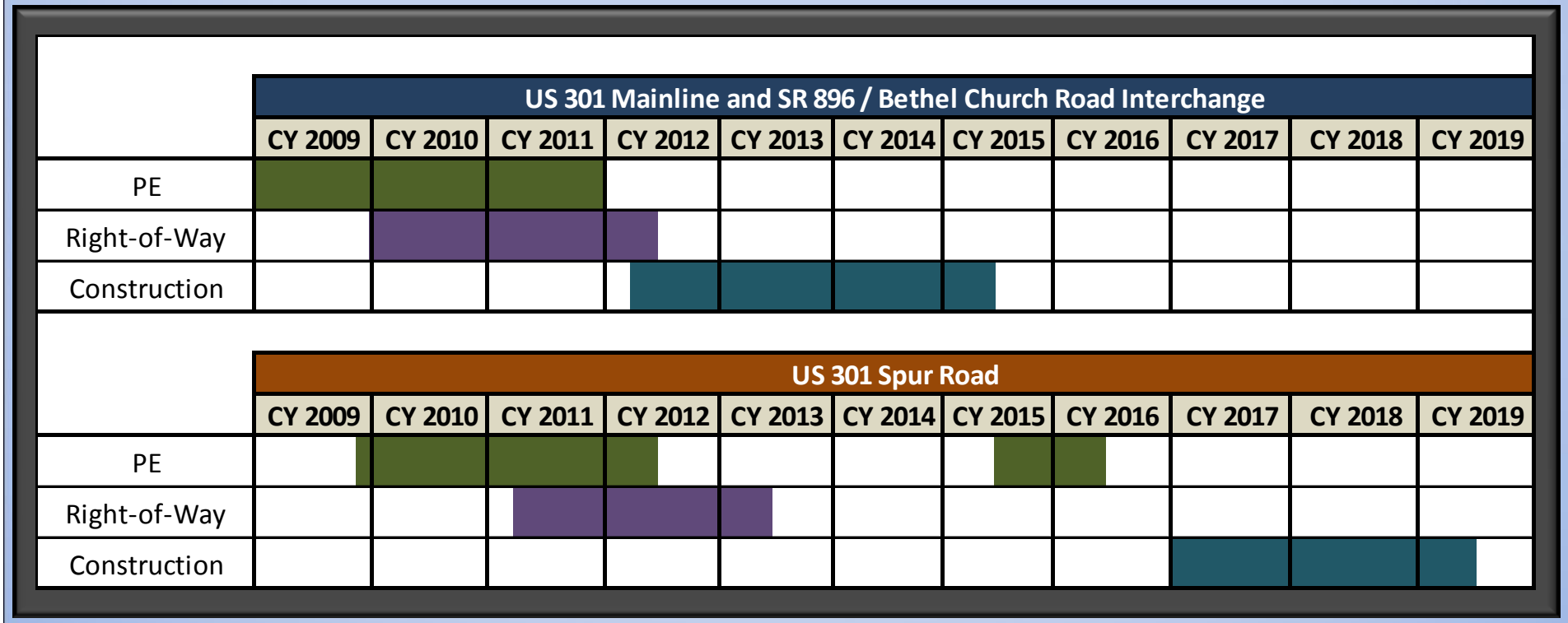
CONSTRUCTION PHASING

- **SR896**
  - **Maintain 2 Thru Lanes, Only Intermittent Lane Closures**
  - **Remove Signal In Phase 2 When Shift Traffic to New Align**
- **Bethel Church Road East**
  - **Close Access to NB SR896**
- **Bethel Church Road West**
  - **Detour When Remove Signal**

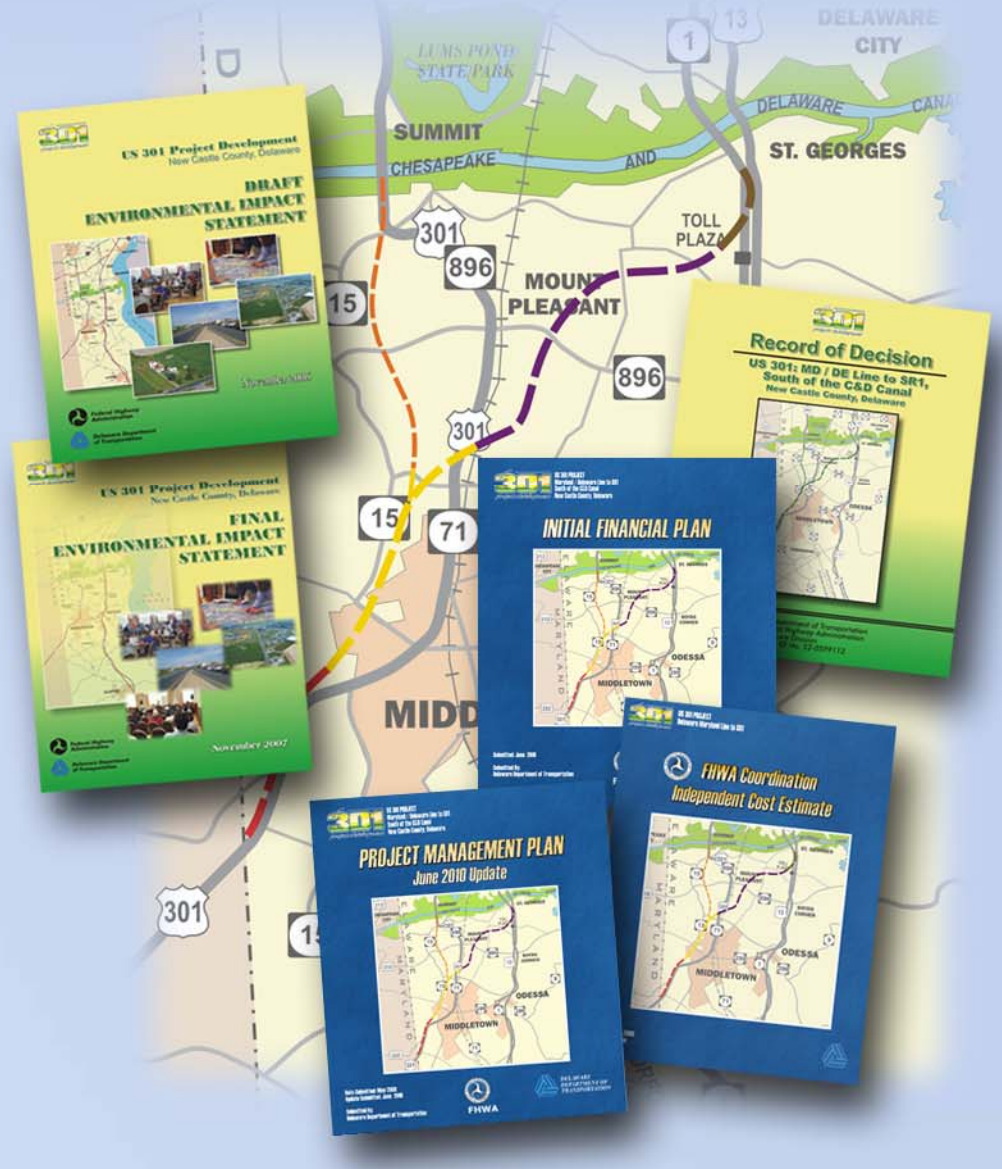


CURRENT SCHEDULE SUMMARY

- **US 301 Mainline Construction & SR 896/Bethel Church Road Interchange: Spring 2012- Open Fall 2014-Finish Spring 2015**
- **US 301 Spur Road Construction Schedule: early 2017 - summer 2019 (in conjunction with results of traffic monitoring program):**



•US 301 PROJECT DEVELOPMENT



•Delaware Department of Transportation

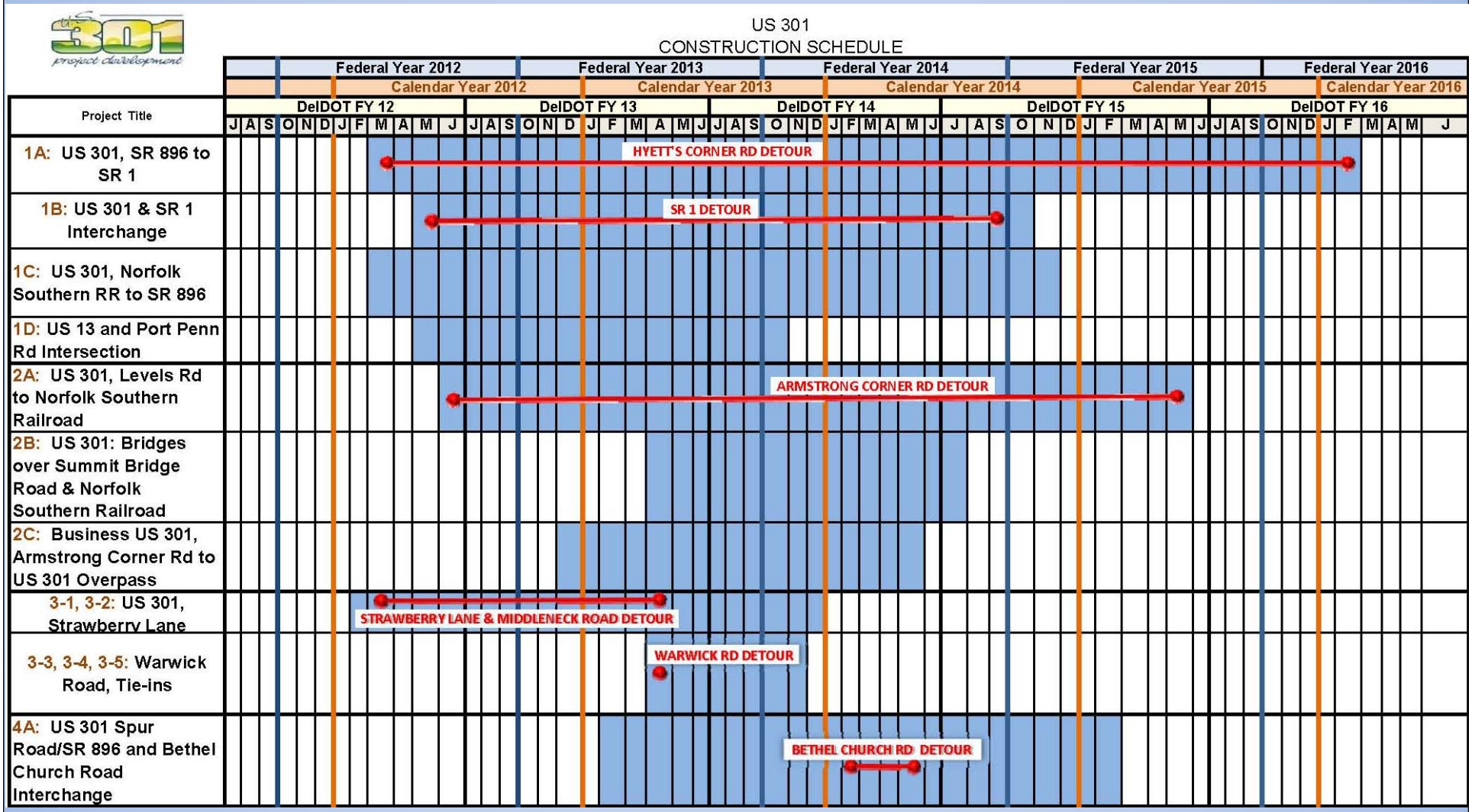
•US 301 MOT CONSTRUCTION DETOURS

•February 8, 2011

Preliminary Construction Sequencing Including Planned Detours

- **Construction Calendar is still very preliminary and subject to change**
  - Start and end dates of specific phases may shift
  - Information is based on latest design plans as of January 2011, some of which are still preliminary
- **Maintenance of Traffic (MOT) options still being refined by section designers**
- **MOT concepts and schedules for Sections 3 and 4A are furthest along**
- **MOT concepts and schedules for Sections 1 and 2 are still very preliminary and subject to change**
  - Duration of proposed detours may change
  - Detour Routes may change

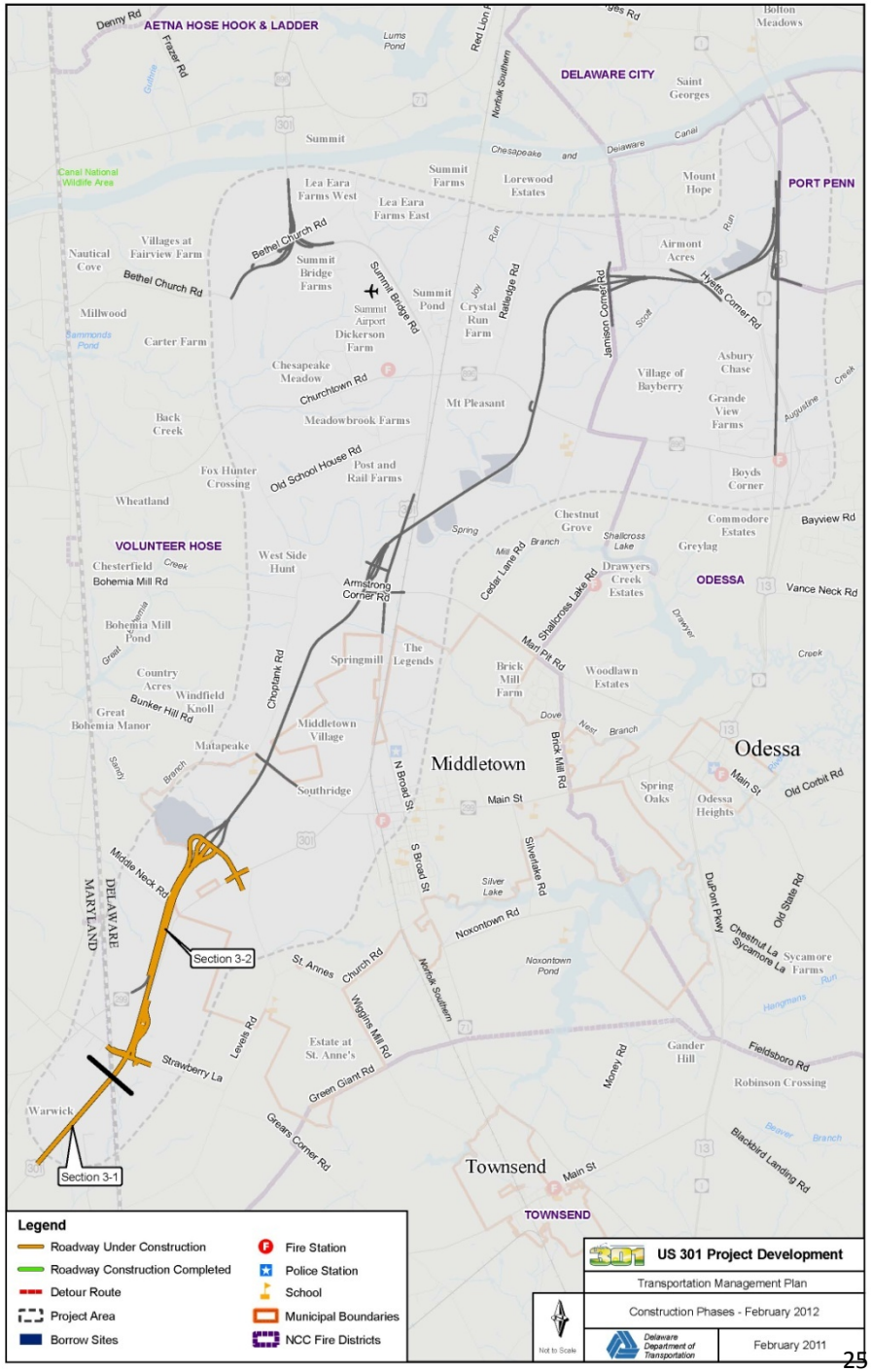
Preliminary Construction Calendar Including Planned Detours



Construction Sequencing

- **February 2012**
- **Begin: Section 3-1, 3-2**

- 2012
- 2013
- 2014
- 2015
- 2016

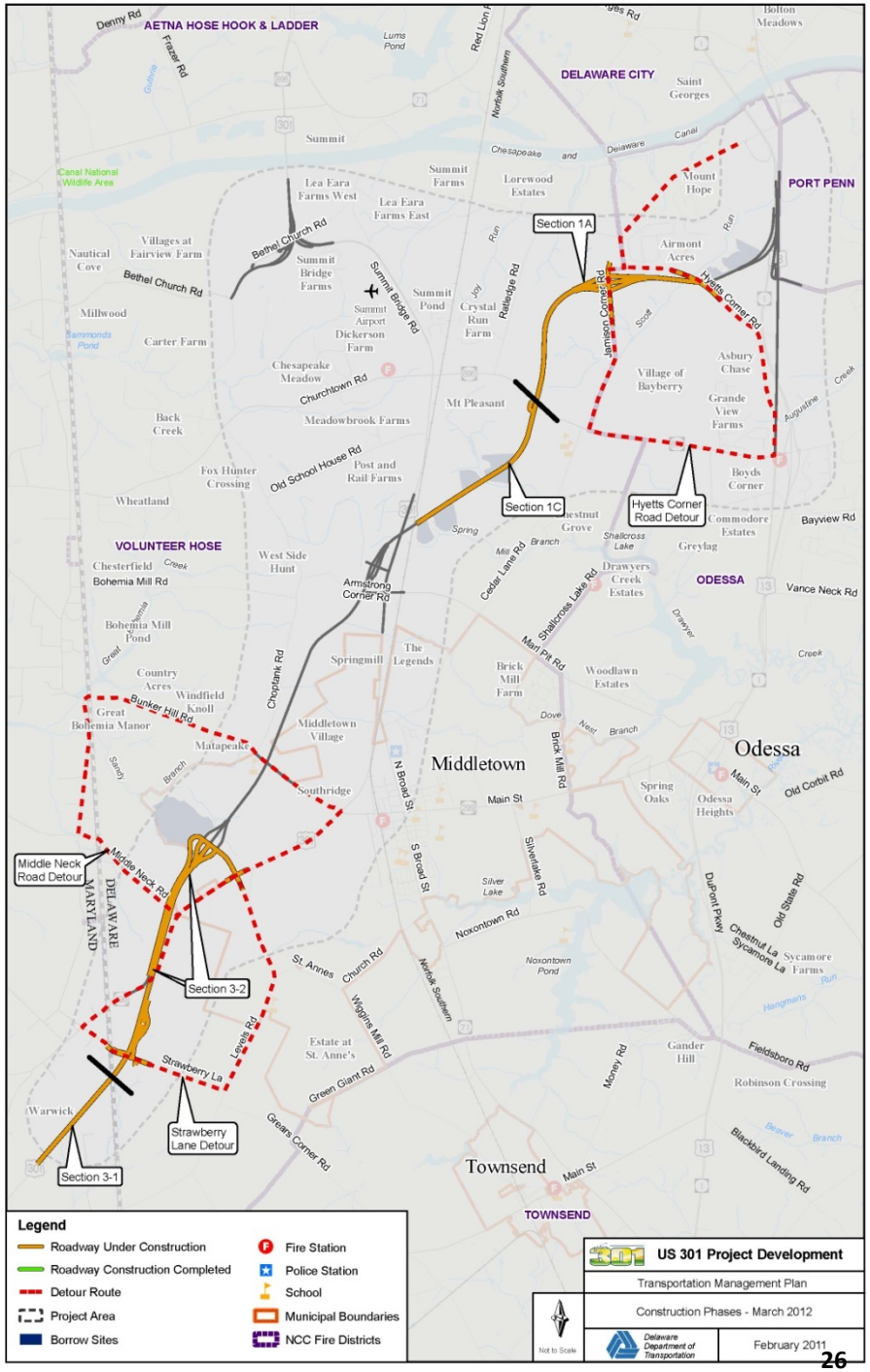


Construction Sequencing

•March 2012
•Begin: Section 1A, 1C

- 3 Detours begin:
  - Hyett's Corner Road (Sec 1A)
    - Hyett's Corner Road closed for US 301 excavation and Hyetts Corner Road 2 bridges.
    - Jamison Corner Rd & Road 412A Projects Complete & Build Jamison Corner Rd Runaround. Maintain access to St. Georges Vo-Tech .
    - Estimated duration: 4 years

•2012
•2013
•2014
•2015
•2016



Construction Sequencing

•2012

•March 2012

•Begin: Section 1A, 1C

- **Middle Neck Road (Sec 3-2)**
  - Middle Neck Road closed for 13 months for mainline US 301 construction

•2013

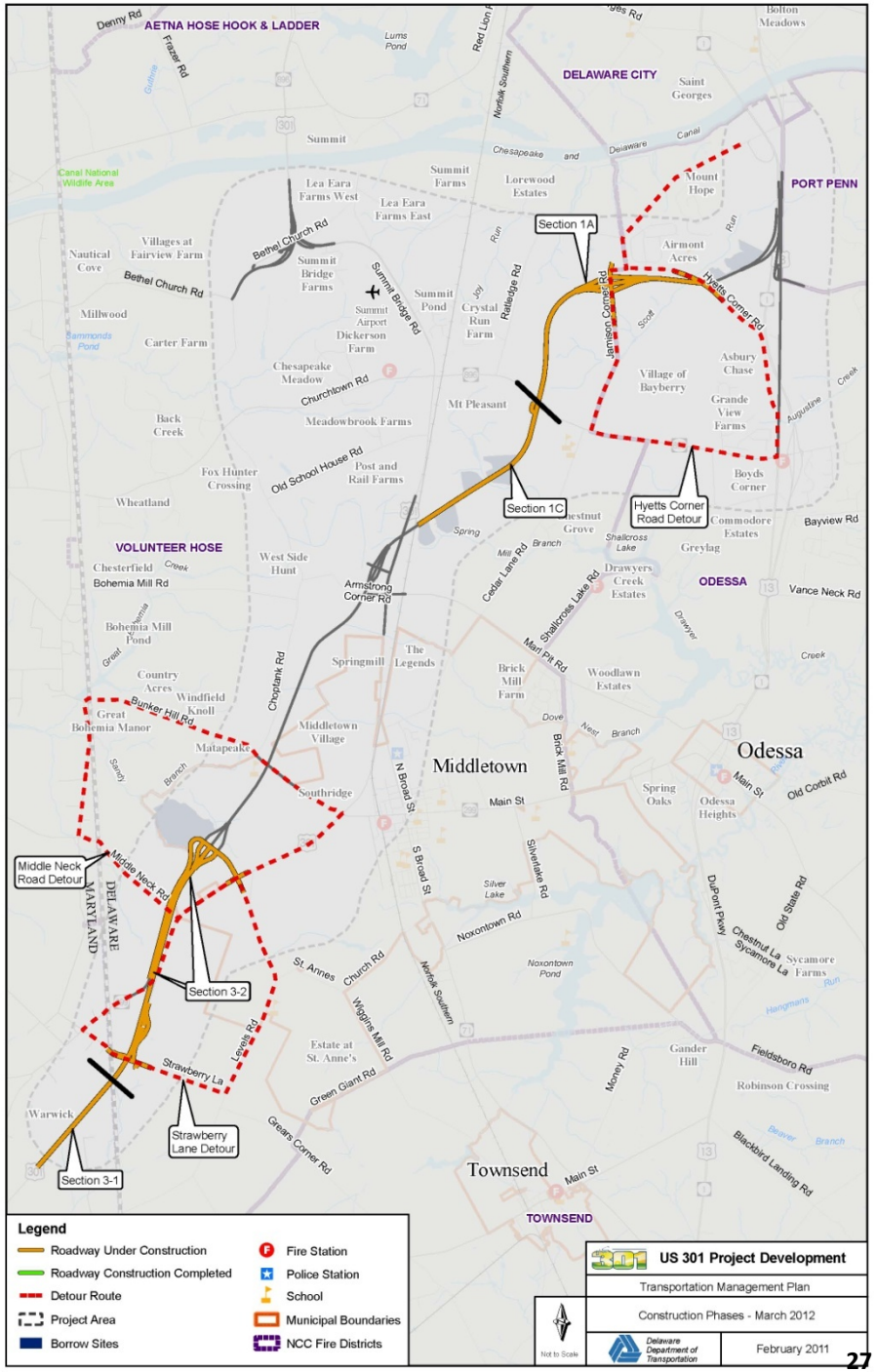
- **Strawberry Lane (Sec 3-2)**
  - Strawberry Lane closed for 13 (or less) months for construction of bridge over US 301 & Road tie-in phasing
  - Detour to overlap with Middle Neck Road detour

•2014

- **SR 896 Short term closure**
  - **Night detour for steel erection, OR fifteen (15) minute closures**
  - **This information will be updated once a decision is made on the detour**

•2015

•2016

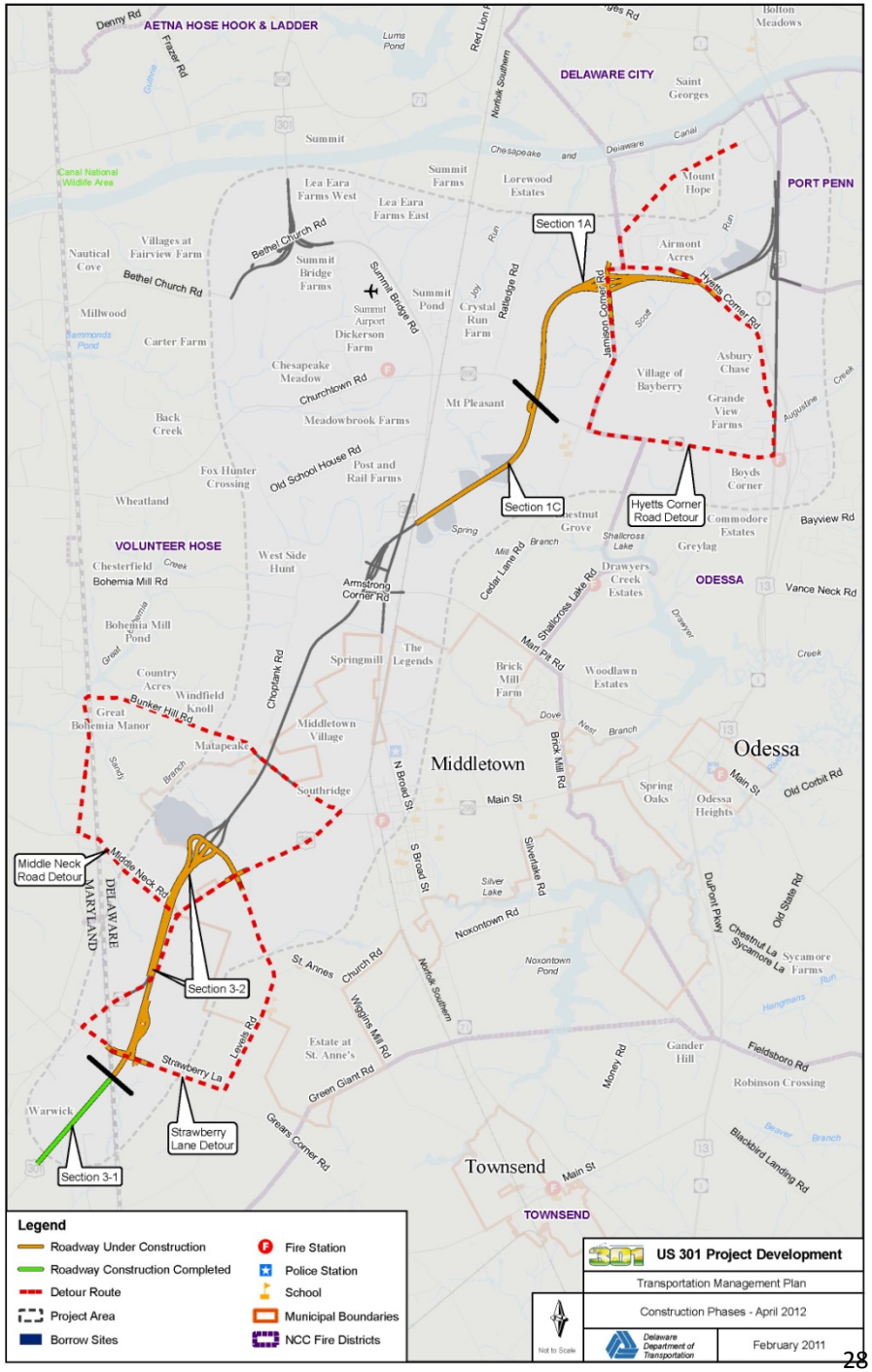


Construction Sequencing

- •2012
- •2013
- •2014
- •2015
- •2016

•April 2012

•Complete: Section 3-1



Construction Sequencing

•2012

•May 2012
•Begin: Section 1B, 1D

•2013

- **SR 1 NB & SB Detours begin**

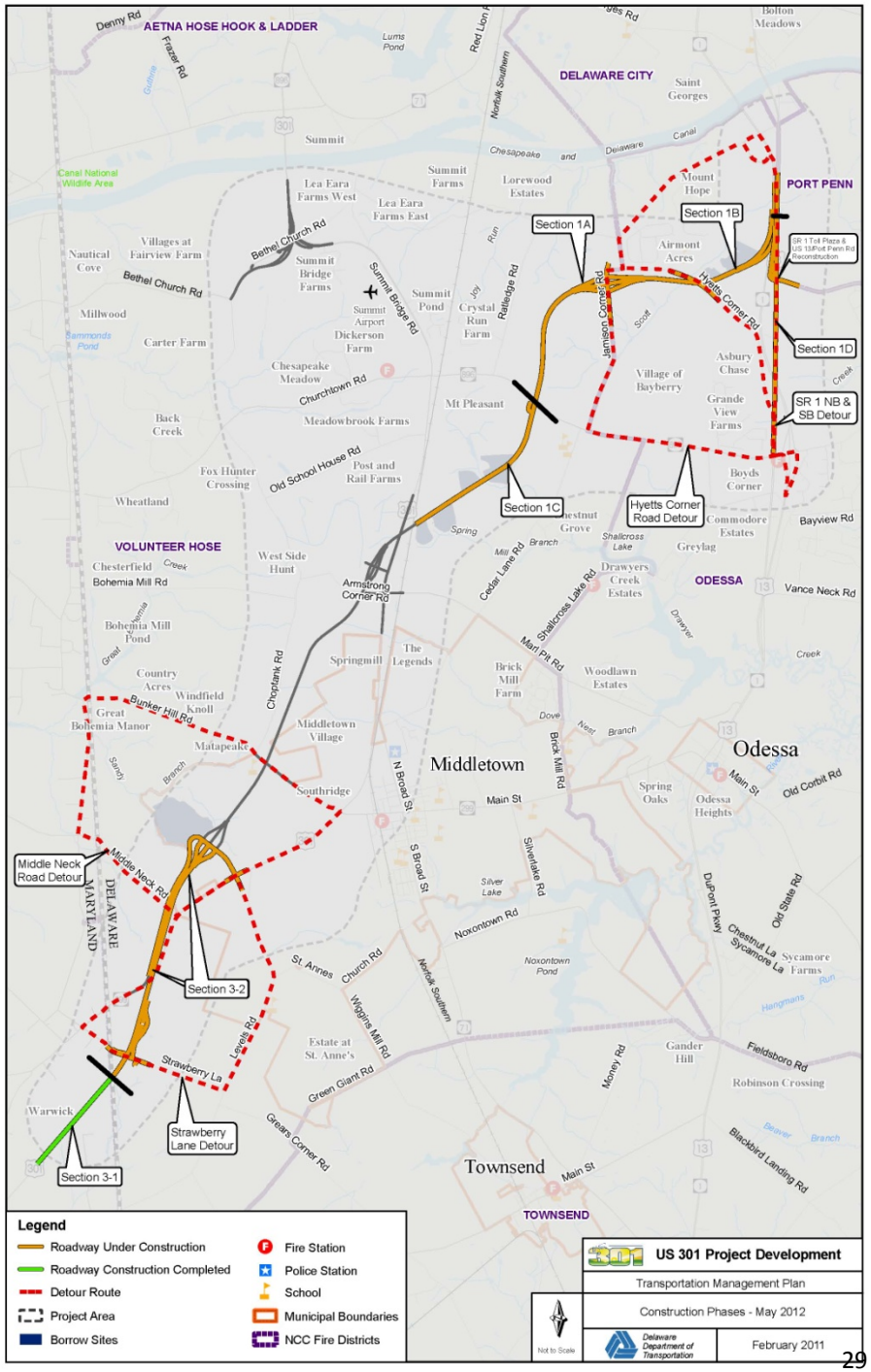
•2014

- **Short-term (night-time only) closures of mainline SR 1 for construction of US 301 flyover bridges**
- **Lane reductions during steel erection (possible closure of ETLs)**

•2015

- **Estimated duration: 29 months**

•2016



Construction Sequencing

•2012

•May 2012
•Begin: Section 1B, 1D

•2013

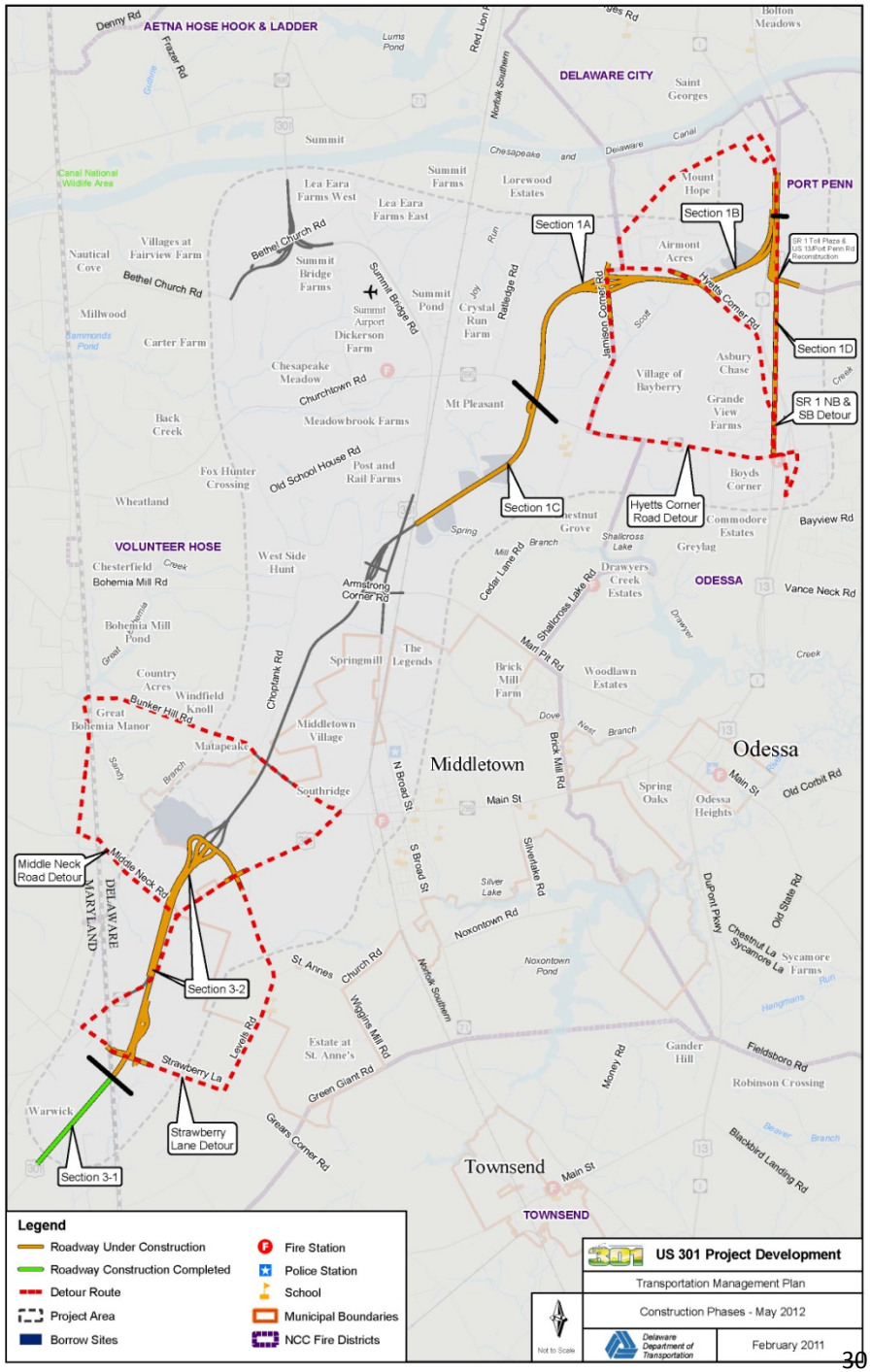
- **Toll Plaza Administration Bldg – Temporary Access**
  - Access from NB US 13 provided by a U-turn further north from the building's current access.
  - Estimated duration: 29 months

•2014

- **Port Penn Road @US 13**
  - A weekend closure to perform intersection construction work.

•2015

•2016



Construction Sequencing

•2012

•June 2012

•Begin: Section 2A

•2013

- **Armstrong Corner Road Detour begins**

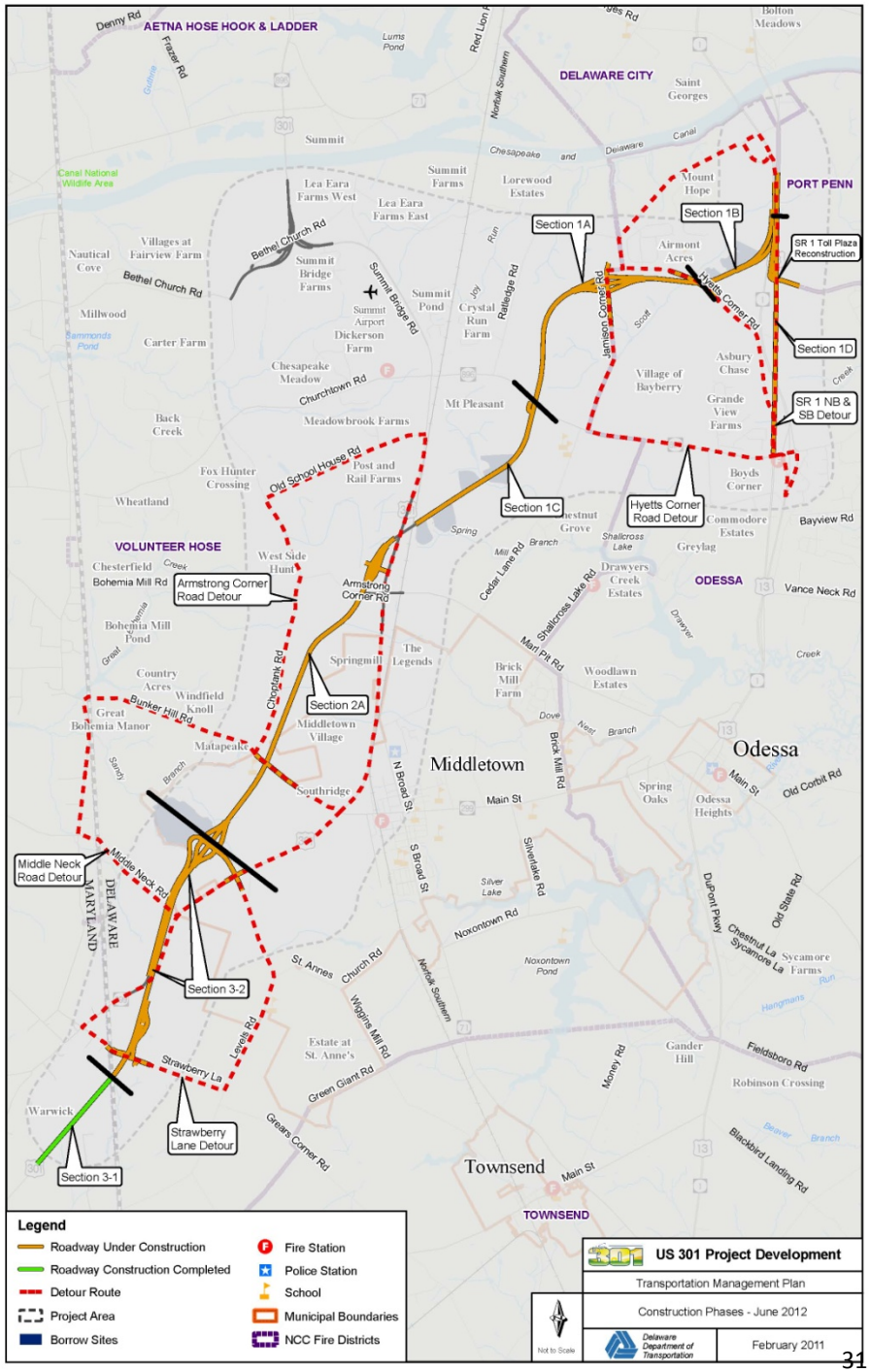
•2014

- **Short-term closures of Armstrong Corner Road for placing mainline US 301 bridge deck over Armstrong Corner Road & Road Tie-In Work**

•2015

- **Estimated duration: 3 years**

•2016

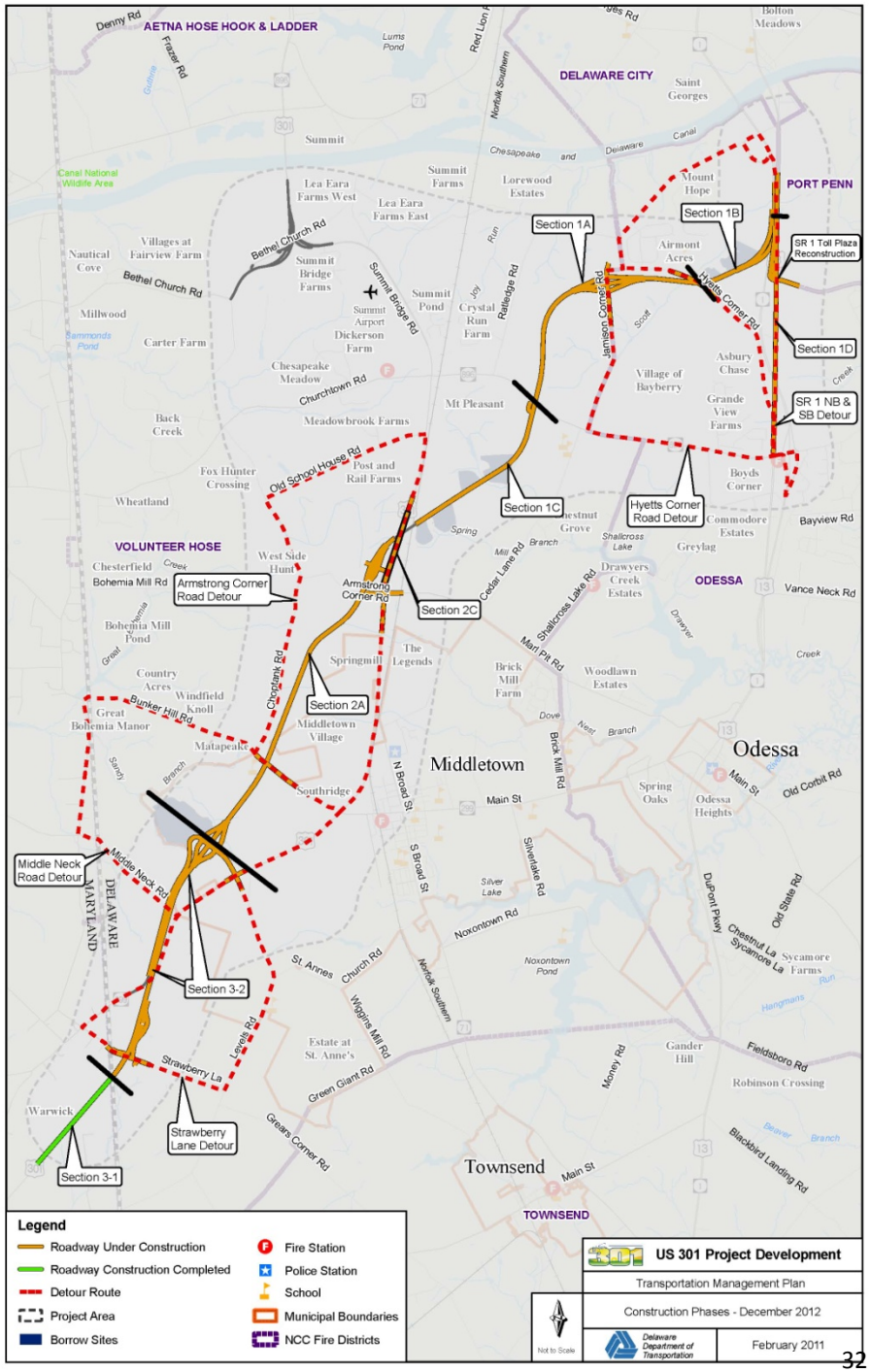


Construction Sequencing

- •2012
- •2013
- •2014
- •2015
- •2016

•**December 2012**

•**Begin: Section 2C**



Construction Sequencing

•2012

•2013

•2014

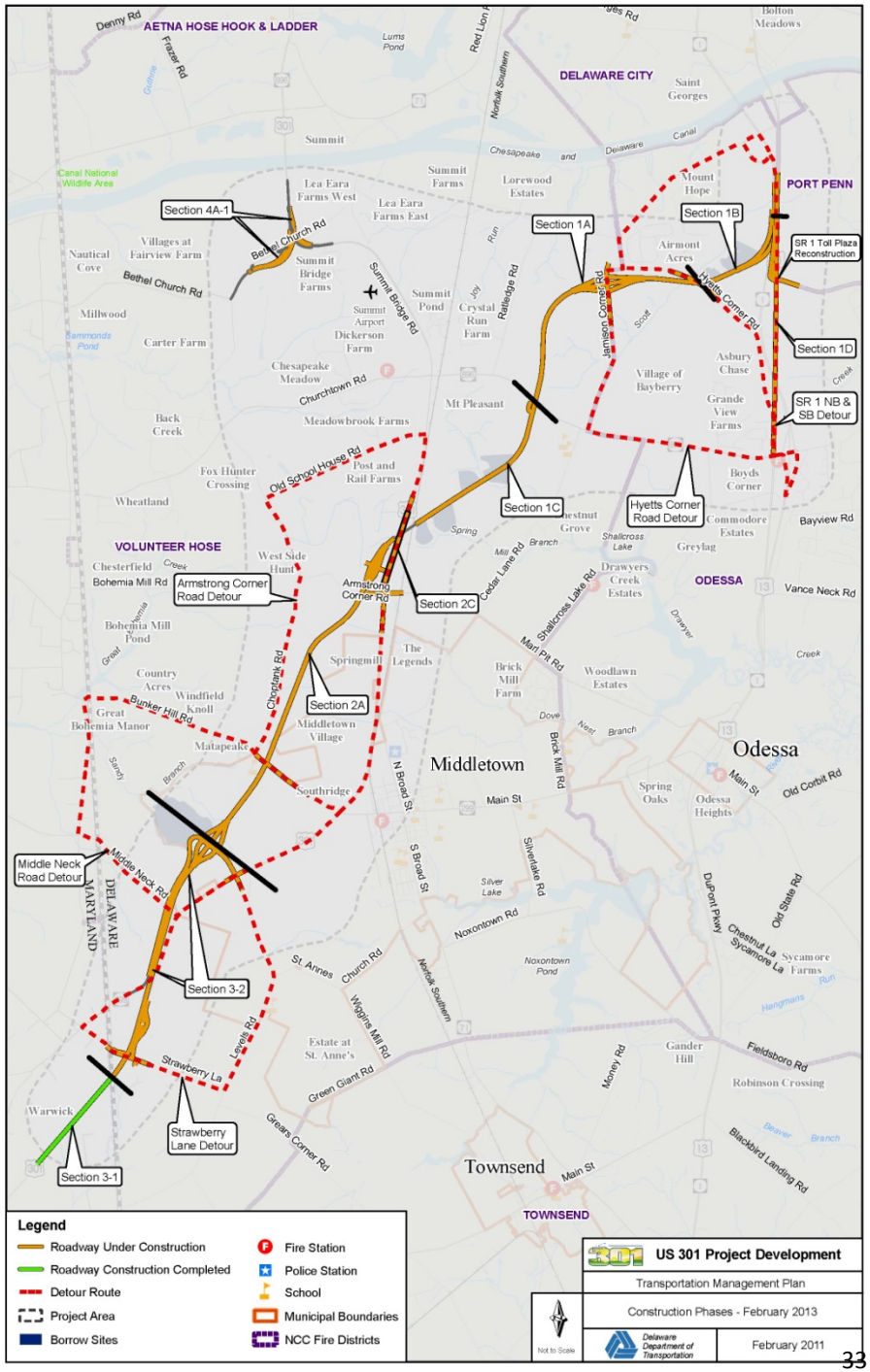
•2015

•2016

•**February 2013**

•**Begin: Section 4A- Phase 1**

- **Bethel Church Road Permanently Rerouted**
  - **Eastern leg of Bethel Church Road / SR 896 intersection permanently closed. Traffic re-routed to Old Summit Bridge Road**



Construction Sequencing

•2012

•2013

•2014

•2015

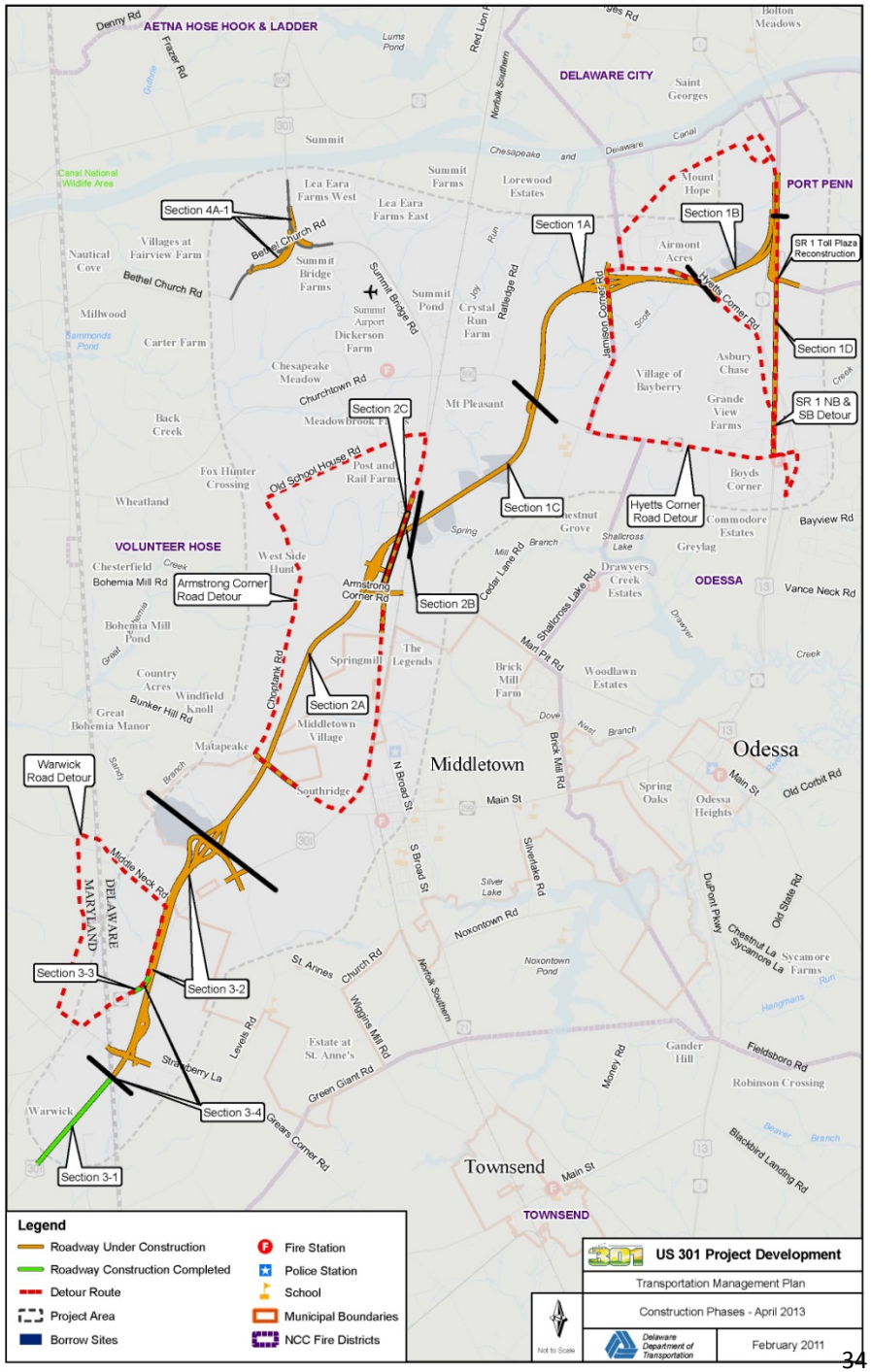
•2016

•April 2013

•Begin: Section 2B, Sections 3-3, 3-4

•Complete: Section 3-3

- **Warwick Road Detour Begins**
  - Warwick Road closed for 2 weeks for construction of tie-in with new Warwick Road alignment
- **Middleneck Road and Strawberry Lane Road and Warwick Road detours end**



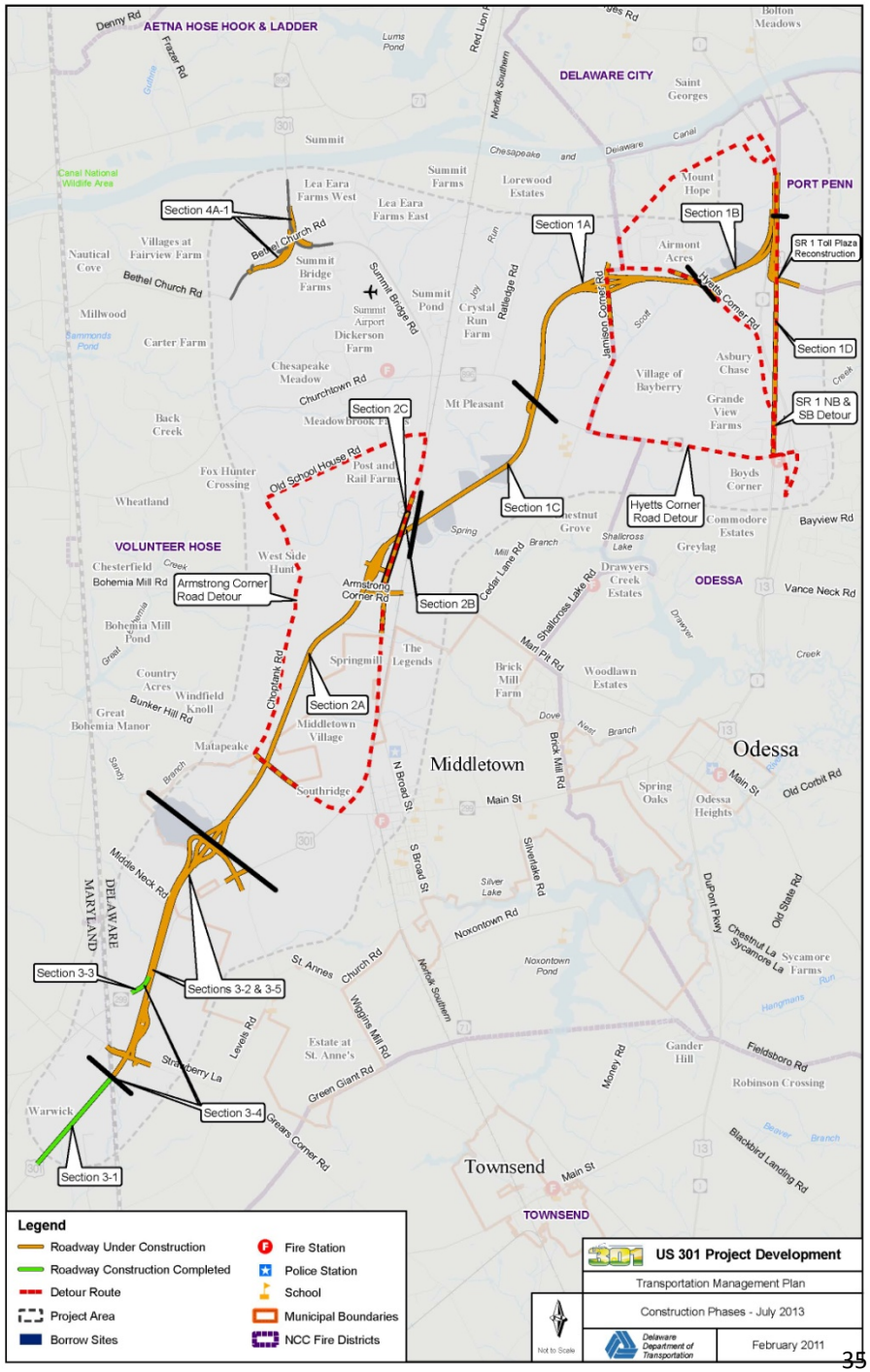
Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

•July 2013

•Begin: Section 3-5

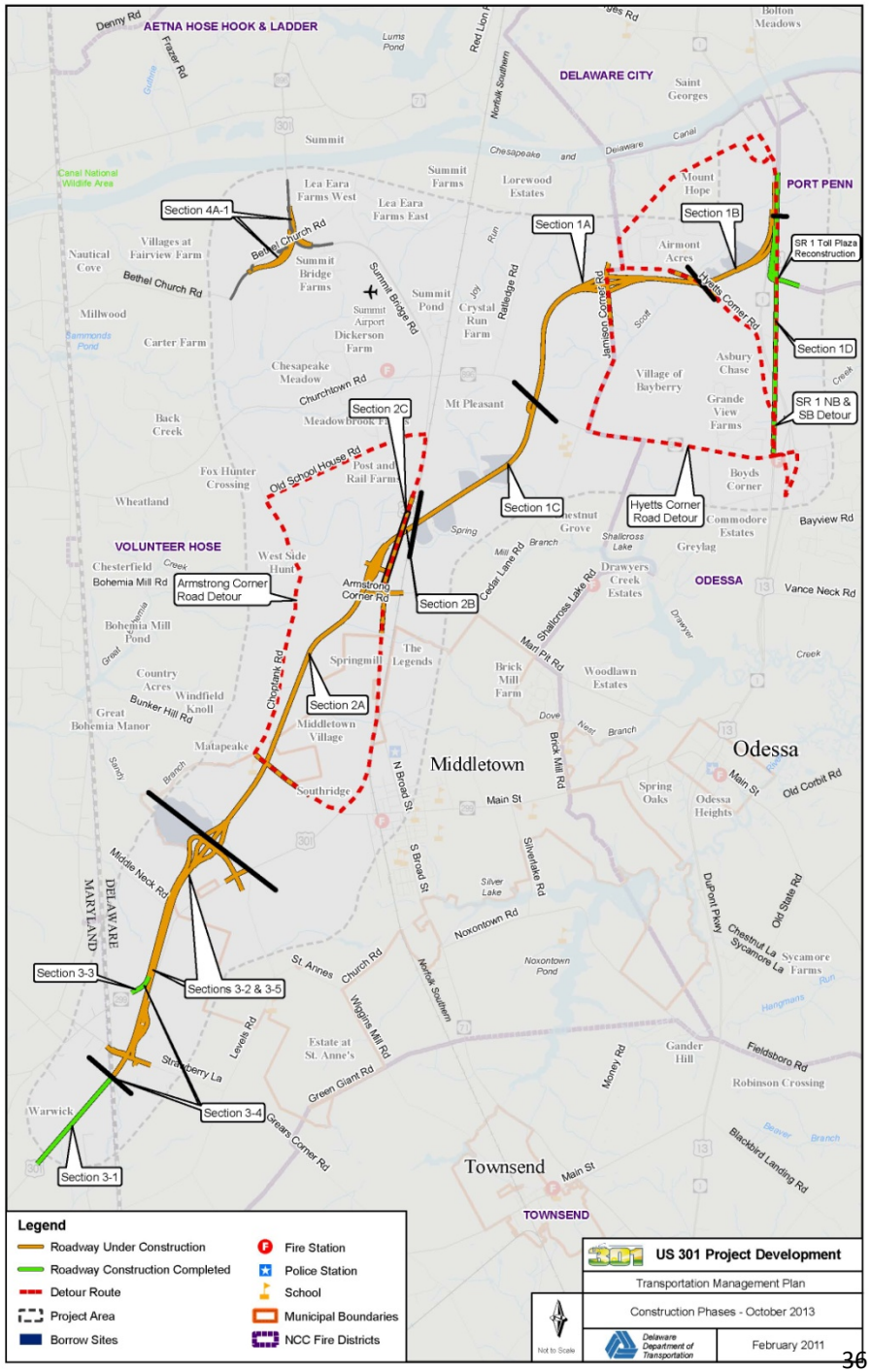
•Complete: Section 3-4



Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

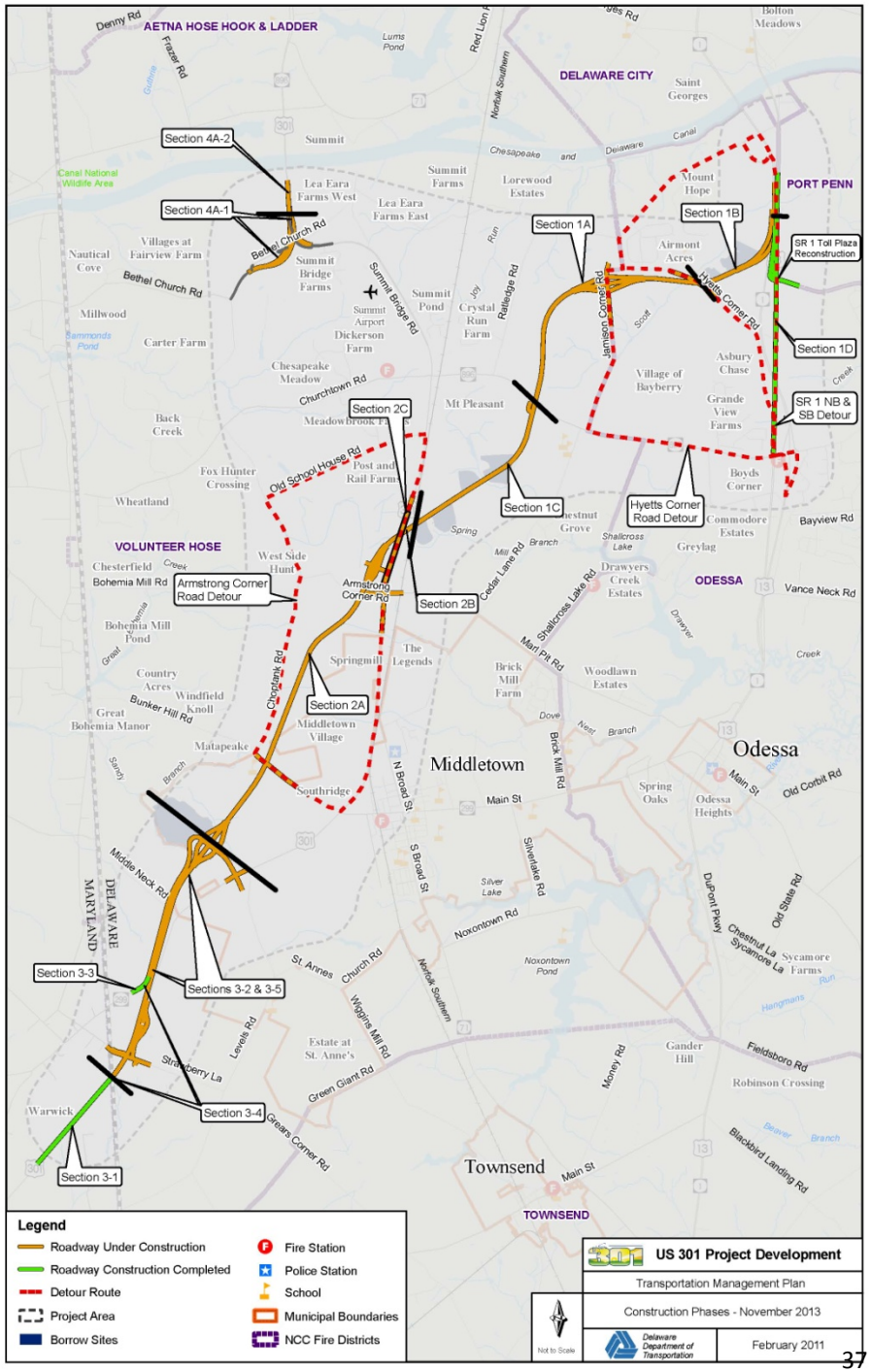
- **October 2013**
- **Complete: Section 1D**



Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

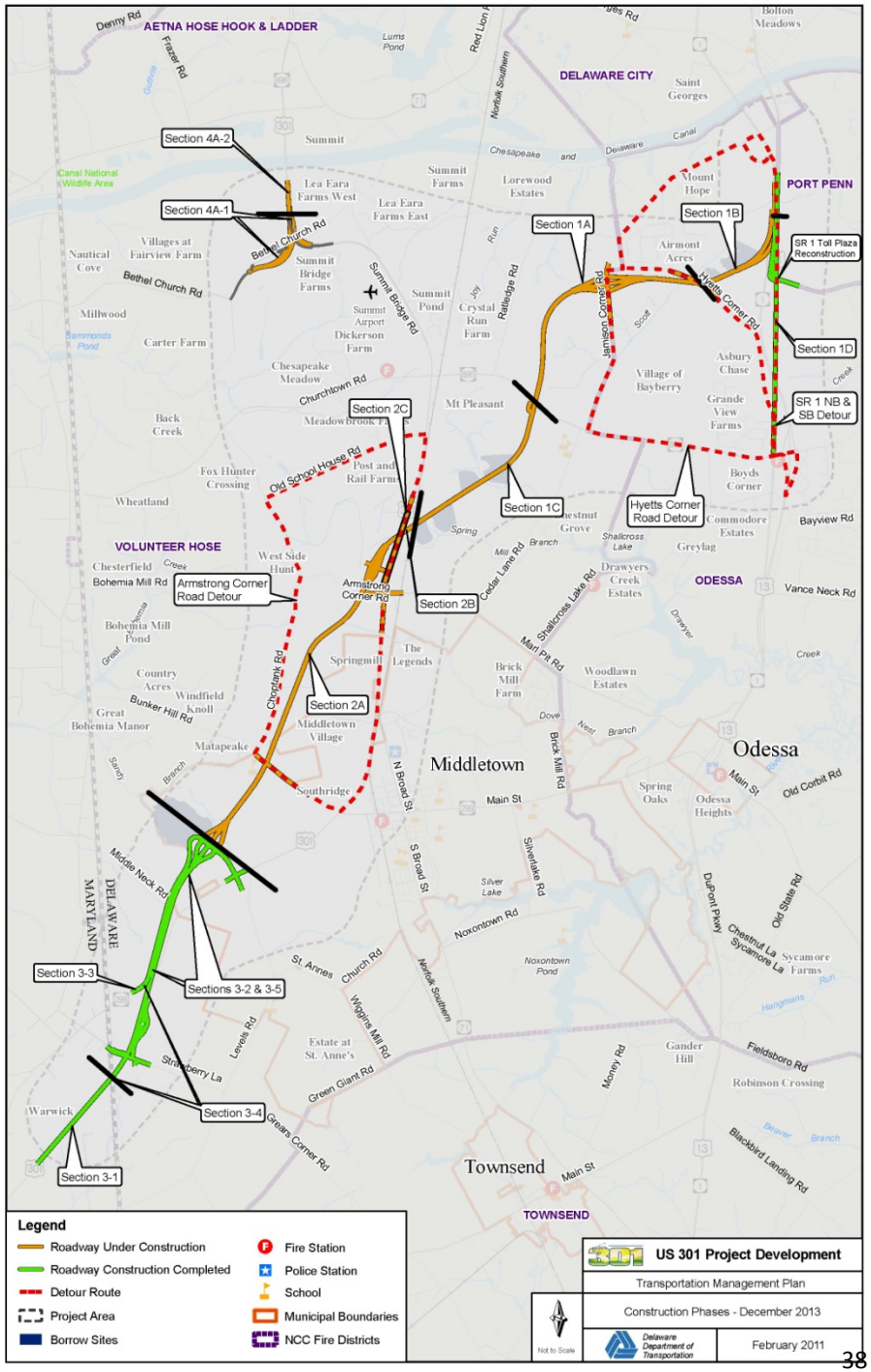
- **November 2013**
- **Begin: Section 4A-Phase 2**
- **Complete: Section 3-5**



Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

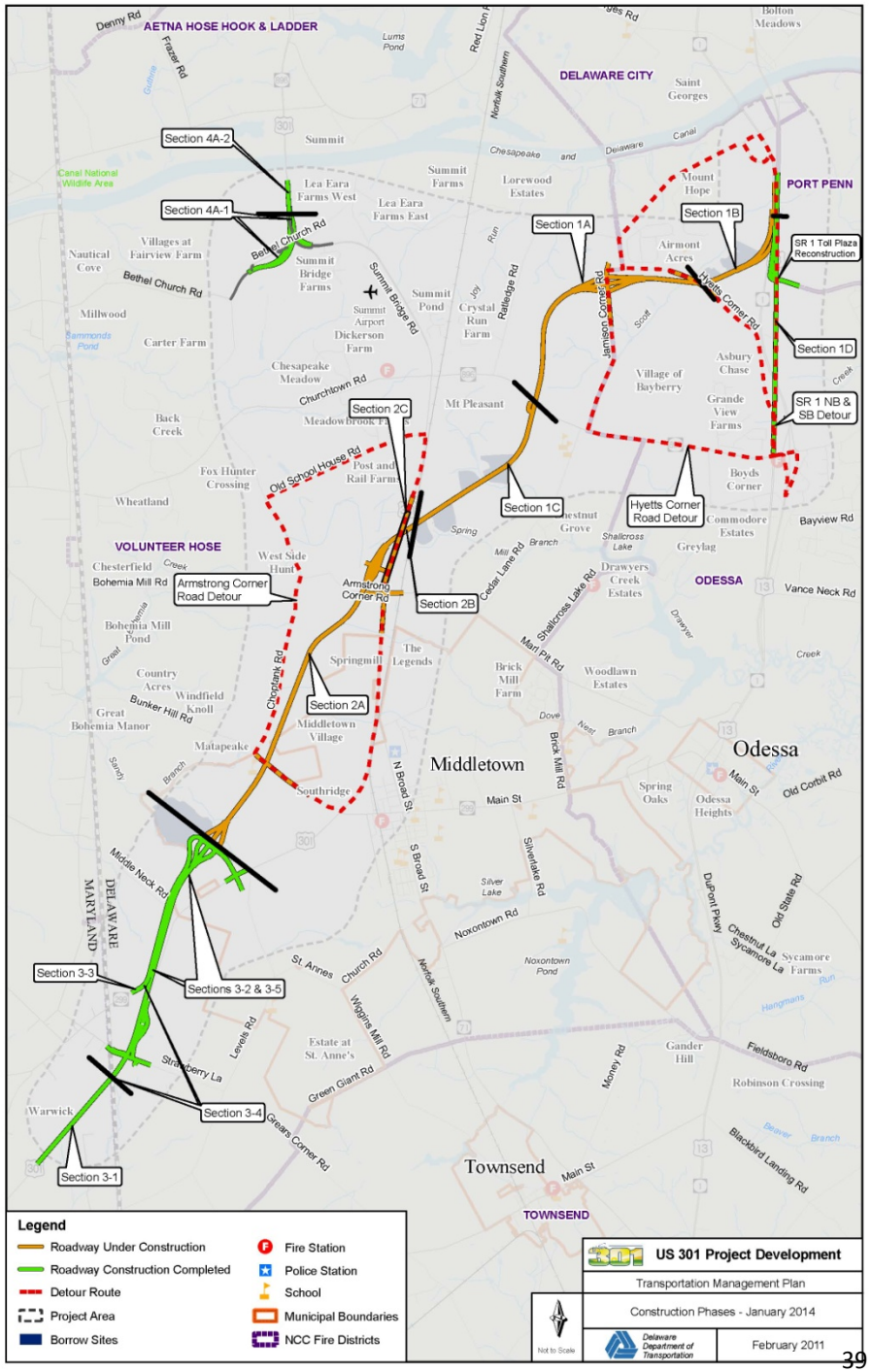
- December 2013
- Complete: Section 3-2



Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

- **January 2014**
- **Complete: Section 4A-1, 4A-2**



Construction Sequencing

•2012

•2013

•2014

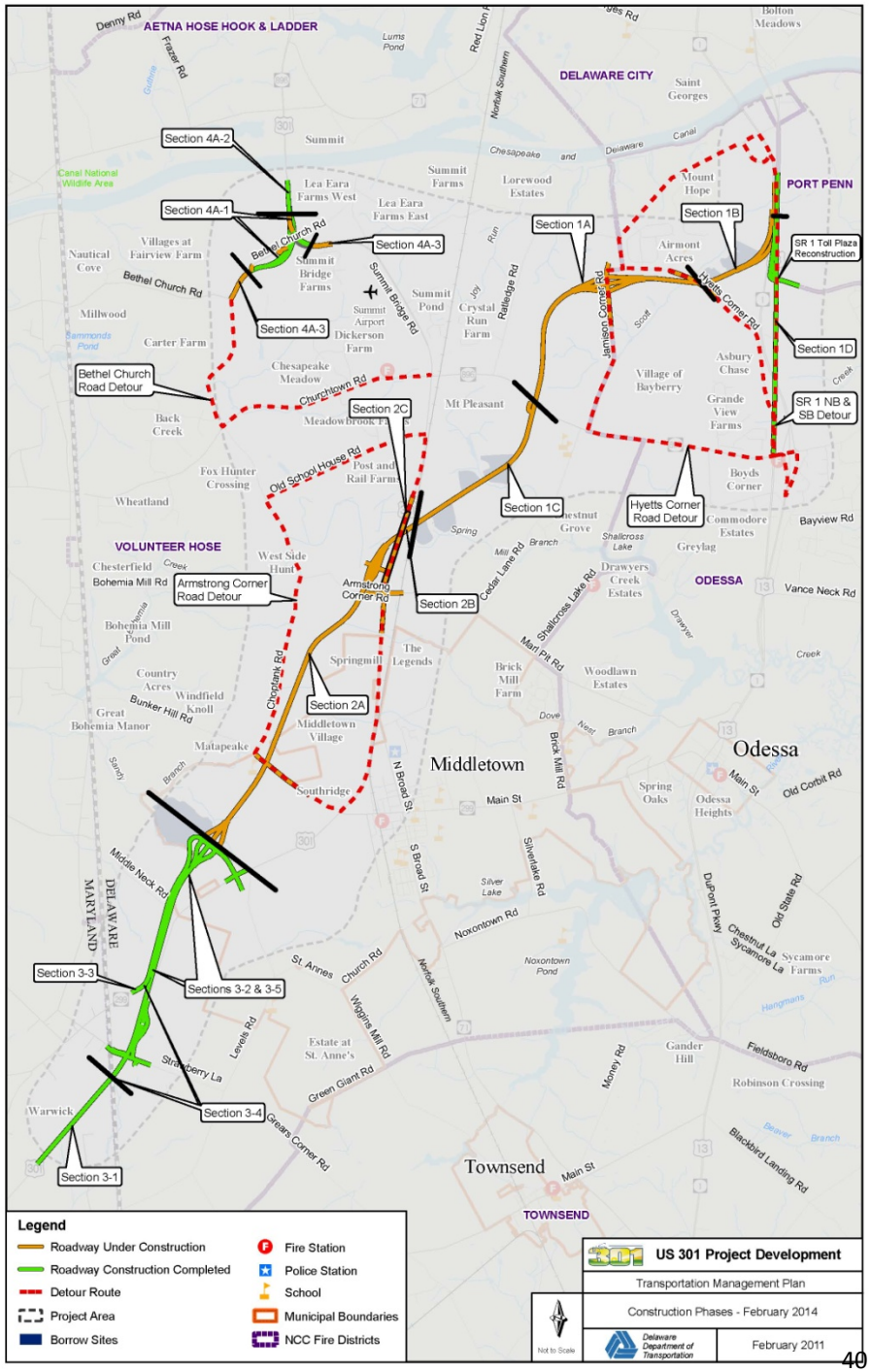
•2015

•2016

•**February 2014**

•**Begin: Section 4A-3**

- **Bethel Church Road Detour Begins**
  - **Western Leg of Bethel Church Road/SR 896 intersection permanently cul-de-sac'd**
  - **Bethel Church traffic detoured to Churchtown Road for 4 months**



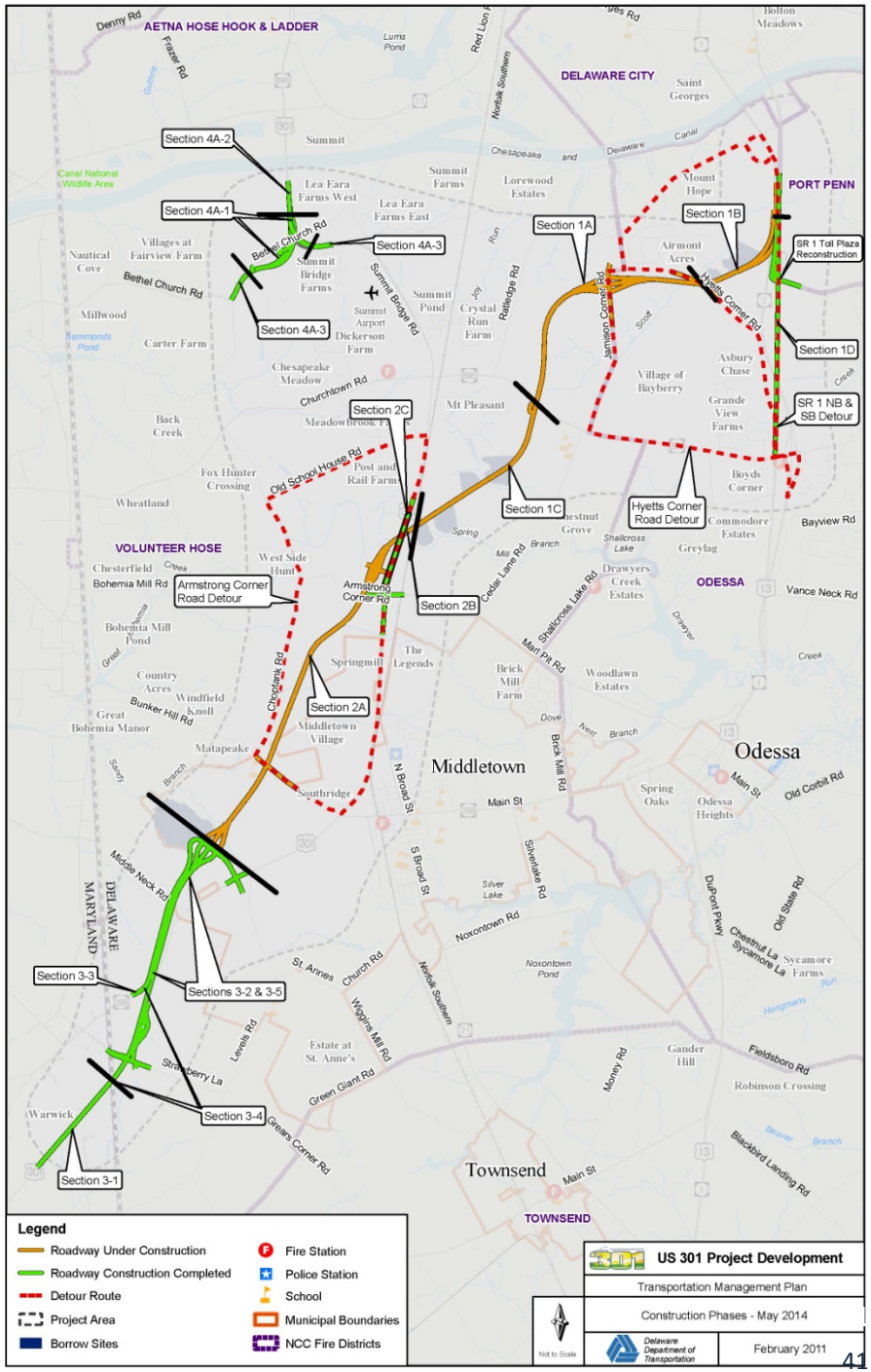
Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

•May 2014

•Complete: Section 4A-3, 2C

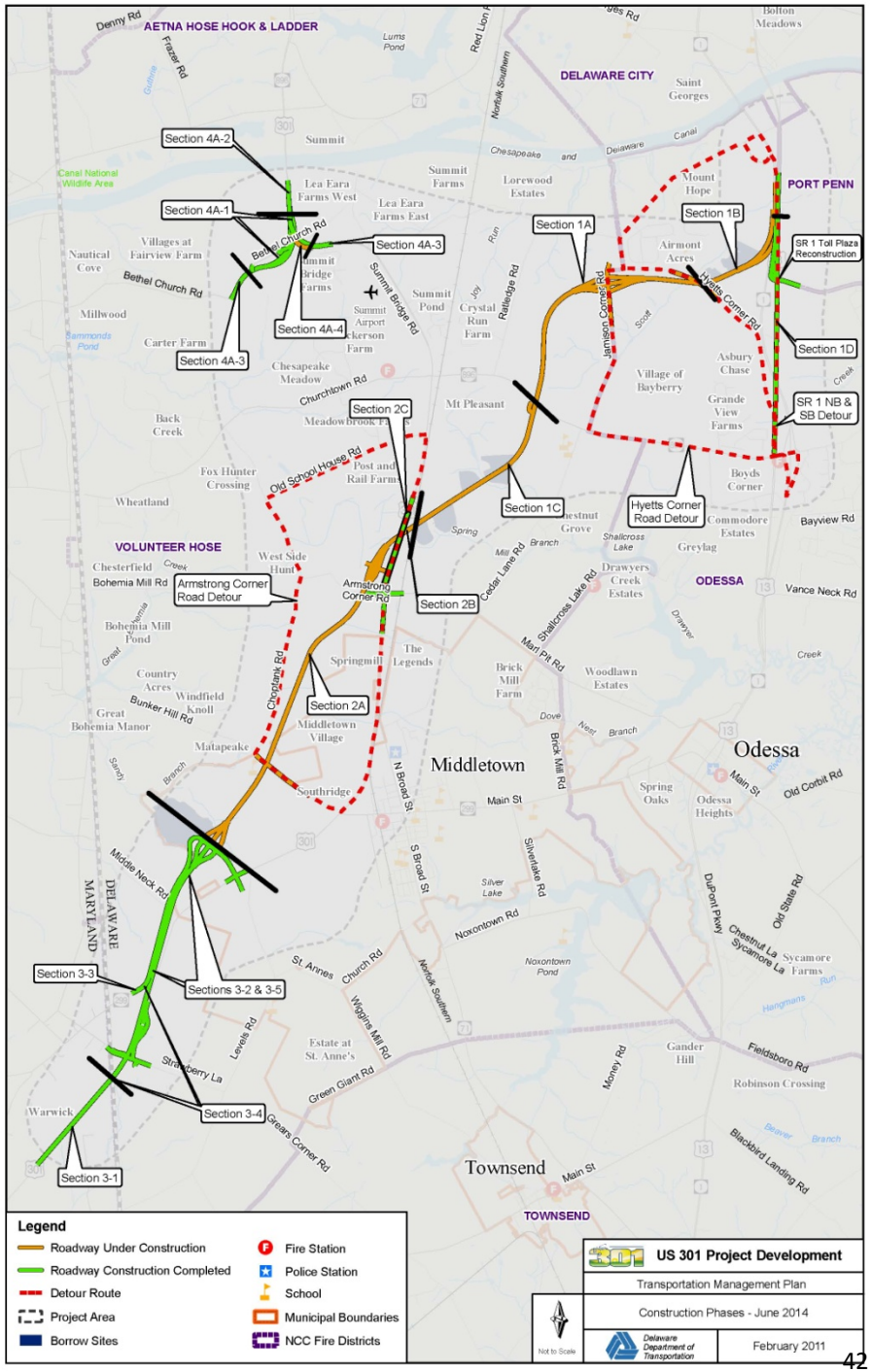
- **Bethel Church Road Detour Ends**



Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

- **June 2014**
- **Begin: Section 4A-Phase 4**



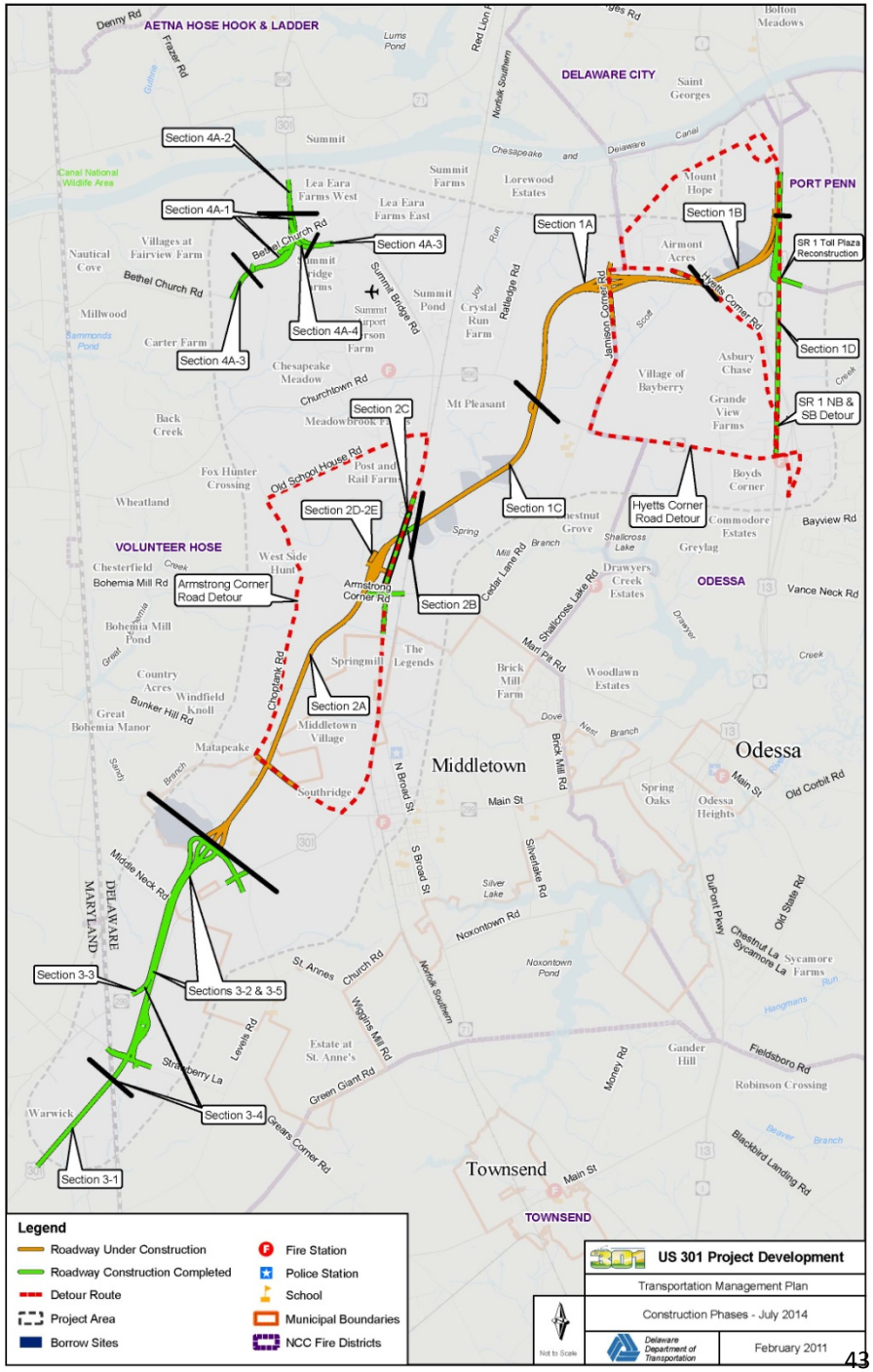
Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

•July 2014

•Complete: Sections 4A-4, 2B

•Begin: Section 2D, 2E



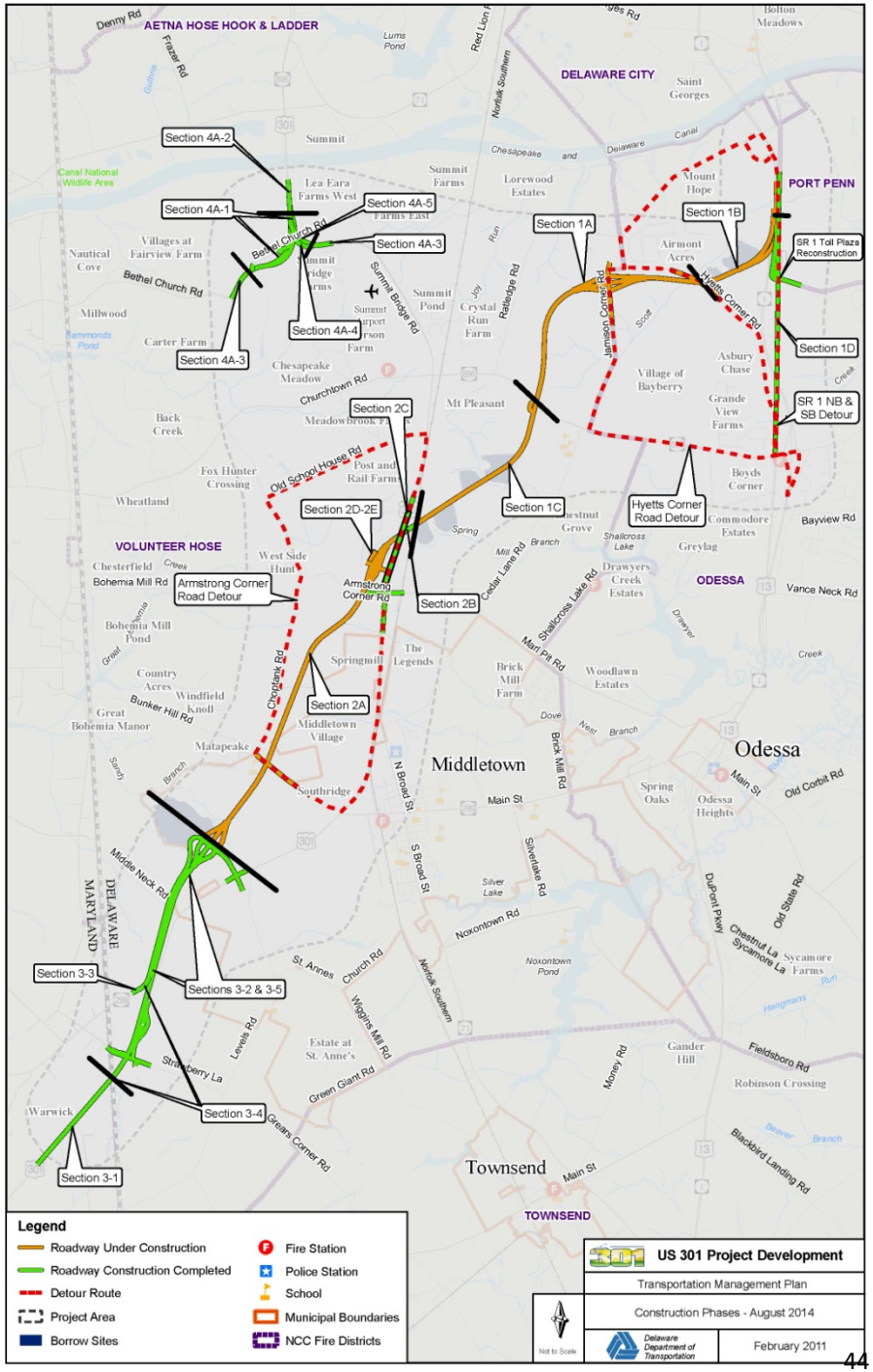
Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

•August 2014

•Begin: 4A-5

•Complete: Section 4A-5

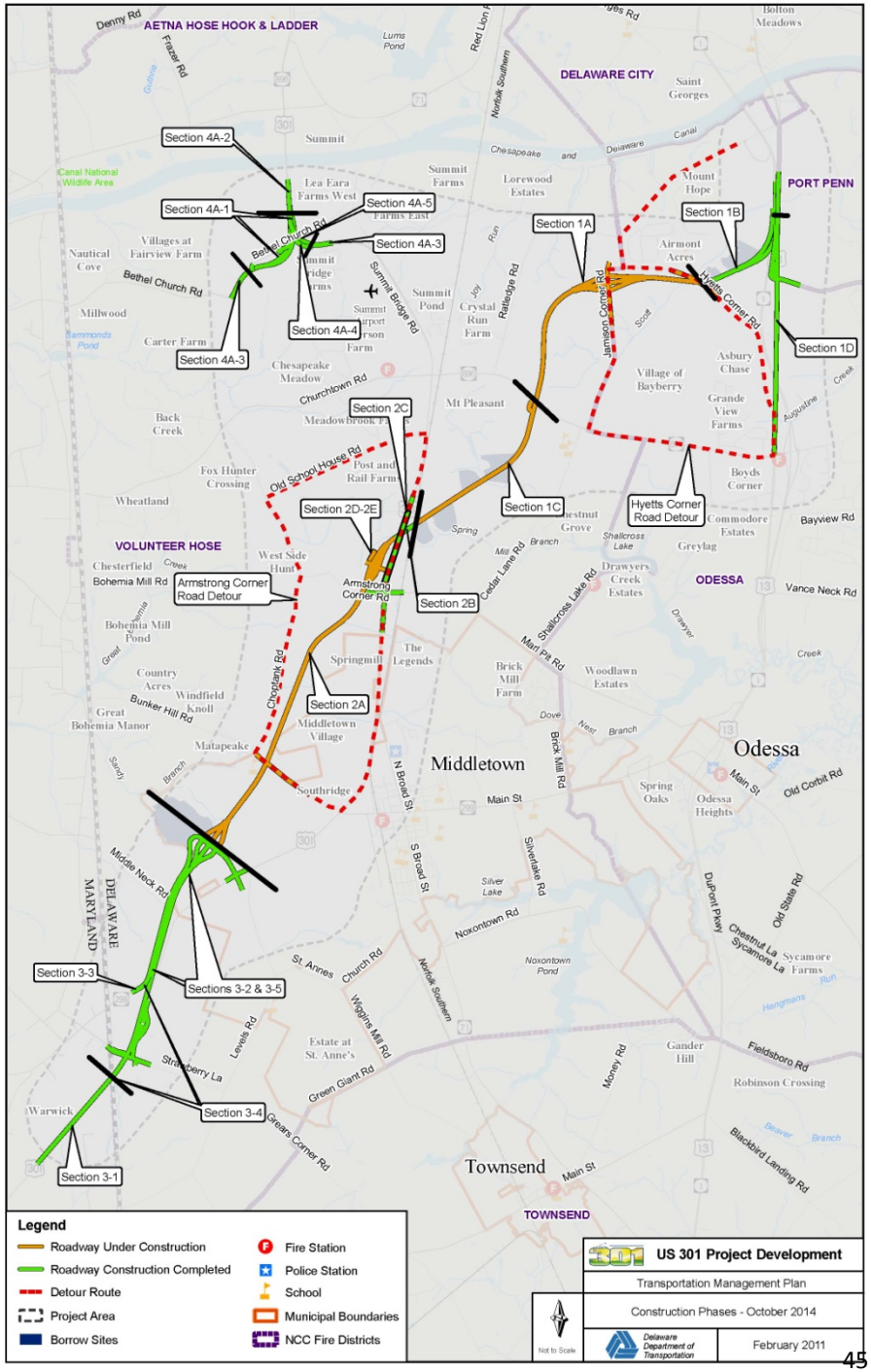


Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

- **October 2014**
- **Complete: Section 1B**

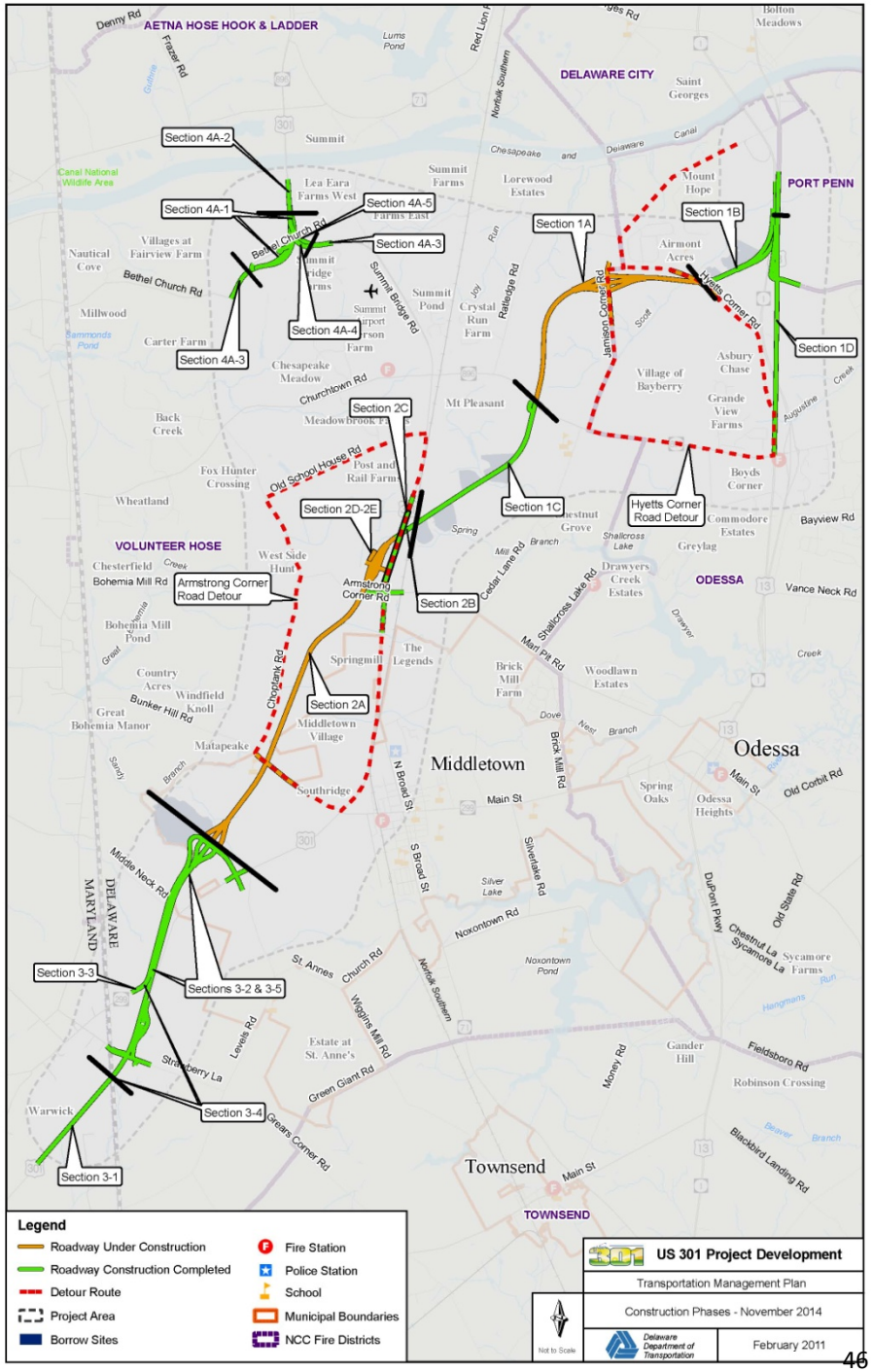
- **SR 1 Detours End**



Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

- **November 2014**
- **Complete: 1C**

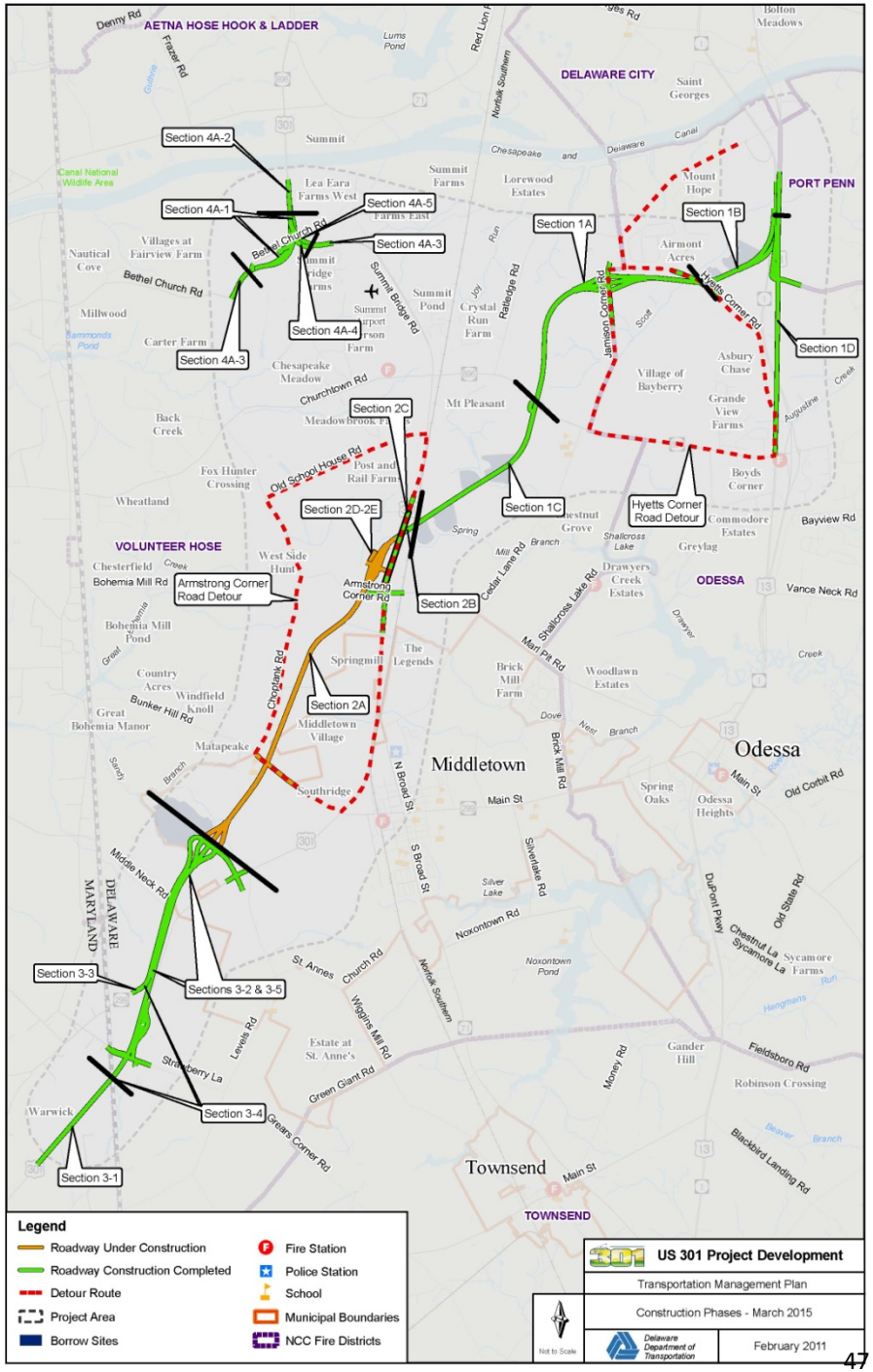


Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

•March 2015

•Complete: Section 1A (except Hyetts Corner Road)

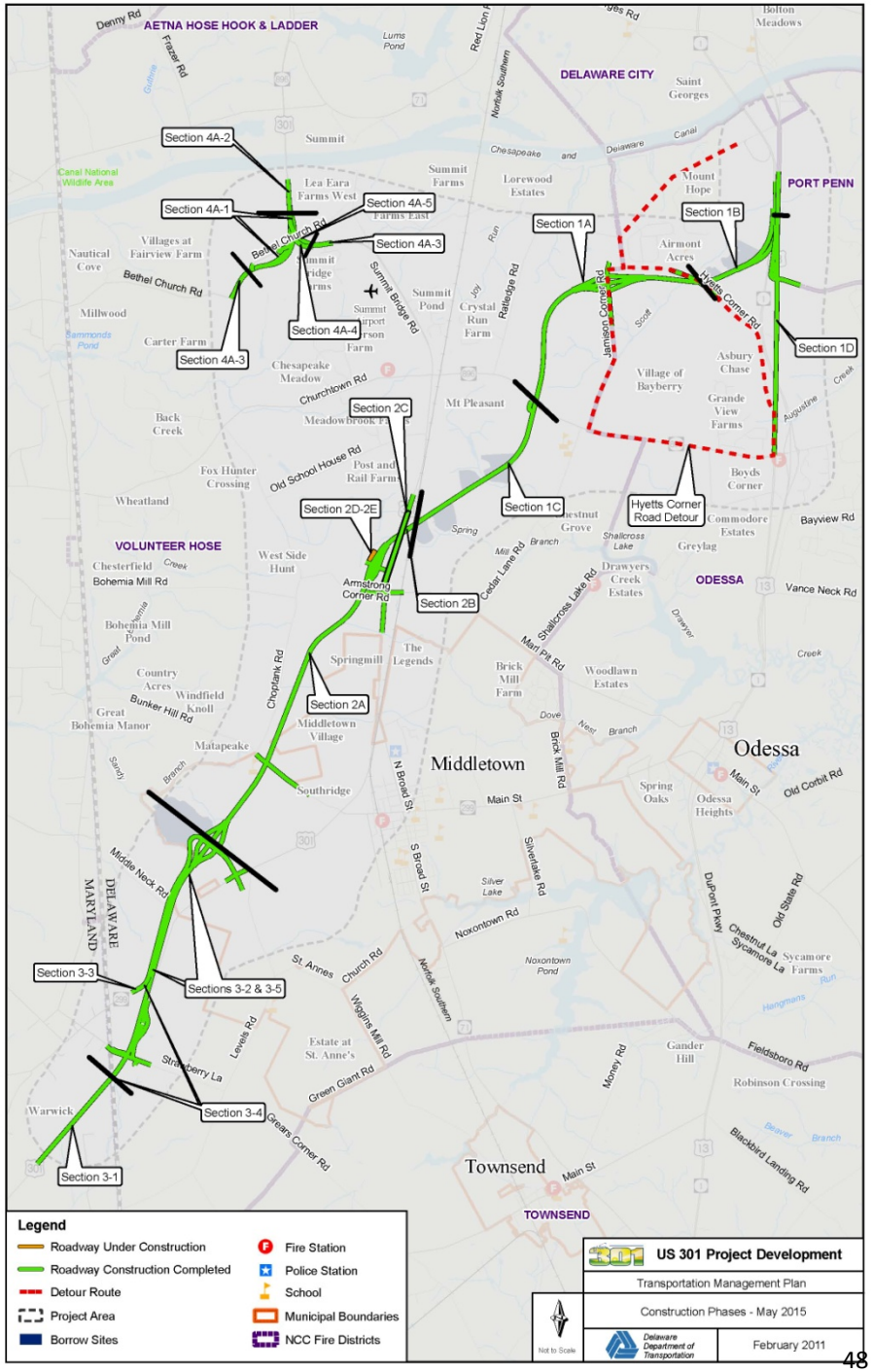


Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

- **May 2015**
- **Complete: Section 2A**

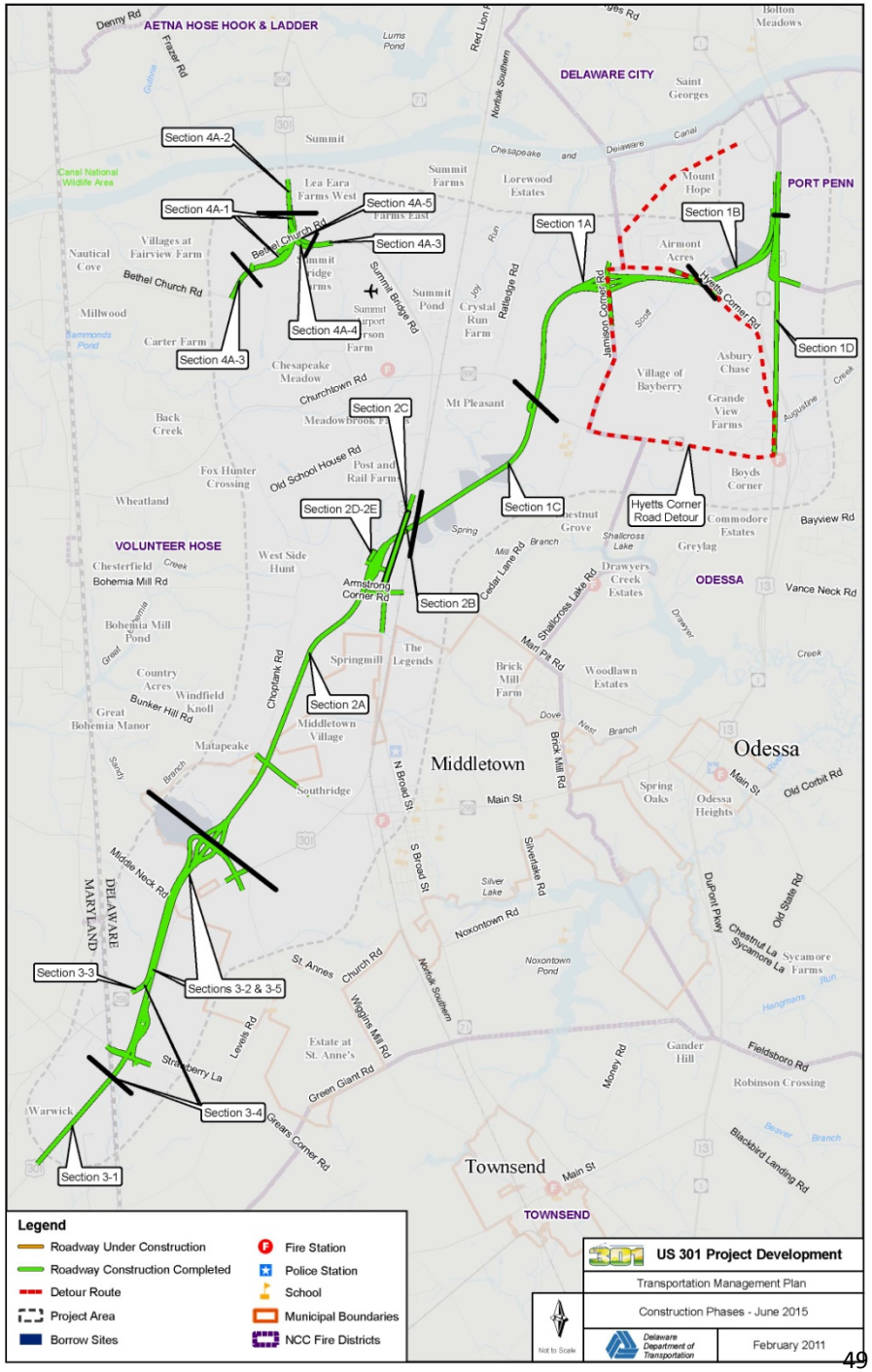
- **Armstrong Corner Road Detour Ends**



Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

- **June 2015**
- **Complete: Section 2D, 2E**

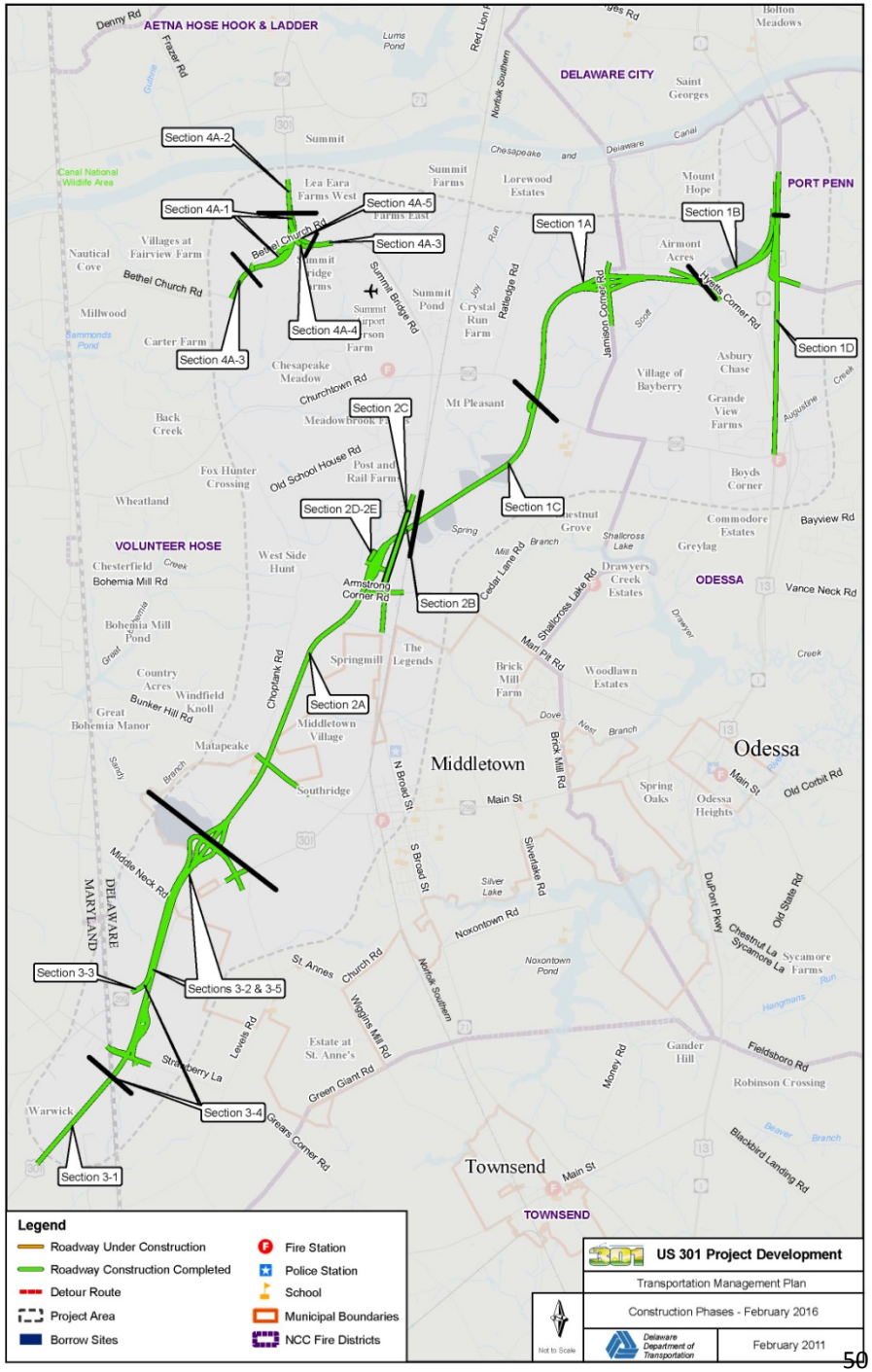


Construction Sequencing

- 2012
- 2013
- 2014
- 2015
- 2016

- Hyetts Corner Road Detour Ends

- **February 2016**
- **Complete: Section 1A (Hyetts Corner Road)**



Q & A

Alan Marteney, P.E.
US301 GEC/Century Engineering, Inc.
4134 N. DuPont Highway
Dover, DE 19901
302-734-9188 x2109
amarteney@centuryeng.com