

Ms. Daley:

This is in response to the questions that the Middletown Corridor Coalition has raised in response to the May 16, 2007 Presentation. The answers are broken down as follows:

- Questions from May 16th night meeting at your house
- Questions from your telephone conversation with me after the May 16<sup>th</sup> night meeting
- Questions raised to Donna Miller, from The Deputy Attorney General's Office

These are our best recollection of the questions. Please review this information ahead of the June 25<sup>th</sup> meeting. We would welcome dialogue on these answers in the meantime to clarify any questions on this information.

Mark Tudor  
DeIDOT  
US301 Project Director

#### **QUESTIONS FROM MAY 16<sup>TH</sup>, 2007 MEETING AT MS. DALEY'S HOUSE**

- **We do not have sufficient numbers showing what the accidents would be on the Spur Road or DeIDOT's plans to make that particular road more SAFE.**
  - The number of accidents projected for the recommended Spur Road in year 2030 is 32.
  - A new US 301 + Spur Road (with lower accident rates as shown in the May 16<sup>th</sup> presentation) would attract traffic from local roads (with higher accident rates because of signals, driveways, etc), thus reducing the number of potential accidents on those roads, for example Choptank Road, existing US30, Boyds Corner Road, Cedar Lane Road, and MD 213, among others.
  - Green + Spur Road results in an overall lower crash rate (crashes per million vehicle miles of travel) in the greater Middletown area.
  - In addition, new US 301 + Spur Road, are projected to remove large trucks from existing US 301, which is likely to reduce the severity of the crashes on local roads, such as existing US 301 and Boyds Corner Road – reference the two March 2007 crashes near the Maryland/Delaware state line, in which four people were killed. Both accidents involved 18-wheelers, one directly and one indirectly (car attempting to pass an 18-wheeler).

➤ **Design of the Spur Road is poor at best and needs much more thought.**

- The Spur Road, as currently proposed, has been developed in accordance with DeIDOT design standards.
- See attached typical sections of the Spur Road, taken from DEIS Figure II-4.
- The Coalition needs to provide more detail regarding this comment.

DeIDOT notes the following with respect to the proposed Spur Road in the vicinity of the Chesapeake Meadow community:

- An 11'x 1,600' long earth berm is proposed between the Spur Road and Chesapeake Meadow. Approximately 150-175 feet of additional open space would remain between the bottom of the earth berm (community side) and the nearest property line at Chesapeake Meadow.
- This additional open space is a result of the following:
  - The proposed US 301 Spur Road has been shifted to the west as it passes Chesapeake Meadow, such that the proposed travel lanes actually fall outside of the DeIDOT-owned right-of-way. This was done to ensure ample room for an earth berm, as well as to shift the roadway as far from Chesapeake Meadow as reasonably possible.

*Notes:* The strip of property directly to the west of Chesapeake Meadow is owned by DeIDOT. This parcel is approximately 2,200 feet in length and varies in width from 250 on the south end to 350 feet on the north end.

As a result of this westerly shift, DeIDOT needs to acquire an additional strip of property adjacent to the DeIDOT-owned parcel approximately 2,220 feet long and 200 feet wide.

➤ **Build Main US 301 first and make upgrade to existing 896/301 – then for DeIDOT to see the traffic situation – and then decide whether to build the Spur Road (see response below) – Suggested to Middletown Transcript**

This suggestion focuses on Option B, as defined in the May 16<sup>th</sup> presentation. Option B includes widening of existing US 301 from Peterson Road to Mount Pleasant, but no construction of the Spur. The US301 widening includes one additional lane in each direction plus a continuous left turn lane, and a raised median or additional left turn lane as necessary. This suggestion modifies the original Option B proposal, whereas Option B would be constructed, and then the Spur Road, if necessary.

- The widening would occur primarily along the west side of the roadway, and would require approximately 55 feet of additional right of way along the west side of the roadway corridor. On the east side of the existing roadway corridor, approximately 20 feet of additional right of way would be required, except in locations of Section 4(f) historic resources, where the roadway would be shifted to avoid impacts to these properties.

To avoid the historic resources, a shift to the widening would occur at the R.G Hayes House (N.R.E. N05153), which would require additional right of way on the west side of existing US 301 through Spring Mill. Shifts to the east to avoid impacts would also occur at Armstrong-Walker House (N.R. N05146) and Mt. Pleasant Farm (N.R.E. N05242) resulting in additional right of way on the east side of existing US 301.

- DeIDOT has considered Option B and believes it is not the most prudent approach. A phased approach of building Option B and then maybe the spur would also be potentially the most expensive and impactful option. While the “total” cost of Option B is approximately \$38 million less than the preferred Spur Road, it has the following disadvantages:
  - Option B does not fully meet project Purpose and Need
    - Results in more traffic on local roads (e.g. Choptank Road and existing US 301, among others)
    - Results in higher accident rates/actual accidents, because of more traffic on lower type roads, signalized/unsignalized intersections and numerous access points
    - Results in mixing through truck traffic with local traffic from north of Armstrong Corner Road to Summit Bridge (reference two recent accidents near DE/MD line – 4 fatalities – (both involved 18-wheelers).
    - Results in reduced traffic at the toll plaza just north of the state line – less toll revenues to fund new US 301 and the Spur Road and results in diversion of truck traffic to local roads in DE and MD.
    - Results in significant property impacts along existing US 301, as noted below, due to the need to eventually widen existing US 301 from Peterson Road to Mount Pleasant.

## Option B Property Impacts

- Partial Impacts to Businesses
  - o Burger King
  - o Summit Plaza
  - o Middletown Chevy
  - o Nu-Car Connection
  - o Middletown Medical Professional Bldg
  - o Ciamaricone's Landscaping
  - o Tri State Materials
  - o Coober Wilbert Valut Company
  - o Mr. Mulch
  - o Guardian Fence Company
  - o Rollins Metal Works
  - o Body Shop
  - o 301 Cycle
  - o Shops of Mt. Pleasant
- Total Takes of Businesses
  - o Ringold Chapel AME
  - o Logullo's Country Market
  - o M. Madic, Inc.
  - o KO's Cleaning
- Partial Impacts to Homes
  - o 3 plus impacts to:
    - Middletown Village
    - Springmill
- Total Takes of Homes: 9
- Plus impacts to additional vacant or farmed residential/commercial properties

*Note:* The Recommended Spur Road does not require taking any residential homes or businesses.

### ➤ **We don't believe the results of your noise analysis:**

- We have verified the results of the noise analysis, which are summarized in the information that follows:
  - o The Spur Road is projected to increase the existing noise levels from 47 dBA to 60 dBA along the west property lines of those residences located along Meadow Lane Drive.
  - o The Spur Road is projected to increase the noise levels along Deerfield Drive from 47 dBA to 52 dBA. This location is further from the Spur Road than the Meadow Lane properties and is shielded somewhat by the homes on Meadow Lane Drive and the proposed Churchtown Road overpass of the Spur Road.
  - o With the addition of the proposed visual earth berm and the Churchtown Road overpass of the Spur Road, the projected increases in noise levels are:
    - 1dBA: 208 Deerfield Road
    - 5dBA: 26 Meadow Lane
    - 4dBA: 102 Fox Den Court

- An increase of 1-3 dBA is barely noticeable
- An increase of 4-5 dBA is noticeable, but is not considered an impact if it less than 66 dBA (FHWA’s national standard) in this instance.

Design-Year Noise Level Predictions

- Year 2030 noise levels are predicted to increase from 5 to 13 dBA above existing noise levels in the west portion of Chesapeake Meadow. Receptor CM-3 is in the rear yards of the properties on the west side of the community, and shows the greatest predicted noise increases.

Chesapeake Meadow Noise Levels				
Primary Receptors	Address	Existing Loudest Hour Leq (dBA)	DY 2030 No-Build Leq (dBA)	DY 2030 Green-N Leq (dBA)
CM-1 (SW)	208 Deerfield Drive	(47)	(47)	52/48*
CM-3 (W)	26 Meadow Lane	(47)	(47)	60/52*
	102 Fox Den Court	(50)	(54)	54/54

\* without/with proposed 11' x 1600' **visual** earth berm

Assess Noise Impacts

- Year 2030 noise levels along the west row of residences, within Chesapeake Meadow, would exceed federal guidelines at eleven properties.
- Year 2030 noise levels along the south row of residences (Fox Den Court), within Chesapeake Meadow, would not exceed federal guidelines, with the anticipated increase of 4dBA over existing noise levels, and no increase when compared to year 2030 No-Build.

Mitigation Measures

- Various noise mitigation options were analyzed, but none was found to be cost-effective, as defined under DeIDOT’s noise policy (approved by FHWA).
- However, DeIDOT will provide a “visual” earthen berm between Chesapeake Meadow and the Spur Road, as part of the US 301 project.
- A visual berm 11’ x 1600’ would visually shield properties in the western portion of the community, and would prevent the noise impacts that would have occurred in this area.
- With a visual earth berm, 11 x 1600’, the noise increases would be limited to 1 to 5 dBA.
- *Note:* +3dBA = “barely perceptible” / +5dBA = “recognizable” or noticeable”

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**QUESTIONS FROM TELEPHONE CONVERSATION BETWEEN MS. DALEY AND MR. TUDOR AFTER MAY 16<sup>TH</sup> MEETING**

- **Can the Spur be phased until later in the project implementation, (even after construction of the mainline US301?)**
  - The Spur could be constructed after the mainline – concerns would be:
    - Loss of revenues from traffic diverting to local roads in DE and MD.
    - The potential safety issues of traffic on existing US301 and other local roads as compared to traffic on the Spur would have to be weighed against the time frame of the construction of the spur. Potential diversion issues would also have to be weighed against a delay in the time frame of building the spur.

- **Can the Spur be designed to operate at speeds slower than the mainline, like 40-50 MPH?**

The Spur could potentially be designed at a somewhat lower speed. Reducing the speed would require more of a curvilinear alignment and has the potential to increase impacts on certain properties and decrease impacts on others, but could be evaluated during the final design phase. However, it will not be possible to significantly reduce the design speed, due to the fact that the Spur Road is a limited access facility. In addition, a reduction in the design speed will not necessarily result in a reduction in operating speeds, which then becomes an enforcement issue. This may also result in safety issues if traffic is operating at different speeds based upon an artificial posted speed limit vs. driver expectation of an operating speed.

- **Can the berm be built early with landscaping?**

- The berm could be built prior to roadway construction. The Project Team would need to determine the cost effectiveness of this approach. The material would typically be excess material during construction of the project. If the berm was constructed in advance, material from an approved source would have to be trucked in, which potentially would be an additional cost.
  - *Note:* Airmont has also asked that their visual earth berm be constructed/landscaped before new US 301 construction gets underway, adjacent to their community– to buffer the community from construction activities

- **Can a greenway be designed along the eastern side of the spur (roadway side of berm)?**
  - The Greenway could be located on the Spur side of the berm. However, it would seem that locating the Greenway on the non-road side of the berm would be more appropriate. The potential for a Greenway would need to be investigated and discussed with adjacent communities, property owners, and potential stakeholders.

**QUESTIONS FORWARDED BY DONNA MILLER, PARALEGAL TO  
DEPUTY ATTORNEY GENERAL FREDERICK SCHRANCK**

- **Specific cost of upgrading 301/896?**
  - The cost of improving existing US 301 from Peterson Road to Mount Pleasant is estimated at \$67 million to \$83 million (See slide 17 from May 16 PowerPoint). This cost was developed from DelDOT's estimated construction costs for widening US 301 from Middleneck Road to Peterson Road. Percentages were added for construction engineering/inspection, contingencies and design, the same manner in which costs were developed for the recommended Spur Road. The cost estimates also included improving the curve south of Summit Bridge and right-of-way acquisition costs. (See attached cost estimate)
- **Specific to the 301 bypass interchange (Armstrong Corner Road): Cost for "Option B" as proposed at the 5/16 meeting? (wants to compare to cost of building the spur)**
  - The cost of the Interchange between new US 301 and existing US 301, north of Armstrong Corner Road, was considered to be the same for both the Recommended Spur Road and Option B, and was found in the breakout of the cost associated with the new US301. The interchange would be the same for both options.
- **Why (for "Option B") is an upgrade given all the way to MD border, when request was for only to the 301 interchange?**
  - Option B (No-Spur Road) includes the improvement of existing US 301 from Peterson Road to Mount Pleasant, as required, to meet projected traffic demands in design year 2030, without the Spur Road.
  - DelDOT is already proceeding with the improvement of existing US 301 from Levels Road to Peterson Road, as required to meet future projected traffic demands, including those resulting from the Westown development.

## **As to sound data compiled in direct relation to Chesapeake Meadows:**

### ➤ **Who was the consultant?**

- RK&K Engineers, with measurements obtained by Joe Rauseo (11 yrs experience) and George Tye (19 yrs experience)

### ➤ **What time of day was the data collected?**

- The Chesapeake Meadows ambient sound measurement data was obtained between 3:00 - 3:15 p.m. on July 7, 2005.

### ➤ **How was it collected?**

- Per FHWA and DelDOT policies, all sound level data was obtained with calibrated Type-II logging-type sound level meters, mounted atop tripods approximately 5' above ground elevation.

### ➤ **Where, specifically, was it collected?**

- At five receptors throughout the Chesapeake Meadows community: CM-1 at 208 Deerfield Drive, CM-2 at 600 Schoonover Lane, CM-3 at 26 Meadow Lane, CM-4 at 313 West Dickerson Lane, and CM-5 at 523 East Creek Lane.

### ➤ **Why was no sound data taken at other times? (road will have traffic at all times of day)**

- Per Federal Highway Administration (FHWA) noise measurement guidelines, used nationally by state DOT's, obtaining short-term noise measurements during daytime hours at periods of typical activity is an appropriate methodology. Noise / noise control industry analyses have shown that data obtained over monitoring periods as short as 5 minutes is sufficient to describe ambient noise level conditions. Regarding ambient noise from existing Churchtown Rd, the noise levels obtained at 208 Deerfield Drive (47 dBA) and 600 Schoonover Lane (51 dBA) were consistent with noise levels obtained throughout the rest of the neighborhood - indicating that Churchtown Road traffic is not the primary noise source for the Chesapeake Meadows neighborhood. Churchtown Road traffic noise may be the most *distinguishable* because its frequency characteristics are very distinct from other community noise sources. Ultimately, collection of noise data during non-rush-hour times actually serves to the benefit of the community, since lower predicted existing noise levels increases the likelihood of predicted future traffic noise impacts. In this manner, the consultant acted in the best interest of the community.



**As to work needed on Churchtown Road as it pertains to the spur:**

- **How long will Churchtown Road be closed?**
  - Under the current design and based upon the level of information available at this time, Churchtown Road would not be closed during construction of new Churchtown Road over the Spur Road. The new Churchtown Road overpass would be located just to the north of the existing roadway, with retaining walls to allow existing Churchtown Road to remain open in both directions during construction. There however most likely will be intermittent lane closures to allow for construction adjacent to the existing roadway as is typical with any roadway construction. Access to Tidewater Utilities will be maintained and they will not be acquired for the project.
  
- **What access will Middletown Fire Company have to homes west of Chesapeake Meadows while the road is closed?**
  - See answer above.
  
- **What sound abatement will be placed on Churchtown Road properties that will lose their current berm?**
  - None, since there is no predicted traffic noise impacts along Churchtown Road.
  
- **Cost of berm suggested adjacent to Chesapeake Meadows playground? (DeIDOT proposes 11' berm, Coalition requested 21' berm)**
  - An 11-foot high earth berm would cost approximately \$360,000. A 21-foot high earth berm would cost approximately \$1,250,000. A 21' berm is predicted to reduce noise levels an additional 3 dBA more than would an 11' berm. The accepted limit of human perception to distinguish sound levels is 3 decibels (3 dBA). In essence, a 21' berm would cost an additional \$890,000 for the benefit of providing only a "barely perceptible" difference in resulting sound levels. Therefore, the recommended berm height is 11 feet.
  
- **The original brochures for the project indicated the visual earth berm to be 11' high and 2100' in length. The information provided on May 16 indicated the berm to be 1600' in length. Why was the change made?**
  - The berm was shortened by 300 feet on the south end to avoid impact on the Tidewater Utilities operations. The remaining 200 feet reduction occurred at the northern end as a result of our securing improved mapping and surveyed wetland data, and in order to minimize impacts to existing streams/wetland and forests that exist in that area. All noise reduction effectiveness was developed assuming the 1600' berm

- **Accident statistics and road failure statistics for proposed spur?**
  - The accident rate for the proposed spur has been estimated based on statewide averages for similar facilities (1.28 accidents per million vehicle miles traveled). Based on this rate, combined with the projected 2030 volume of 22,500 vehicles per day, the project team has estimated that 32 crashes may occur on the spur in 2030.
  - However, due to the fact that the spur is likely to have a lower accident rate than other nearby roads (which are not separated by a median and have numerous access points), the overall number of crashes and the overall regional accident rate is expected to be lower with the Green + Spur option than with an option that eliminates the spur road.
  - Regarding the "road failure statistics" that were requested for the spur, the spur road is not projected to reach its capacity by 2030, so there are no failure statistics to report.
  
- **Accident statistics and road failure statistics for area of merge of spur onto 301 bypass?**
  - The process of estimating accidents for a proposed facility was based on statewide statistics on a corridor-wide basis, not for specific locations. The statewide average rates for corridors already include crashes along mainline sections, at intersections, and at interchange junctions so they are already accounted for in the projected number of accidents presented above.
  - It should be noted that the merge from the Spur Road onto the US 301 bypass and diverge from the US 301 bypass onto the Spur Road have both been designed to exceed state and national design standards.
  - Operationally, both the merge and diverge areas are projected to operate very well.
  
- **Specific information pertaining to linear walking/bike path (open space) proposed by residents instead of spur - what was considered, and why were decisions made as they were?**
  - The suggested Greenway is not included as part of the preferred alternative, Green North + Spur Road. DeIDOT would be willing to investigate the desire for and feasibility of such a facility with adjacent communities, property owners, and stakeholders.
  
- **Residents were told that the spur is being built because of safety issues. Why would 301/896 upgrades not be as safe?**
  - One of the primary safety concerns of the project are the mix of heavy vehicles with automobiles along existing US 301, which has numerous access points and intersections, representing places of potential conflict between vehicles. Even with upgrades to the existing US 301/896 corridor, the intersections and access points would largely remain, as would the relatively high concentration of trucks. The Recommended Spur Road is limited access, i.e. it does not have access points and intersections.

- **Our initial request to DelDOT for the scope of work asked for the cost of an upgrade to 301/896 from Churchtown/Boyd's Corner Road to the proposed interchange of the green route and Rt. 301, and the cost associated with the improvements to the Summit Bridge approach. The response given included the cost doing Boyd's Corner Road to Peterson Road, an additional distance of approximately 10,000 feet or more.**
  - Traffic analysis for Option B indicated that without the recommended Spur Road, there would be a need to widen existing US 301 from Peterson Road to Mount Pleasant by the design year 2030. Therefore, a fair comparison of Option B to the Recommended Spur Road should include the widening of existing US 301 from Peterson Road to Mount Pleasant and not the shorter section from Churchtown/Boyd's Corner Road to the proposed interchange between new US 301 and existing US 301, approximately 1,000', north of Armstrong Corner Road.

## Spur Road Comparison to Option B: Cost Estimates Based upon 2007 Dollars

- All costs shown below are average and are best described as a range, based upon the amount of information available at this time. The average costs are used for simplicity purposes.

- Based on DelDOT's per mile construction cost estimate for widening US 301 from Middleneck Road to Peterson Road – about \$7.6 million per mile

$$\$7.6 \text{ million/mile} \times 4 \text{ miles} = \$30.4 \text{ million}$$

- Per DelDOT guidelines, percentages are then added to the neat construction cost to cover the noted items:

10%	Design
15%	Construction Engineering/Contingencies
<u>25%</u>	Contingencies/Change Conditions
50%	Total

*Note:* Same %'s used for Recommended Spur Road

$$\$30.4 \text{ million} \times 1.5 = 45.6 \text{ million (say } \$46 \text{ million)}$$

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|--|---------------------|
| ▪ Total Design and Construction Cost =   | \$46 million        |
| ▪ R.O.W.: 38.8 acres x \$250,000/acre* = | \$10 million        |
| ▪ Two complex/unique items** =           | <u>\$ 5 million</u> |
| Total =                                  | \$61 million        |

'Y' Type Interchange – South of Summit Bridge	<u>\$15 million</u>
Grand Total =	\$76 million
<i>(Say ± 10% - \$67M to \$83M)</i>	

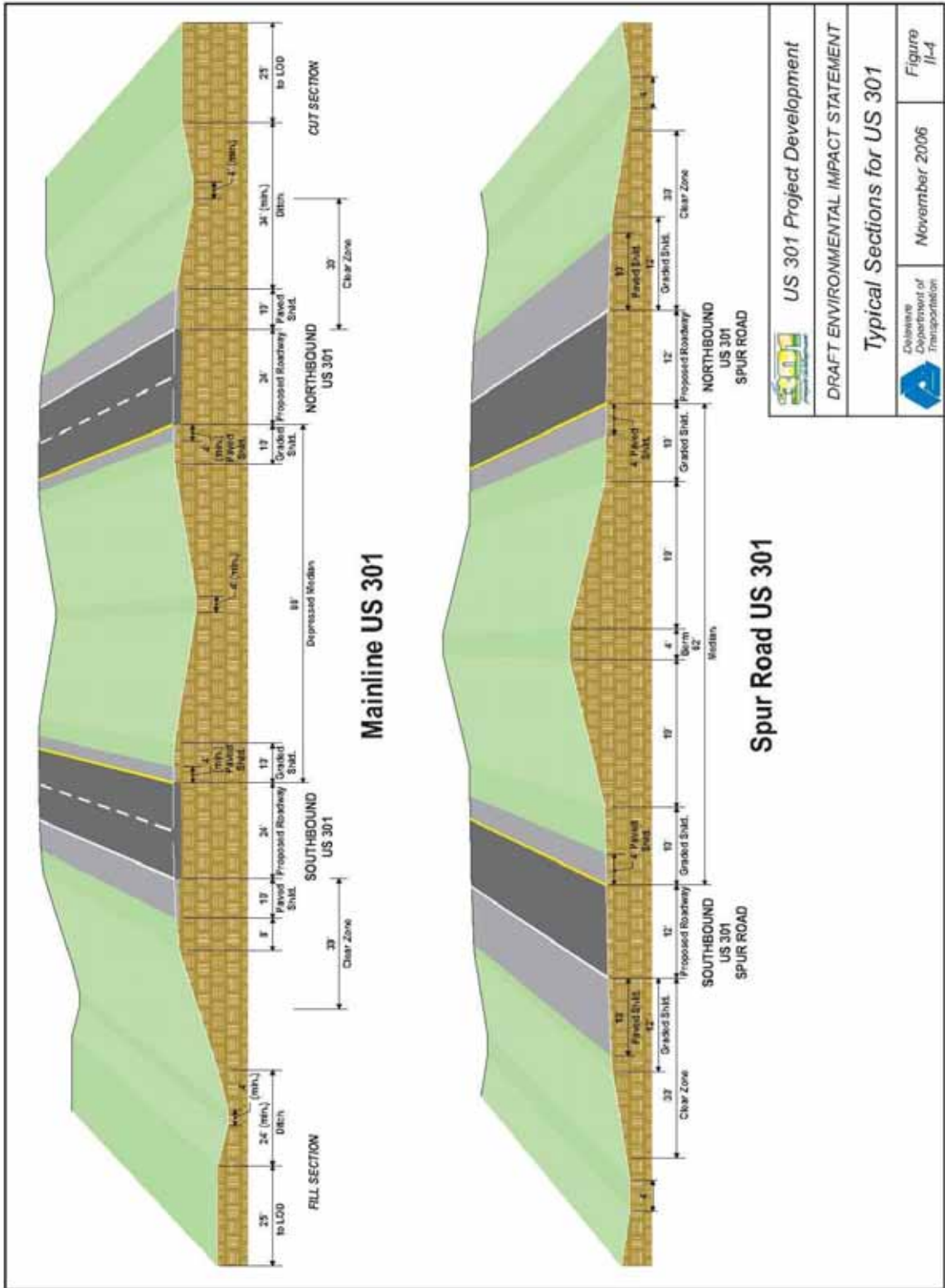
\* Includes relocation assistance


\*\*Frogtown Crossing and Mount Pleasant intersection (improvements/tie-ins extend north of actual intersection)

*Note:* Estimated construction cost of recommended Spur Road is a more detailed estimate based on major quantities. Cost estimate for Option B based on cost per mile of similar DelDOT US 301 widening project to the south + any anticipated complex/unique items + cost to fix sharp curve south of Summit Bridge.

### Cost Comparison Recommended Spur Road versus Option B

Recommended Spur Road:	\$105million - \$120 million
Option B:	\$67 million - \$83 million
<i>Difference of:</i>	\$38 million - \$37 million



 Delaware Department of Transportation	US 301 Project Development
	DRAFT ENVIRONMENTAL IMPACT STATEMENT
Typical Sections for US 301	
November 2006	Figure 11-4