

Cleveland Avenue Task Force 3/6/2017



Background

- ► Cleveland Avenue between New London Road and Capital Trail is one of the most dangerous in Delaware relative to roads with similar traffic volumes and geometrics
- ► FHWA requires DelDOT review it's most dangerous roads through the Hazard Elimination Program (HEP)
- DelDOT asked the Newark Traffic Committee to lead effort to ensure communitybuy-in regarding comprehensive motor vehicle, pedestrian, and bicycle safety opportunities
- ► Traffic Committee formed the Cleveland Avenue Task Force comprised of community stakeholders to review options and provide recommendations
- Task Force held five public meetings starting in March of 2016 along with one site visit



Background Continued

- ► Task Force identified existing problems along with options for improvements with a goal of improving safety in the corridor for all road users
- ▶ When appropriate, DelDOT provided modeling assistance to determine impact on intersection delay and travel times
- ► Task Force voted on a final slate of recommendations at the October 5^h meeting and forwarded those recommendations to the Traffic Committee for consideration
- ► Traffic Committee voted in favor of all recommendations and forwarded to Council
- Council requested we hold a Public Information Session prior to Council action



W. Cleveland Avenue (New London Road to N. College Ave.)

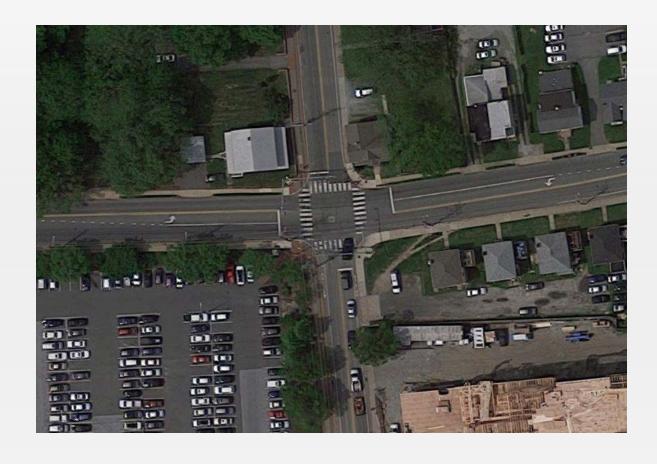
(Task Force Recommendation)

Add striping for eastbound and westbound bicycle lanes

AETNA Feedback – No Concerns









Option 1: (Task Force Recommendation)

Exclusive pedestrian phase "scramble" (Pedestrians would only be permitted to cross when all traffic signals are red – similar to Delaware Ave @ S. College Ave)

- ▶ Decreases intersection delay from 90 seconds to 80 seconds
- No significant change in delay with right turns on red prohibited
- No change in delay for pedestrians crossing Cleveland Avenue
- ▶ Minor increase in delay for pedestrians crossing North College Avenue

AETNA Feedback – No Concerns, makes sense for pedestrian safety



Option 2: (Not Recommended)

Northbound/Southbound N. College Avenue split (sequential) phasing (northbound traffic on N. College Ave and southbound traffic on N. College Ave each has its own green cyclemeaning both directions do not proceed at the same time)

- ► Increases intersection delay to 150 seconds from 90 seconds
- Adding pedestrian scramble to the split phasing increases delay to 215 seconds from 90 seconds



Option 3: (Not Recommended)

Southbound N. College Ave left-turn phase; requires No Right Turn on Red for northbound N. College Ave

- Decreases southbound delay from 50 seconds to 35 seconds (AM)
- Increases overall intersection delay from 90 seconds to 170 seconds (AM)
- Decreases southbound delay from 85 seconds to 40 seconds (PM)
- Increases overall intersection delay from 90 seconds to 130 seconds (PM)



Option 4: (Task Force Recommendation)

Constructing northbound N. College Ave right turn lane

- ▶ Decreases intersection delay by 15 seconds
- ► Not currently feasible due to ownership issues

AETNA Feedback - No Concerns



E. Cleveland Ave (N. College Ave – Paper Mill Rd)



E. Cleveland Ave (N. College Ave – Paper Mill Rd)

Option 1: (Task Force Recommendation)

Remove residential parking on the south side of the roadway

- Allows for the installation of eastbound and westbound bicycle lanes
- Moves the travel portion of the roadway away from the sidewalks/pedestrians
- ► Eliminates parking spaces for residents
- Requires accommodation for existing handicapped parking spaces
- ► Allows for pedestrian refuge island at Wilbur Street crosswalk

AETNA Feedback - No Concerns



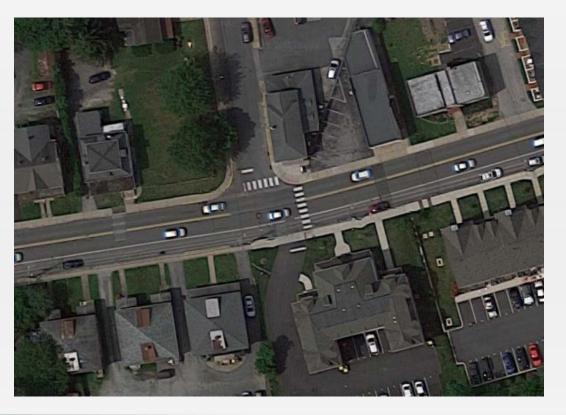
E. Cleveland Ave (N. College Ave – Paper Mill Rd)

Option 2: (Task Force Recommendation)

Creation of a refuge island for pedestrians at E. Cleveland Ave/Wilbur St

- Restricts ability to install bike lanes in this location
- Does not address conflict with southbound left turning vehicles

AETNA Feedback – Maximize lane width or combined vehicle/bike lane width, minimize island signage, use mountable curbs





Option 1: (Task Force Recommendation)

Convert Margaret St to one-way street northbound and signalize Creek View Road to allow for left turns onto southbound Paper Mill Road

Decreases intersection delay from 85 seconds to 65 seconds

AETNA Feedback – No Concerns as long as access from Cleveland Avenue is maintained



Option 2: (Not Recommended)

Exclusive pedestrian phase "scramble" (Pedestrians would be permitted to cross when all traffic signals are red – similar to Delaware Ave @ S. College Ave)

- Increases intersection delay from 85 seconds to 245 seconds
- ▶ With one-way Margaret St, increases intersection delay from 85 seconds to 155 seconds



Option 3: (Not Recommended)

Exclusive bicycle phase "scramble" (Bicycles but not pedestrians would be permitted to cross when all traffic signals are red – similar to Delaware Ave @ S. College Ave)

- Increases intersection delay from 85 seconds to 125 seconds
- With one-way Margaret St, still increases intersection delay from 85 seconds to 100 seconds
- Would require bike specific signals



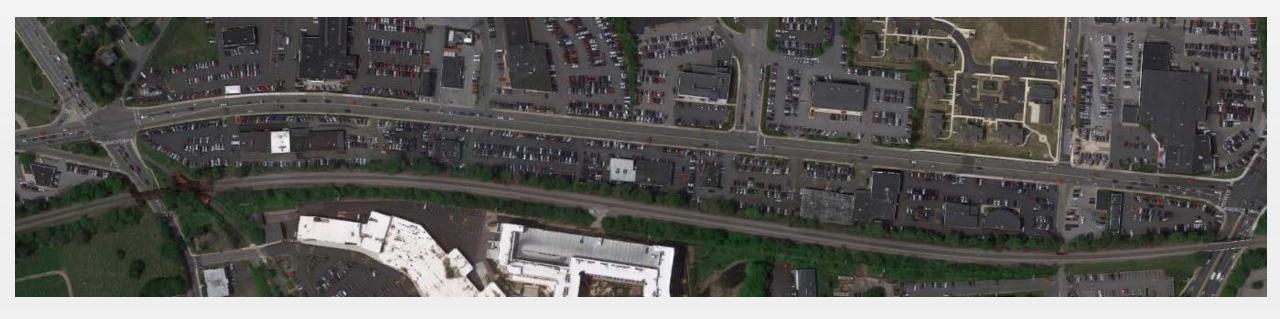
Option 4: (Not Recommended)

Single-lane roundabout

- ▶ PM peak-hour volumes for each approach are 50% to 80% over capacity
- Average delay per vehicle is 420 seconds
- Likely over capacity beginning at 6:30 AM with congestion through 9:30 PM



E. Cleveland Ave Paper Mill Road to Capitol Trail





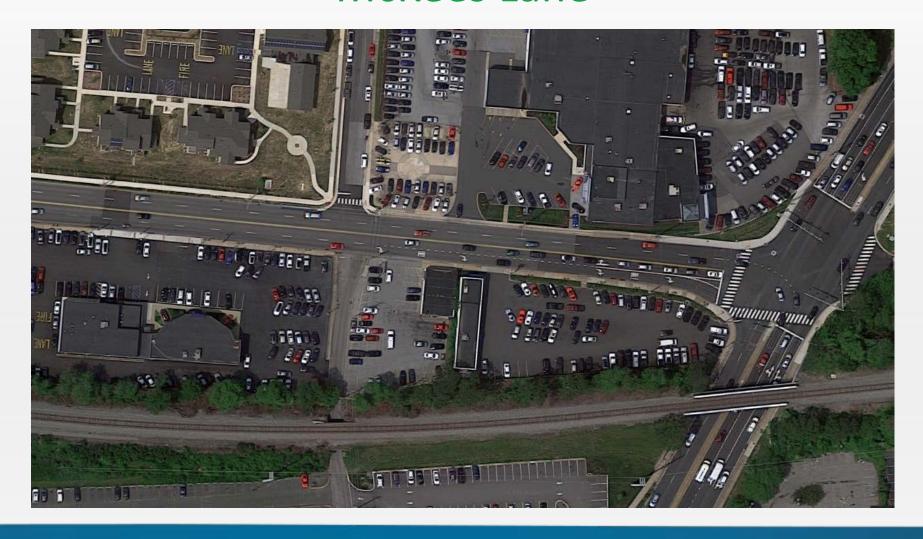
E. Cleveland Avenue (Paper Mill Rd – Capitol Trail)

(Task Force Recommendation)

"Road Diet" (Making E. Cleveland Ave between Paper Mill Rd and Capitol Trail a two lane roadway with a center shared left turn lane like South Main Street. The turn lanes at Paper Mill Rd/S. Chapel St/Margaret St and at Capitol Trail would remain the same as currently configured.)

- No significant changes to eastbound/westbound travel times between N. Chapel St/Paper Mill Rd and Capitol Trail
- Westbound through at Winner Blvd 95th percentile queue length increases from 160 feet to 575 feet
- No significant changes/delays at Paper Mill Rd, Winner Blvd, or Capitol Trail
- Installation of bicycle lanes and mid-block crosswalks with pedestrian refuge islands possible in narrowed road section

AETNA Feedback - No Concerns



Option 1: (Task Force Recommendation – If Florida-T is Approved and Lane Diet is Approved)

Install "Hawk" (High-Intensity Activated crossWalk) signal (Essentially a traffic signal that is activated by pedestrians to cross safely)

- Negative impact to eastbound and westbound traffic queues would be moderate
- Impacts to Cleveland Avenue traffic would be limited to when pedestrians need to cross so much less frequently than Option 2
- Moderate/High level of pedestrian safety

AETNA Feedback – If including a refuge island, maximize lane width or combined vehicle/bike lane width, minimize island signage, use mountable curbs



Option 2: (Not Recommended)

Install traditional traffic signal to assist pedestrians in crossing safely.

- Negative impact to eastbound and westbound traffic queues would be significant
- Signal could be activated by vehicles and pedestrians making impacts to Cleveland Avenue traffic much more frequent compared to Options 1 and 3
- Highest level of pedestrian safety

AETNA Feedback – If including a refuge island, maximize lane width or combined vehicle/bike lane width, minimize island signage, use mountable curbs

Option 3: (Task Force Recommendation – If Florida-T is Not Approved, Lane Diet is Approved)

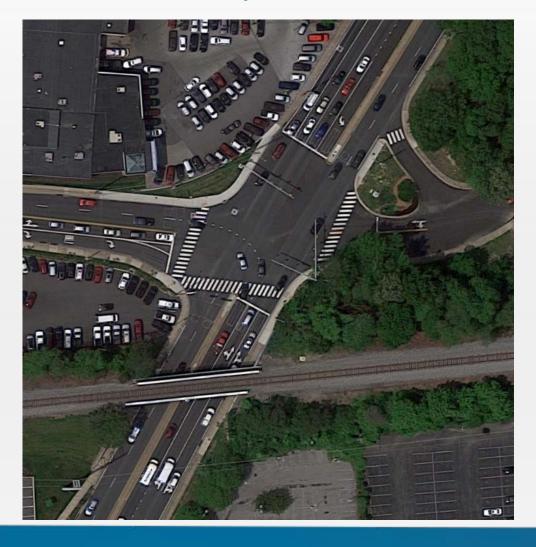
Install a crosswalk west of McKees Lane with a central pedestrian refuge island (requires lane diet) with a Rectangular Rapid Flash Beacon (RRFB)

- Negative impact to eastbound and westbound traffic queues would be moderate
- ► Impacts to Cleveland Avenue traffic would be limited to when pedestrians need to cross so much less frequently than Option 2
- Moderate level of pedestrian safety

AETNA Feedback – If including a refuge island, maximize lane width or combined vehicle/bike lane width, minimize island signage, use mountable curbs



E. Cleveland Ave/Capitol Tr/Woodlawn Ave



E. Cleveland Ave/Capitol Trail/Woodlawn Ave

Option 1: (Task Force Recommendation)

"Florida-T" intersection – Woodlawn Ave would become a right turn in/right turn out only intersection with no traffic signal phase for Woodlawn Ave.

DelDOT will discuss specifics in separate presentation

E. Cleveland Ave/Capitol Trail/Woodlawn Ave

Option 2: (Not Recommended)

Change Eastbound E. Cleveland Ave at Capitol Trail to no turn on red

- ► Increases eastbound traffic queue by 75 feet
- Increases eastbound right turn delay from 30 seconds to 35 seconds
- ▶ Improves pedestrian safety in crosswalk versus existing condition but not Florida T option
- ▶ Reduces opportunity for collisions with left turning vehicles exiting from Woodlawn Avenue



E. Cleveland Ave/Capitol Trail/Woodlawn Ave

Option 3: (Not Recommended)

Change Southbound Capitol Trail at E. Cleveland Ave to no turn on red

- ► Increases southbound queue by 90 feet
- ► Increases southbound right-turn delay from 5 seconds to 20 seconds
- Improves pedestrian safety in crosswalk

