Delaware Department of Transportation

SR 1 Widening
SR 273 to Roth Bridge

Village of Christiana Meeting
September 12, 2013
6:30 PM – 8:30 PM
Christiana Fire Hall
Agenda

- Project Purpose & Need
- Public Workshop Feedback
- Alternatives Analysis
- Summary
- Thank You / Comments
Purpose & Need

- Project limits:
  - North of SR 273 to Roth Bridge

- Why is this project needed?
  - Address congestion
  - Improve safety
  - Improve system connectivity
  - Improve local access to SR 1
  - Ensure emergency access & evacuation routes
Congestion

What is causing the problem?

- Three closely-spaced signalized intersections
Congestion

What is causing the problem?

- Limited storage space for cars in turn lanes
Congestion

What is causing the problem?

- Failing movements create congestion and poor levels of service
Existing and Design Years

No Build

Existing Conditions

- SR 7
- SR 273
- SR 1 SB Ramps
- SR 1 NB Ramps

Design Year

- SR 7
- SR 273
- SR 1 SB Ramps
- SR 1 NB Ramps
Safety

- 273 Interchange identified as safety issue, since 1996
  - Minor improvements have not fixed the issues
  - DelDOT now has a capital program to address safety issues

- News Journal Independent Study (Summer 2013):
  
  **Worst Intersections**
  
  #3  SR 273/East Main Street/SR 7
  
  #51  SR 273/SR 1 southbound ramps
  
  #88  SR 273/SR 1 northbound ramps
Accident Analysis

2008 – 2011: 26 crashes
2010 – 2013: 53 crashes

2008 – 2011: 33 crashes
2010 – 2013: 76 crashes

2008 – 2011: 87 crashes
2010 – 2013: 106 crashes
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Public Workshop Feedback
Comments (April Workshops)

- Most common comment: Some Christiana residents will be “trapped” during a flood with the East Main Street cul-de-sac
  - Need a way out that is not gated
- Build the Newtown Ramps only
- Concerned with emergency response time
- Increased noise or vibration
- Storm flooding
- Support for the project need
- Consider other design alternatives
Storm Flooding Concerns: New Castle County Conservation District

- Subdivision of the State created by the state legislature
- Overseen by DNREC
- Uses a “voluntary, cooperative approach to resolving natural resource issues”.

How to contact them:

- (302) 832-3100
- ncastle@newcastleconservationdistrict.org
- newcastleconservationdistrict.org
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What Have We Done Since the Last Public Workshop?

- Brainstormed alternatives to address public comments received
  - Each alternative was analyzed based:
    - Meeting Project’s Purpose and Need
      - Safety
    - Feasibility
    - Federal Highway Administration (FHWA) Criteria
Alternatives Analysis

- Re-evaluated Gated Emergency Access only
  - Locations:
    - East Main Street
    - Shields Lane
  - Due to comments, cul-de-sac was eliminated
Alternatives Analysis

- Roundabout on the SR 1 southbound ramps
  - Allows all movements in/out of East Main Street
  - Unbalanced traffic flow
  - Safety concern for high speed vehicles navigating roundabout
  - Additional environmental impacts
  - DelDOT, FHWA, and elected officials agreed option should be dropped from further consideration
Alternatives Analysis

- Single Point Urban Interchange (SPUI) at SR 1
  - Eliminates two signals at the ramps and brings all movements to one signal (under SR 1 on SR 273)
  - Would require rebuilding bridges on SR 1
  - After studied, the SPUI failed if the southbound “dog-leg” movement could not be redirected to SR 7
  - Did not provide operational benefits, did not pursue further
Alternatives Analysis

- Build Newtown Ramps only
Current Congestion Will Return Within 5 Years

Design Year
Existing and Future Year

Option 1 with Newtown Road Ramps

Design Year

SR 1 SB Ramps

SR 273

SR 273

SR 7

SR 1 NB Ramps
Alternatives Analysis

- Inbound/Outbound Partial Access Roads
  - Entrance points on ramps do not meet FHWA standards
  - Safety issues
  - Additional property purchases, environmental impacts
Origin/Destination Study

- Requested by Elected Officials
- Where is traffic heading after they enter northbound East Main Street from SR 273/SR 7?
  - Residents/local traffic within the Village?
  - Cut-through traffic to shopping centers?

<table>
<thead>
<tr>
<th>Time Period</th>
<th>% Traffic to Christiana Town Center</th>
<th>% Traffic to Road A / Christiana Mall</th>
<th>Total % Cut-Through Traffic</th>
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</thead>
<tbody>
<tr>
<td>Weekday AM</td>
<td>24.7%</td>
<td>14.2%</td>
<td>38.9%</td>
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<tr>
<td>Weekday PM</td>
<td>34.1%</td>
<td>19.8%</td>
<td>53.9%</td>
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<tr>
<td>Saturday</td>
<td>40.1%</td>
<td>31.7%</td>
<td>71.8%</td>
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</table>
Alternatives Analysis

- Outbound Community Exit Lane
  - Southbound East Main Street onto westbound SR 273
    - Provides a free-flowing, non-gated exit lane
    - No additional full property acquisitions or significant environmental impacts needed
    - Safe
    - Eliminates shopping traffic cutting through the Village of Christiana
  - Addresses Village comment
  - Still Meets Project Purpose & Need
Community Exit Lane

- BARRIER SEPARATED COMMUNITY EXIT LANE
- PROPOSED EMERGENCY VEHICLE ACCESS
- EXISTING PARK & RIDE TO BE RELOCATED
BARRIER SEPARATED COMMUNITY EXIT LANE

PROPOSED EMERGENCY VEHICLE ACCESS

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Thank You / Comments

- Thank you for attending the Village of Christiana Meeting.
- Our Project Team welcomes your questions and comments.
  - Your comments also may be submitted by:
    - Completing the comment form provided at tonight’s meeting
    - Visiting the project website: sr1.deldot.gov
    - E-mailing DelDOT Public Relations: dot-public-relations@state.de.us
    - Writing to DelDOT Public Relations: 800 Bay Road, Dover, Delaware 19901