

US 301 Project Development



State Contract 25-113-01



Delaware Department
of Transportation



Federal Highway
Administration

US 301 Toll Diversion Working Group

July 11, 2006

www.us301.org

July 11, 2006



US 301 Toll Diversion Working Group

Working Group appointed jointly by Maryland State Highway Administration (MSHA) and DeIDOT on June 15, 2006

• Working Group Members

**Delaware Department
of Transportation**

Mark Tudor
US 301 Project Director

**Maryland
Transportation Authority**

Dennis Simpson
Deputy Director, Capital Planning

Town of Cecilton

John Bunnell
Mayor

Michael Cooper
*President, Cecilton
Vol. Fire Co.*

**Warwick Area
Bonny Anderson**

**Maryland State
Highway Administration**

Doug Simmons
Deputy Administrator

Maryland State Police

Captain Bill Dofflemyer,
*Commander, Commercial
Vehicle Enforcement Division*

Cecil County

William Manlove
County Commissioner

Barry Janney
Sheriff, Cecil County

**Maryland State
Highway Administration**

Richard Lindsay
District Engineer

Town of Chesapeake City

Bill Kiessling
Mayor

Kent County

Roy Crow
County Commissioner

John Price
Sheriff, Kent County

Town of Galena

Harry Pisapia
Mayor

Chris Powell
*Chief, Galena
Vol. Fire Co.*



Agenda

5:30	Welcome	Bob Kramer
5:35	Opening Remarks	Doug Simmons Mark Tudor
5:45	Self Introductions	Working Group
6:00	Working Group Purpose and Guidelines	Bob Kramer
6:10	Getting Organized Introduction of Technical Support Team Project Notebook Working Group Calendar	Mark Tudor Doug Simmons
6:25	Project Background Briefing (PowerPoint)	Mark Tudor
7:00	Break	
7:15	Traffic Analysis / Results	Jim Burnett
7:50	Maryland & Delaware Weigh Stations	Dave Czorapinski Greg Oliver
8:10	Open Discussion – Issues, Next Steps	Mark Tudor Doug Simmons
8:30	Meeting No. 2 / Adjourn	Bob Kramer



US 301 Toll Diversion Working Group

- PURPOSE

- The purpose of the US 301 Toll Diversion Working Group is to review information, provide input, suggest ideas and recommend ways to reduce the diversion of traffic to MD 213 and other local roads in Maryland that may result from DelDOT's proposed improvement of US 301 to a four-lane limited access toll highway in Delaware.



US 301 Toll Diversion Working Group

- Suggested Guidelines
 - **How We Treat Each Other:**
 - Each member is encouraged to share individual viewpoints. Individual opinions are valid whether others agree with them or not.
 - We will seek to understand the views of others, particularly those perspectives that differ from our own.
 - Disagreements will be explored.
 - We will refrain from interrupting each other, staff or consultants.
 - We will keep our comments relevant to the topic under discussion.
 - Draft materials, plans and reports shared by and among members, staff, and consultants shall be treated as working papers.



US 301 Toll Diversion Working Group

- Suggested Guidelines

- **How We Will Operate:**

- The Working Group will operate by consensus whenever possible in deciding on the advice it will provide. Consensus does not necessarily mean agreement or active support by each member. Those not objecting are not necessarily indicating that they favor the proposal under consideration, but merely that they can “live with it.”
 - In the absence of consensus, a super majority of three-quarters (75%) of the members present is required for any recommendation. Differing points of view will be conveyed.
 - Members may be accompanied by staff members.
 - Meetings will be open to the public.
 - Non-members may attend meetings as observers and may be invited to offer comments if time allows.



US 301 Toll Diversion Working Group

- Suggested Guidelines
 - **How We Communicate with Those Outside The Working Group:**
 - Ideas discussed within the Working Group will not be presented as representing the position of the group without the agreement of the group.
 - When speaking about the work of the Working Group outside of meetings, members are speaking for themselves only unless speaking about approved positions of the Working Group.



Informed Decision

Input from the US 301 Toll Diversion Working Group, the Maryland State Highway Administration, the general public, the environmental and regulatory agencies, local and state elected officials along with the results of the various analyses will be considered by DelDOT in making an informed decision for the US 301 improvements that meet the guidelines and requirements of DelDOT, the Federal Highway Administration (FHWA) and the permitting agencies.

The Working Group is one element of an extensive outreach effort that includes the general public, federal and state environmental resources and regulatory agencies and local, state and federal officials, among others.



Frequently Asked Questions

- Are Working Group meetings open to the public?

Yes.

- How can the public find out when Working Group meetings are scheduled and how will this be advertised?

Meetings will be posted on the project website www.us301.org

- Will there be an opportunity for the public to present information or ask questions at Working Group meetings?

If time allows, non-members may be provided time at the end of meetings to ask questions and provide input. Otherwise, questions and comments should be provided to the Project Team and the Working Group via the project website.



Frequently Asked Questions

- Will information provided to Working Group members be made available to the public and, if so, how can it be obtained?

Information distributed to Working Group members will be available on the project website, www.us301.org, and can be viewed by visiting the

Maryland State Highway Administration
District 2 Office
615 Morgnec Road
Chestertown, MD 21620

AND

US 301 Project Office
723 N. Broad St.
Middletown, DE 19709

- Copies of any of this information can be obtained by request from

DeIDOT Public Relations
P.O. Box 778
Dover, Delaware 19903
Phone: 866.485.9988 (toll free)
FAX: 302.739.2217
Email: dot-public-relations@state.de.us
Website: www.us301.org



US 301 Toll Diversion Working Group

- Technical Support Team Members

**Delaware Department
of Transportation**

Mark Tudor

US 301 Project Director

Don Weber

Chief Traffic Engineer

P.J. Wilkins

Toll Operations Administrator

Greg Oliver

*Assistant Director, Federal and
Regional Policy Coordination*

DeIDOT Consultant

Bill Hellmann, RK&K

US 301 Project Manager

Jim Burnett, RK&K

Traffic Engineer

Bob Kramer

Meeting Facilitator

**Maryland State
Highway Administration**

Doug Simmons

Deputy Administrator

Richard Lindsay

District Engineer

Dave Czorapinski

Chief of Motor Carrier Division

Morteza Tadayon

*Assistant Division Chief
Travel Forecasting Section*

Kameel Holmes

*Team Leader
Travel Forecasting Section*

James Dooley

Regional Planner

Robert Kiel

Assistant District Engineer - Traffic

**Maryland
Transportation Authority**

Dennis Simpson

Deputy Director Capital Planning

MSHA Consultant

Scott Holcomb, Gannett Fleming

Senior Transportation Engineer

Mark Radovic, Gannett Fleming

Senior Transportation Planning Engineer



Working Group Calendar

- July 11, 2006
 - Working Group – Purpose and Guidelines
 - Getting Organized
 - Project Background Briefing
 - Traffic Analysis / Results
 - Working Group Issues
- July 25, 2006
 - Discussion of Issues, Ideas and Potential Solutions / Mitigation Measures
- August 8, 2006
 - Discuss and Finalize Working Group Recommendations
- August 29, 2006
 - If required



US 301 Toll Diversion Working Group

Notebook Contents:

- Tab 1 Working Group

- List of Members
- Appointment Letter
- Meeting Schedule
- Purpose
- Guidelines

- Tab 2 Technical Support Team

- List of Members / Contact Information

- Tab 3 PowerPoint Presentation

- Tab 4 Cecilton and Galena Meeting Notes

- Questions Raised at Prior Meetings and responses thereto



Project Background Briefing

- The purpose of this meeting is to provide you with a briefing on DeIDOT's US 301 Project Development effort:
 - Purpose and Need
 - Project History
 - Public Involvement
 - Recent Project Activities
 - Project Schedule
 - Funding Status
 - DeIDOT Goals
- We will also discuss:
 - US 301 and MD 213 Truck and Traffic Characteristics
 - Factors that will discourage traffic from using MD 213
 - Factors that will encourage traffic to use New US 301
 - Preliminary Traffic Analysis
 - Refined / Detailed Traffic Analysis
 - No Build vs. Build
 - Traffic Diversions
 - Regional
 - Local
 - Auto / Trucks
 - Maryland and Delaware Weigh Stations
 - Questions raised at Cecilton and Galena meetings



Purpose and Need

- Three Key Components:
 - Reduce roadway congestion
 - Improve safety
 - Manage truck traffic



US 301 Northbound at SR 299



South of Summit Bridge Curve



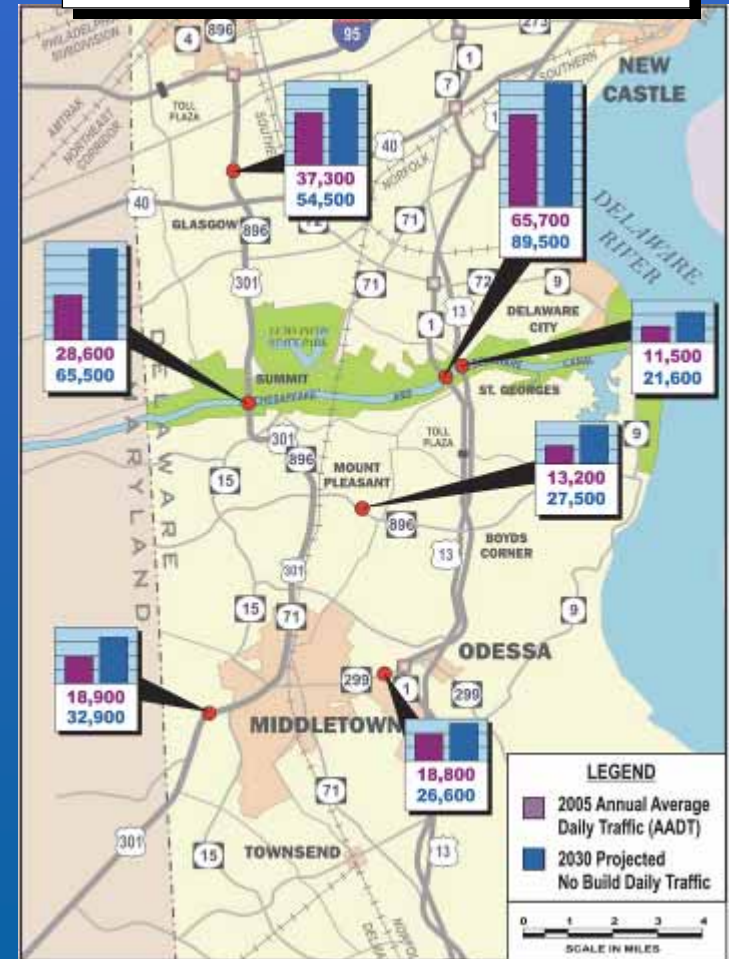
Westbound Boyds Corner Road at US 301



Purpose and Need - Reduce Roadway Congestion

- Separate local traffic from US 301 through traffic, especially trucks.
- Multi-modal related recommendations from the US 301 Major Investment Study have been or are being implemented.
- Despite these non-capacity improvements, traffic growth during the last 5 to 10 years in the Project Area has exceeded projections and is expected to continue to do so into the future.
- By 2030, 33% of intersections and links within the study area are projected to operate at LOS F
- Need to develop roadway capacity improvements

Daily Traffic Volume Comparison
2005 versus 2030





Purpose and Need - Improve Safety

- From October 1999 to September 2004 - 1200+ reported accidents in project area (US 301, SR 896, SR 299, and SR 15)
 - 415 (34%) resulted in injury or death
 - 20 fatalities
 - Half (10) on US 301 south of the C&D Canal

Note: Three (3) additional fatalities occurred on US 301 south of the C&D Canal, between September 2004 and July 2005

- High Accident Locations
 - Several roadway segments of US 301 / SR 896 are on DeDOT's Highway Safety Improvement Program (HSIP) list
 - Need to address sharp curve at south end of Summit Bridge

Location of Fatal Accidents



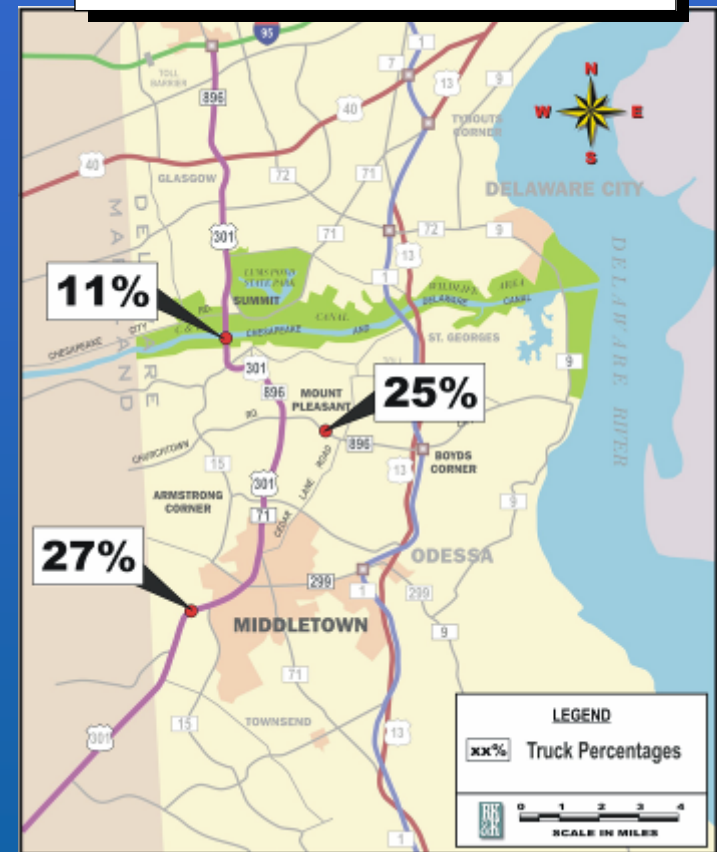


Purpose and Need - Manage Truck Traffic

- US 301 is used as a Mid-Atlantic truck route, and serves as an alternative to avoid tolls and congestion on I-95.
- High percentage of truck traffic on US 301
 - 27% Trucks at DE/MD State Line
 - 25% Trucks on Boyds Corner Road
- Mixing a high percentage of truck traffic with local traffic affects roadway operations and safety.
- 95% of interstate truck traffic on Northbound US 301 is heading Northeast.

Note: Truck weigh station at DE/MD State Line to be implemented per MIS recommendation

US 301 Truck Traffic





Project History

- 1960's: Delaware undertook initial study of US 301
- 2000: Major Investment Study prepared for US 301
- 2004: US 301 Project re-initiated
 - Top priority
 - 15 months to Federal approval (Mar '05-Jun '06)
 - 5 rounds of Public Workshops (Jun '05, Sep '05, Dec '05, Feb '06, Apr '06)
 - January 2006 – Schedule revised (Federal approval → Spring 2007)
 - Decision on selected alternative remains priority (i.e., identify and protect selected corridor)
 - More than 10 proposed alignments have been considered



Public Involvement

- In addition to Public Workshops, DeIDOT has conducted numerous meetings with communities, businesses and individuals to provide information and learn about their comments, concerns and ideas.
- A Project Office has been open three days a week since July and has been visited by nearly 500 people. In addition, the Project Team has used the project office for meetings with individual property owners and community groups. By being “customer convenient”, the office has proven to be beneficial for the public and the Project Team.
- A comprehensive user friendly Project Website has been created as another means to communicate with the public. The site's value is demonstrated by its use. As of May 2006, the site has had nearly 1,465,000 hits.
- Nearly 3,300 people attended the June, September, December, February and April Public Workshops.
- To date, over 2,000 people have provided written comments on the alternatives and almost 7,000 people signed petitions in support or opposition to various alternatives.



Public Involvement

- The Project Team has held approximately 50 community meetings. Each community meeting attracted between 30 and 200 people. The communities that the Project Team has met with, sometimes more than once, are:
 - Airmont
 - Augustine Creek
 - Back Creek
 - Midland Farms
 - Chesapeake Meadow
 - Dickerson Farms
 - Fox Hunter Crossing
 - Grande View Farms
 - Jamison Corner Road
 - Lea Eara Farms
 - Matapeake
 - Middletown Village
 - Mount Hope
 - Post and Rail Farms
 - Springmill
 - Summit Bridge Farms
 - Summit Farms
 - Summit Pond
 - The Legends
 - Westside Hunt
 - Cecilton
 - Galena



Recent Project Activities

April 10 & 11, 2006 Public Workshops

- Attendance: Monday = 187, Tuesday = 151, Total = 338
- The purpose of these workshops was to:
 - Present the latest modifications to the four (4) alternatives retained for detailed evaluation and receive input from the public

YELLOW



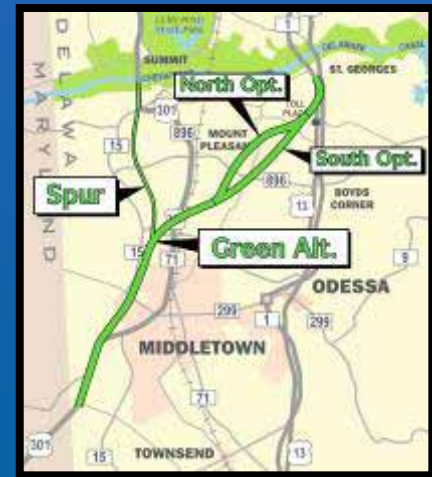
PURPLE + SPUR



BROWN



GREEN + SPUR





Recent Project Activities

- Workshop flyers were mailed to 3,594 Maryland addresses in the following zip codes:
 - 21635 (Galena)
 - 21912 (Warwick)
 - 21913 (Cecilton)
 - 21915 (Chesapeake City)
- April 10 & 11, 2006 workshops - Maryland residents attending

Monday	Tuesday	Community
4	3	Warwick
12	3	Galena
6	4	Cecilton
2	-	Georgetown
2	-	Elkton
1	-	Golts
2	4	Chesapeake City
29	14	Total

- 13% of attendees from Maryland



Project Schedule 2006-2007

Spring-Summer 2006

- Bog Turtle Phase II and III Survey & Report
- Toll Diversion Working Group

Fall / Late 2006

- Recommended Preferred Alternative
- Draft Environmental Impact Statement (DEIS) available to the public
- Public Hearings/Workshops

Early 2007

- Selected Alternative / Final EIS

Spring 2007

- Federal Approval of Selected Alternative



Funding Status

- **2005-2007:** Funds are available for effort necessary to gain Federal approval of a selected alternative
- **2006 :** DeIDOT has requested General Assembly to authorize FY 2007 funding for detailed engineering and property acquisition to protect the selected alignment
- **2007-2010:** Design and right-of-way acquisition likely to require 4 years
- **2010-2015:** 4-6 years required to construct the total project (about 16 miles), under ideal conditions, if full funding is available
- **2010-2020:** 7-10 years required to construct the total project should limited funding require phasing the construction of the project
- \$500 to \$700 million – estimated cost of new US 301 (2005 dollars)
- DeIDOT's projected average annual capital program for FY 2006 to FY 2012 is \$303 million
- Toll Facility – Proposed to fund a portion of the cost of new US 301



DeIDOT Goals

- DeIDOT wants the users of new US 301 to help pay for the new roadway
- DeIDOT plans to optimize toll rates to:
 - Maximize toll revenues, while
 - Keeping traffic (especially trucks) on US 301





Comparison of US 301 and MD 213 Truck Characteristics

US 301

vs.

MD 213

- Predominantly through traffic

- 95% of truck traffic is destined to points northeast of the C&D Canal

- Predominantly commercial 18-wheelers

- 76% 5+ axles
- 14% 3 or 4-axles
- 10% 2-axle, 6-tire

- Heavy daytime and nighttime operations

- 50% of truck trips between 5 PM and 6 AM

- Predominantly local traffic

- 50 – 60% of truck trips along MD 213 have local destinations

- Predominantly 3-4 Axle Dump Trucks

- 35-50% Dump Trucks
- 15-20% commercial trailers

- Predominantly daytime trips

- Only 20% of truck trips between 5 PM and 6 AM



US 301 Truck Characteristics – General

- Trucks on US 301*:
 - 40% national trucking firms
 - 60% independent truckers
 - 35-40% use E-ZPass
- Frequency that trucks use US 301**:
 - 25% Daily
 - 43% Weekly
 - 16% Monthly
- 95% **: Truck traffic is destined to points northeast - Wilmington, Philadelphia, New Jersey, New York, etc.
- Truck Classification Data on US 301:
 - 76% 5+ axles
 - 14% 3 or 4-axles
 - 10% 2-axle, 6-tire

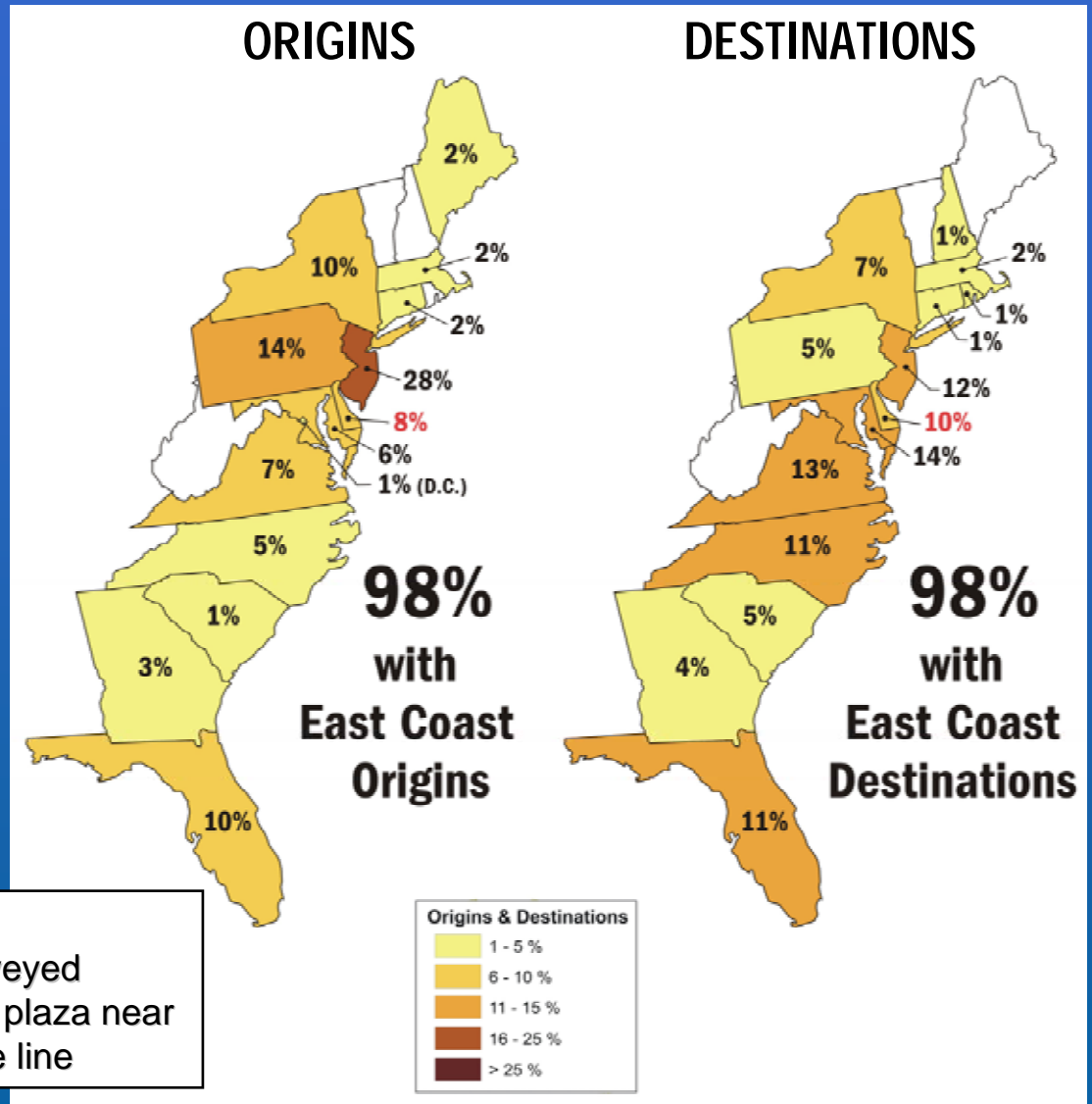
* 2004/2005 Windshield surveys
 ** 2005 Truck traffic survey at DE/MD line





US 301 Truck Characteristics – Origins & Destinations

- 92% of trucks on US 301 have origins outside of Delaware, with New Jersey being the most common origin.
- Only 10% of trucks on US 301 have destinations within Delaware. Virginia is the most common destination for trucks on US 301 passing through Delaware.



Note:
Truck traffic surveyed at US 301 travel plaza near the DE/MD State line



Current Travel Times and Tolls - I-95/US 50 to I-95/SR 1

- Long-haul truckers can currently save between 3 and 15 minutes by using I-95 between Wilmington, DE and Washington, DC.
- Long-haul truckers can save between \$18 and \$28* in tolls by using US 301 between Wilmington, DE and Washington, DC.

I-95 (Perryville Plaza) & US 40 (Hattem Bridge):

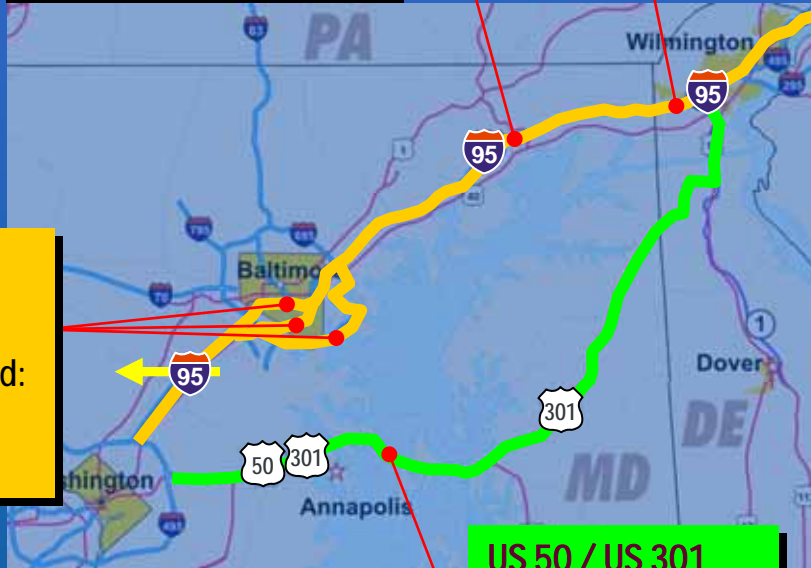
Northbound
Auto: \$5
5-axle Truck: \$20
Southbound: \$0

I-95 (Newark Plaza):

Northbound & Southbound:
Auto: \$3
5-axle Truck: \$8

I-95 / I-695 / I-895 (Harbor Crossings):

Northbound & Southbound:
Auto: \$2
5-axle Truck: \$10



US 50 / US 301 (Bay Bridge):

Northbound:
Auto: \$2.50
5-axle Truck: \$10
Southbound: \$0

NORTHBOUND

I-95 Totals:

Auto = \$10
5-axle Trucks = \$38

US 301 Totals:

Auto = \$2.50
5-axle Trucks = \$10

Savings on US 301:

Auto = \$7.50
5-axle Trucks = \$28

SOUTHBOUND

I-95 Totals:

Auto = \$5
5-axle Trucks = \$18

US 301 Totals:

Auto = \$0
5-axle Trucks = \$0

Savings on US 301:

Auto = \$5
5-axle Trucks = \$18

Existing Travel Times

	AM	PM
I-95:	109 min.	98 min.
US 301:	112 min.	113 min.

➔ 3 to 15 minutes faster on I-95

*For frequent users, who qualify for toll discounts, the toll savings on US 301 may be less

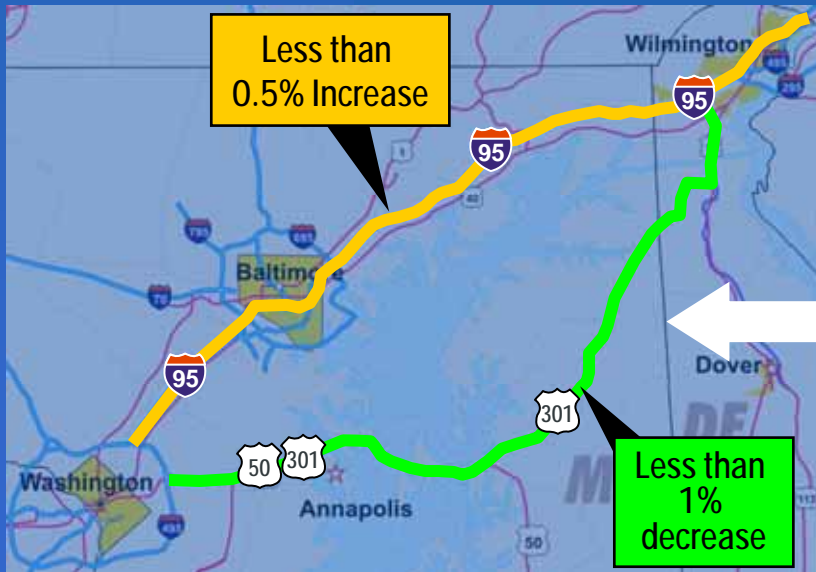
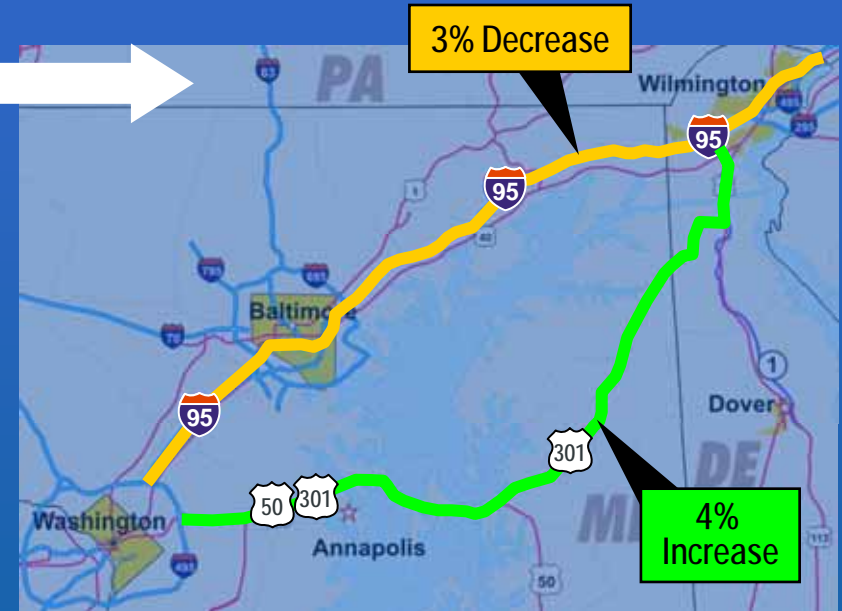


Potential Traffic Diversions - Regional

Closely examined potential regional diversions between I-95 and an improved US 301 (2030 Forecasts) using a "multi-state" traffic model developed for DelDOT (including components of a model under development for MdTA) which includes I-95 from Washington, DC to Wilmington, DE

2030 No-Build US 301 vs. Build US 301

- Regional Diversions --> moderate shift expected between I-95 and US 301 as a result of new US 301



2030 Build US 301 – Toll vs. Non-Toll

- Regional Diversions --> Very little shift expected between I-95 and US 301 as a result of toll rates on new US 301



MD 213 Traffic Characteristics

- Commercial "box-trailer" 18-wheelers account for between 15% and 20% of the total truck traffic on MD 213.
- Dump trucks account for between 35% and 50% of the truck traffic on MD 213, depending on location.
- 2, 3, & 4-axle trucks make up approximately two-thirds of the truck traffic on MD 213.



	<u>Weekday Volume</u>
81% Auto	3,270
1% Bus	40
18% Trucks	
7% 2-axle	280
4% 3&4-axle	140
7% Tractor Trailer	280

Truck Type

35% Dump Trucks
10% Delivery / Sm. Box
20% Farm Related
20% Tanker & Box Trailer
15% Other

	<u>Weekday Volume</u>
87% Auto	12,750
1% Bus	140
12% Trucks	
4% 2-axle	660
4% 3&4-axle	550
4% Tractor Trailer	520

Truck Type

50% Dump Trucks
15% Delivery / Sm. Box
10% Farm Related
15% Tanker & Box Trailer
10% Other

	<u>Weekday Volume</u>
82% Auto	4,820
1% Bus	50
17% Trucks	
8% 2-axle	460
4% 3&4-axle	240
5% Tractor Trailer	310



<1%



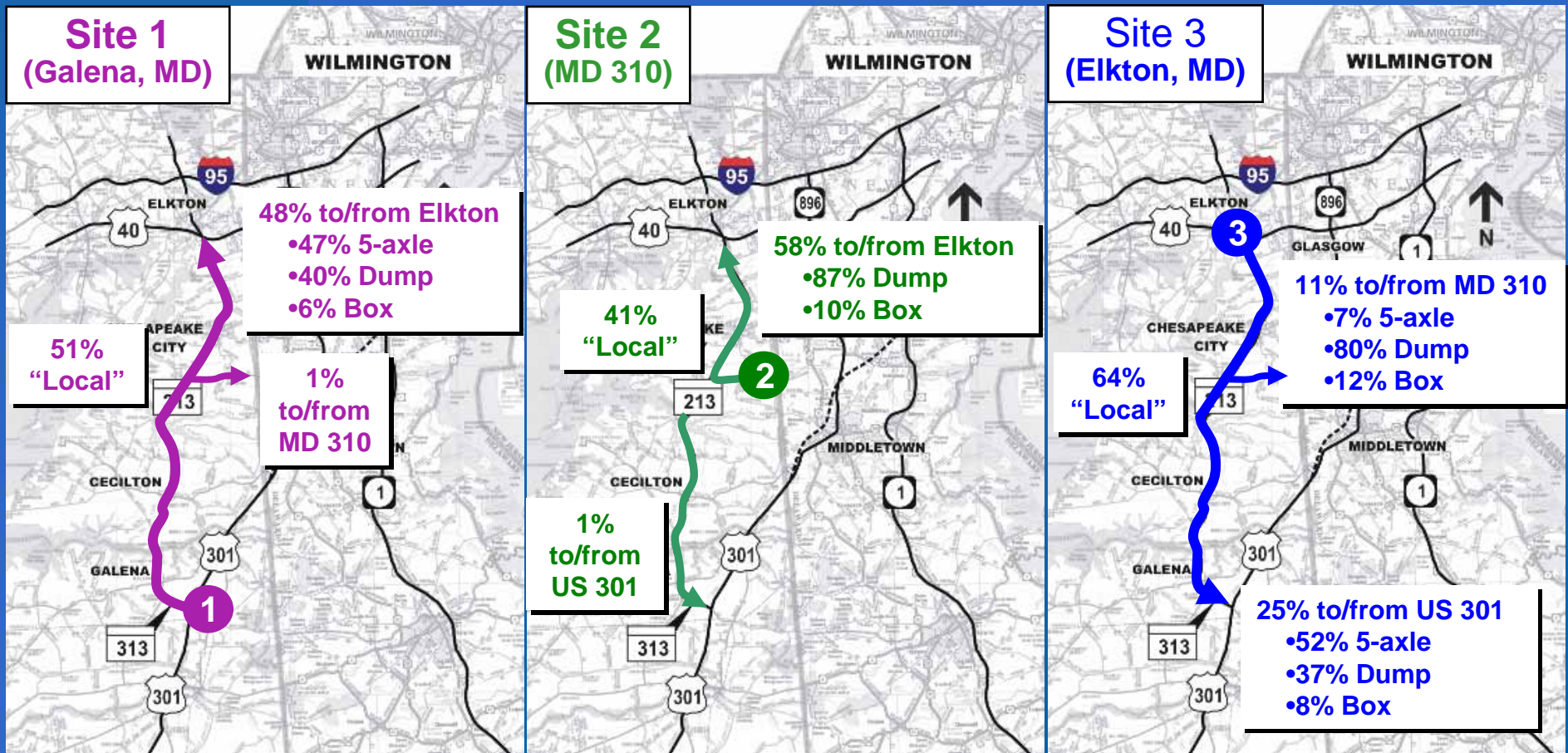
MD 213 Accident History

- Accident data from January 1, 2003 to December 31, 2005 for MD 313 and MD 213, from US 301 to US 40, was obtained from the MSHA Office of Traffic and Safety. During this period:
 - 204 accidents were reported on MD 313 and MD 213, resulting in:
 - 165 Injuries
 - 7 Fatalities (all on MD 213 between the Kent County Line and US 40)
 - 17 accidents (8.3%) involved trucks
 - Rear-end, fixed object, angle, and head-on collisions were the four most common accident types



MD 213 Truck Characteristics – Origins & Destinations

- Results from May 2006 Truck Origin-Destination Study at 3 locations on MD 213
 - Of the **truck** traffic passing through Galena, MD, about half is "through" traffic headed to/from US 40 or I-95 in the Elkton area. The remaining half is heading to / from points along MD 213.
 - A significant portion of the **dump truck** traffic on MD 213 in the Elkton area is heading to / from MD 310 (Cayots Corner Road), which connects to SR 896 / US 301 in Delaware.



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- Heavy daytime and nighttime operations

- 50% of truck trips between 5 PM and 6 AM

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- 35-50% Dump Trucks
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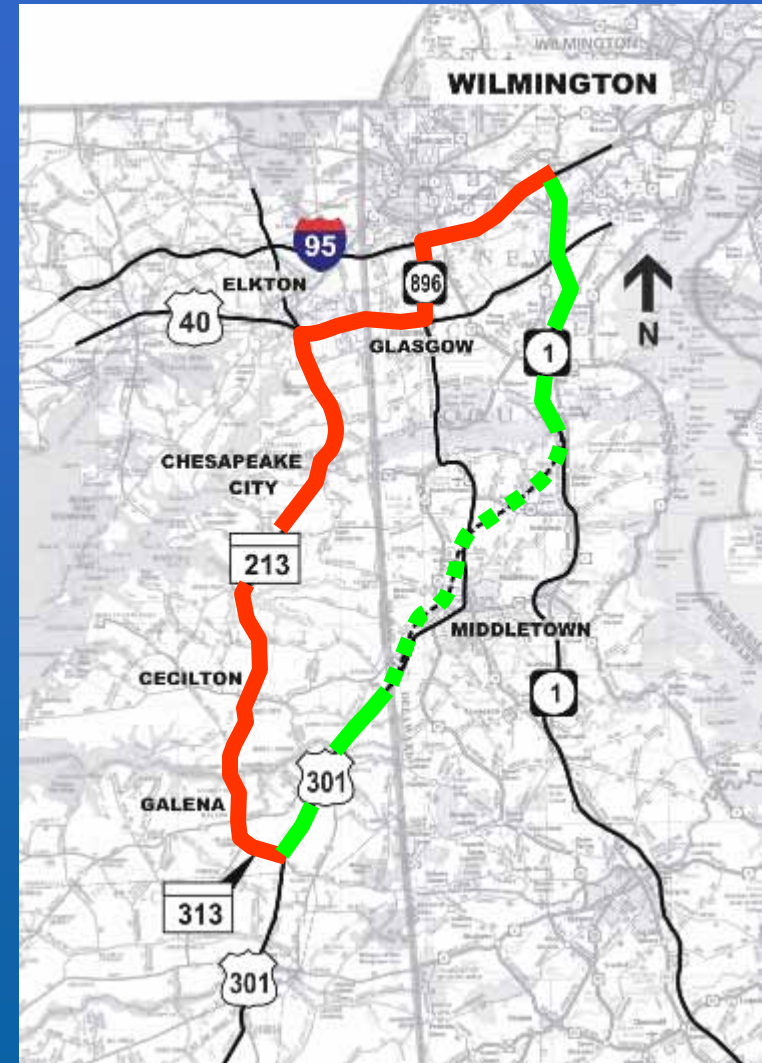
- Only 20% of truck trips between 5 PM and 6 AM



Factors That Will Discourage Traffic from Using MD 213

MD 213 CHARACTERISTICS / CONSTRAINTS

- Compared to the future (new) US 301 route, ■ ■ ■
MD 213 ■ is much less attractive as a travel route for trucks:
 - Prevailing speeds on MD 213 (2-lane road) are lower than on new US 301 (4-lane freeway)
 - For trucks, virtually no ability to pass slower vehicles on MD 213

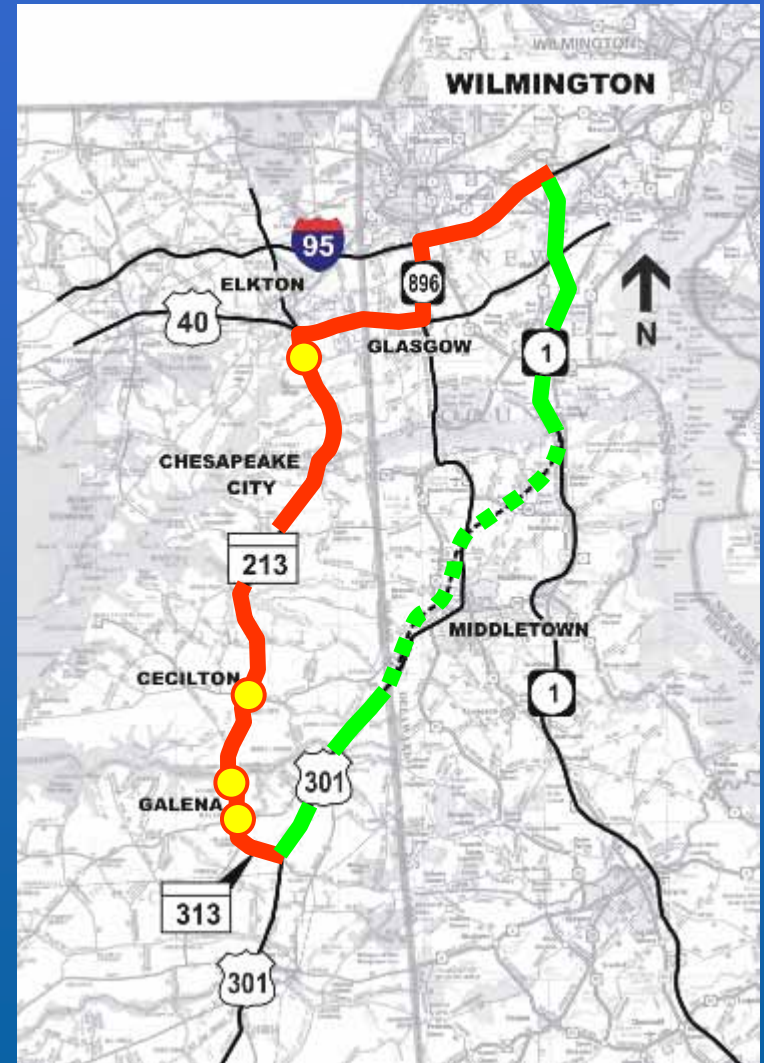




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Multiple locations with even lower speed limits:
 - Speed limit: 25 mph within Galena
 - Speed limit: 30 mph within Georgetown and Cecilton
 - Speed limit: 35 mph approaching US 40 (Elkton)

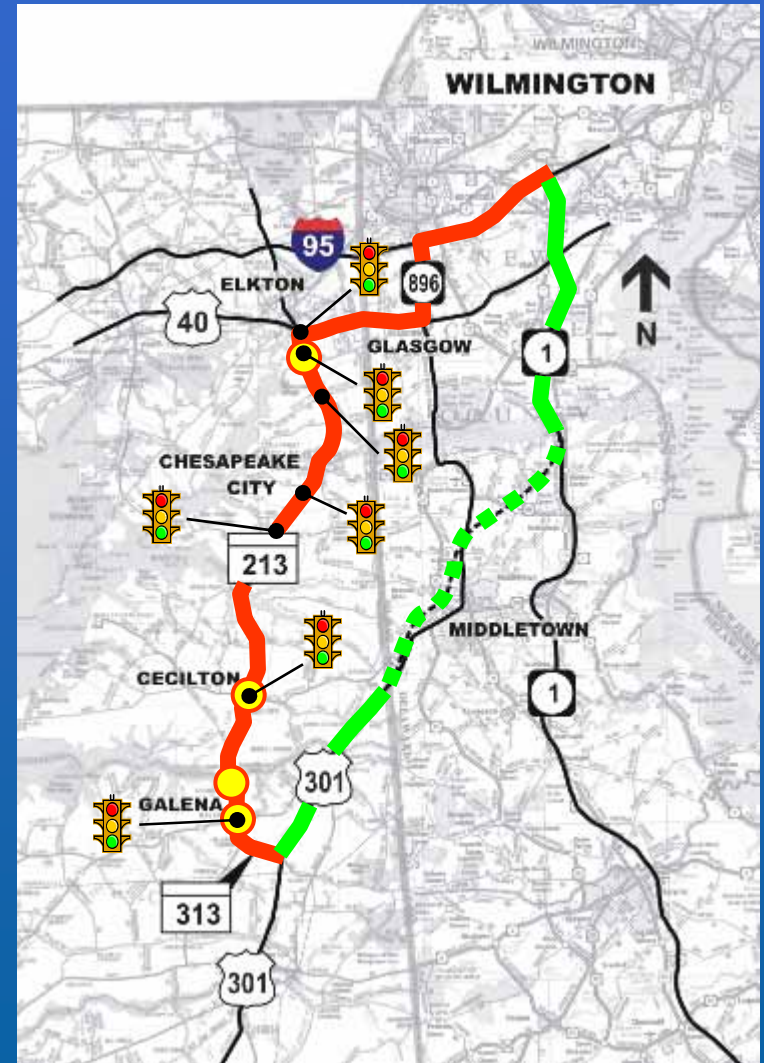




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 - Speed limit: 35 mph approaching US 40 (Elkton)Several (7) Traffic signals along MD 213
 - 4 south of canal,
 - 3 north of canal (some without left turn lanes – adding to delay)
 - 15 additional signals on US 40 and SR 896 between MD 213 and I-95
 - Heavy trucks are slow to accelerate from stop





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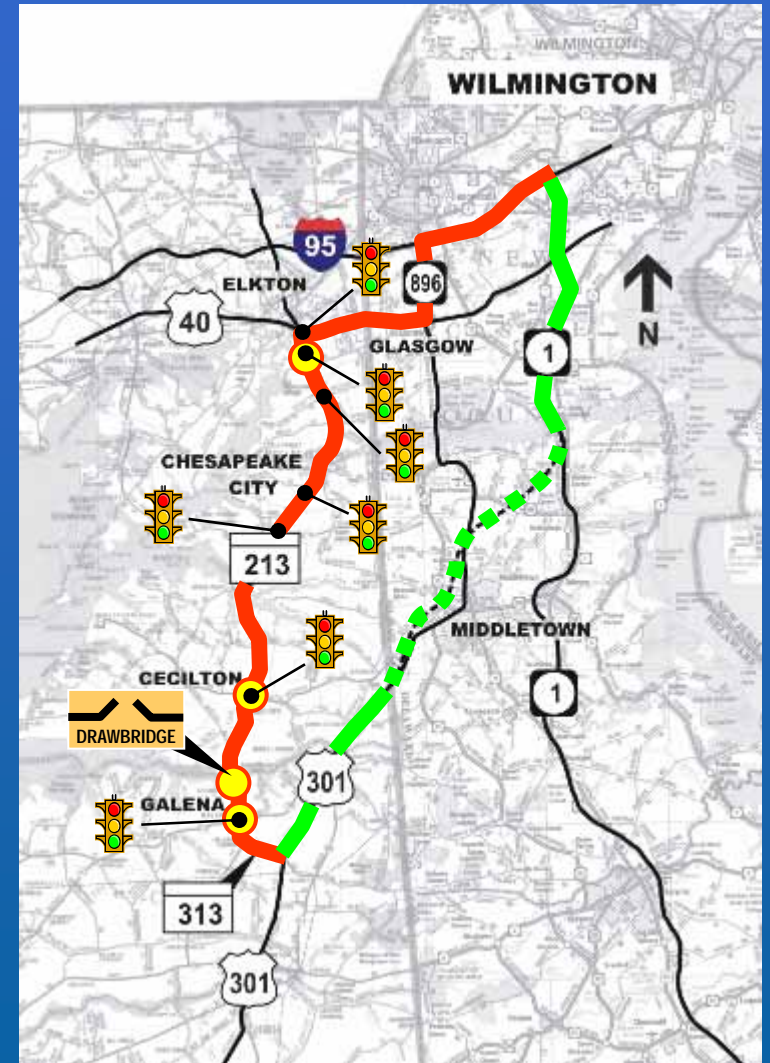
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Drawbridge at Sassafras River (with steep grades on either side)

Approximately 3,800 openings per year
 Majority of openings occur between April and October





Factors That Will Discourage Traffic from Using MD 213

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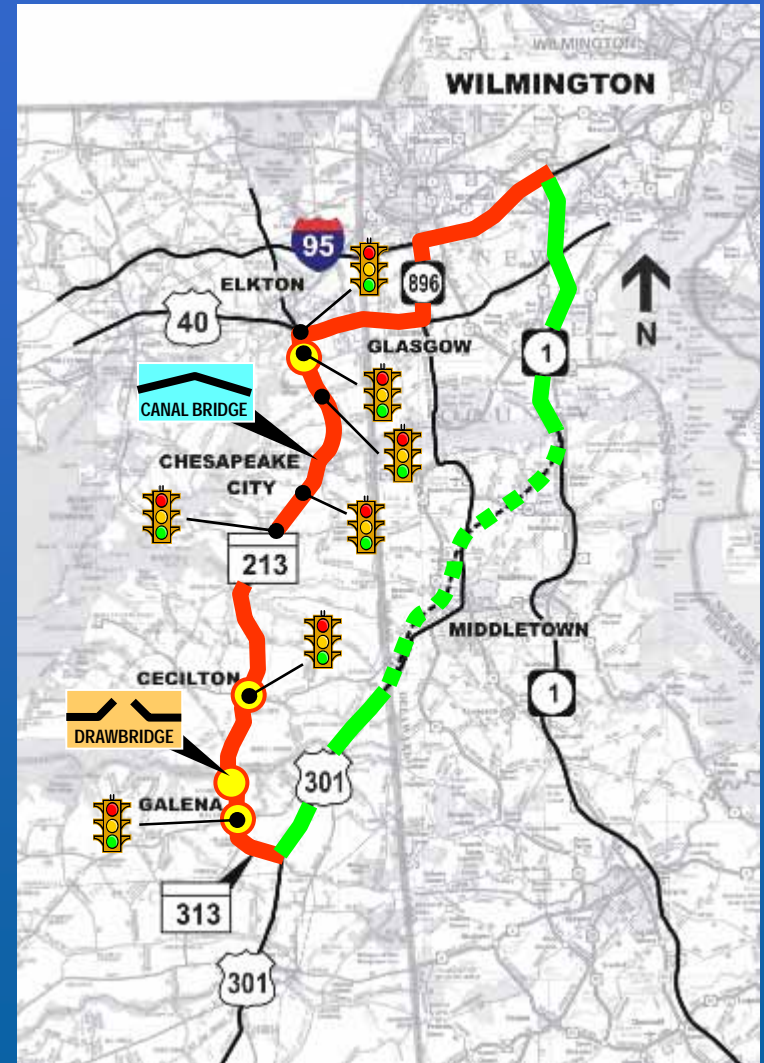


Drawbridge at Sassafras River (with steep grades on either side)

Approximately 3,800 openings per year
 Majority of openings occur between April and October



Canal Bridge has steep grades and no shoulders





Factors That Will Discourage Traffic from Using MD 213

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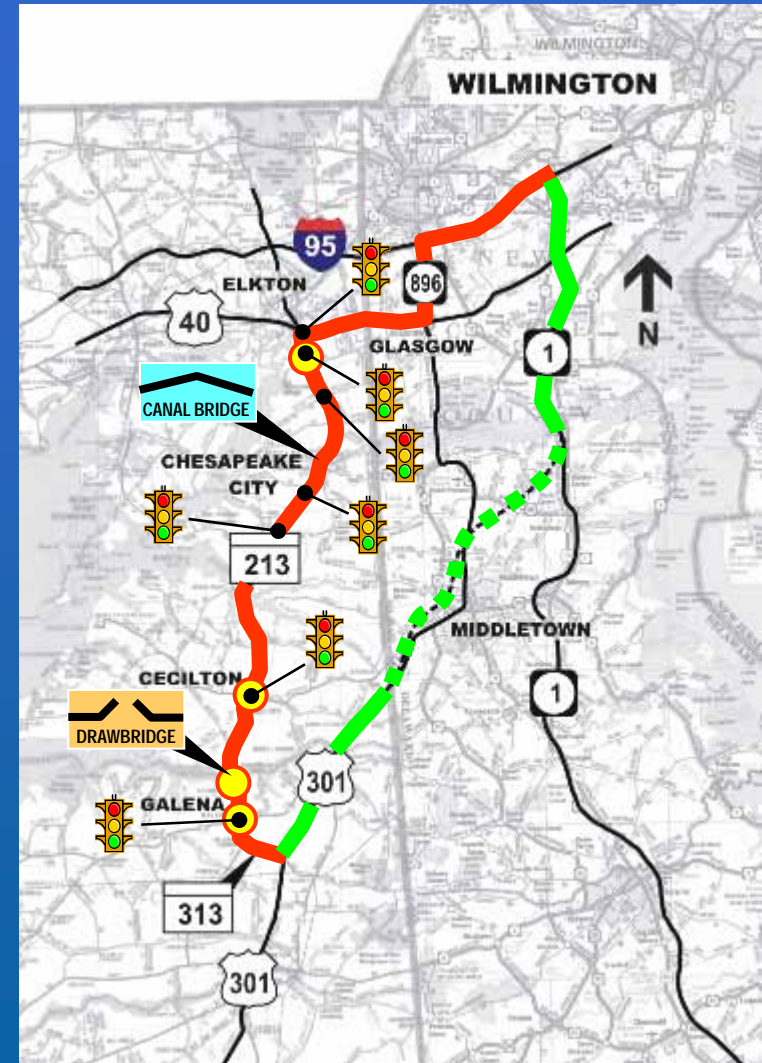
Drawbridge at Sassafras River (with steep grades on either side)

Approximately 3,800 openings per year
 Majority of openings occur between April and October



Canal Bridge has steep grades and no shoulders

No access control & numerous driveways and side streets on MD 213





Factors That Will Discourage Traffic from Using MD 213

MD 213 CHARACTERISTICS / CONSTRAINTS

- Compared to the future (new) US 301 route, ■ ■ ■
 MD 213 ■ is much less attractive as a travel route for trucks:

Prevailing speeds on MD 213 (2-lane road) lower than on new US 301 (4-lane freeway)

For trucks, virtually no ability to pass slower vehicles on MD 213

Multiple locations with even lower speed limits:

- Speed limit: 25 mph within Galena
- Speed limit: 30 mph within Georgetown and Cecilton
- Speed limit: 35 mph approaching US 40 (Elkton)

Several (7) Traffic signals along MD 213

- 4 south of canal,
- 3 north of canal (some without left turn lanes – adding to delay)
- 15 additional signals on US 40 and SR 896 between MD 213 and I-95
 - Heavy trucks are slow to accelerate from stop



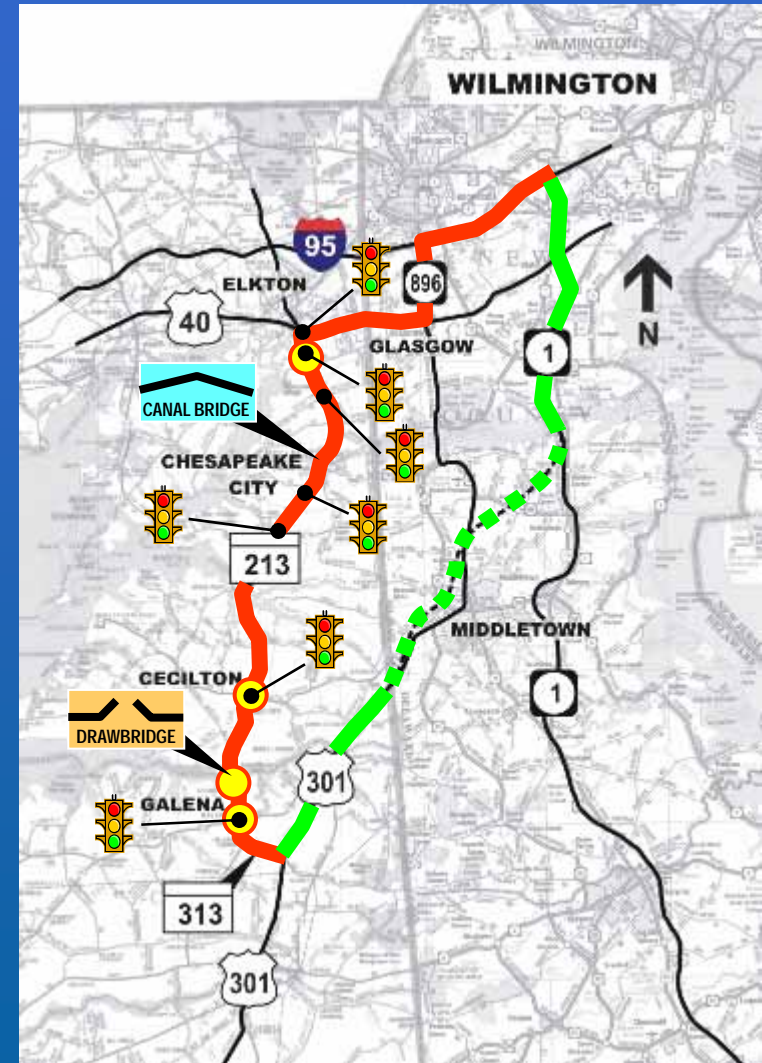
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Canal Bridge has steep grades and no shoulders

No access control & numerous driveways and side streets on MD 213
 No capacity related improvements currently funded for MD 213, MD 310 or US 40 (between MD 213 and SR 896)

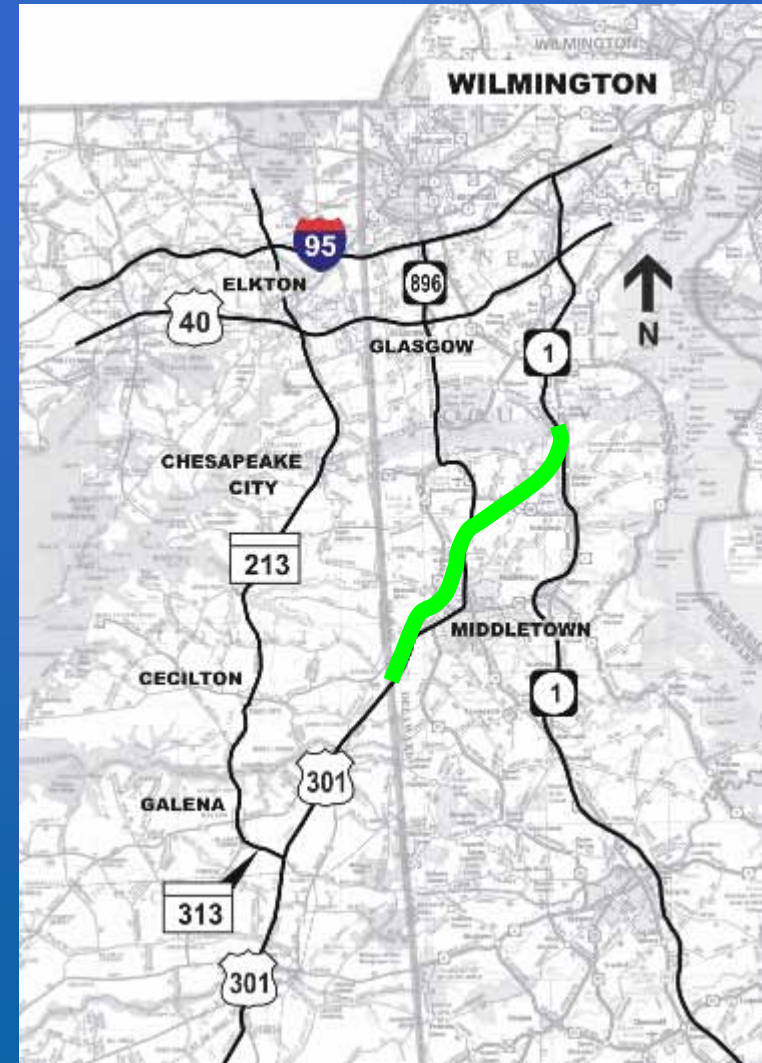




Factors That Will Encourage Traffic to Use New US 301

US 301, I-95 & SR 1 ENHANCEMENTS



- DeIDOT will provide roadway improvements to keep traffic on new US 301 (US 301 to SR 1 / I-95 (Christiana Mall)):
 - **New Expressway** – New 4-lane US 301 (55 – 65 mph) from MD/DE line to SR 1, south of C&D Canal – No traffic signals & highway speed E-ZPass toll facility (no stopping to pay toll with E-ZPass)

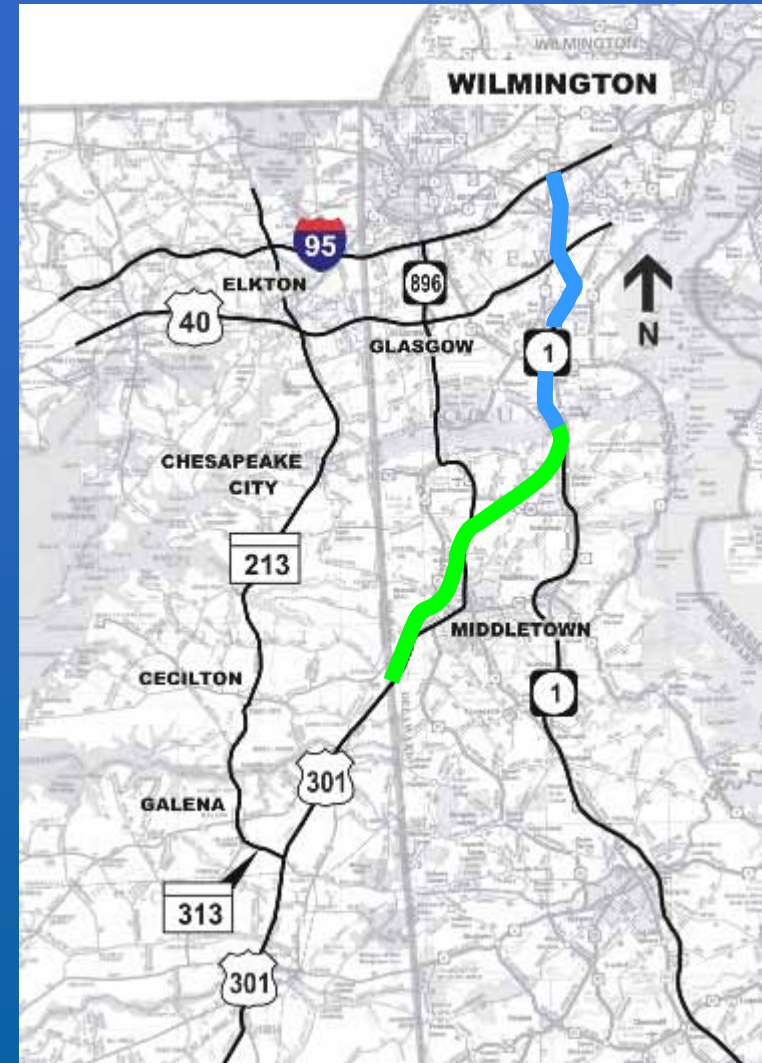




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 -  SR 1 is scheduled to be widened from US 13/SR 1 split to I-95 (2010-2030)

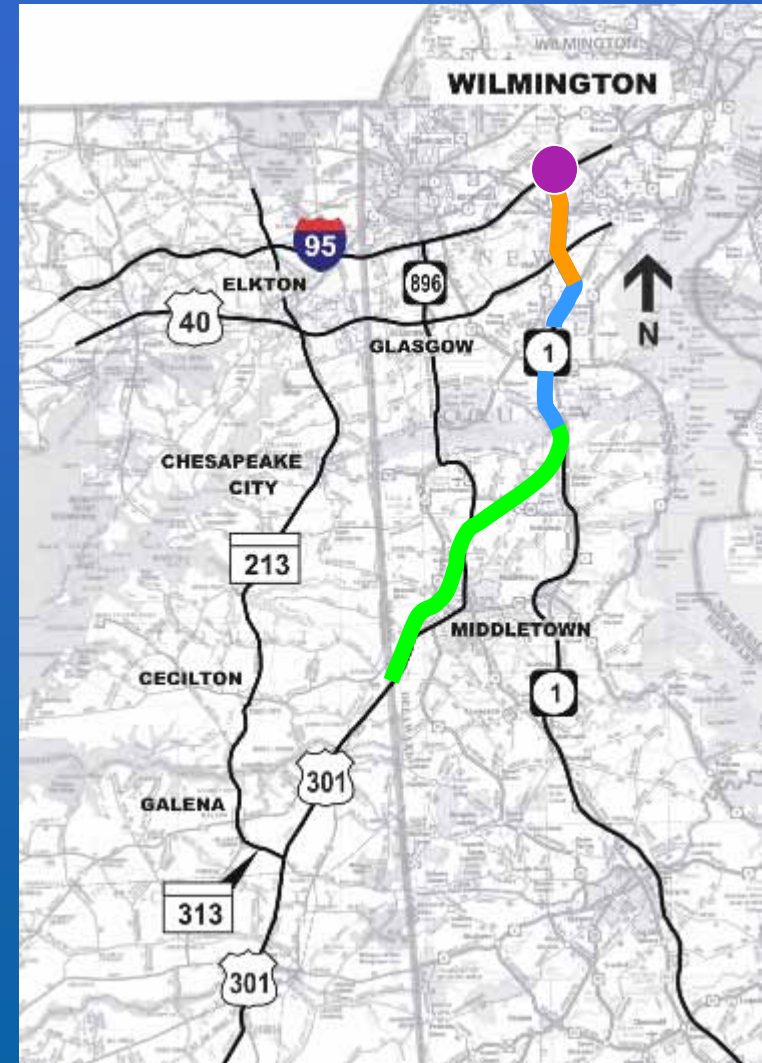




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 -  I-95 / SR 1 interchange (Christiana Mall) is scheduled for reconstruction (2009-2011)








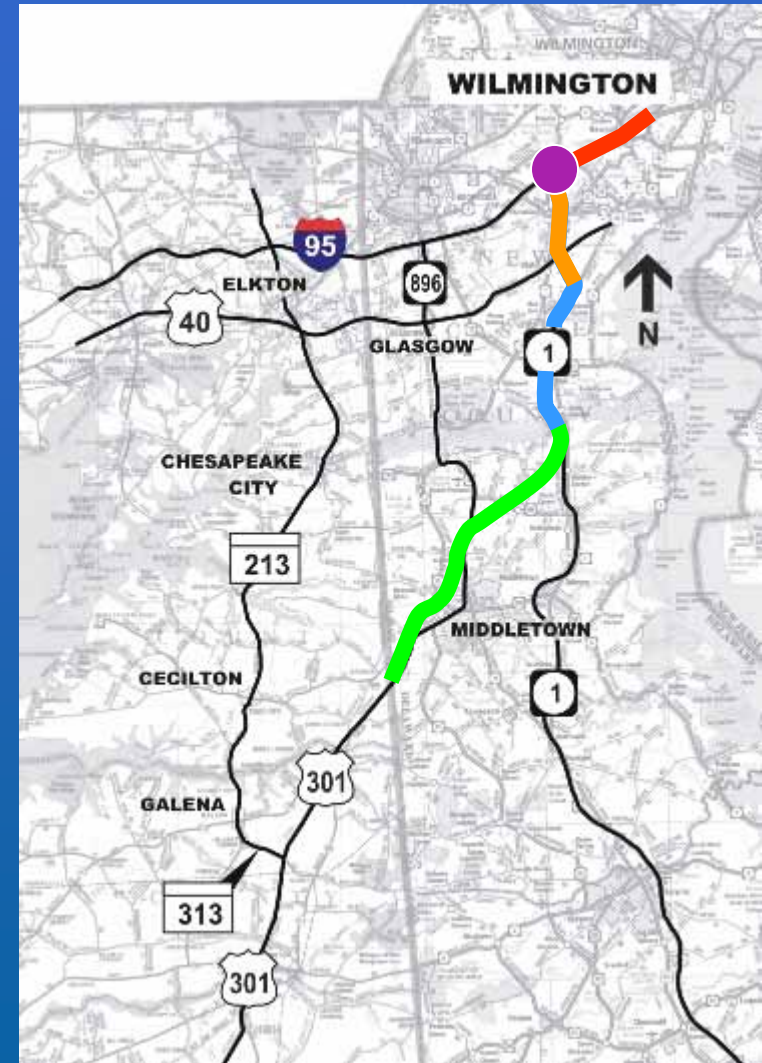


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-  I-95 is scheduled to be widened (5th lane in each direction) from SR 1 to I-95 / I-495 (2007-2008)

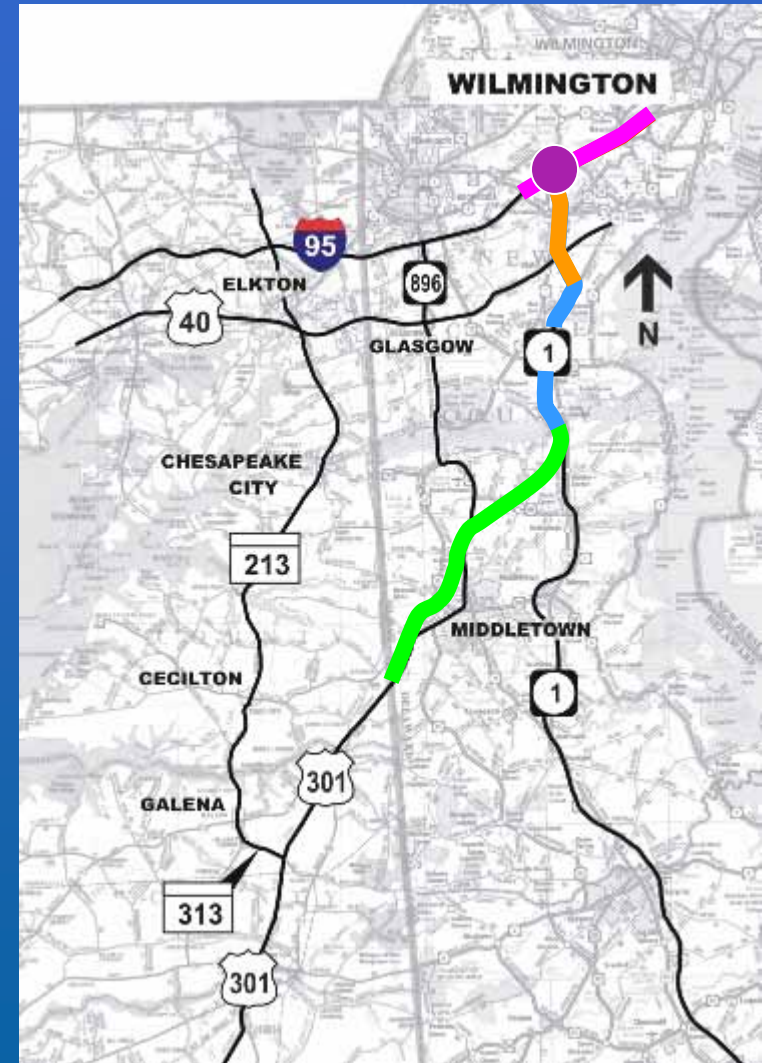




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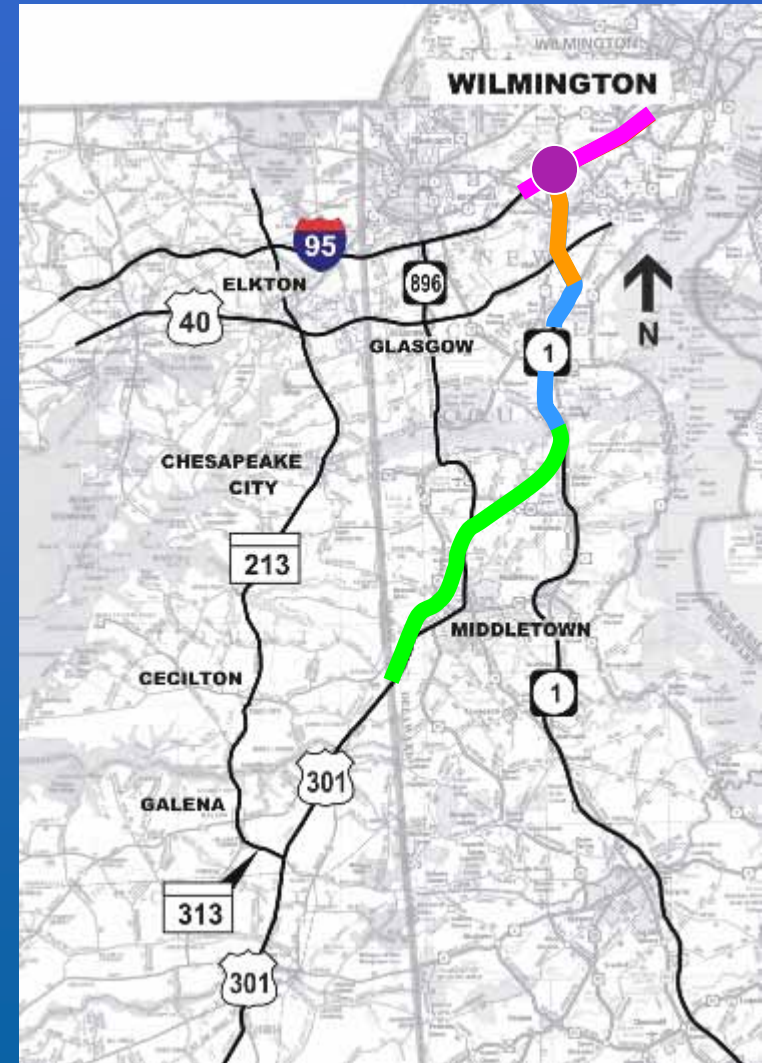




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 -  I-95 / SR 1 interchange (Christiana Mall) is scheduled for reconstruction (2009-2011)
 -  I-95 is scheduled to be widened (5th lane in each direction) from SR 1 to I-95 / I-495 (2007-2008)
 -  I-95 is scheduled to be widened to provide 2/3 lane collector-distributor roads (2015-2030)
- DeIDOT's near-term/ long-term program focuses on keeping traffic on New US 301



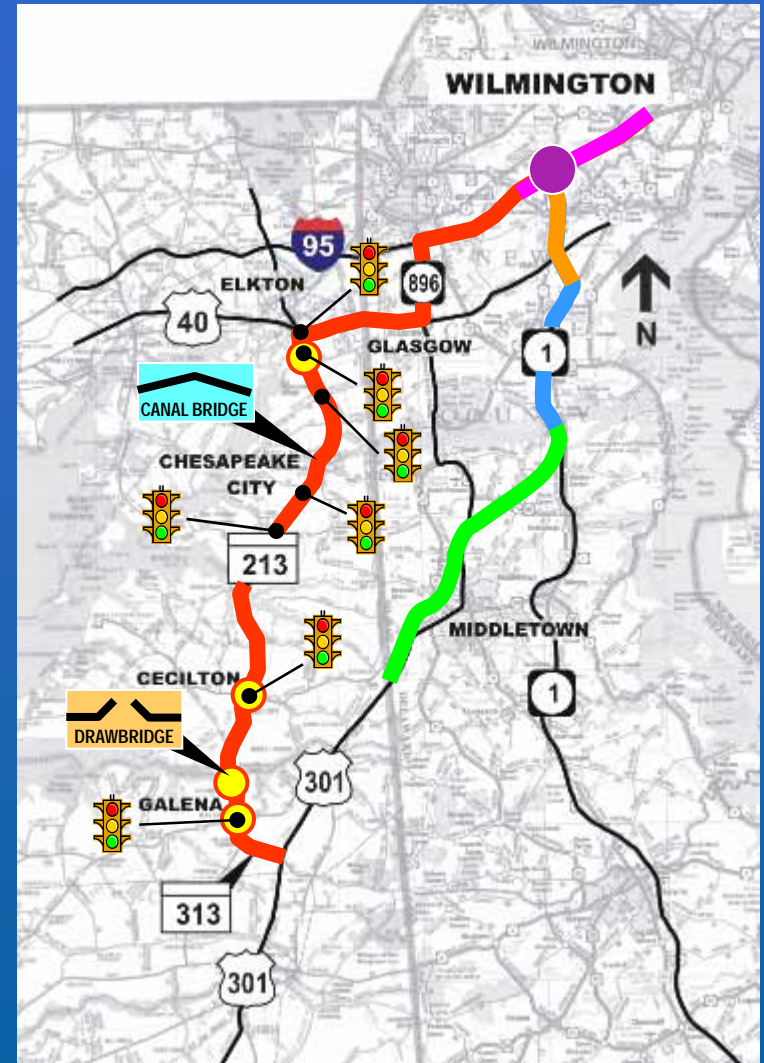


Factors That Will Encourage Traffic to Use New US 301

TRAVEL TIME SAVINGS MD 213 vs. US 301

US 301 to SR 1 to
I-95 / SR 1 (Christiana Mall)
Versus
US 301 to MD 313 to
MD 213 to US 40 to
SR 896 to I-95 to I-95 / SR 1

- Reduced travel time by staying on New US 301
- Currently, about **10** minutes faster to stay on US 301
- By 2030, with new US 301, **about 30** minutes faster to stay on Improved US 301





Factors That Will Encourage Traffic to Use New US 301

FUEL COSTS SAVINGS



- Increased price of gasoline and diesel fuel (Currently \$3+ per gallon)
 - 8.5 miles shorter trip on New US 301 (1-2 gallons @ 5 mpg; 2000 national avg.)
 - Reduced speed zones, traffic signals and steep grades on MD 213 will all burn more fuel
 - Reduction in fuel costs helps offset toll



Factors That Will Encourage Traffic to Use New US 301

E-ZPASS USE – HIGHWAY SPEED PLAZA

- High use of E-ZPass on US 301, combined with new toll plaza that will include highway speed E-ZPass lanes (similar to SR 1 toll plazas at Dover & Biddles Corner)
 - Currently, at least 35-40% truck E-ZPass on US 301 (per 2005 survey)
 - E-ZPass use likely to increase by time US 301 toll facility is operational (2015 to 2020)

NOTE: I-95 Newark toll plaza – truck E-ZPass use has continued to increase over the past five years – Currently at 60% to 70%





Factors That Will Encourage Traffic to Use New US 301

NATURE OF TRUCK TRIPS / OWNERSHIP

- Long distance nature of most truck trips on US 301
 - 40% travel through 2 or more states
- Significant number of commercially owned trucks
 - may not be as sensitive to tolls



Note:

- On October 2005, tolls at the Newark Plaza rose by **60%** for trucks (\$5 to \$8 for an 18-wheeler, 6AM to 10PM)
- Despite the increase, 5-months of before/after data (10/04 - 3/05 vs. 10/05 - 3/06) shows truck volumes have remained constant!
- Data also shows that almost no diversion has occurred around the plaza on local roads (with dedicated enforcement)



Preliminary Traffic Analysis

- Presented preliminary results of toll diversion analysis at Cecilton and Galena meetings
- Preliminary results indicated a very broad range in the number of potential truck diversions, when comparing toll and no toll for a new 4-lane limited access US 301 in Delaware

Route	Preliminary Range
- MD 213 (60%) =	360 - 1,320 vpd
- Caldwell Corner Road (10%) =	60 - 220 vpd
- MD 291 / DE 6 (20%) =	120 - 440 vpd
- MD 300 / DE 300 (10%) =	60 - 220 vpd

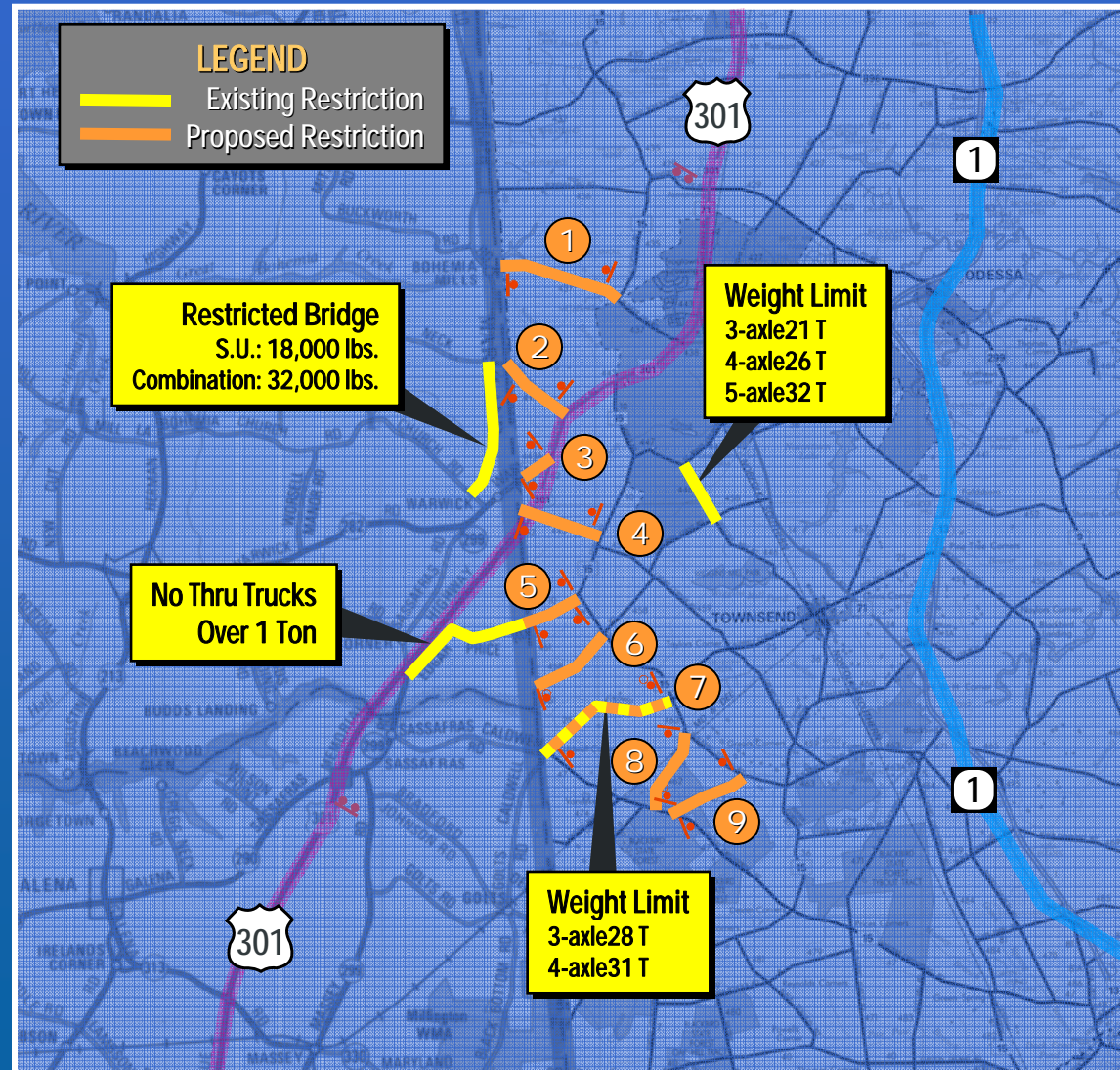
- These results came from a regional traffic model, which had not yet undergone detailed calibration along the MD 213 corridor

Vpd = Vehicles per Day



Traffic Analysis – Potential Truck Restrictions in Delaware

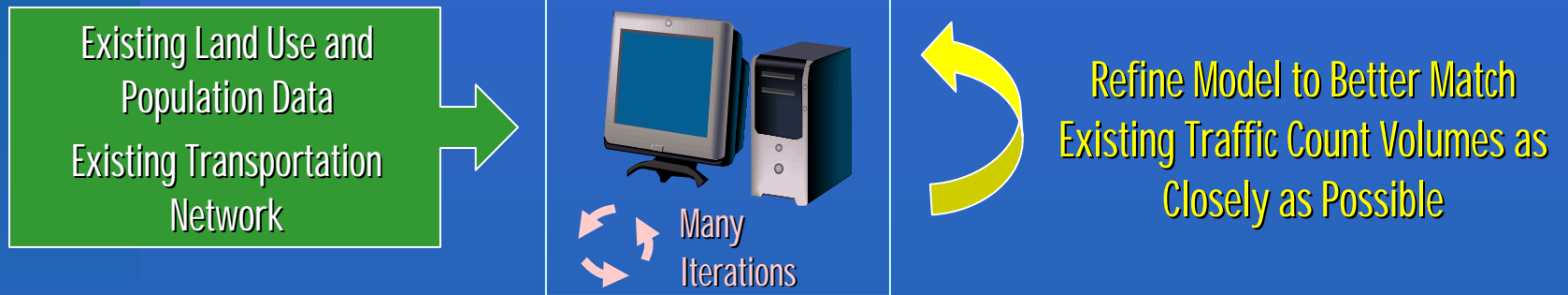
- Restrictions were also assumed to be in place when developing projections for truck diversions on US 301
- Trucks will have few nearby local route choices due to the network of proposed truck restrictions:
- No Trucks over 3 axles:
 - 1 Bunker Hill Road
 - 2 Middleneck Road
 - 3 Warwick Road
 - 4 Strawberry Lane
 - 5 Levels Road
 - 6 Green Giant Road
 - 7 Caldwell Corner Road
 - 8 Ebenezer Church Road
 - 9 Lloyd Guessford Road





Traffic Forecasting Basics

Step 1: Develop a Base Model Replicating Existing Conditions



Step 2: Using that Model, Develop Future (2030) Traffic Projections

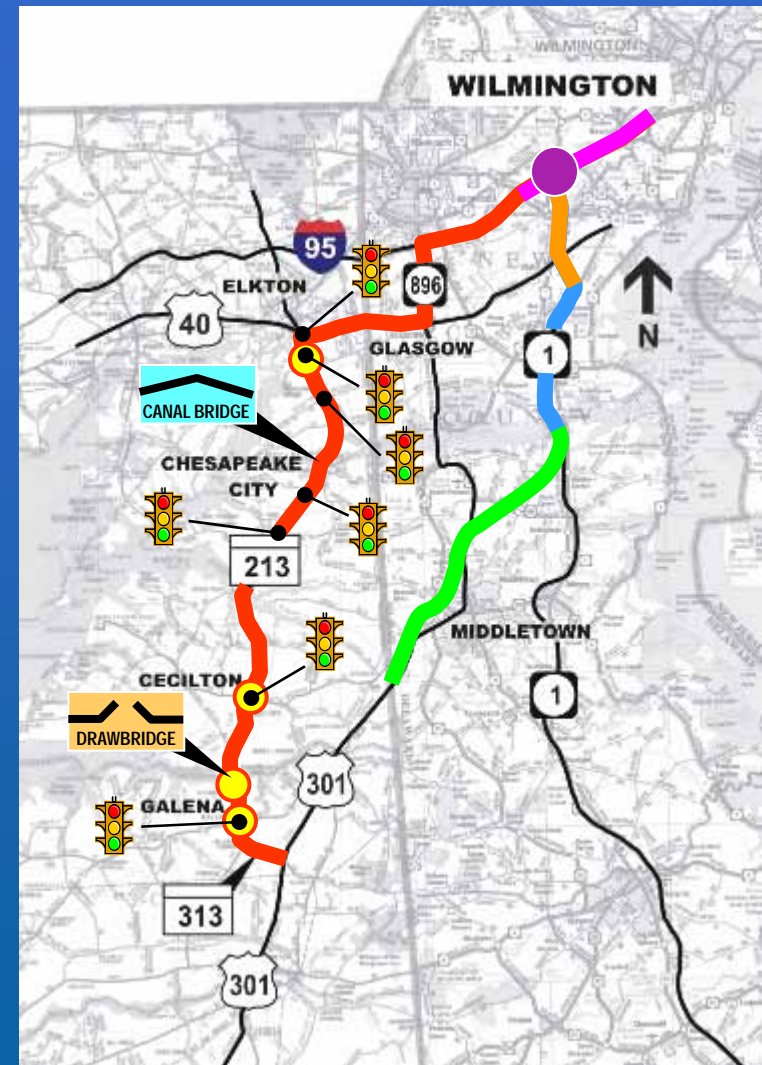


*Developed and approved by WILMAPCO



Refined / Detailed Traffic Analysis

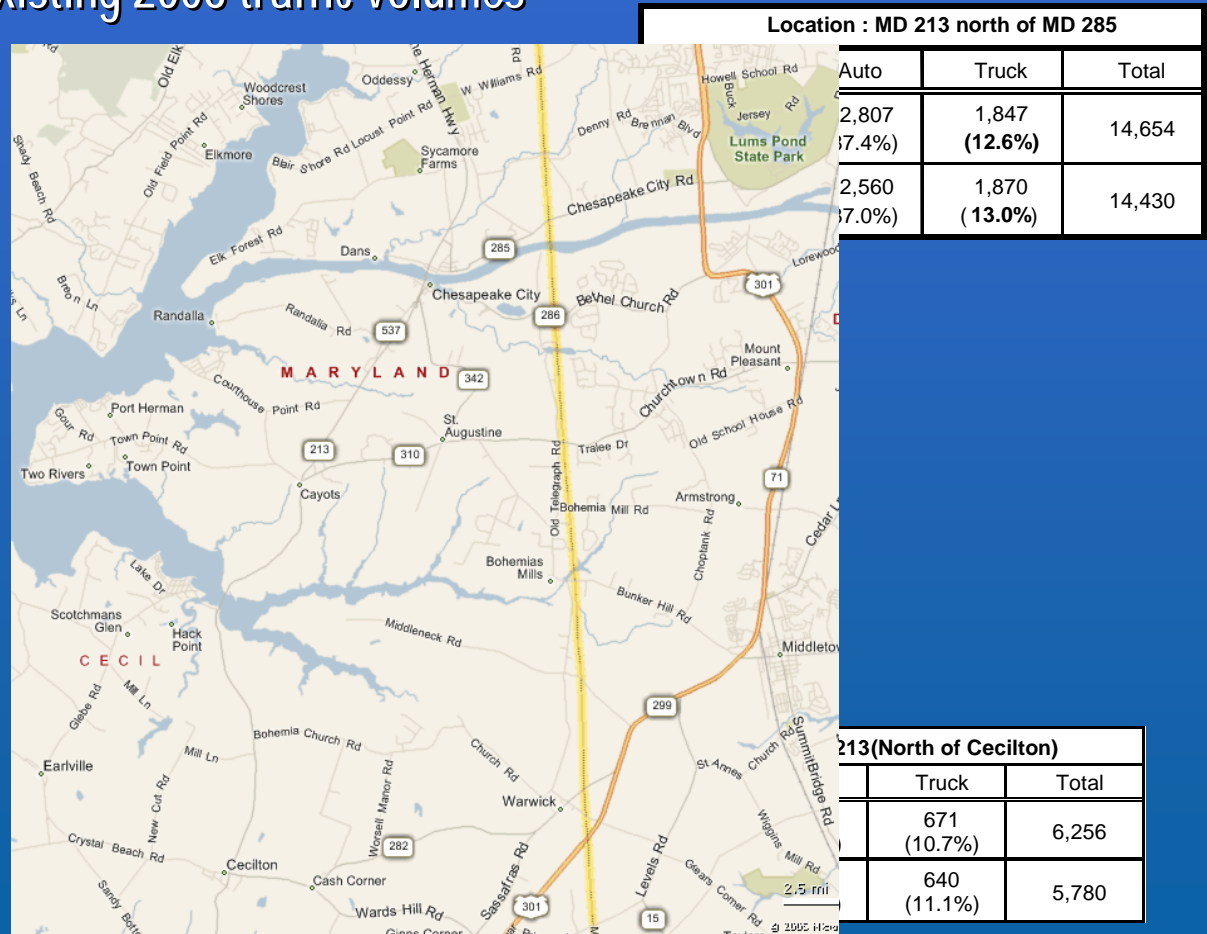
- Since the Cecilton and Galena meetings, the US 301 Project Team has refined the traffic model / analysis to consider the following factors:
 - MD 213 Constraints
 - Travel Time Savings
 - US 301, I-95 & SR 1 Improvements
 - E-ZPass Use – Highway Speed Plaza
 - Nature of Truck Trips / Ownership
 - Fuel Costs Savings





Refined / Detailed Traffic Analysis – Model Calibration

- Since the Cecilton and Galena meetings, the regional model has been calibrated and resulting traffic projections for 2006 now better match the actual existing 2006 traffic volumes





Refined / Detailed Traffic Analysis – Independent Review

- Following the Cecilton and Galena meetings, MSHA hired Gannett Fleming to conduct an independent review of the traffic projections for DeIDOT's US 301 Project.
 - Based on their evaluation to date, Gannett Fleming generally concurs with DeIDOT's modeling process
 - Gannett Fleming provided a number of comments regarding suggested model refinements
 - DeIDOT is also in the process of updating their model (by late Summer 2006):
 - Improved detail for MD portion of model
 - Updated approved land use projections (approved in Spring 2006)
 - DeIDOT's updating of the model is expected to address Gannett Fleming's comments
 - The final projections used in the EIS will incorporate these refinements
 - Based on collective engineering judgment of 3 firms (RK&K, URS & Gannett Fleming):
 - Final projections are expected to differ from current projections by less than 20%
 - Most likely effect of model refinements is a decrease in projected diversions on MD 213
 - Therefore, the conclusions drawn from the current forecasts and the mitigation measures developed by the Working Group should remain valid
 - Should final projections differ more than expected, the Working Group will be informed



MD 213 Truck Diversions – Preliminary vs. Refined

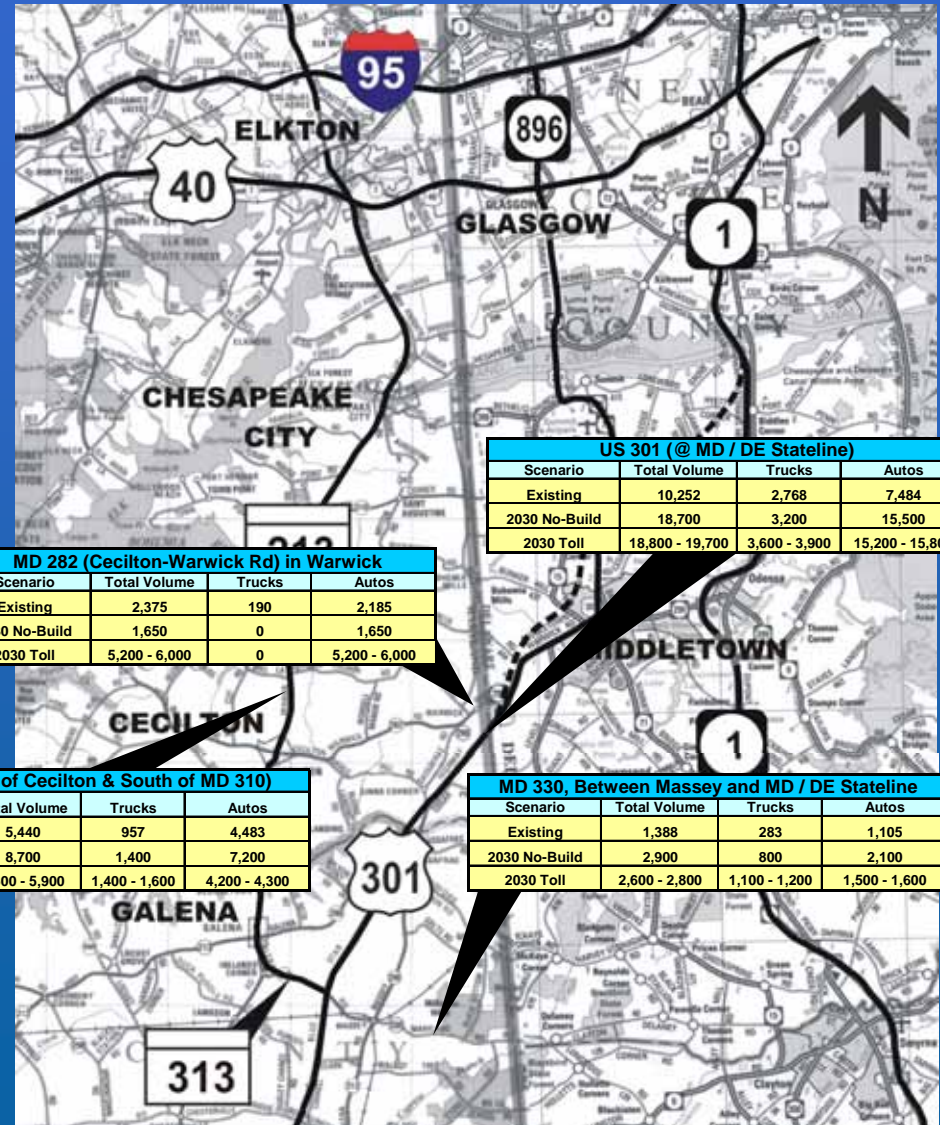
- Definition
 - At the Cecilton and Galena meetings, the Project Team defined a “diversion” as the difference between Toll and No Toll volumes for a new 4-lane limited-access US 301 in Delaware
 - However, no comparison had previously been made to a no-build condition
 - The following slides compare a No Build option with a new 4-lane limited access US 301 in Delaware



Traffic Summary - No-Build vs. Build

- MD 213, North of Cecilton & South of MD 310:**
 New US 301 would significantly reduce auto traffic on MD 213 and would slightly increase truck traffic on MD 213, as compared to the No-Build
- MD 330, Between US 301 and DE State Line:**
 New US 301 would reduce auto traffic by approximately 500 vpd, but would increase truck traffic by between 300 and 400 vpd as compared to the No-Build
- MD 282 (Cecilton-Warwick Rd.) in Warwick, MD:**
 New US 301 would basically triple auto traffic (1,650 to 5,200 – 6,000), the results of local traffic avoiding the US 301 toll. Much of this increase is traffic that shifts from MD 213, under the No-Build, to Warwick Road with a New US 301

 Truck traffic in the Warwick area is limited to only local trucks due to the proposed truck restrictions



MD 282 (Cecilton-Warwick Rd) in Warwick			
Scenario	Total Volume	Trucks	Autos
Existing	2,375	190	2,185
2030 No-Build	1,650	0	1,650
2030 Toll	5,200 - 6,000	0	5,200 - 6,000

US 301 (@ MD / DE Staline)			
Scenario	Total Volume	Trucks	Autos
Existing	10,252	2,768	7,484
2030 No-Build	18,700	3,200	15,500
2030 Toll	18,800 - 19,700	3,600 - 3,900	15,200 - 15,800

MD 213 (North of Cecilton & South of MD 310)			
Scenario	Total Volume	Trucks	Autos
Existing	5,440	957	4,483
2030 No-Build	8,700	1,400	7,200
2030 Toll	5,600 - 5,900	1,400 - 1,600	4,200 - 4,300

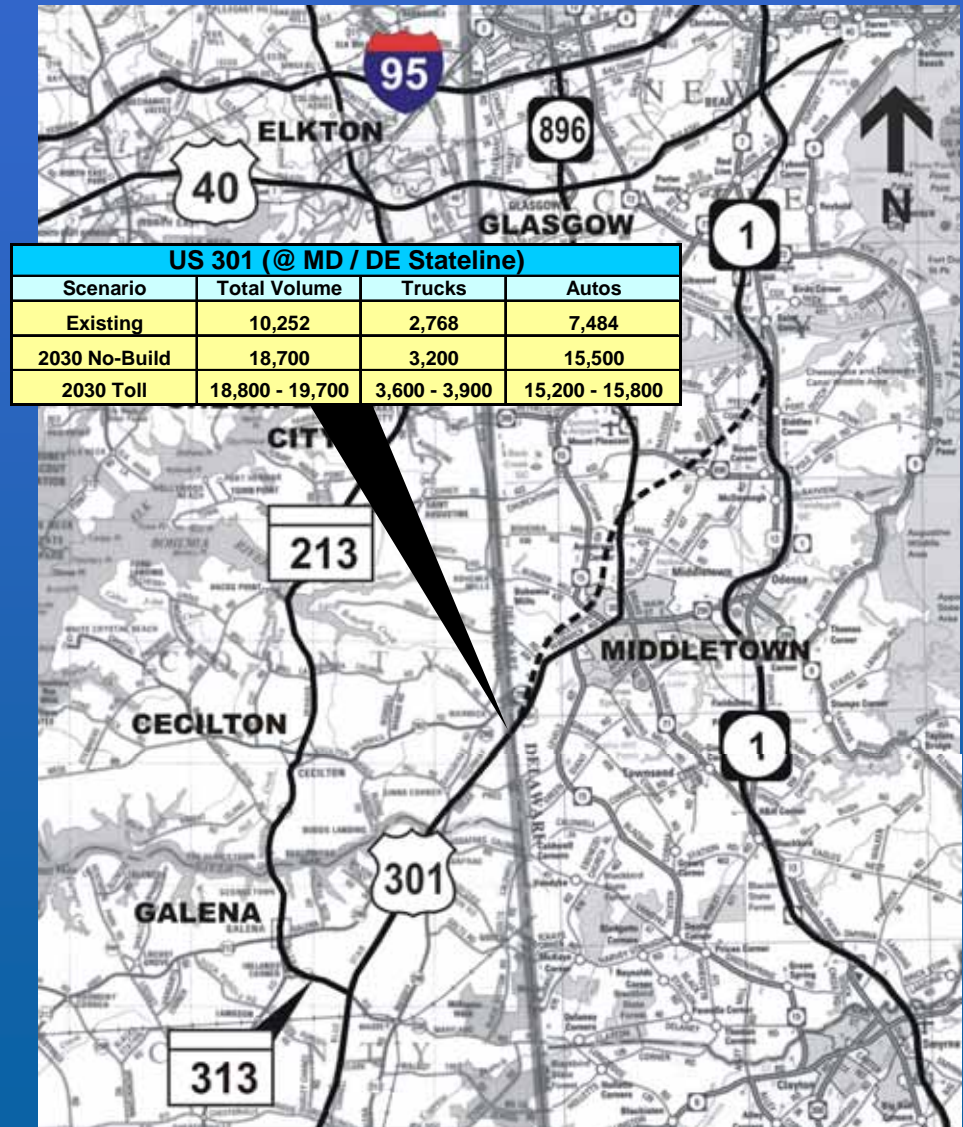
MD 330, Between Massey and MD / DE Staline			
Scenario	Total Volume	Trucks	Autos
Existing	1,388	283	1,105
2030 No-Build	2,900	800	2,100
2030 Toll	2,600 - 2,800	1,100 - 1,200	1,500 - 1,600



US 301 Traffic at MD/DE Line - No Build vs. Build

US 301 at MD/DE Line: Trucks and Autos

- By 2030, under a No-Build alternative:
 - Total daily traffic on US 301 is projected to significantly increase from today's volume of 10,252 to 18,700 in 2030 under No Build.
 - Daily truck volumes are projected to increase less rapidly from today's volume of 2,768 to 3,200 in 2030 under No Build.
- By 2030, assuming a new 4-lane US 301 in Delaware with a toll at the MD / DE Stateline:
 - Total daily traffic on New US 301 is projected to be slightly greater (18,800 - 19,700) than the No-Build (18,700)
 - Total daily truck traffic on New US 301 is projected to be greater (3,600 – 3,900) than the No Build (3,200).

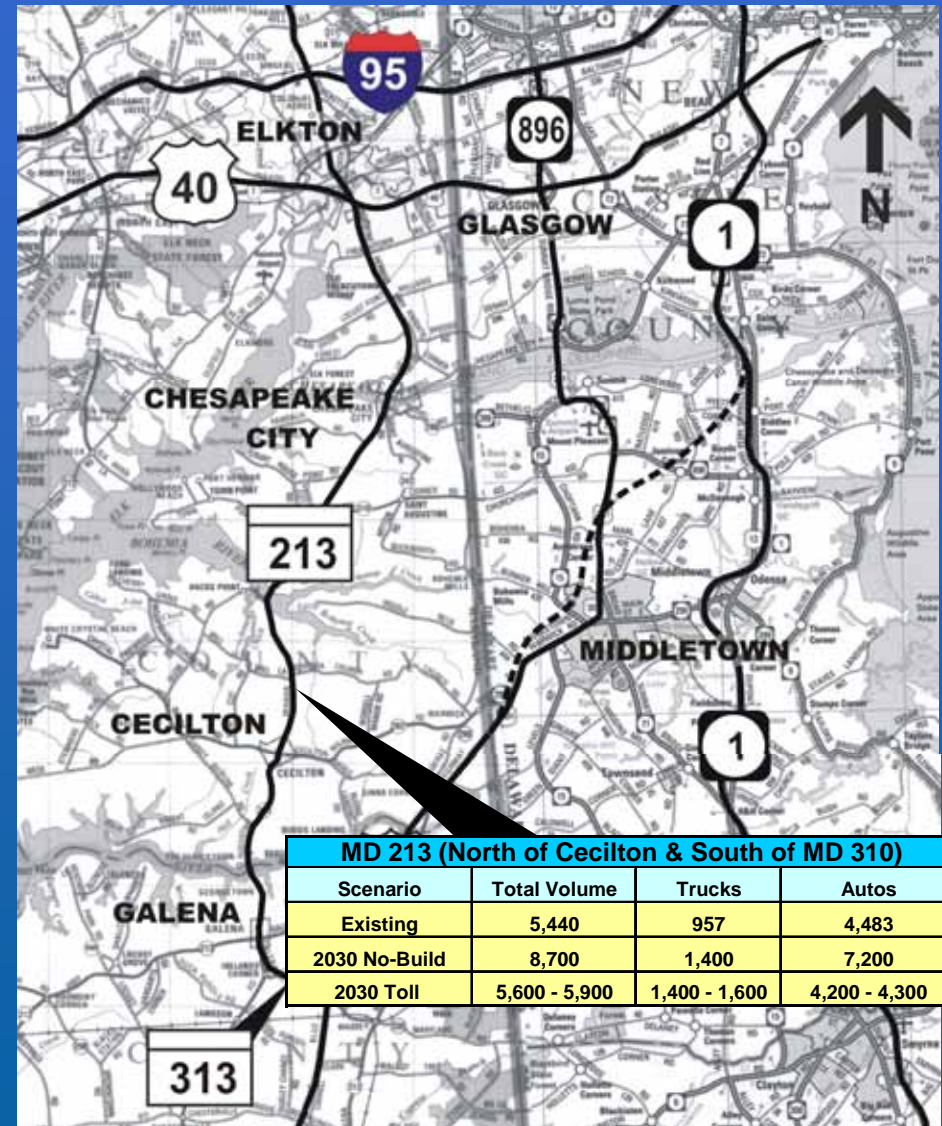




MD 213 Traffic Diversions – No Build vs. Build

MD 213 North of Cecilton & South of MD 310: Trucks and Autos

- By 2030, under a No-Build alternative:
 - Total daily traffic on MD 213 is projected to increase significantly from today's volume of 5,440 to 8,700 in 2030 under No Build.
 - Truck volumes are projected to increase from today's volume of 957 to 1,400 in 2030 under No Build.
 - A portion of the projected increase results from congestion on US 301 in Delaware in 2030 under the No Build, causing traffic to shift from US 301 to MD 213.
- By 2030, a new 4-lane US 301 in Delaware with a toll at the MD / DE Stateline:
 - With additional capacity on US 301 through Delaware, a significant portion of the traffic on MD 213 in 2030 under the No-Build is projected to shift back to the US 301 corridor.
 - The total traffic on MD 213 in year 2030, assuming a new US 301, is projected to be significantly less (5,600 – 5,900) than under the No-Build alternative (8,700).
 - Truck traffic on MD 213 in year 2030, assuming a new US 301, is projected to be between 1,400 vpd and 1,600 vpd, as compared to a No-Build volume of 1,400 vpd, no change and an increase of 200 vpd, respectively

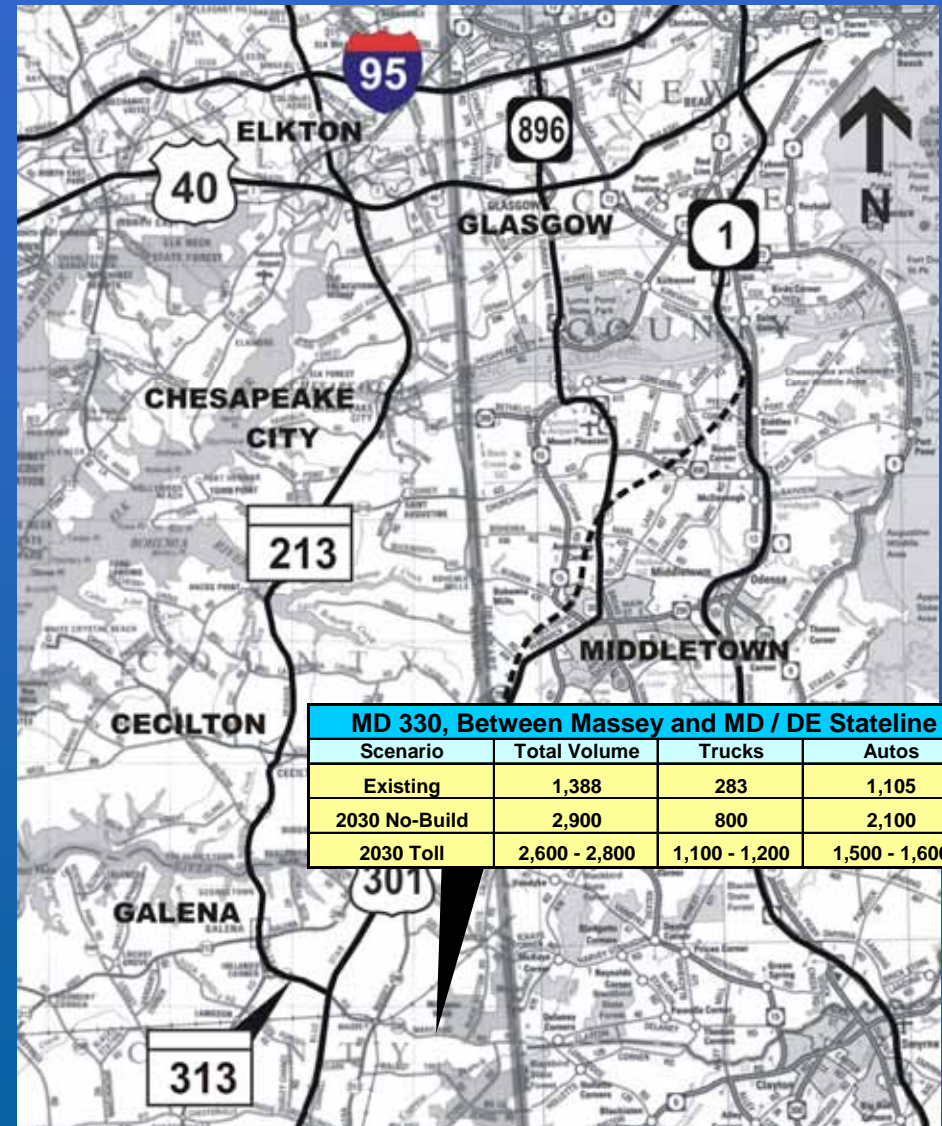




MD 330 Traffic Diversions – No Build vs. Build

MD 330 Between US 301 and MD / DE Line: Trucks and Autos

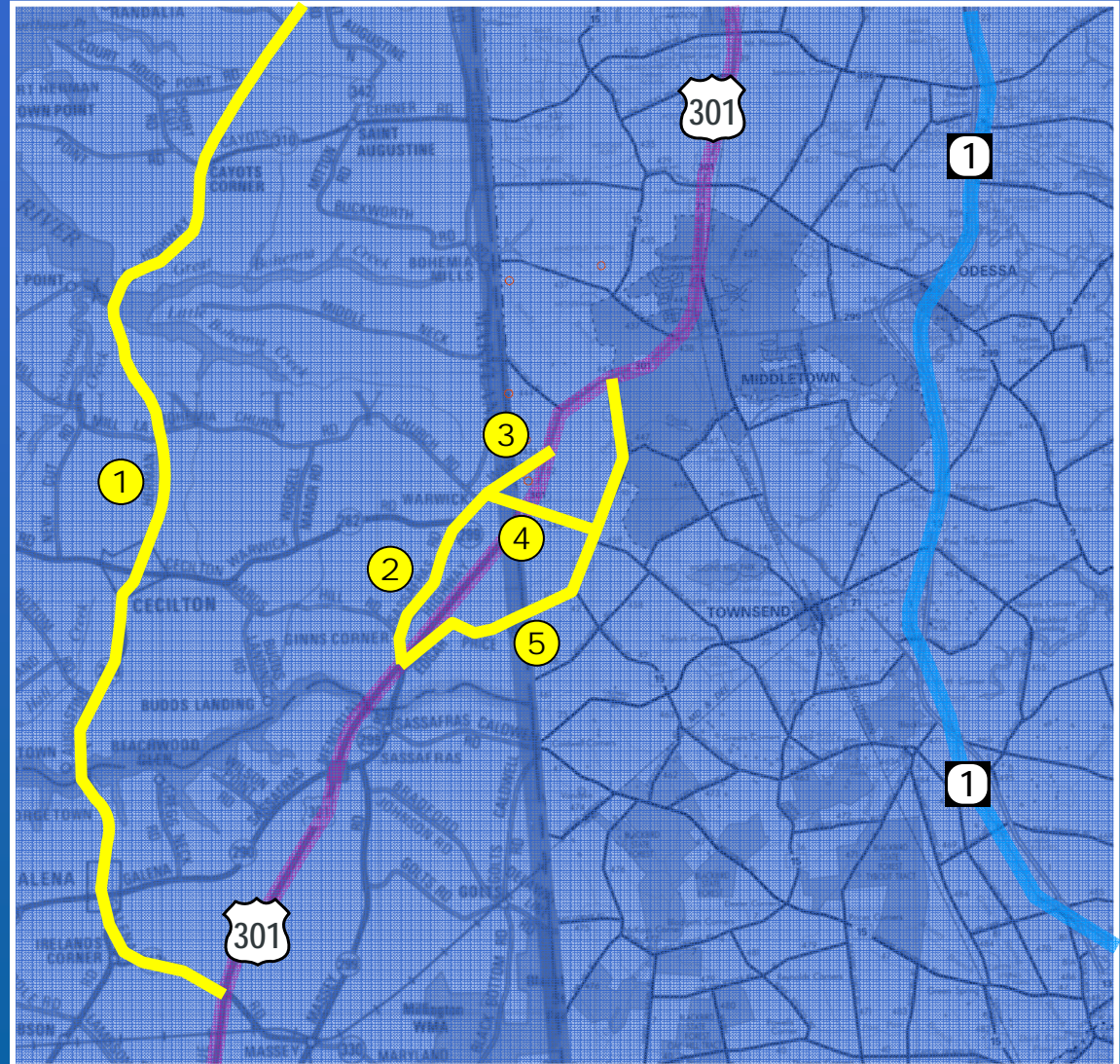
- By 2030, under a No-Build alternative:
 - Total daily traffic on MD 330 is projected to increase significantly from today's volume of 1,388 to 2,900 in 2030 under No Build
 - Truck volumes are projected to increase significantly from today's volume of 283 to 800 in 2030 under No Build
- By 2030, assuming a new 4-lane US 301 in Delaware with a toll at the MD / DE Stateline:
 - The total traffic on MD 330 in year 2030, assuming New US 301, is projected to be less (2,600 – 2,800) than under No Build (2,900).
 - Truck traffic on MD 330 in year 2030, assuming New US 301, is projected to be greater (1,100 – 1,200) than the No Build (800).





Auto Diversions

- Auto diversion routes
 - ① MD 213
 - ② Sassafras Road
 - ③ Warwick Road
 - ④ Strawberry Lane
 - ⑤ Levels Road
- Auto Diversions --> The most likely diversion routes appear to be the nearby parallel routes (Sassafras Road and Warwick Road)

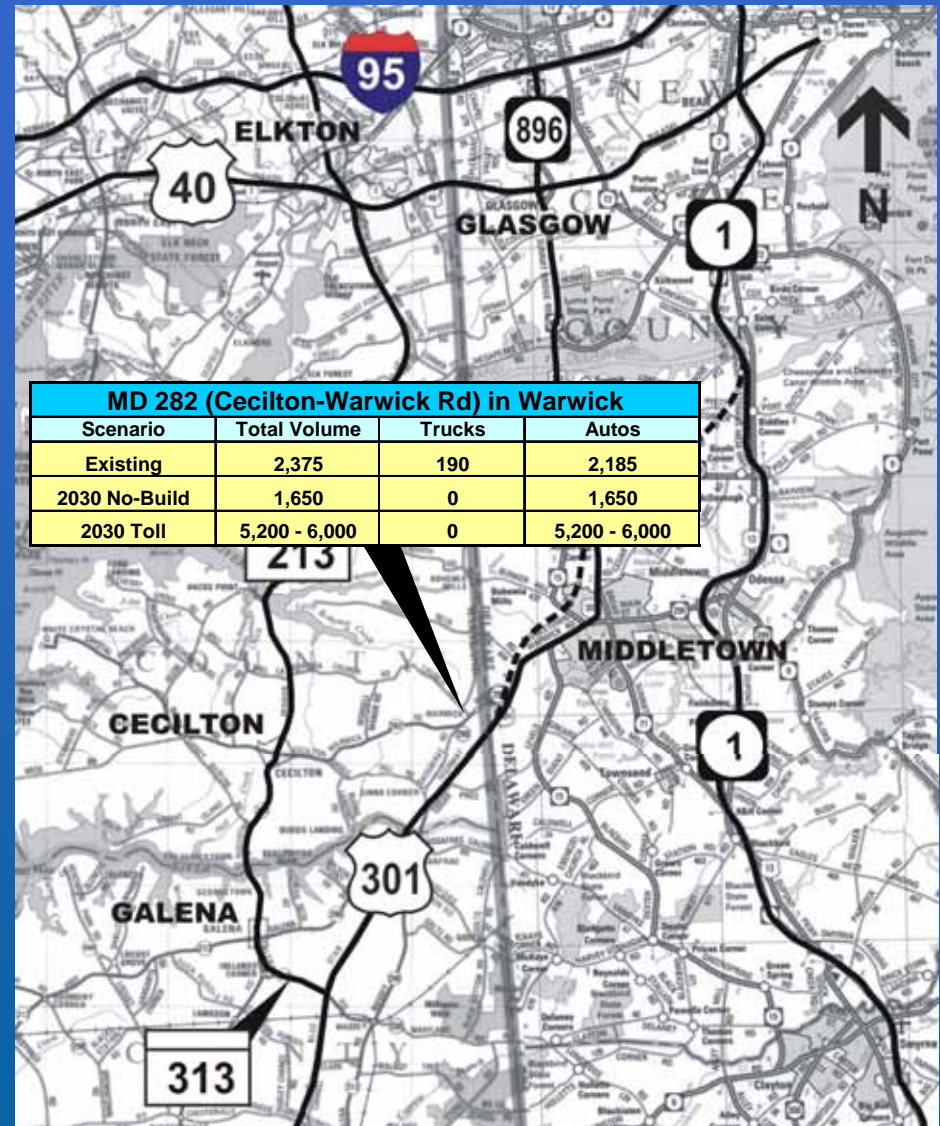




MD 282 Cecilton-Warwick Road Traffic Diversions - No Build vs. Build

MD 282 (Cecilton-Warwick Road) in Warwick: Trucks and Autos

- By 2030, under a No-Build alternative:
 - Total daily traffic on Cecilton-Warwick Road is projected to decrease slightly from today's volume of 2,375 to 1,650 in 2030 under No Build
- By 2030, assuming a new 4-lane US 301 in Delaware with a toll at the MD / DE Stateline:
 - Total daily traffic on Cecilton-Warwick Road with New US 301 is projected to be significantly greater (5,200 – 6,000) than the No Build (1,650). Much of this increase is auto traffic shifting from MD 213 under the No-Build to the Warwick Road corridor with New US 301
 - With the toll on US 301 at the State line, some local auto traffic is using the Cecilton-Warwick Road corridor

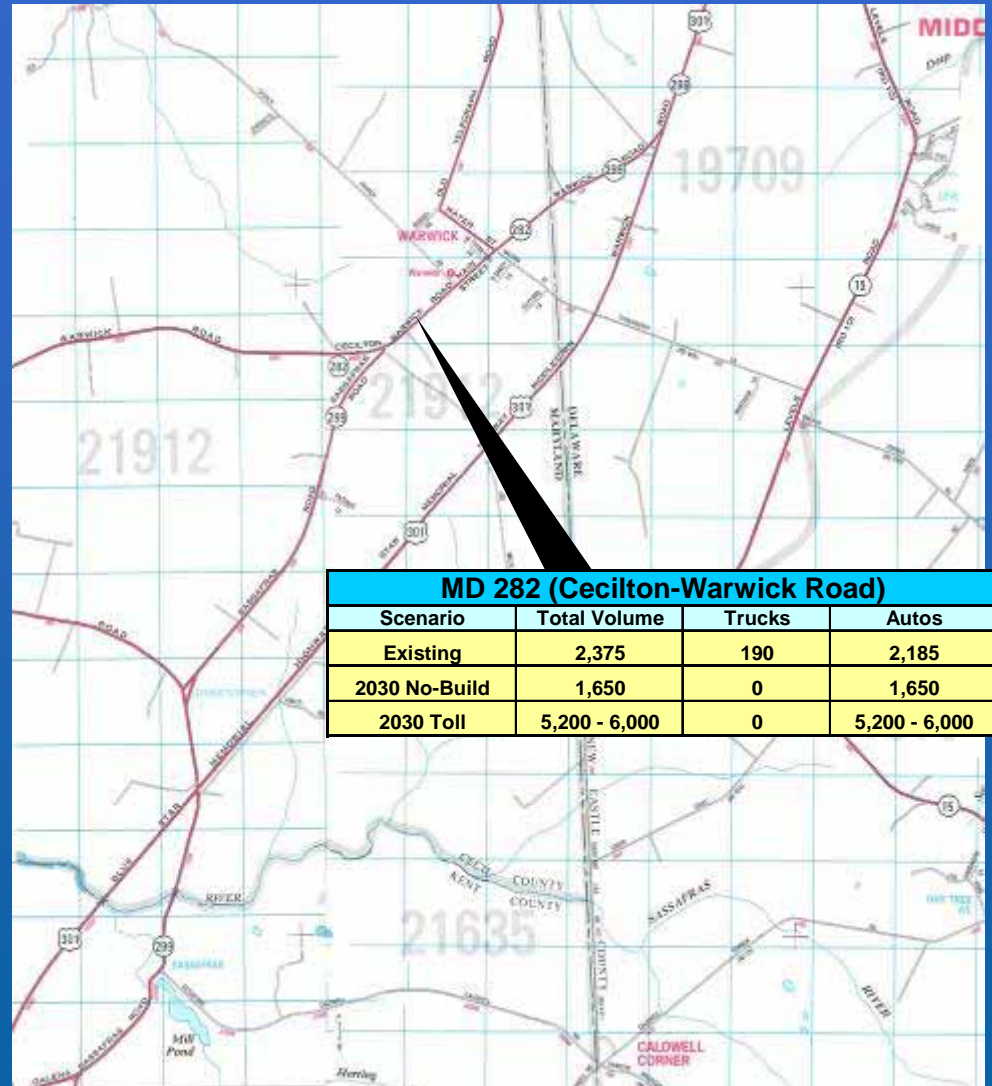




MD 282 (Cecilton-Warwick Road) Traffic Diversions - No Build vs. Build

MD 282 (Cecilton-Warwick Road): Trucks and Autos

- Detailed analysis indicates that:
 - Warwick Road Traffic Includes, approximately:
 - 13% Diverted Through Traffic and
 - 87% Local Traffic
 - Very little traffic is projected to turn off US 301, bypass toll plaza and get back on US 301 at Levels Road (Reduced Toll)
 - Projected traffic using Warwick Road to reach Strawberry Lane and Existing US 301 is destined for the Middletown area
 - Projected traffic on Warwick Road primarily has local origins and destinations (O&D), including:
 - 56% - Southern Cecil & Northern Kent Counties and
 - 18% - Middletown Area

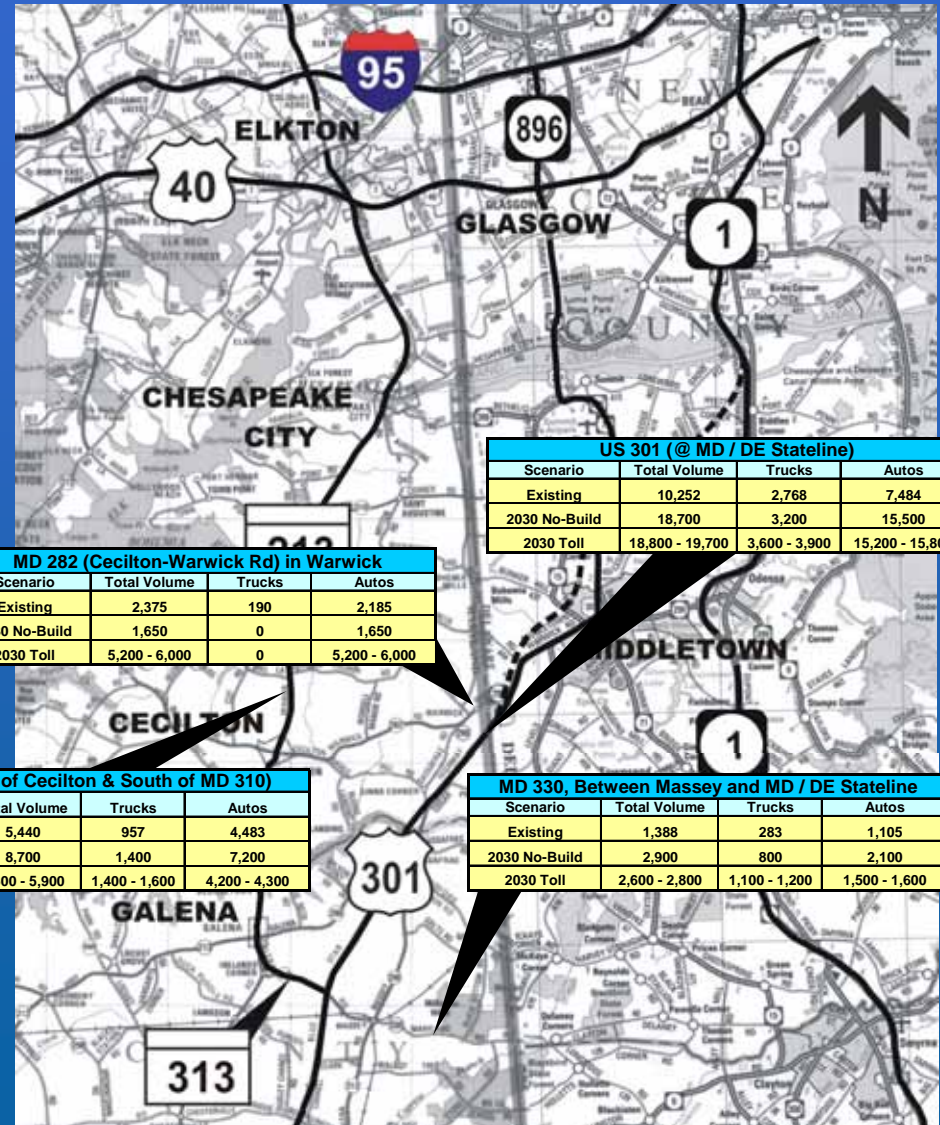




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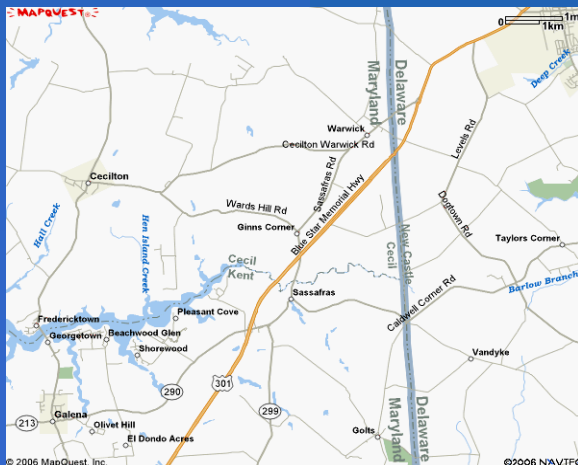
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Maryland Truck Weigh and Inspection Station

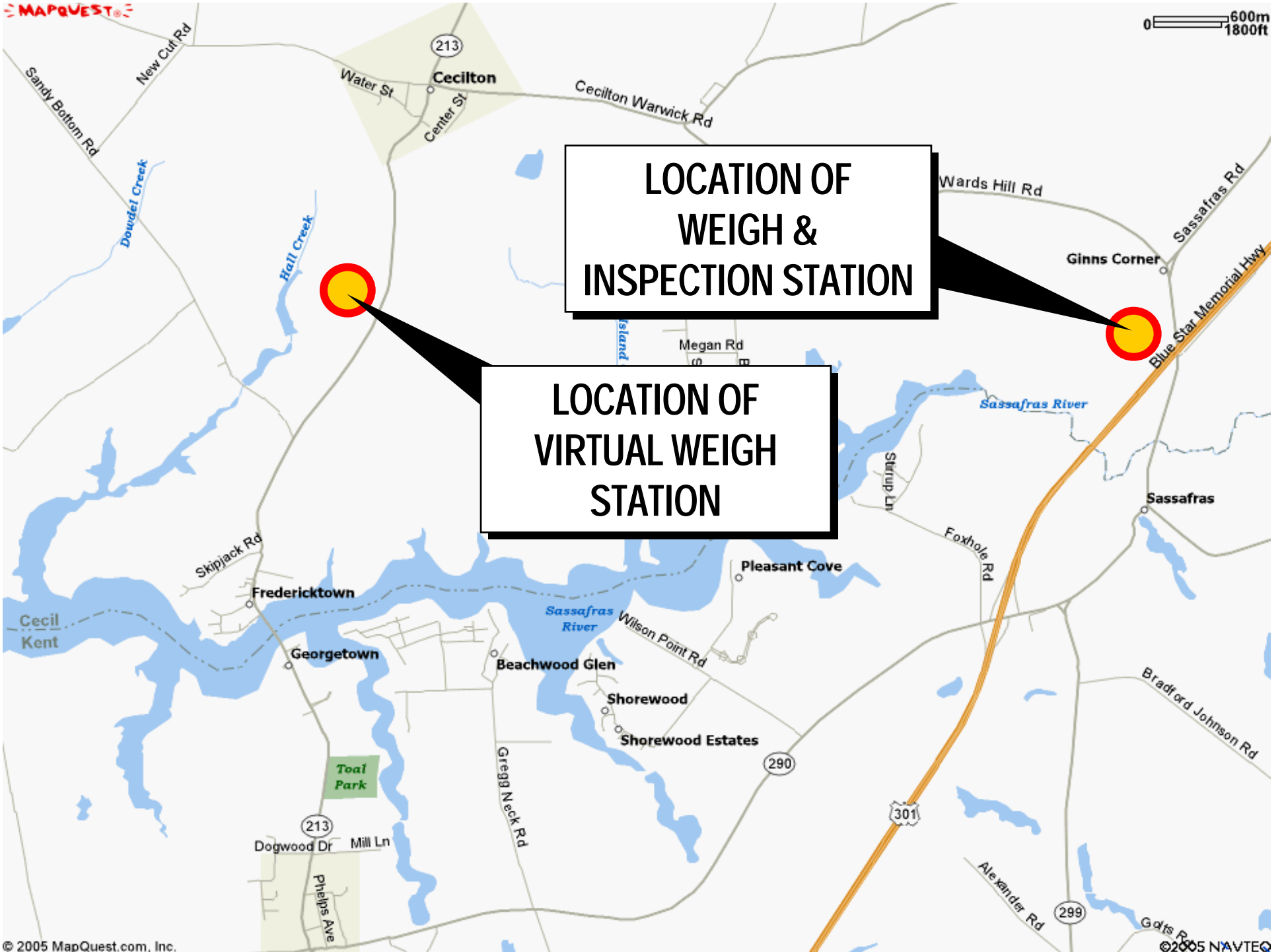
- Preliminary site preparation complete
- Paving to commence in FY '07
- Scale house building specs advertised
- Sole source scale contract secured by Maryland State Police
- Staffing by MSP identified
- To be operational by the fall of 2006



July 11, 2006

www.us301.org

69



PAVEMENT LEGEND

	PROPOSED 12" GEOSYNTHETIC STABILIZED SUBGRADE - AGGREGATE
	PROPOSED 12" JOINTED PLAIN CONCRETE PAVEMENT
	PROPOSED HOT MIX ASPHALT PAVEMENT

SOIL BORING LOCATION

TRAFFIC BARRIER W BEAM
STD. NO. MD-605.2I
STA. 100+50 RT. TO STA. 108+70 RT. - 852 L.F.

FURNISH AND INSTALL WIM SYSTEM SENSORS
SEE SPECIAL PROVISIONS

STA. 10+50

6 INCH PERFORATED LONGITUDINAL UNDERDRAIN
STA. 100+00 TO STA. 25+50 - 3100 L.F.
STA. 100+00 TO STA. 112+56 - 2512 L.F.

UNDERDRAIN OULET

STA. 10+90 LT.
STA. 11+60 LT.
STA. 106+50 RT.

6' HT. CHAIN LINK FENCE

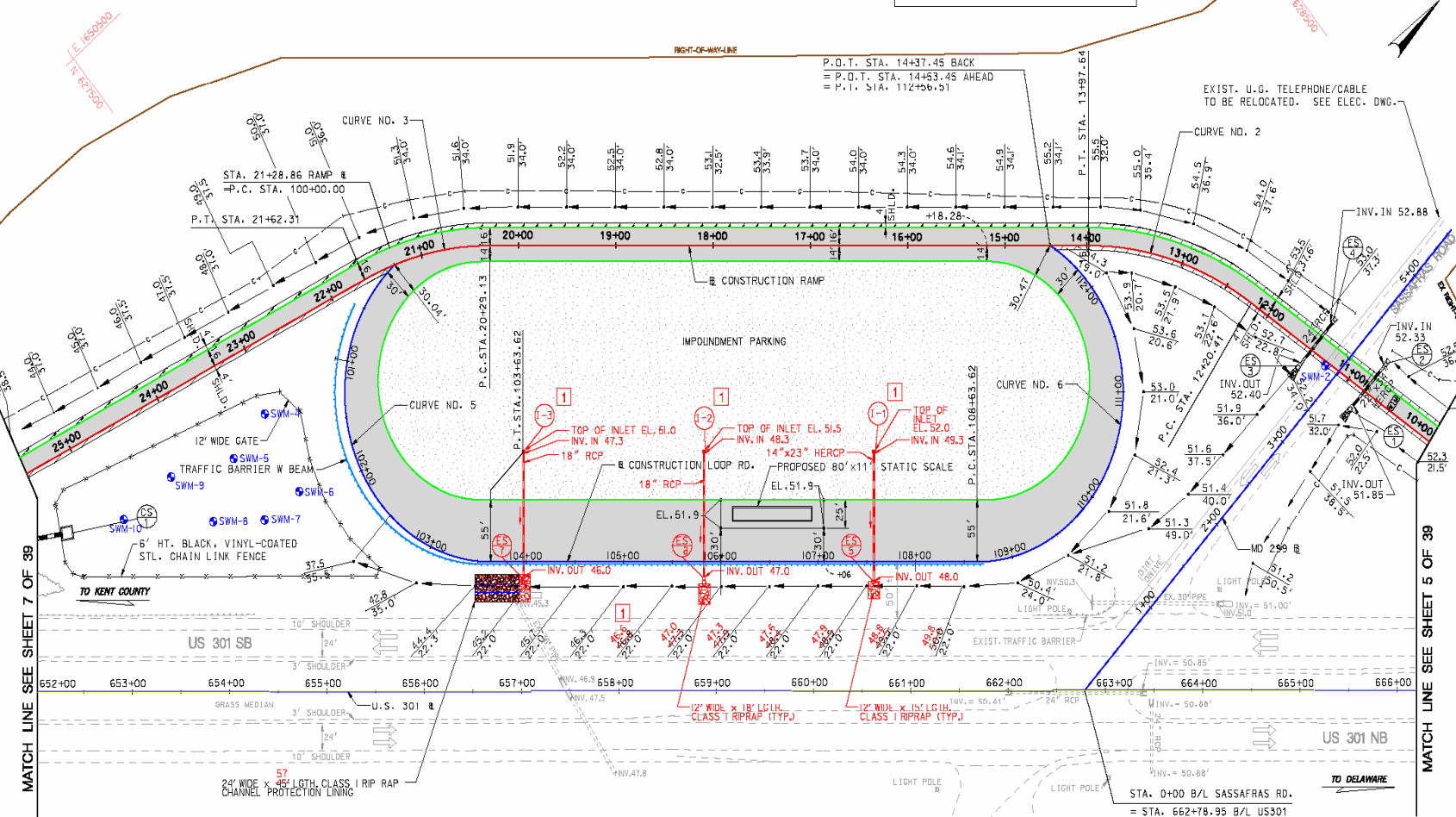
STA. 22+60 TO STA. 25+50, LT. - 834 L.F.

TYPE B TRAFFIC BARRIER END TREATMENT
STD. NO. MD-605.02

STA. 100+50 LOOP RD., RT.
STA. 108+70 LOOP RD., RT.

CLASS I RIP RAP CHANNEL PROTECTION LINING

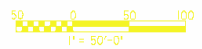
STA. 103+45 RT. TO STA. 104+04 RT. - 120 S.Y.
STA. 105+83 RT. - 24 S.Y.
STA. 107+57 RT. - 20 S.Y.



MATCH LINE SEE SHEET 7 OF 99

MATCH LINE SEE SHEET 5 OF 39

1 REDLINE REVISION DATED 6/20/2006



BAI BRIDIS & ASSOCIATES, INC.
CONSULTING ENGINEERS

8220 RUNYER ROAD, SUITE 110
COLUMBIA, MARYLAND 21045
(410)-864-3001

ROADWAY PLAN		PS-2
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION		
SB US 301 TRUCK PULLOFF FROM MD 299 TO SASSAFRAS RIVER		
CONTRACT NO. CE36823	F.A.P. NO.	SEE TITLE SHEET
SHEET NO. 6		OF 39
PREL. TRAC. BY		FINAL TRAC. BY



Maryland Truck Weigh and Inspection Station Virtual Weigh Stations



July 11, 2006

www.us301.org

72



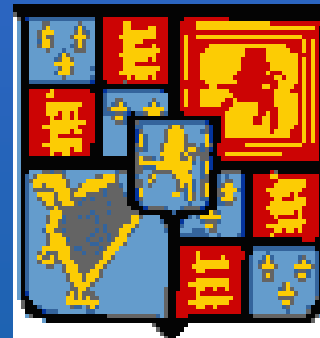
Maryland Truck Weigh and Inspection Station Virtual Weigh Station (VWS)

- Automated truck screening technology
- High resolution cameras capture front & side images
- Detects truck presence, records its weight, height and any other information depending on sensors installed
- Information is transmitted to enforcement personnel patrolling in the area
- Future enhancements to include DOT number readers to check safety rating databases and other CVISN related applications (e.g. IRP, IFTA, Hauling Permits, etc.)
- Greatly enhances effectiveness of limited enforcement personnel
- When combined with MCSAP inspections, provides a viable alternative for the management of commercial vehicle traffic intent on evading TWIS locations



Maryland Truck Weigh and Inspection Station Supporting Local Government

- Recognize local governments have a stake in motor carrier safety
- Provide the capability to respond to citizen concerns
- Train and equip local police & county Sheriff's Office personnel as MCSAP inspectors





Maryland Truck Weigh and Inspection Station VWS Technology - Status

- Area-Wide Scale Contract has been advertised
- Area-Wide Contract for supplemental installation support is being developed
- VWS will be deployed on MD Rt. 213 in conjunction with opening of TWIS on US 301 @ MD Rt. 299
- Site selection has been narrowed to S/B MD Rt. 213 between Cecilton and the Sassafras River
- Additional sites to be identified and deployed, as needed, under the Area-Wide Contract



Maryland Truck Weigh and Inspection Station Virtual Weigh In Motion (Quartz)



July 11, 2006

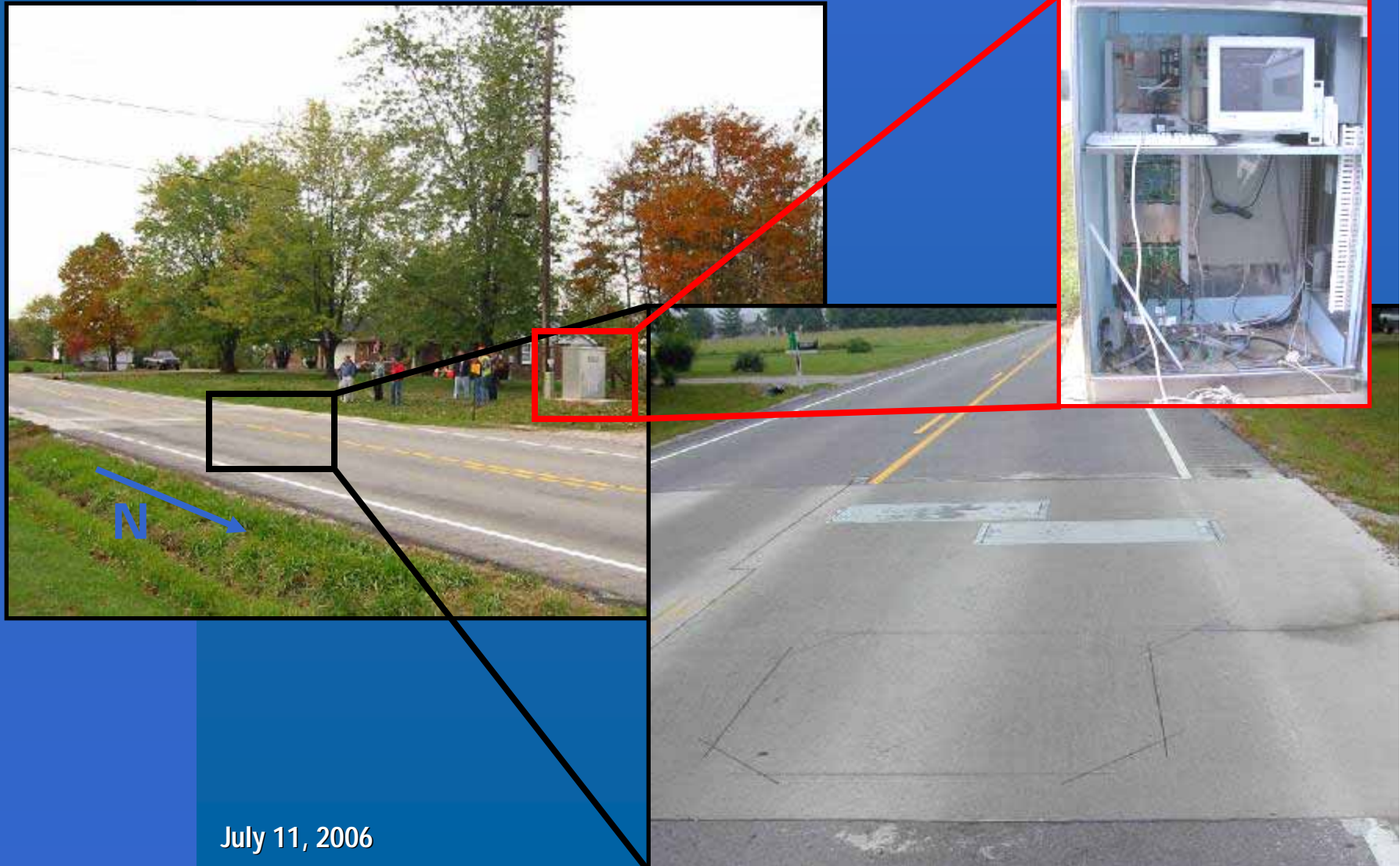
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76



Maryland Truck Weigh and Inspection Station

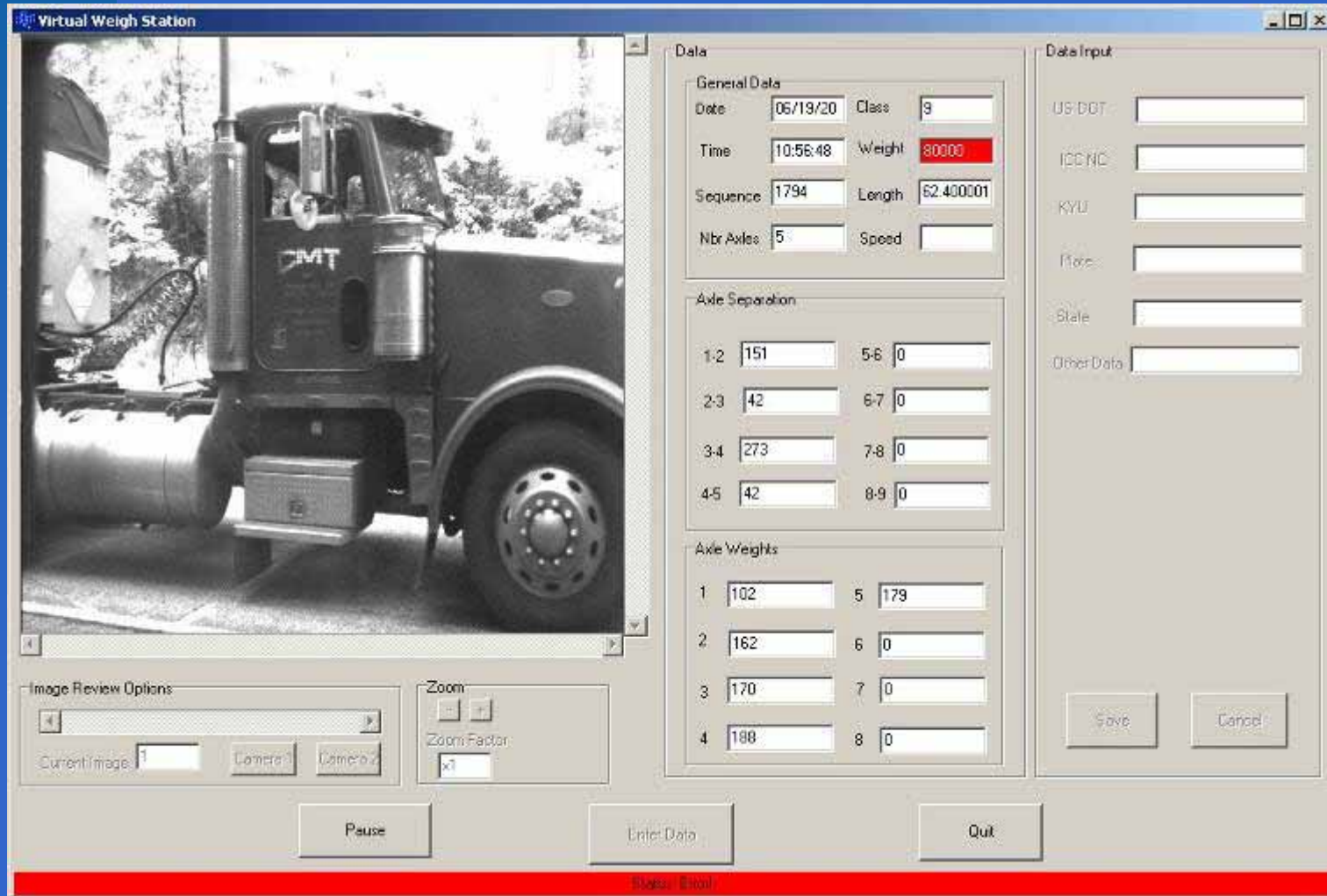
Virtual Weigh In Motion (Load Cell)



July 11, 2006



Maryland Truck Weigh and Inspection Station Laptop Software





July 11, 2006

www.us301.org



Maryland Truck Weigh and Inspection Station MSP/CVED In-Car Computer Station



July 11, 2006

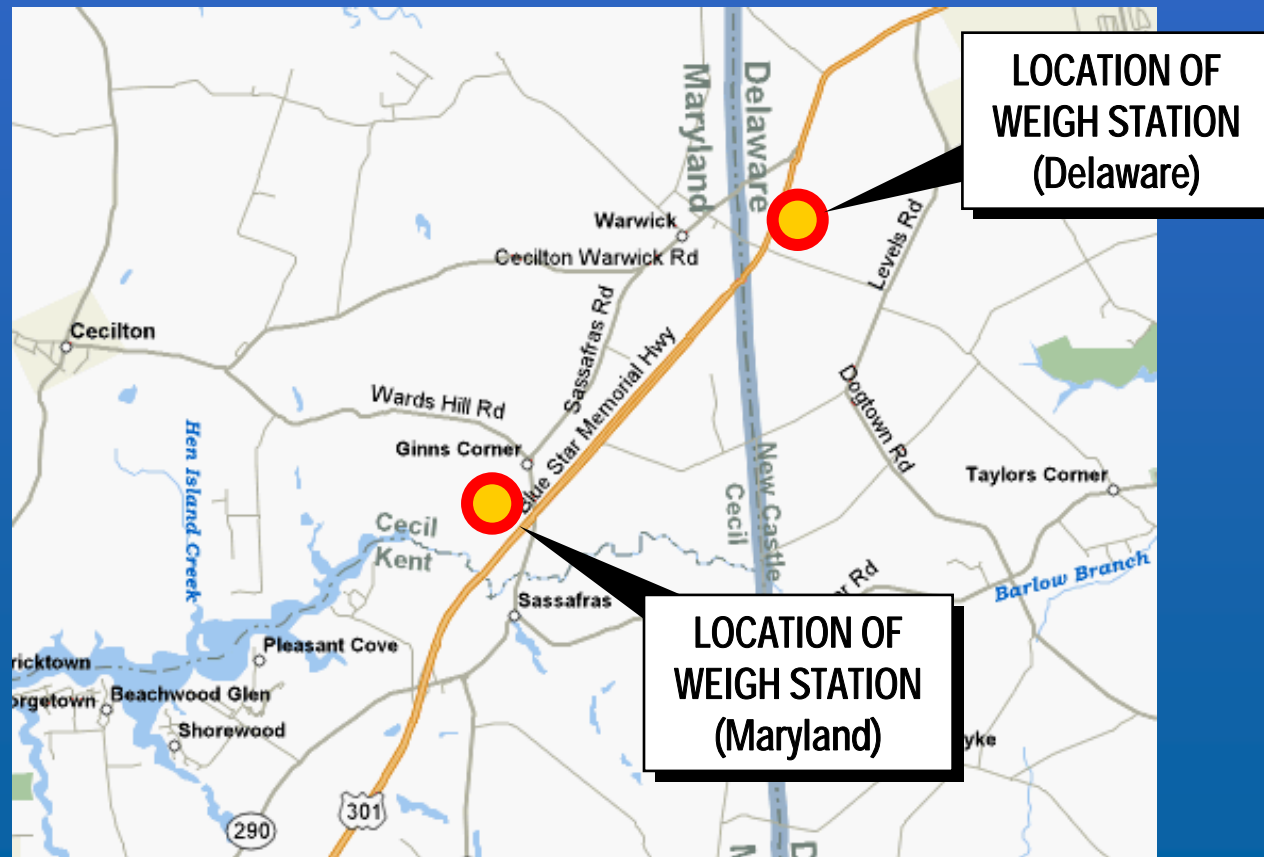
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80



Delaware Truck Weigh and Inspection Station

- Site has been identified and purchased
- Design to be completed in November 2006
- Construction scheduled to commence in Spring 2007





Delaware Truck Weigh and Inspection Station

F:\PROJECTS\17032005
 03:41:12 PM

P:\USERS\JL\SEEDL\PROJECTS\030105_002\17032005_1_1.dwg - 2:24:11 PM
 17032005_1_1.dwg

RIP RAP SCHEDULE		
NO.	SIZE/TYPE	AREA
1	3/4" 57	302 SF

CURB SCHEDULE			
NO.	TYPE	LENGTH	
1	CONCRETE	700	
2	CONCRETE	700	

UNDERDRAIN SCHEDULE				
NO.	SIZE/TYPE	DIS. IN.	LENGTH	
1	8" P/P	700	700	

ROADWAY CORE SUMMARY			
C. NO.	STA.	OFFSET	DESCRIPTION
1	129+00	2'	2" ASPHALT

NOTE: SEE BORING SUMMARY SHEETS FOR BORING DATA

DRAINAGE INLET SCHEDULE					
NO.	BOX	DEPTH	T.S. EL.	INLET EL.	OFFSET*
1	24" x 24"	7"	72.00	72.00	0.00

* STATION AND OFFSETS FROM CONSTRUCTION BASELINE

PIPE SCHEDULE					
NO.	SIZE/TYPE	LENGTH	SLOPE	INT. INV.	DIS. INV.
1	8" P/P	700	0.00%	72.00	72.00

CURB RAMP SCHEDULE		
NO.	TYPE	LENGTH
1	TYPE 1	100'

CONSTRUCTION



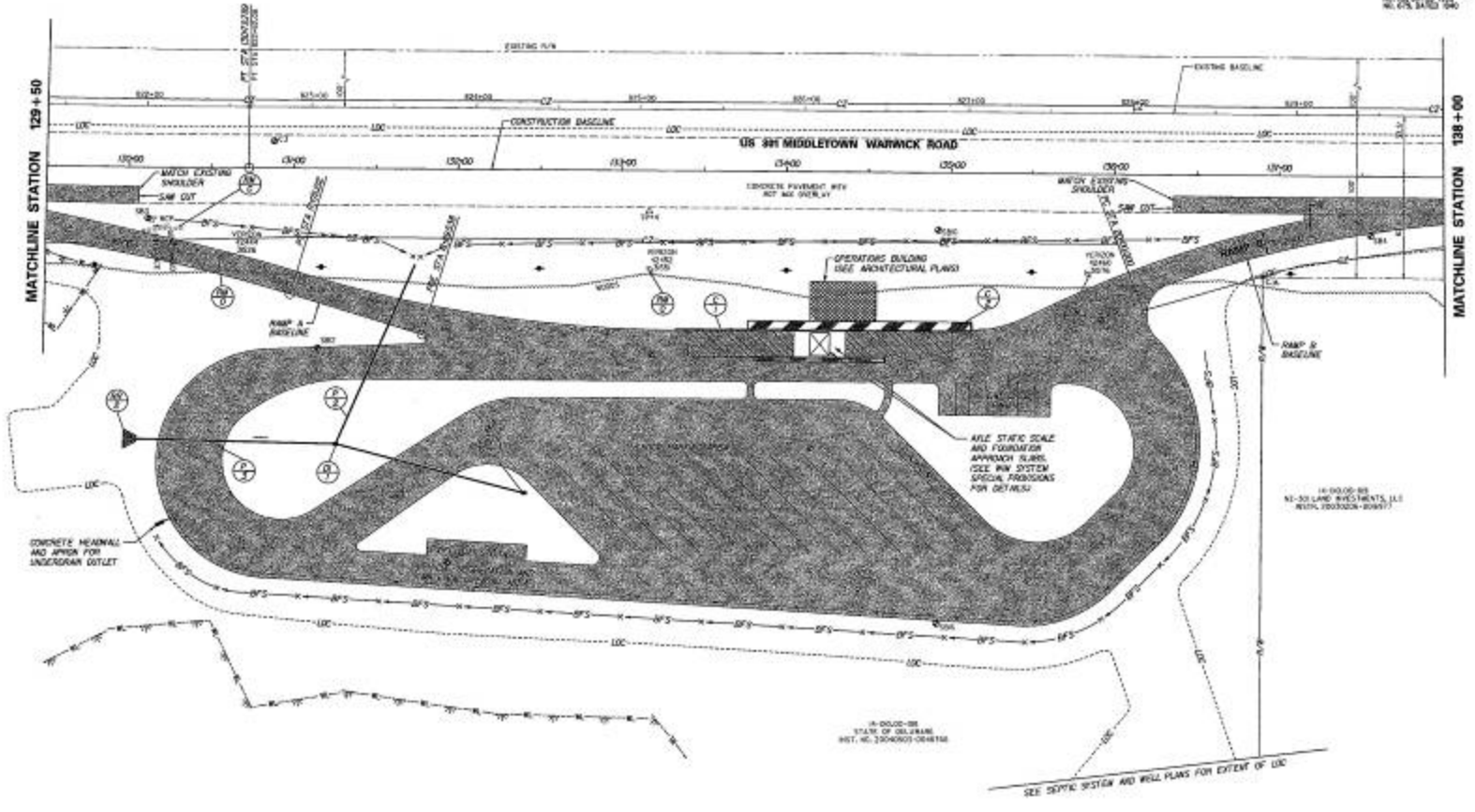
CONTRACT	COUNTY	TOWN	PROJECT NO.	SHEET NO.	TOTAL SHEETS
23-580-30	DE		SEE TITLE SHEET	8	17

US 301 WEIGH STATION AND INSPECTION FACILITY

REVISIONS

NO.	DATE	DESCRIPTION

NOTE: THE FOLLOWING CONTRACTS WERE REFERENCED FOR EXISTING BASELINE AND STA. DATA:
 NO. 81-00-00-000-000
 NO. 81-00-00-000-000
 NO. 81-00-00-000-000

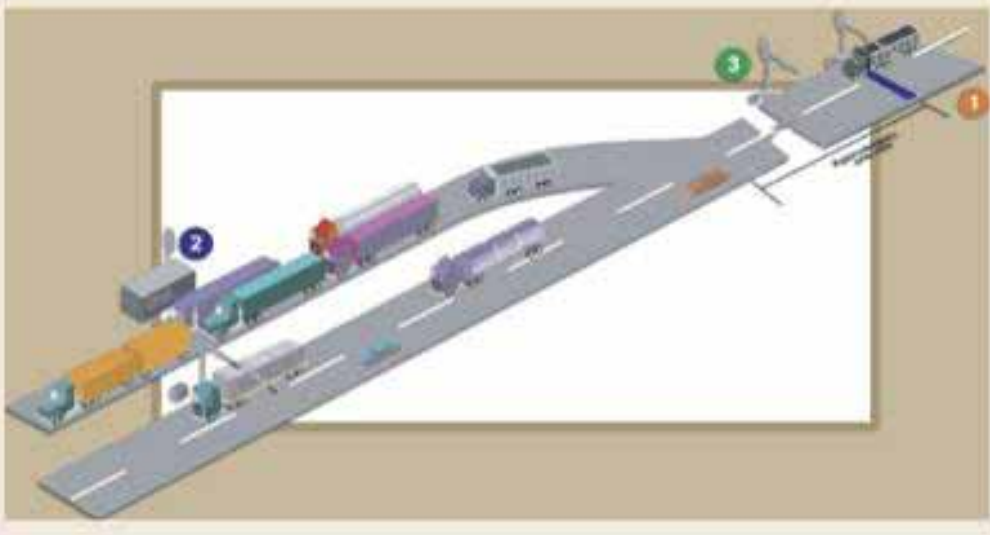


14-00-00-00
 STATE OF DELAWARE
 DIST. NO. 33040001-044816



Delaware Truck Weigh and Inspection Station

TYPICAL MAINLINE PRECLEARANCE TECHNOLOGY MODEL



1

Approximately 1 mile before a weigh station, the electronic screening transponder sends a signal. The truck is then electronically identified and weighed.

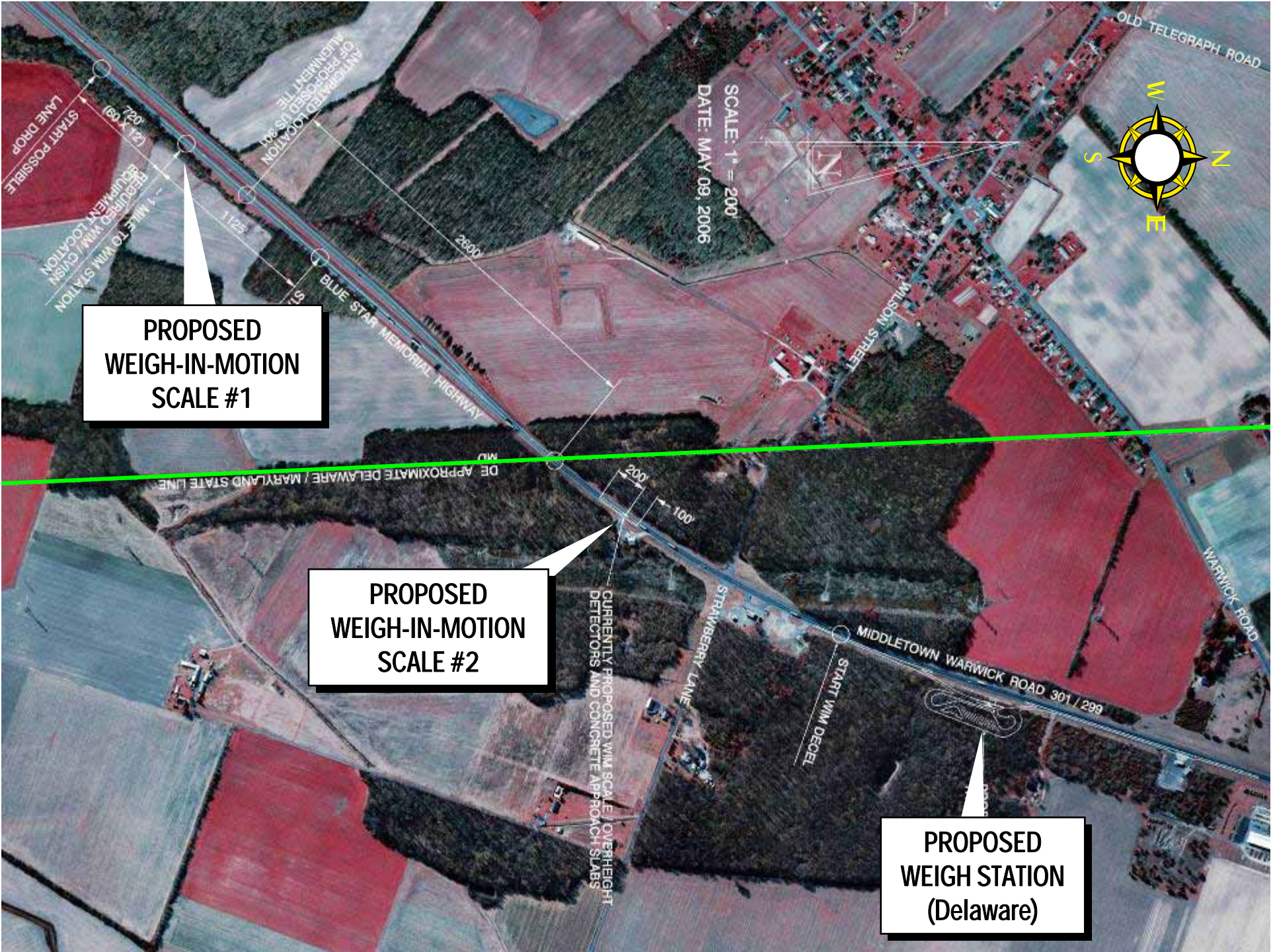
2

The electronic screening computer located in the weigh station verifies the truck credentials.

3

A green light and audible signal from the truck's wind-shield mounted transponder give the go-ahead to bypass. If weight or credentials cannot be verified, the driver is signaled to pull into the station.

- Incorporates C-VISN Technology
 - Allows trucks to be identified and weighed on mainline US 301
 - Participating trucks, in good standing, meeting weight criteria permitted to bypass weigh station
 - Enforcement personnel can also specify trucks to enter station
 - Benefits:
 - Time / Fuel Savings
 - More Reliable Travel Times
 - Reduced Wear & Tear on Trucks
 - Improved Safety
 - Reduced Long Term Operating Costs
 - Focuses Attention / Resources on High-Risk Carriers and Vehicles



**PROPOSED
WEIGH-IN-MOTION
SCALE #1**

**PROPOSED
WEIGH-IN-MOTION
SCALE #2**

**PROPOSED
WEIGH STATION
(Delaware)**

SCALE: 1" = 200'
DATE: MAY 09, 2006



START POSSIBLE
LANE DROP
720
(6) X (8)
REQUIRED WIM / CIVIS
EQUIPMENT LOCATION
1/4 MILE TO WIM STATION

DE APPROXIMATE DELAWARE / MARYLAND STATE LINE

CURRENTLY PROPOSED WIM SCALE / OVERHEIGHT
DETECTORS AND CONCRETE APPROACH SLABS

START WIM DECEL

BLUE STAR MEMORIAL HIGHWAY

MIDDLETOWN WARWICK ROAD 301 / 299

OLD TELEGRAPH ROAD

WILSON STREET

WARWICK ROAD

STRAWBERRY LANE



Next Meeting: July 25, 2006

- Discussion of Issues, Ideas and Potential Solutions / Mitigation Measures



Questions & Discussion