



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

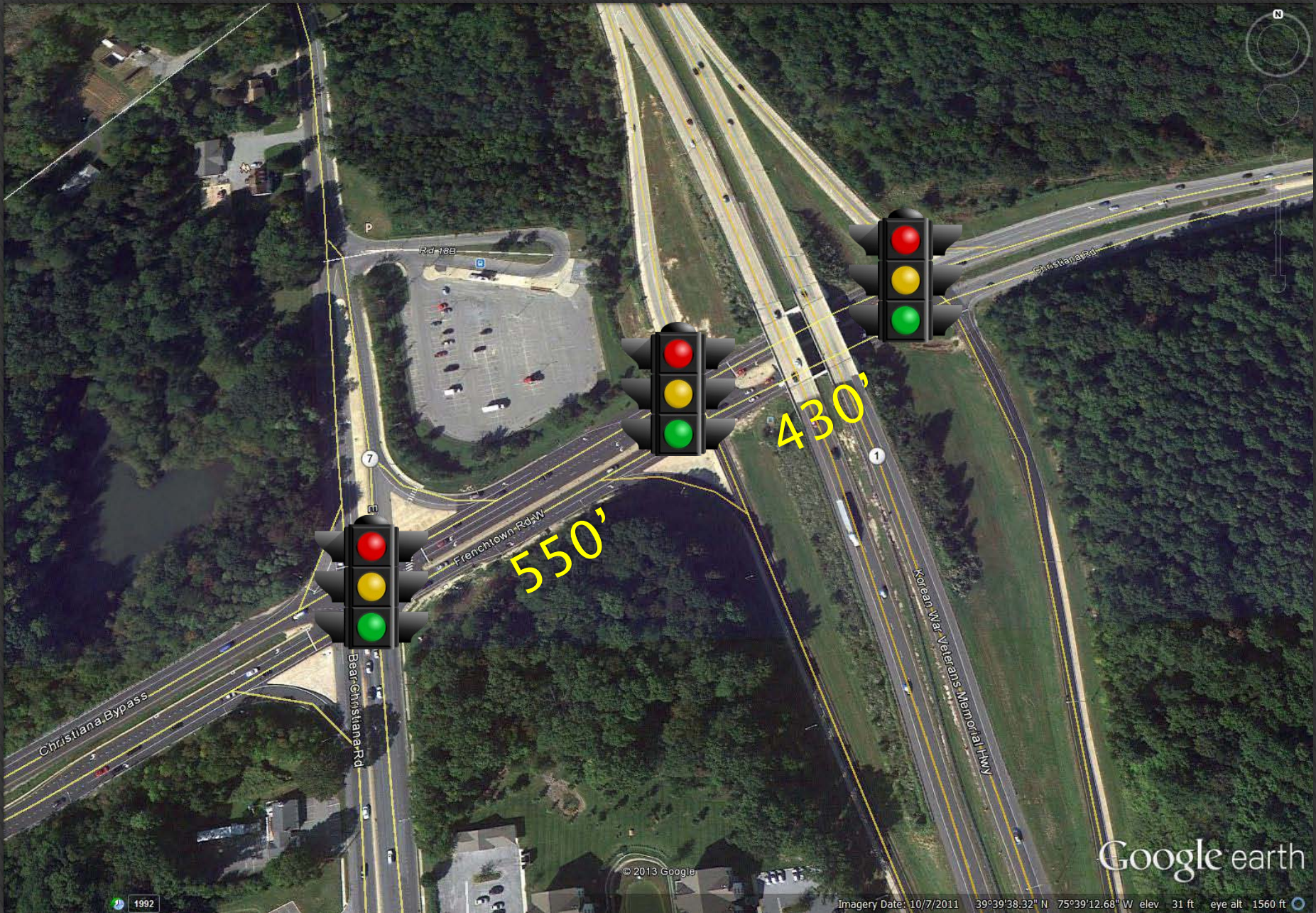


Congestion

What is causing the problem?

- ▶ Three closely-spaced signalized intersections





Congestion

What is causing the problem?

- ▶ Limited storage space for cars in turn lanes





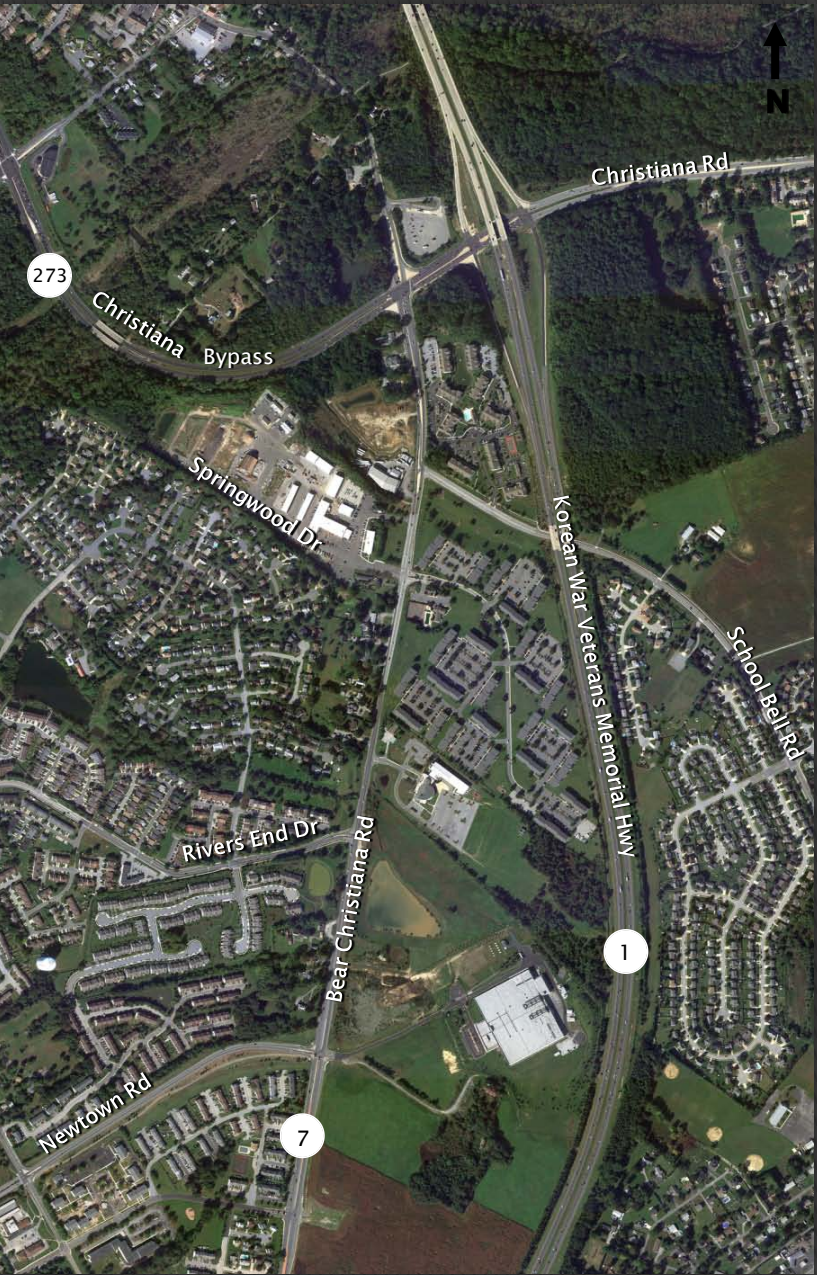
Congestion

What is causing the problem?

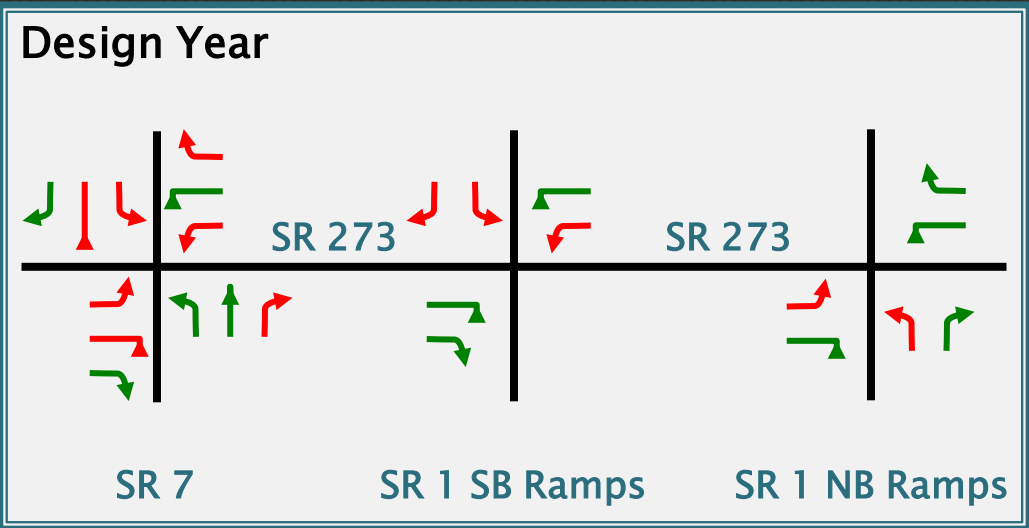
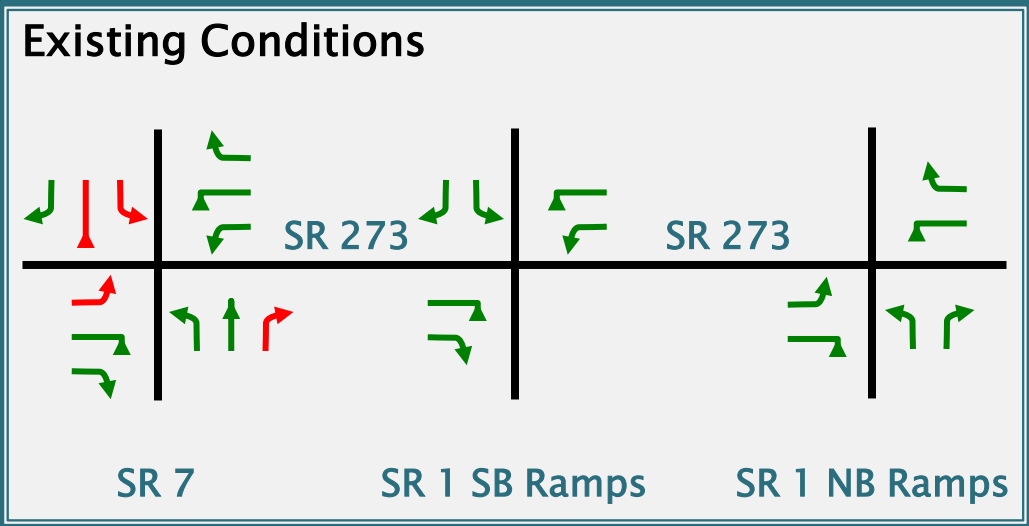
- ▶ Failing movements create congestion and poor levels of service



Existing and Design Years



No Build



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

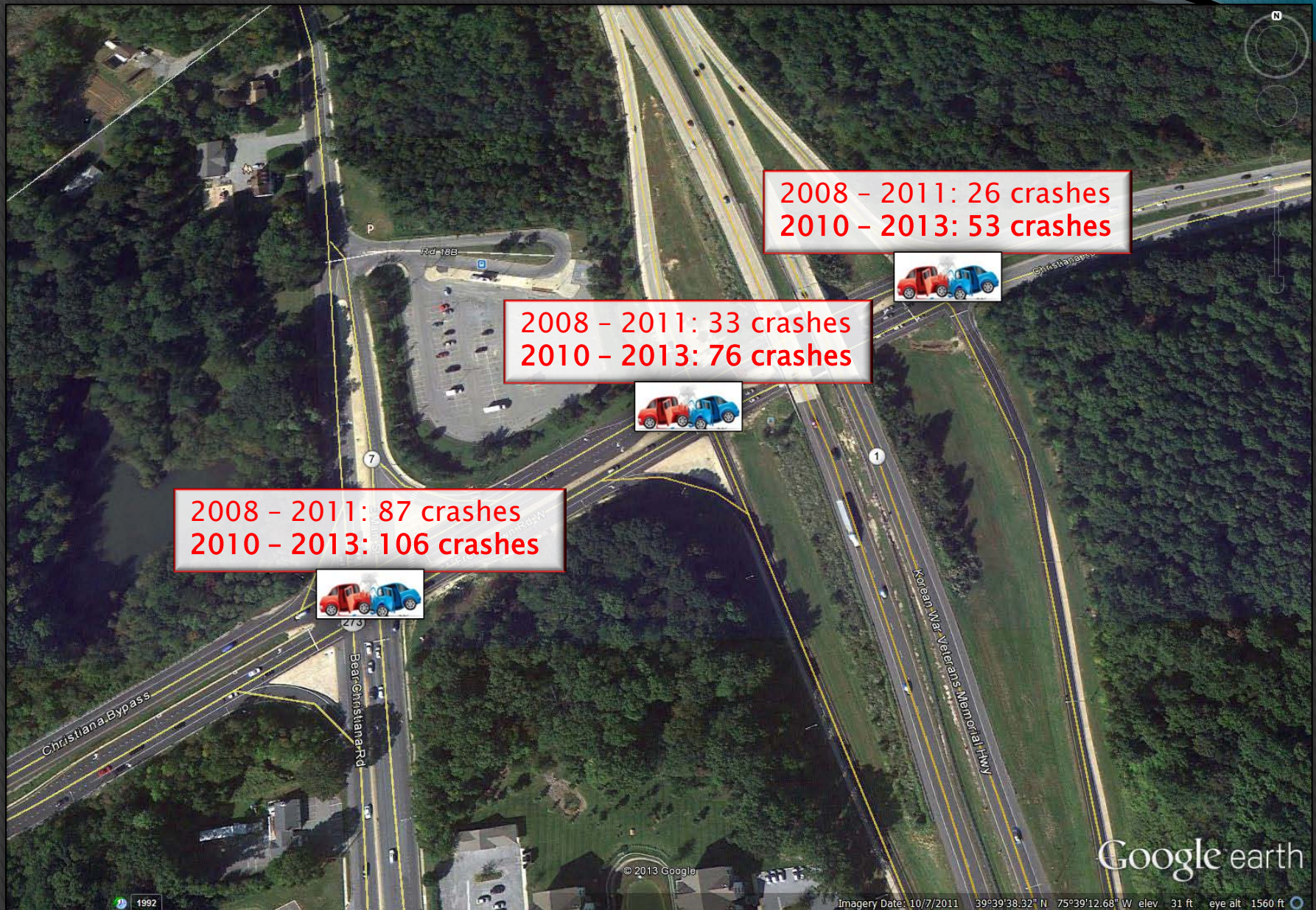
#3 SR 273/East Main Street/SR 7

#51 SR 273/SR 1 southbound ramps

#88 SR 273/SR 1 northbound ramps



Accident Analysis



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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



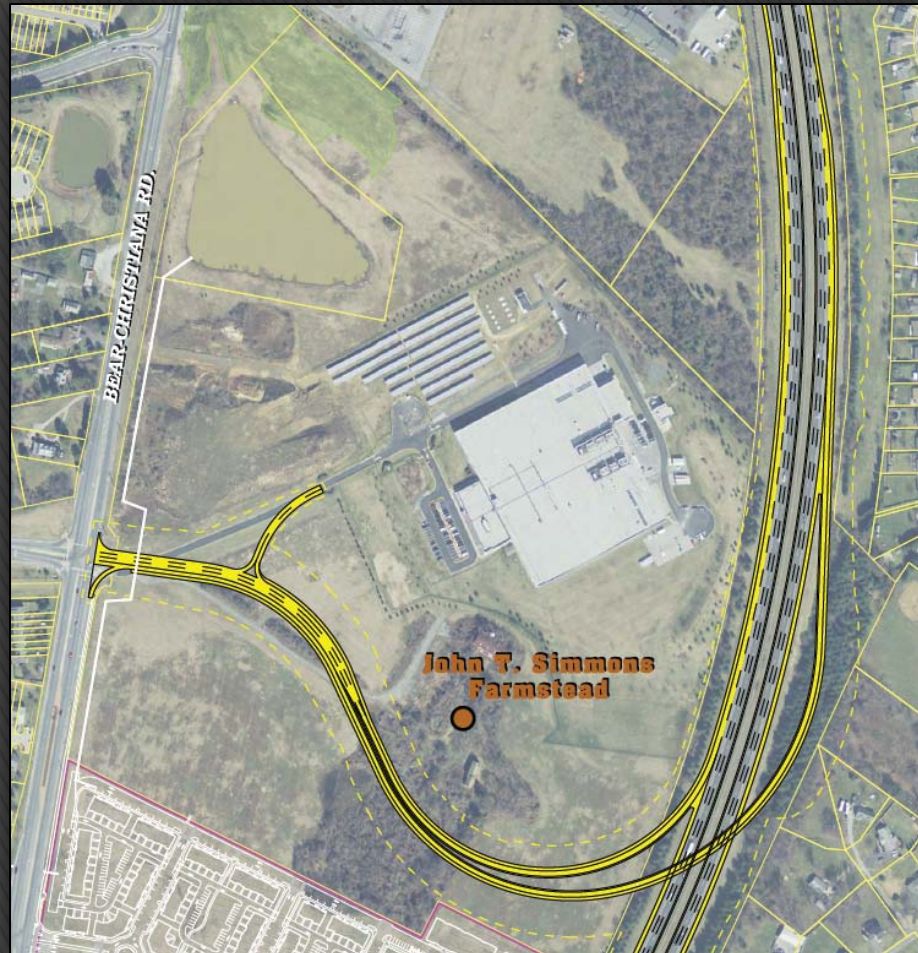
Alternatives Analysis

- ▶ 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



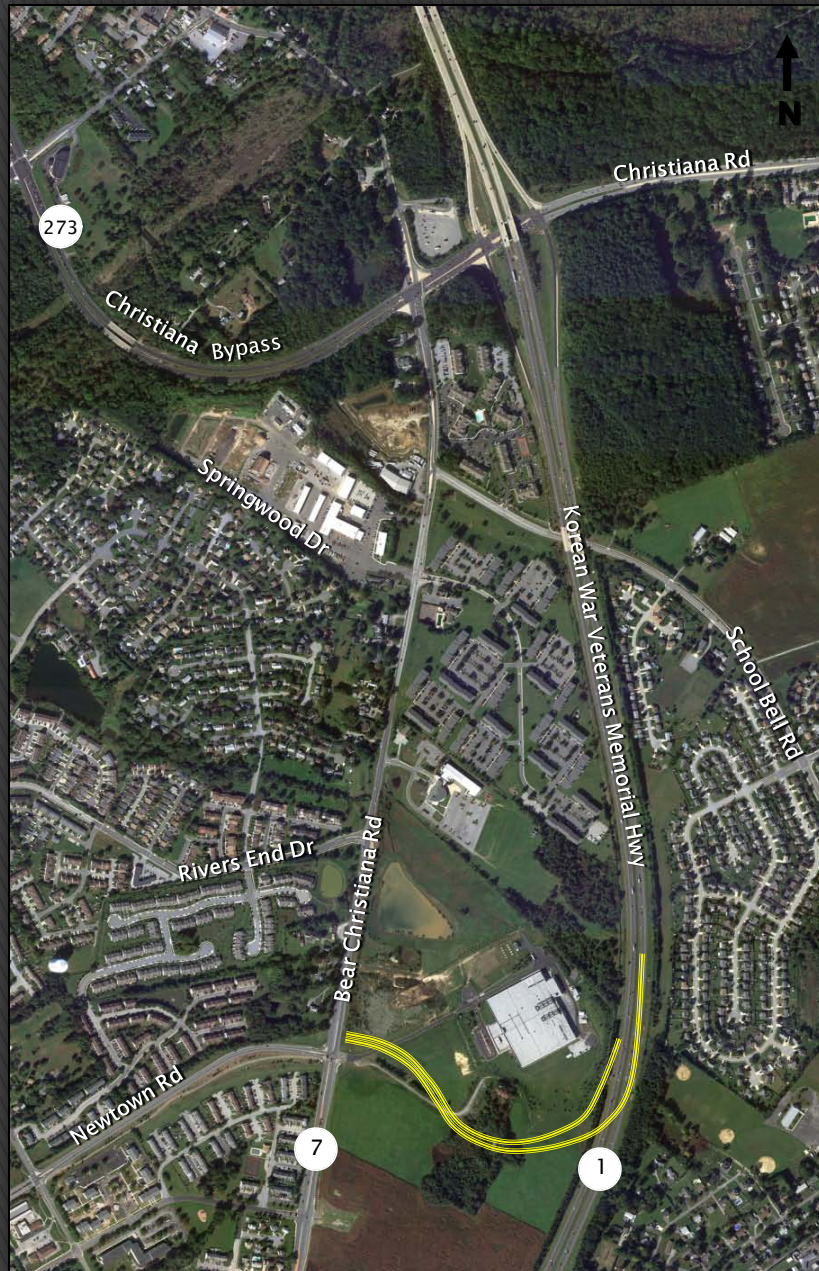
Alternatives Analysis

- Build Newtown Ramps only

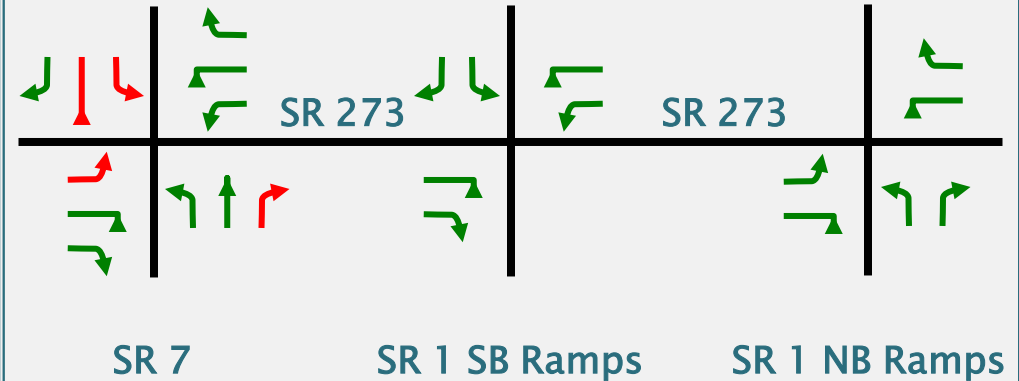


Existing and Future Year

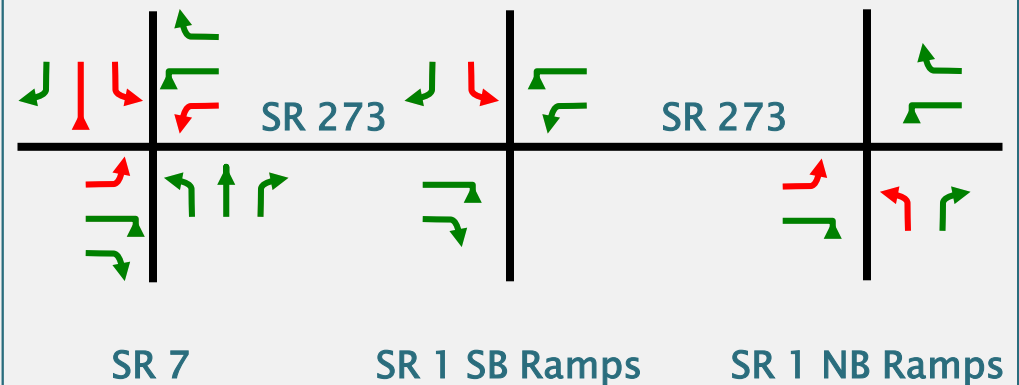
Build Newtown Road Ramps Only



Current Congestion Will Return Within 5 Years

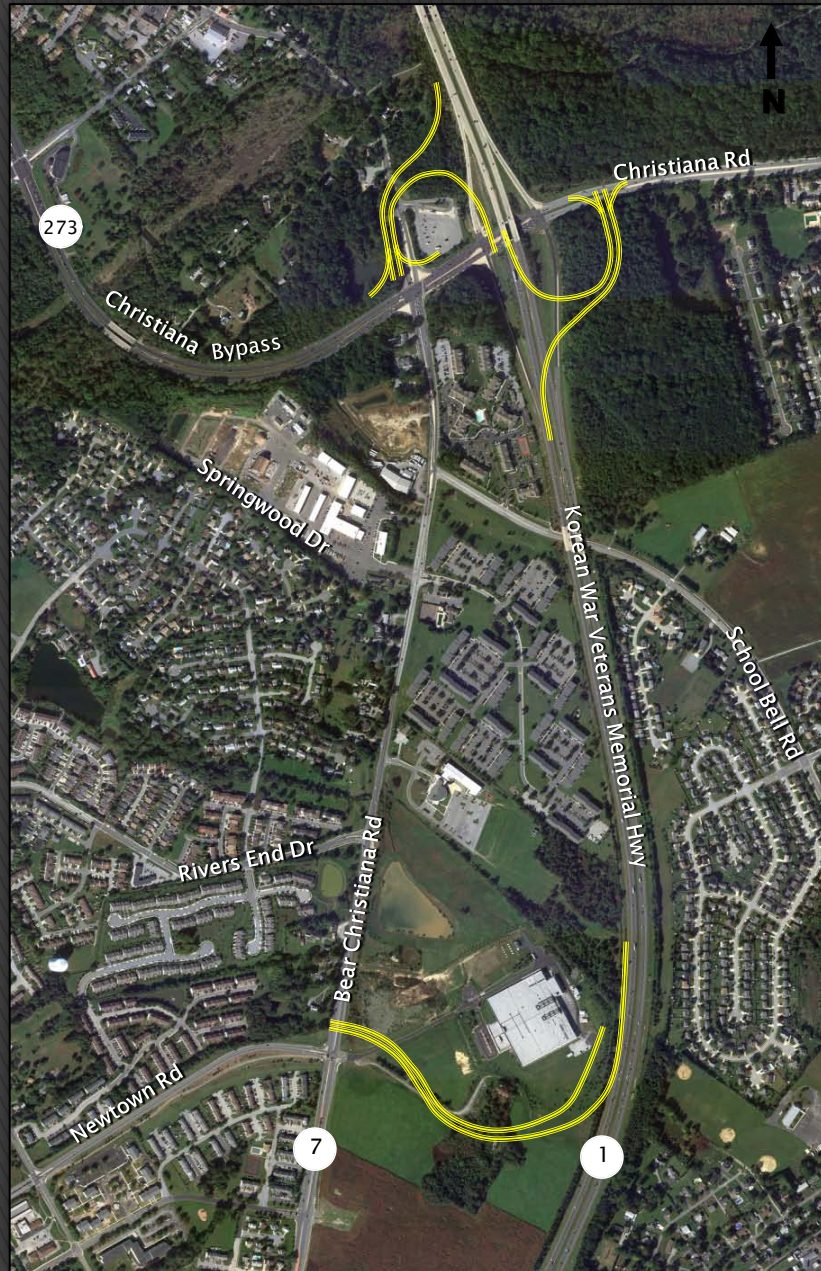


Design Year



Existing and Future Year

Option 1 with Newtown Road Ramps



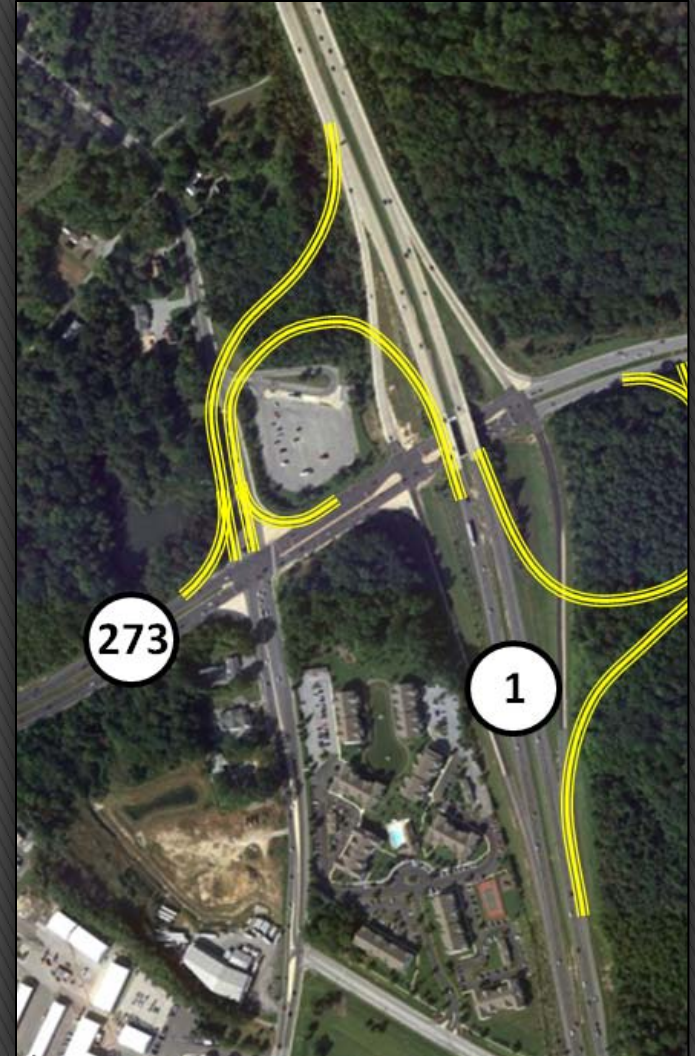
Design Year

SR 1 SB Ramps



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?

| Time Period | % Traffic to Christiana Town Center | % Traffic to Road A / Christiana Mall | Total % Cut-Through Traffic |
|-------------|-------------------------------------|---------------------------------------|-----------------------------|
| Weekday AM | 24.7% | 14.2% | 38.9% |
| Weekday PM | 34.1% | 19.8% | 53.9% |
| Saturday | 40.1% | 31.7% | 71.8% |

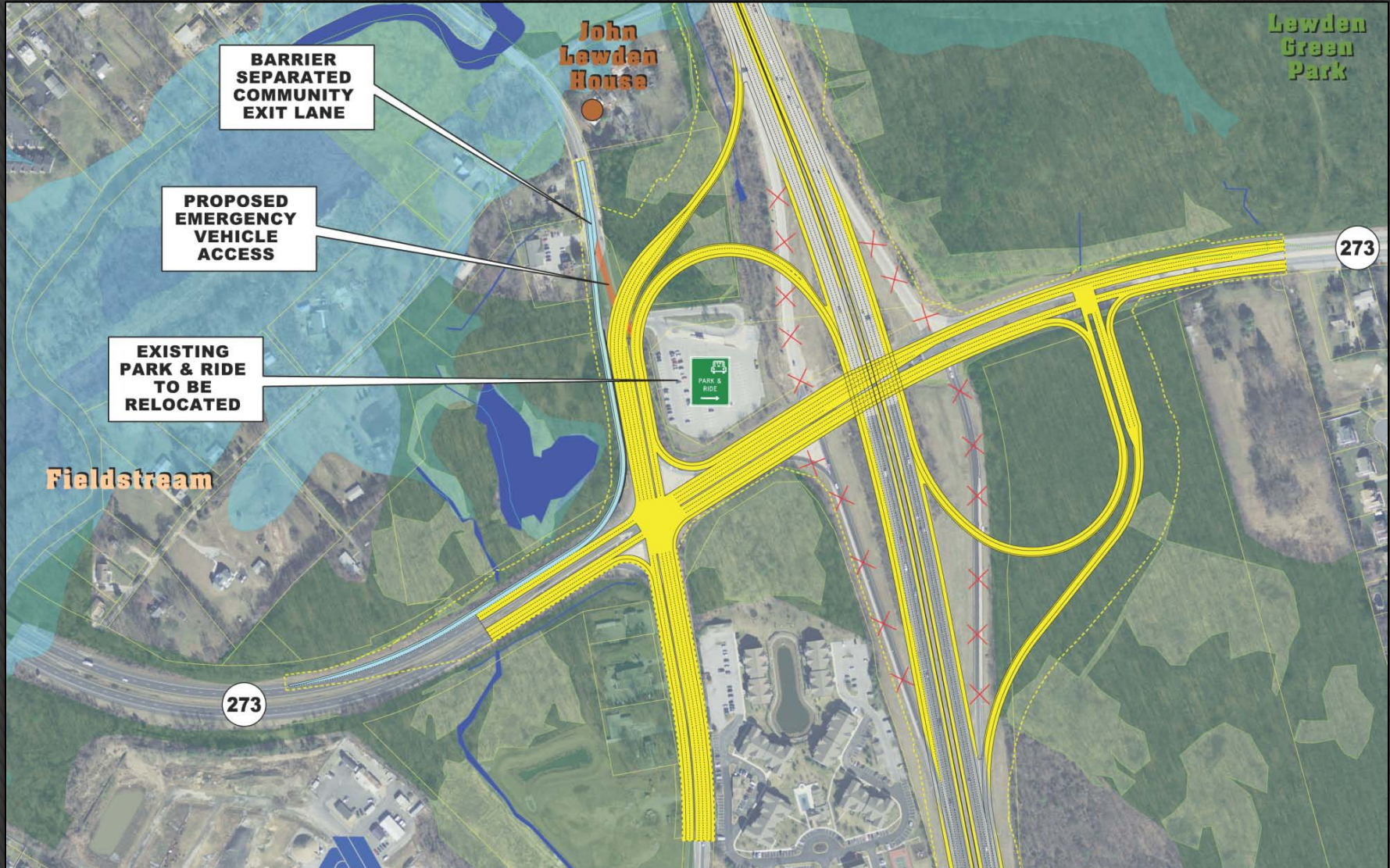
Alternatives Analysis

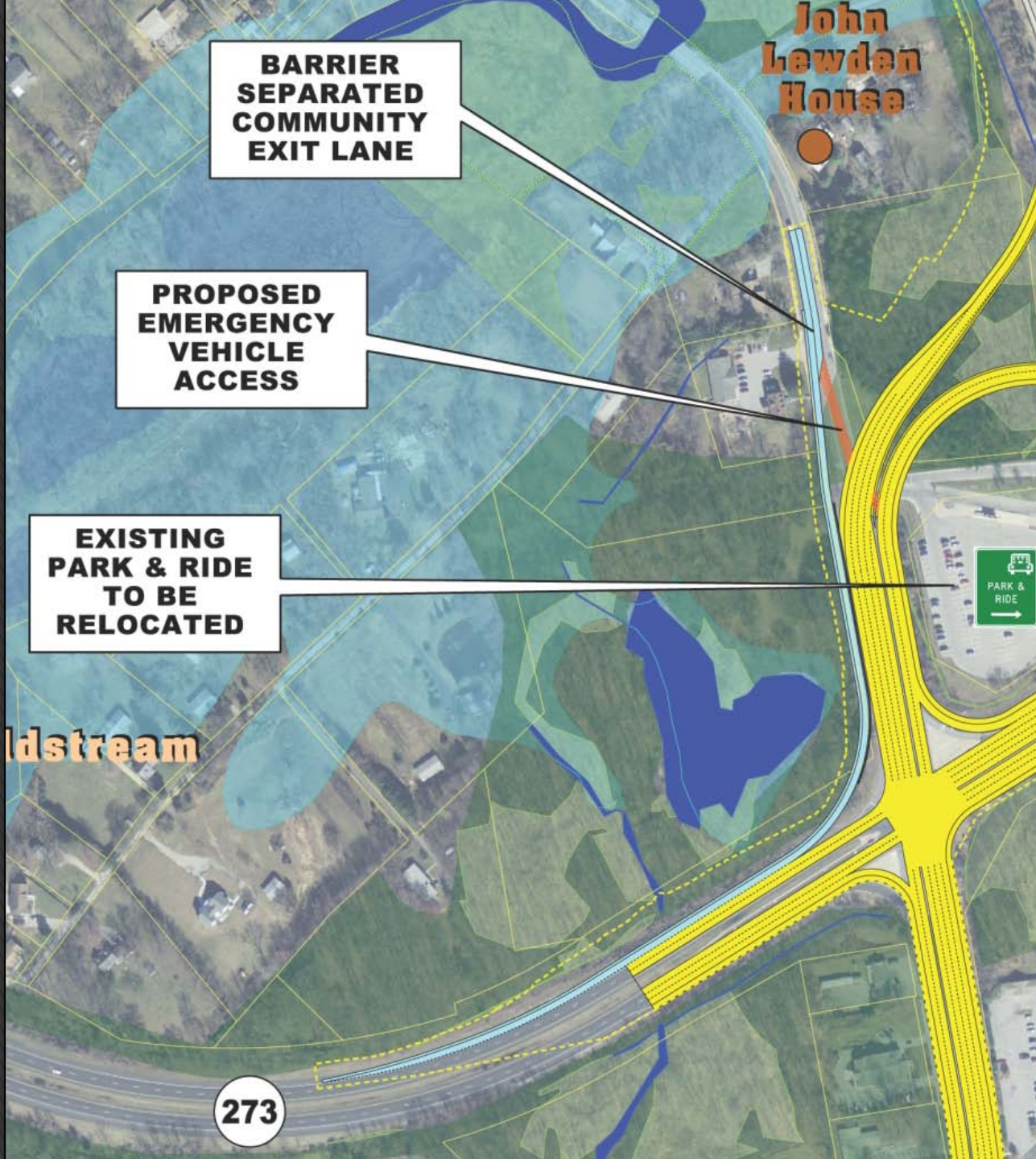
► Outbound Community Exit Lane

- 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





**John
Lewden
House**

**BARRIER
SEPARATED
COMMUNITY
EXIT LANE**

**PROPOSED
EMERGENCY
VEHICLE
ACCESS**

**EXISTING
PARK & RIDE
TO BE
RELOCATED**

ldstream

273

**PARK &
RIDE**
→

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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

